EXPERIENCE OF ICT IN SECONDARY ENGLISH CLASSROOMS

A Dissertation

Torna Raj Poudel

Examination Roll No: 7815332013

Nepal Open University

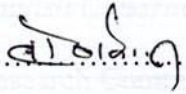Manbhawan, Lalitpur

December, 2022

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DEDICATION

To my all-respected teachers for their inspiration in every step of my study period.

To my father Mr Gobinda Prasad Poudel and mother Mrs Laxmi Devi Poudel for their priceless, care and dedication to bringing me up to this stage of life.

To my wife Shiba Maya Kafle, and lovely son and daughter Rubek Poudel and Rubika Poudel for supporting and encouraging me to complete this study.

DECLARATION

I hereby declare that this dissertation has not been submitted for candidature for any other degree.
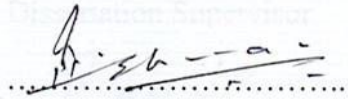
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Torna Raj Poudel   February 8, 2022

RECOMMENDATION

It is my pleasure to certify that Mr Torna Raj Poudel, an M Phil degree
candidate, has prepared this dissertation entitled *Experience of ICT in Secondary
English Classrooms* under my guidance and supervision. I recommend the esteemed
Research Committee, Faculty of Social Sciences and Education, Nepal Open
University for the acceptance of the dissertation for evaluation and approval.

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Assoc. Prof. Netra Prasad Sharma, PhD

Supervisor   February 8, 2022
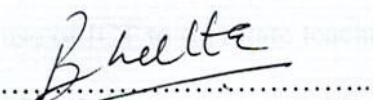
LETTER OF APPROVAL

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Assoc. Prof. Netra Prasad Sharma, PhD
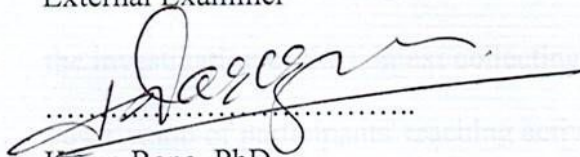
Dissertation Supervisor

.... December 26, 2022

Prof. Tara Datta Bhatta, PhD
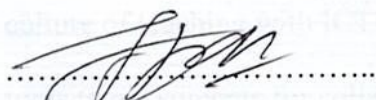
External Examiner

.... December 26, 2022

Karna Rana, PhD
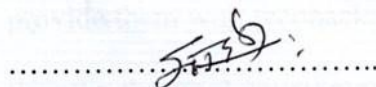
Coordinator, MPhil in English Education

.... December 26, 2022

Assoc. Prof. Jiban Khadka, PhD

Member of Research Committee, FoSSED

.... December 26, 2022

Prof. Janardan Ghimire, PhD

Chairperson of Research Evaluation Committee, FoSSED

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Torna Raj Poudel

Degree Candidate   December 26, 2022

ABSTRACT

Title: *Experience of ICT in Secondary English Classrooms*

Approved

This study explores secondary English language teachers' experience with the practice of using ICT in a classroom. This is a qualitative study of the perspective of teachers from urban, semi-urban and rural schools in Morang district, Nepal. The study collected views and opinions from teachers regarding their experiences with the use of ICT to facilitate teaching. It also examines their experiences of training to use ICT, the resources available and how they use them in both physical and virtual modes of teaching-learning activities. A sociocultural approach has been applied for the investigation of the context collecting data through semi-structured interviews and observation of participants' teaching activities using digital technology.

The research found that English language teachers have developed a new culture of teaching with ICT tools for both virtual and physical classes. They used the tools to get students for collaborative tasks engaging with communication for constructing ideas. The teachers also used the tools to monitor the students and provide them with feedback. The study indicated that the ICT training provided to them by the local government was useful though they were focused on basic computer skills rather than on teaching practice with ICT. The occurrence of the COVID-19 pandemic provided the opportunity of developing resources and practices including training in new technology in schools.

ACKNOWLEDGEMENTS

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ABBREVIATIONS AND ACRONYMS

ICT	Information and Communication Technology
IWB	Interactive White Board
EF	English as a Foreign Language
ESL	English as a Second Language
CLASS	Computer Literacy and Studies in School
MMCS	Multimedia Classrooms
MOE	Ministry of Education
OLPC	One Laptop per Child
DEOS	District Education Offices
OLE	Opening Learning Exchange
MOU	Memorandum of Understanding
NGO	Non-Government Organization
INGO	International Non-Government Organization
MOODLE	Modular Object-Oriented Dynamic Learning Environment
LMS	Learning Management System
MOOC	Massive Open Online Course
ISP	Internet Service Provider

CHAPTER I

INTRODUCTION

This study explored secondary English language teachers' experiences with the use of information and communication technology in English language teaching in urban, semi-urban and rural schools in Nepal. It examined how teachers used ICT tools to teach the English language.

My study was qualitative and followed an interpretive case study design. The data for the study were collected by analysing documents, observing and interviewing participants to find deep information from them. I interviewed the participant teachers and also observed their classes which enriched the information gathered from the interview. Moreover, I used thematic analysis to analyze the data gathered through the interview, observation and document analysis.

I had experience in teaching ICT in basic school classes and also attended training on current trends and ways of using ICT in a language classroom. Besides, I analyzed the contents of published articles, books, previous studies and other publications on ICT to develop the insight of pedagogic use of ICT in English language teaching and learned the existing information about the use of ICT in language classrooms. I believed that the use of ICT in teaching could create various opportunities such as collaboration and sharing of knowledge. I also experienced that the teachers' attitude and teaching environment influence teachers' competency and pedagogical implication of ICT. Developing countries like Nepal had insufficient ICT infrastructures, limited internet networks and untrained teachers to use available ICT in educational activities. However, the use of ICT seemed to be beneficial to develop language skills in English language teaching-learning processes. There was also limited literature on the teachers' experience and perception of the use of digital tools

in English language classrooms particularly in the context of Nepal. However, the study explored new ideas on the use of digital technology in teaching the English language in the urban, semi-urban and rural context of Nepal using the theory of affordance.

Background of the Study

The use of computer technology in English Language classes began in the 1950s (Pathan & Marayi, 2016). The integration of technology has been an indispensable part of modern classes. Particularly digital technology has become a part of foreign language teaching, specifically in city schools. Implications of the technology have been productive for learning foreign languages including English in the context of non-native countries (Lee et al., 2016). The development of computer systems and applications has globalized business, innovations and education. The development of web technology has provided options for education as such online learning (for example, Nepal Open University). They can be used to provide students with additional practice, remedial teaching and learning. The students who need extra guidance from their teachers in the class can have more guided practices with the help of computer technology. Teachers can use ICT tools such as graphics, painting, animation, simulations, YouTube and software for learning management (LMS) to raise students' motivation and participation. Computer programmes, such as graphics, painting, animation and simulations, YouTube, and software for Learning Management System (LMS) raise their motivation. Moreover, Students can involve actively in teaching-learning activities with these tools.

When we go back to the history of using computer technology in school education, British schools were the first to bring computers into the classroom (Rana, 2018b). Similarly, computer technology was adopted by American schools in the

1990s (Coley et al., 1997). UNESCO report in 1996 suggested including ICT skills in the curriculum so that students would be able to survive in the world of information technology (Bruce, 2003). Language teachers needed to employ digital technology in planning lessons and teaching skills (Tan & Liu, 2016). Many countries, particularly developed ones, have already adopted the use of computers in classroom activities. For example, the Singapore government launched the programme Intelligent Nation 2015 in 2006 by emphasizing application technology in the field of teaching languages with the expectation of equipping schools with ICT infrastructure and teaching by using various ICT tools. Similarly, the one-to-one laptop programme became popular in the 1990s in Australia which provided students with opportunities for learning by using computers, programmes and games and also for social interaction (Howard & Mozejko, 2015). Moreover, The Technology Acceptance Model (TAM) in Norway increased the teachers' acceptance towards technology and developed their insights into their professional development (Scherer et al., 2019). The government has implemented ICT in schools for the betterment of students' participation in learning and to assess student's competence (Gran et al., 2019)

As discussed above, British school teachers used the computer in their teaching and learning in the 1980s and in other developed countries such as the USA, Norway, Finland, Germany, France, Singapore, Australia, New Zealand, South Korea and Japan.   Japan, one of the most developed countries in Asia, has emphasized ICT application in education For example, the new curriculum for K-12 assigned for Japanese schools in 2002 emphasized the use of ICT as a means to teach every subject rather than a single. Similarly, due to the wide Finish teachers widely used digital tools for searching information in foreign language classrooms. ICT is mostly used in searching for information with slide presentations, written texts and interactive

exercises (Sepp, 2017) and in the context of the Middle East, ICT is accessible to every underprivileged community and remote location schools have Web-based learning (Azoury & Kamel, 2014).

Some European countries also developed policies to integrate ICT in education throughout the 1990s, such as Germany's 'Technology for Education' and the United Kingdom's 'National Grid for Learning' (BECTA 1998). Similarly, Italy released its Action Plan for the Information Society (2001-2003) in the early 2000s and Finland introduced its program for Education, Training and Research in the Information Society, the National Strategy for 2000-2004. With the 'European Schoolnet programme teachers, school owners and students supported the learning environments in schools. BYOD (bring your device) or BYOT (bring your technology) approaches were applied to meet the greater demand of teachers to support their learners with different ICT tools (Ottestad & Gudmundsdottir, 2018).

The Australian government announced the Digital Education Revolution (DER) in May 2009 for students to live and work in a new digital world and go for further education (Romeo et al., 2012). However, the inception and development of computer technology in developing countries seem to be slow. For example, Nepali schools started the use of computers in the first decade of the 21st century although the computer was first used to process census data in 1971(Rana, 2018b).

Teachers' Practice of Computer in EFL/ESL Classrooms in National and International Contexts

Emphasizing the objective of making partnerships in the use of digital technology in education, African countries established a project Imfundo: Partnership for IT in Education in 2001 (Unwin, 2004). Since then new developments have appeared daily somewhere in the continent. The Ghana Government, for example,

outlined an ICT policy framework in education ensuring that the students need to have basic literacy skills to get into classrooms. Similarly, Mozambique made a strong telecommunication infrastructure with submarine cable and terrestrial fibre to sustain ICT access in all provinces (Muianga et al., 2013).

African countries are increasing the use of ICT in education. For example, teachers are trying to make their classes more innovative by using cellular phones, computers, tablets and computers with teaching related (Samarakoon et al., 2017). Access to ICT use in the classroom has been extended to rural schools in Africa with trained teachers and essential ICT gadgets (Mwapwele et al., 2019). South African schools have an access to a high-speed broadband internet connection (Durodolu & Mojapelo, 2020). However, a study (Belay et al., 2020) conducted in Kenya reported that most public high school teachers needed more ICT training since they had limited ICT competence and confidence to use ICT tools in teaching.

In India, ICT in education started with the project 'Computer Literacy and Studies in School (CLASS)' in 1984 (Das, 2019). Kundu and Bej (2021) found that the overall attitude of teachers in Indian private schools was positive towards the use of ICT in teaching but not they were not satisfied with the infrastructure set up in schools. The majority of the teachers demanded training for using ICT in teaching since they lacked basic computer skills to apply in classrooms. However, the majority of teachers (80%) revealed that they supported the application of ICTs for educational purposes. In the same year, Japanese schools started to use ICT facilities (Fujitani et al., 2003). Indian schools launched ICT in December 2004 and improvised it again in 2010 to teach students through computer-aided learning (Kaur & Singh, 2018). Realizing the significance of ICT, the Indian school curriculum has assigned the computer as a subject to develop students' skills in digital technology (Singhavi &

Basargekar, 2019). In the neighbouring country, Pakistan, on the other hand, students, teachers, academics and administrators had limited use of ICT due to the poor basic ICT infrastructure, particularly in remote schools. In a similar context in Bangladeshi government launched National Educational Policy (2010) to extend the use of ICT in the education process at every level. Following the policy, Bangladeshi schools gradually established multimedia classrooms (MMCs) and electronic versions of textbooks. Using ICT tools, teachers teach lessons in peer conversation and group discussion and give feedback (Azim, 2020).

As in other developing countries, South East Asian countries are increasingly applying ICT in teaching (Hong & Songan, 2011). For example, in Malaysia, teachers use very common digital devices such as a laptop, smart mobile and desktop computers as supportive means of teaching. (Lau & Sim, 2008). Particularly teachers use ICT in word processing, preparing the presentation, collaborating learning and even designing graphic templates (Suliman et al., 2018). However, in Singapore, a developed neighbour of Malaysia, language teachers use more advanced technology such as YouTube, PowerPoint slides and multimedia projectors for teaching textual, and audio-visual materials. The teachers also used digital tools to look up dictionaries encyclopedias video-based platforms like YouTube, documentaries, digital storytelling, recorded audio-video materials, spoken tutorial, audio books, digital and android dictionaries .

Teachers' Use of Computers in Nepal

The Government of Nepal designed a curriculum with Computer Science as an optional subject in schools in 1994 (Karki, 2019). In 2002, the Nepali government announced the first *IT policy* to use ICT in schools (Rana & Rana, 2020). Based on that IT policy *National Curriculum Framework 2005* offered the computer as a

subject in schools and use ICT tools and apps for teaching various subjects. Similarly, *the National Curriculum Framework for School Education2007* reiterated the objectives of the curriculum framework 2005 (Rana et al., 2020). Continuing the trend of using ICT in schools *The School Sector Reform Plan 2009-2015* stressed the need for ICT for capacity development in education (Nepal Government, 2009). For the wider use of ICT in school education, the Ministry of Education (MOE), Nepal implemented *One Laptop per Child (OLPC)* pilot project and lab model (computer sharing mechanism) project in some schools and also implemented internet connectivity to District Education Offices (DEOs) and schools through matching funds (Ministry of Education Nepal, 2013).

The master plan 2013-2017 on developing Communication Technology stressed infrastructures, technical resources, and digital system improvement and elevated the use of ICT in education. For example, teachers can develop their professional skills through the use of ICT tools (computer, smartphone, FM, TV}. Moreover, the plan also focused on the inclusion of the computer as a subject in secondary level (9-12) and computer engineering in university courses.

Nepali schools integrated ICT into education when Open Learning Exchange (OLE) programme agreed with the government to go with One Laptop per Child (OLPC) in rural primary schools. The agreement also confirmed to strengthen of computer labs, internet connectivity and other digital materials such as multimedia projectors connecting to strong power backup (Joshi et al., 2021; Rana, 2018a). The Government of Nepal has allocated a large amount of budget to extend digital technology in schools. The outcome of these practices appears with teachers' practice, especially in the urban area, of using ICT apps such as YouTube, Facebook messenger Skype, Twitter, Blogs, Mobile phones and interactive boards in teaching

(Acharya, 2014). Some of the NGOs, INGOs and local communities have worked together with the government and concerned agencies in the extension of ICT in school classrooms, but due to the lack of electricity schools cannot go with the technology in teaching (Rana, 2018a). Similarly, Koirala (2019) pointed out the poor infrastructure of the school lacking ICT resources such as computers, laptops and projectors.

Nepal has a firm policy to implement ICT in school curricula to go with global trends but the strategies to overcome ICT-related problems are inadequate (Rana, 2018a; Rana et al., 2020). Moreover, (Rana et al., 2019) pointed out that school teachers were frustrated due to poor management of equipment and structure of ICT in school and limited teacher preparation programmes to train teachers for teaching activities with ICT tools. However, the local administrations in towns and villages are preparing to fit out ICT infrastructures and teachers in teaching with digital technology (Karki & Dahal, 2020).

The COVID-19 pandemic created some sort of challenges in school education since the students were not allowed to attend physical classes in their schools. The teachers had to be ready for a new trend of online teaching-learning activities with poor ICT knowledge and infrastructures in their schools and the areas where the students reside. However, the teachers practised virtual classes through the use of Zoom, Google classroom, Facebook messenger and YouTube channels (Dawadi et al., 2020).

The writings above indicate some level of ICT practice in classroom activities but there is limited information about the use of the computer in English teaching in community schools in Nepal. I believe that this study will investigate how secondary

English teachers plan and deliver lessons by using computer technology in their classrooms and how they perceive their practice.

Purpose of the Study

English language teachers must maintain the new development of technology in teaching and learning activities. Nepali school education system is challenged by the lack of low use of ICT due to the teachers' poor knowledge of ICT or the poor infrastructure to catch up with. Moreover, Nepali educational institutions remain challenged by qualifying teachers, inadequate administrative support, and a lack of ICT expertise and teaching plans with ICT. However, the use of ICT has been a part of language teaching since the occurrence of COVID-19 which has forced teachers to develop the skills of teaching virtually or physically with ICTs. So the teachers must maximize the strategies of using ICT in the classroom to give a positive impact on Nepali school education.

The study, therefore, aims to investigate how secondary teachers use and integrate ICT devices in their English language classrooms to plan and deliver their lessons. To reflect the purpose of this research the questions. The study explores the answers to the following questions.

1. How do secondary English teachers use ICT devices in their English language classrooms?

    a. In what ways do the teachers plan and deliver their lessons using ICT devices?

    b. What strategies do they employ to integrate ICT devices in the classrooms?

Rationale of the Study

I have been working as a secondary English teacher for more than fifteen years and a Computer teacher in basic-level classes in a public school for more than ten years. During this period, I have faced many problems related to my profession especially while using ICT tools such as computers, multimedia projectors and internet sources in classroom instruction. The present secondary English curriculum emphasizes digital technology for instructional purposes as the teacher's guide suggests the teachers consult the essential websites for the referential information: textual and visual. Moreover, as suggested by (Ellis, 1984) the teachers have a responsibility to innovate new information and ideas to increase the effectiveness of classroom instruction as the use of ICT devices represents a significant departure from past directions to the new trend.

Realizing the significance of the new technology in teaching concerned educational agencies such as the School Managing Committee, Local governments and education offices have initiated to invest in ICT management in schools for a computer lab and joining the internet. However, the teachers are not well trained in the use of ICT tools to find the sources, store them and present them relating to the lesson. Moreover, when I follow the curriculum and the approach suggested by it, I cannot handle the tools appropriately. Besides, due to the poor management of the Internet, poor power supply and lack of ICT tools repair, I have to struggle with the new technology. So it is essential to find strategies for using ICT tools in the classroom. This instructional environment motivated me to carry out this research. I want to find out the strategies for using ICT devices secondary English language teachers applied in classroom instruction.

Organization of the Dissertation

This dissertation has seven chapters. The first chapter presents the introduction of the research issue and its contexts in the national and international arena. Similarly, it presents the problem statement and the research purpose. The second chapter contains the literature review related to secondary teachers' experience of using ICT in classrooms. It relates the study to the theory of affordance in ICT. Chapter three includes the research methodology used to carry out this study. It includes the philosophical standpoint of research design, participants, and the procedure of obtaining and analyzing information.

Chapters four, five, and six deal with the thematic interpretation of data collected from the interview and the observation. In the fourth chapter, the research presents secondary teachers' practices of planning and developing lessons through the use of ICT in the classroom. Similarly, the fifth chapter deals with the teachers' strategies of using ICT in teaching. Likewise, the sixth chapter deals with the possibilities and challenges of using ICT in teaching English. Finally, the seventh chapter presents the conclusions and implications of the study.

CHAPTER II

THEORY OF AFFORDANCE IN ICT

The development of new technology (ICT) has extended learning opportunities in a classroom setting. Learning is always distributed between technology, the learner and the learning environment (John & Sutherland, 2005) rather than the inherent features of technology. The idea of affordance (Gibson, 2014) relates to the application of ICT in connection with learning opportunities: Affordances refer to actionable properties between the environment and the learner. They provide opportunities for actions to the learners relating to the learning environment.

The development of digital technology now provides easy access to a great amount of information through the internet and social media. It also provides the opportunities of operating software associated with appropriate hardware and join them to pedagogical strategies. (John & Sutherland, 2005; Qin & Wei, 2021). For example, computer operations, software applications such as language learning software, and skills of innovating information on the internet increase students' interactions through the use of social media.

Teachers' interest in affordance is to articulate it to support previously articulated pedagogy (Hammond, 2010). To address the use of ICT in pedagogy, Jeong and Hmelo-Silver (2016) have developed a framework of how technology is used to support learning that provides opportunities for learners to task jointly, make communication, share ideas and resources, work collaboratively, monitor and regulate learning and form learning groups.

In a survey, Mivehchi and Rajabion (2020) investigated that mobile games had a significant positive impact on collaborative learning which provided problem-

solving skills and created excitement and enthusiasm for learning among university students. Similarly, in an experimental study, Wang et al. (2020) investigated that online collaboration formed an active learning atmosphere for students. However, Yang et al. (2020) argued that more detailed comprehensive studies are essential for pedagogical concerns of ICT tools.

Similarly, Ma et al. (2020) in a survey study in China found that the teachers used ICT resources to provide the learners with opportunities for communication while learning the language and develop students' motivation towards learning with native resources of the second language Moreover, EFL teachers built their confidence with the use of technology which could provide authentic information of teaching materials. Furthermore, the teachers found ICT useful means as it helped develop interaction between learners and the teachers and between the learners themselves.

The above literature shows that affordance theory is a distinct pedagogical theory mediated by information and communication technology (ICT). This study is based on the use of ICT in engaging students to communicate and share content making their groups of learning English and also monitoring and regulating the students' learning. I followed the framework of this theory to analyse the English teachers' understanding of ICT affordance. I believed that the essence of affordance theory provided the lens for exploring how English language teachers apply ICT tools in the processes of teaching and learning.

Use of ICT in Classroom Teaching

Several studies have reported schoolteachers' use of various ICT tools in their classrooms. Gupta's (2005), Sanchez et al.'s (2012)and Samoylenko et al's (2022) surveys reported that teachers extensively used internet facilities, websites,

especially web surfing and email, and other tools such as interactive digital whiteboards, word processors, mass media, conferencing tools such as Zoom and Microsoft Teams to arrange meeting and classes where they could make various interaction's and use cloud storage and PowerPoint presentations but the use of computer resources such as professional chats, discussion forums and web designs seemed to be limited. Similarly, Salam et al's (2017) survey of students and teachers who participated in Information and communication technology in Pakistani schools found that 95% of teachers utilized ICT devices such as desktops, laptops, Tablet, Pads and smartphones to contact others, to search information and to design PowerPoint presentation and that they used ICT for keeping students' attendance record and recording and preparing mark sheets. Hinostroza et al. (2016) investigated that teachers embedded online information for pedagogical ideas as they had to explain concepts and provide examples of the lesson (for example, how to develop ideas in a paragraph). Acharya (2014) in his survey research in Nepal found that English language teachers used digital gadgets such as laptops, smartphones, multimedia projectors and social media such as YouTube, Facebook, wiki, email and blog in classroom teaching.

A case study (Kushwaha et al., 2020) in India found that the online learning forum MOODLE was used for group discussion and online assignments and improved students' interactive participation in learning. Moreover, a survey (Gudmundsdottir et al., 2020) in Norway reported that Norwegian student teachers had highly used ICT tools to raise their students' competence level. However, a survey (Chen et al., 2019) in China found that many participant teachers did find ICT usage supportive in classroom activities and were not willing to use teaching software tools such as those based on ICT management systems. Though they had good competence

in applying it. Similarly, another survey study (Buabeng-Andoh, 2019) in Ghana found that the participant teachers' use of ICT in teaching was very limited such as searching for information and browsing relevant websites because of poor ICT infrastructure in schools.

Similarly, a survey (Gómez-García et al., 2020) in Spain pointed out that there were significant associations between ICT handling skills and strategies for effective learning outcomes in mathematics. In the study, the most representative variables were ICT training and the use of appropriate materials for the combination of pedagogical technology and appropriate content. Digital tools could innovate, present, distribute and share resources on online mode and also facilitate collaborative work more effectively.

The findings indicated that there was a positive correlation among teachers' ICT skills, teaching with ICT tools and the ICT domain. This correlation showed that teachers' ICT skill was an essential factor for effective presentation and enrichment of classroom activities.

Moreover, Adzharuddin and Ling (2013) made a study on the effect of LMS on language teaching and suggested that LMS (Learning Management System) was supportive for both learners and instructors in virtual learning mode. LMS helped the instructors to innovate learning resources and facilitated interactive tasks such as threaded discussions, file sharing and communication. Besides, it supported the teachers to manage examinations, plan live video classes with a graphical presentation, keeping records and tracking students' regularity and progress.

These studies signal that schoolteachers use ICT tools such as PowerPoint, websites, blogs, e-library and an LMS (Learning Management Tool) in a laptop and mobile set in a class. However, there is limited literature on how teachers use a smart

board, discussion forums, professional chats and web design to plan and deliver lessons in English language teaching.

ICT in the School Curriculum

ICT has been growing as a part of teaching for more than 20 years in many countries but some of the countries are still struggling to use ICT as a part of their curriculum. For example, Siamisang et al.'s (2019) reported that only 57% of the teachers in Botswana used ICT in their classroom teaching and also argued that students could easily understand concepts of the subject matter in an ICT-integrated curriculum. Singhavi and Basargekar's (2019) study in India reported that the use of ICT in teaching was inadequate and unclear due to an exam-oriented curriculum. However, Zambia, (Nyanja & Musonda, 2020) reported that the implementation of ICT curriculum had given good results although some of the educational institutions were facing challenges in using them.

Murithi and Yoo (2021) reported that the insertion of technology into the school curriculum made the teaching-learning activities more students centred and also enhanced the collaboration and communication between students and teachers. Moreover, the use of technology has supported teachers to organize their duties.

Through the implementation of ICT supported curriculum, the teacher could shift the traditional teacher-centred teaching-learning activities to student- centred teaching leaning environment For example, Voogt and Pelgrum's (2005) case study investigated that South Korean students were able to conduct lab experiments and simulations and prepare result report on their own with the use of ICT facilities. Similarly, Pilipino students changed variables comfortably and compared them in graphs while solving class nine's Geometry problems. Likewise, with the integration of ICT into the curriculum, the teachers tended to use it in teaching English language

skills such as listening, speaking, reading and writing skills. For example, Nguyen's (2020) case study on collaborative writing in Vietnam found that after implementing the ICT-supported curriculum, teachers and students learned the skills of documenting, storing files, browsing the internet for more creative ideas and fresh information, making social network, making blogs, using wikis and cloud applications for conducting collaborative writing.

The recent pandemic, COVID-19 pandemic provided an opportunity for Nepali teachers to develop ICT infrastructure and skills for teaching and established a new trend in teaching: the use of ICT in classrooms. To address the need for time, the school had to manage the distinctive development of virtual learning. Dawadi et al. (2020) pointed out that the teachers practised Zoom and Microsoft Teams to conduct Online classes when the students were not allowed to present in school classrooms physically.

As Rana's (2018a) case study on ICT in rural primary schools in Nepal suggests, ICT supported curriculum is essential for school teachers so that they can interrelate digital contents to the assigned text based on the curriculum and also can conduct virtual classes whenever essential.

Techniques of Using a Computer in a Classroom

Computers can be used with several useful techniques for teaching, learning and giving feedback to the students in a classroom. For example, Aidoo et al's (2022) experimental study in West Point in the US stated that students used the computer to type things and present them in the class, to access various websites related to the text and that the teachers used it to show simulations to do different experiments and to assess students' assignment with essential feedback. Similarly, Skolnick & Puzo's (2008) survey in New York found that the teachers used computers for PowerPoint

presentations, to create, manipulate and store information. Moreover, Acikalin's (2010) case study in Turkey stated that the teachers and students used computers as presentation tools in the classroom and that they used Microsoft PowerPoint for the presentations, word documents for typing papers and making notes and Excel to create databases, tables and charts for their projects. Similarly, Alturki and Aldraiweesh's (2021) survey reported that During the COVID-19, the Learning Management System (LMS) gave beneficial effects on the students which they could store contents, share ideas and get the link to the internet for more resources.

Many studies have reported how teachers utilise utilized various ICT tools to teach students to find what they need and learn about them independently. For example, Gilakjani & Rahimy's (2020) in Iran found that teachers used the software *Pronunciation Power (2000)* for interactive listening games which provided students with a private and stress-free environment with unlimited pronunciation input, choice of appropriate pronunciation materials to practice at their own pace, pronunciation feedback by automatic speech recognition. However, a mixed study (Obaydullah & Rahim, 2019) in Bangladesh reported that teachers had inadequate skills in using ICT in a classroom such as installing software into their laptops and operating the multimedia in the classroom and also the school had poor ICT infrastructure such as internet and spacious classrooms to manage classes with overloaded students. Similarly, Rana et al. (2018) in a qualitative study in Nepal stated that the existing ICT infrastructure challenged the teachers to organize digital resources and students for virtual learning activities.

The above literature indicates that software such as PowerPoint, Microsoft Word and Excel are the basic tools for presentation and making notes for the teachers and students in a computer-based classroom. However, there is limited literature

about how English teachers use various apps or web technology in their English language classroom.

Rural Context, ICT Availability

Several studies have reported limited access to the internet and weak broadband in rural contexts. For example, Salemink et al. (2017) reported that internet service providers specifically based in urban areas were unable to provide their services to remote areas and that rural people were struggling to get internet connectivity. Similarly, Park et al.'s (2019) fieldwork study on connectivity and digital inclusion in rural communities in Australia found that rural people had limited internet access to do online activities which require strong internet connectivity in many city areas. Moreover, Wu et al.'s (2019) survey on ICT application in Chinese rural basic education concluded that students and teachers in rural schools got less information due to poor ICT management in their schools. However, Ismail et al.'s (2018) survey on the use of ICT in rural school libraries in Malaysia found that computer software programme and internet connections were effective in classrooms and school libraries.

Wang et al.'s (2019) survey in Western China reported that teachers used electronic plans, word processors, presentation software, instruction design and multimedia courseware. However, Chisango et al.'s (2019) case study in rural secondary schools in South Africa revealed that some of the schools had inadequate ICT infrastructure, power cuts and weak internet connections. Rana (2018a) reported similar findings in rural Nepal that although schoolteachers appreciated the use of Information and communication in classroom activities had inadequate infrastructure, and limited or no government funding where non-governmental organizations (NGOs) supported ICT infrastructure.

The above writings indicate that rural schools have inadequate ICT infrastructure to address the need for digital technology classroom activities. However, it is necessary to investigate how teachers utilize the available technology to teach their lessons.

ICT Leading Pedagogies and Classroom Environment

Rapid technological advancement has influenced the teachers' ways of planning and presenting classes with the existing curriculum to available digital access. For example, Robinson et al.'s (2019) survey in the United States found that teachers tended to use digital resources in teaching-learning activities to plan, present, communicate, and demonstrate and for the students to view, use and make through teaching software, related websites and email allocating half of the time for presentations and another half for student actions. In a different context in Ghana Banini (2019) reported that the teachers used their mobile phones to search for the answers to the questions asked by students and search for the lesson and context-related pictures while teaching. Similarly, A survey in Iran by Gordani and Khajavi (2020) and in Canada by Zdaniuk et al. (2019) suggested that teachers include only the key terms of main ideas with the use of multimedia providing PowerPoint slide hand-outs to the students before the presentation and giving them enough time to concentrate and take their note of key issues.

Nikolić et al.'s (2019) survey on the review of e-learning and ICT systems in the Republic of Serbia investigated that the availability of digital technology made the instructors and the learners very active and also increased the students' concentration and motivation in learning processes. A survey by Li et al. (2019) in Mongolia reported that ICT had been effective in developing lesson plans and also had developed a culture of collaborative tasks and sharing ideas among peers for

upgrading teachers' skills in teaching. However, a case study (Rana & Rana, 2020) in higher education in Nepal investigated that university teachers had the limited practice of digital technology in teaching because of poor access to ICT and insufficient ICT devices and weak internet connectivity. Similarly, a survey (Fan & Education, 2019) in Indonesia reported that secondary Mathematics teachers had insufficient ICT use because they did not know about operating subject-specific hardware such as dynamic geometry although they could handle basic software such as Microsoft Word and Microsoft excel in their daily life.

These writings demonstrate how teachers handle the ICT tools in teaching in various schools and universities. However, it is essential to investigate how teachers combine the use of text, images, audio and video clip, graphics and pictures focusing on the particular aspect of the lesson such as pronunciation and vocabulary.

The outbreak of COVID-19 produced a significant change in pedagogical systems in schools and universities. Because of these changes, the learning environment resulted in creative learning opportunities where the students found themselves creative with original resources. This situation offered the teachers and the students to develop and practice with the new pedagogical trend in their effort. In a survey study, Schiavio et al. (2021) reported that virtual classes raised the students' confidence to find new solutions and communicate and work collaboratively. Moreover, the teachers could be able to have students for collaborative work virtually which suggested the need to discover valuable opportunities for connections with the teachers and their colleagues through the use of Zoom, Google Class and Microsoft Teams to interact directly.

ICT Infrastructure and Class Size

Asino & Pulay's (2019) study on student perceptions in the role of the classroom environment in the United States of America investigated that the students needed a comfortable classroom size with sufficient workspace for group work and a furniture layout with round tables and chairs around them. Moreover, a survey in India (Singhavi & Basargekar, 2019) found that ICT classrooms needed basic infrastructure such as power, connectivity, a projection or display device, an interactive device and computers with UPS. However, an experimental study on the effectiveness of using digital games in Indonesia (Saprudin et al., 2019) showed that ICT practices could create a competitive and motivating atmosphere in a large class in which 82.5% of students could secure higher scores in a digital game.

A university survey in Nigeria (Lam, 2020) found that the use of ICT mitigated the burden of massification in teaching science. Similarly, a conference proceeding in Thailand (Pipatjumroenkul et al., 2019) found that every classroom had more than 30 computer devices, an Internet network and e-learning courseware with a learning management system, a tool for communication and an assessment and evaluation system. However, a case study in Uganda explored that the participant teachers applied the traditional method such as lecturing and chalk and talk though they claimed they had the skills of uploading e-content, making multimedia content, making cartoons, podcasting and using games in a class. The mixed method study in Morocco (Zyad, 2016)found that ICT-equipped classrooms facilitated the teacher to plan lessons but it was very difficult for the teacher to control large classes having more than 45 students.

The above-mentioned literature indicates that the classroom needs to be comfortable with sufficient workspace equipped with ICT infrastructure to facilitate

the teachers' use of ICT tools appropriately. However, there is limited literature on how teachers conduct large classes having more than 50 students to provide fast feedback to students' responses through error correction using digital devices.

Teachers' Skill in Handling ICT Tools

Alazam et al. (2013) suggested that the use of ICT could enhance learners' participation and motivation learning process in a classroom if used properly. For example, Kaarakainen et al.'s (2018) case study on students' and teachers' ICT skills in Finnish schools found that the teachers with ICT skills emphasized collaborative learning, a process of inquiry and learners' active participation in the learning process. Similarly, a case study on teachers' pedagogical beliefs in South Africa (Du Plessis, 2016) reported that the teachers who conducted their classes using the ICT tools such as YouTube videos, PowerPoint and Excel could raise students' confidence and increase their participation in learning. Moreover, meaningful and pedagogy-based classrooms with ICT seem to be innovative in learning. For example, Willis et al.'s (2019) exploratory study concluded that teachers with ICT skills in collecting digital content, managing a blog and handling tools to link online activities were able to create an interactive and collaborative learning environment in the classrooms. In addition to that Kanyanina et al.'s (2020) study on the development of teachers' competence in ICT in Russia reported that the teachers' ICT skills and innovative practice of these skills in the classroom not only played the methodological support to engage and motivate students towards learning but also supported the formal and informal development of teachers' professionalism.

A survey on ICT integration in Sudan (Alazam et al., 2013) found that the majority of the teachers possessed skills in using word processing functions and could manage files and folders to store information on the computer but they did not have

basic skills in using spread-sheet in teaching. However, a quantitative study (Fan & Education, 2019) in Indonesia explored that teachers had insufficient ICT skills in teaching as the study showed that the teachers' content and pedagogical knowledge of ICT was below average standard.

These theoretical reviews show that teachers' ICT skills support the teachers to bring methodological change in the teaching-learning environment. However, the available literature on how teachers develop their ICT skills is very limited.

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Teacher Training in the Use of ICT

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Teachers' preparation for the implementation of ICT in teaching is one of the major aspects to realize the effective practice of ICT in education. According to Joshi et al. (2021), teachers have to be updated for using digital tools, software and hardware effectively, finding and storing content with new information. Teachers' pedagogical and technical capability in using ICT is, therefore, the essential element to organize and reduce their load on teaching. Several studies (Tondeur et al., 2010; Tondeur et al., 2008; Wang & Woo, 2007) reported that the systematic integration of ICT in educational activities can transform traditional teaching approaches, methods and techniques. For example, Rana's (2018a) study in Nepal's rural primary schools found that teachers waiting for systematic training from the government agency and relying on one slot of ICT training provided by a non-governmental organization (NGO) shared how effective their one-week initial training became supportive to handle available digital devices and to teach the course in the classroom.

Rana et al.'s (2020) case study in rural Nepal investigated that the NGO-supported training provided the teachers with skills in operating ICT tools and relating the resources to their teaching plans and that the training also raised the teachers' confidence to pressurize the schools to the need of digital tools, information and

skills. They also reported that teachers were able to shift traditional teacher-centred teaching to learner-centred teaching with the use of digital gadgets. Moreover,(Rana & Rana, 2020) in their case study of teacher education in Nepal reported that the training made it easier to plan their lessons, present them to the students, get feedback and form a virtual network with other teachers to discuss teaching-learning issues. However, focusing on the need for more ICT training, Rana et al.'s (2018b) argued that only short-term training would not guarantee a change in the existing teaching patterns in schools.

A case study (Kader B.A. & Khatoon B, 2007) in Malaysia reported how the government emphasized that ICT training was expected to develop teachers' skills in operating tools effectively, to create teaching and learning materials and to develop teachers' confidence and skills to integrate ICT in preparing lesson plans and presenting the content into classrooms and to improve students' achievement. Fraile et al. (2018) suggested that teacher education in ICT fosters school teachers' technology proficiency, pedagogical compatibility and social awareness Mirzajani et al. (2016) found that in Malaysia, ICT training on the use of computers for finding online magazines and books, and also to plan and present lessons for the teacher had been effective in the classroom teaching and learning activities.

Similarly, Kapar and Bhandari (2020) explored that COVID-19 created a crucial role in the supportive online learning environment. Teachers needed additional technical skills to conduct the classes with ICT tools. For the preparation of the virtual classes, teachers were trained to use Zoom and Google classroom. Through the training, the teachers developed the skills of sending emails and handling other technicalities so that the teachers could conduct virtual classes and the students could communicate with their teachers and friends.

The above writings highlight that teacher training in ICT has made it more comfortable to plan their lessons, present them in the classroom and get feedback from the learners and create a network among colleagues to discuss learning issues. However, there is limited literature on how teachers develop ICT skills independently for enhancing professionalism through online training such as MOOCs.

Conceptual Framework

This study investigates secondary English teachers' practices of using computers in secondary classes. Therefore, teachers' experiences and perceptions can be obtained from the interaction among the participants and the practices from the observation. As the availability of digital equipment provides the opportunity for using them in the classroom for the instructors and the learners, it is needed to explore the teachers' experience of teaching with the application of a case study as the research design. Hence, the concept of the research design can be developed in the following diagram.

Conceptual Framework

- Practice of ICT in Secondary English Classrooms
- My Personal and Professional Experience of Teaching.
- Research Questions
- Socio-cultural Approach
- Review of Related Literature
- Case Study
- Access of ICT in English Language Classrooms
- Teachers' Practices on Using ICT in Secondary Classrooms
- Teachers' Perception on Using ICT in Secondary Classrooms
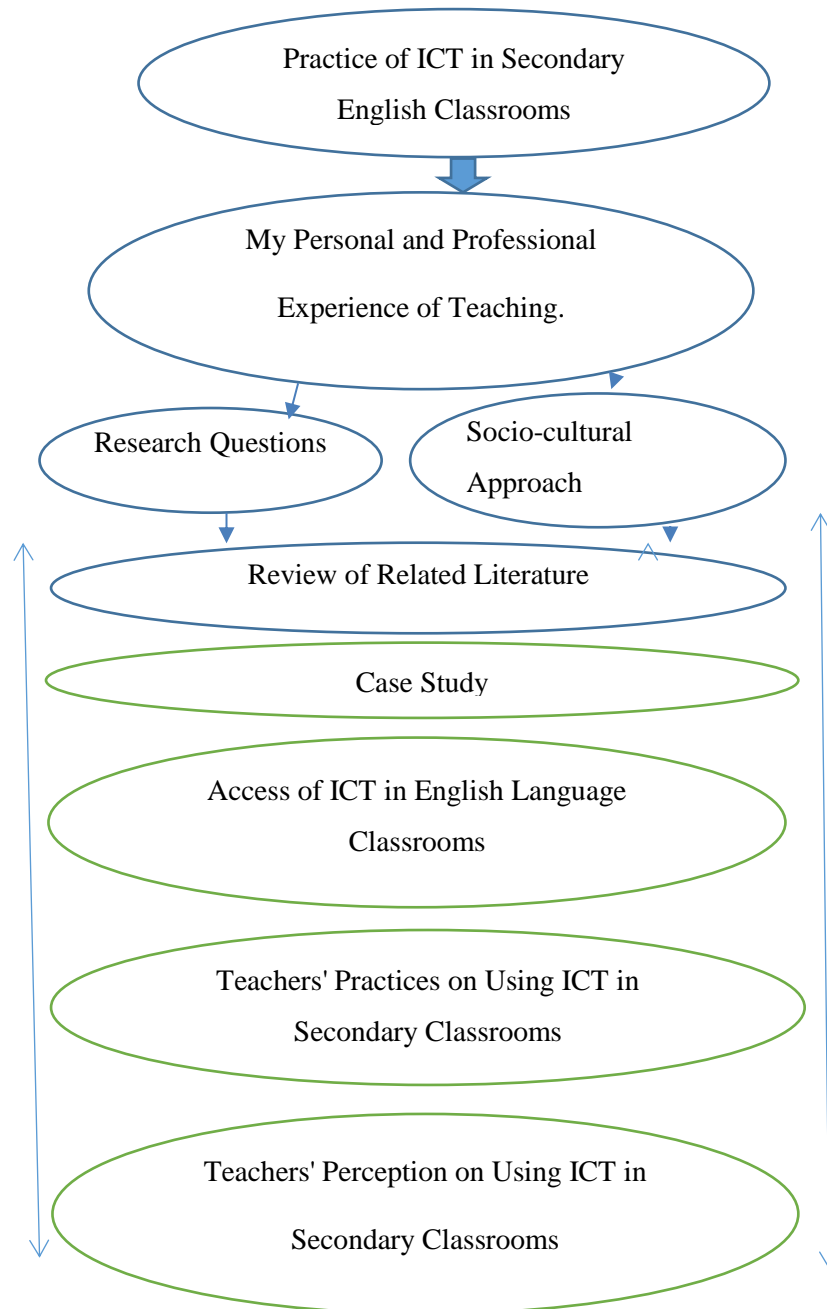
Chapter Summary

The studies above find that school teachers from various parts of the world have used ICT tools for various purposes such as PowerPoint for presentations, websites and blogs for having information from the internet, e-library for online assignments, Quiz and textbooks and other references, Microsoft word for taking notes and Microsoft Excel for calculation. In addition, most of these past studies focus on essential ICT infrastructure and classroom size such as the internet, ICT lab and teachers' capability to use ICT. The studies also show that the teachers' ICT skills support the teachers to bring change in the English language teaching-learning environment. However, there is limited literature on how teachers use ICT devices to make and display teaching materials in English language teaching. Moreover, it is essential to investigate how teachers use text with audio-visual materials and graphics and pictures in teaching-learning processes and how they develop ICT skills independently for enhancing professionalism.

The above writings also highlight the teacher's access to ICT for preparing and implementing it in teaching in a very wider context of developed and underdeveloped countries and also show the appropriate classroom size and student number. However, there is limited literature on how teachers use digital technology to have students interact and give them feedback in a less comfortable class having more than 50 students in the urban, suburban and rural context of Nepal. Similarly, it is also essential to investigate teachers' ways of using a smart board, web design and discussion forums to plan and deliver lessons in English language teaching.

CHAPTER III

METHODOLOGY

This chapter presents the methodology and design of my study. This study deals with the practices of using ICT in English language classrooms in urban, semi-urban and village areas in community secondary schools in Morang district, Nepal. ICT in school education, especially in community schools, is in practice and under-researched. This study, therefore, is essential to inform the teachers, curriculum designers, and policymakers, through the investigation, the observation or teaching practices with ICT tools and interviews with six secondary English language teachers.

This study focuses on community secondary school teachers' perceptions and experiences of using digital technology in their instructional activities with their intentions and challenges. This study also reposts the observation of these teachers' practices of ICT tools in their teaching & learning activities.

This chapter describes the qualitative approach of study for obtaining information; the process of data analysis and the role of the researcher in the study.

Interpretative Paradigm

As the research follows an interpretive paradigm, an approach which believes that understanding the participants' beliefs, experiences and motivations is essential to decoding the meaning of the data (Alharahsheh & Pius, 2020), I examined the experiences of participant teachers in the natural context of their school classrooms with ICT devices. I based my study on analytic interpretations of the data given by the participants based on the theory of affordance (Gibson, 2014). Moreover, I refer to the international writings to show the contrast between the context discussed in the international literature and the experiences of secondary English language teachers in urban, semi-urban and village schools in Nepal Oliver (2010).

As suggested by Denzin (2011), I have put my focus on the teaching activities of English language teachers with ICT, and their accounts of experiences of how to use ICT in physical and virtual classrooms. I collected information through semi-structured interviews and classroom observation and classroom observation in the real setting of the school environment; urban, semi-urban and village. I want to present the meaning of the data based on the use of digital technology in classroom activities and what have found through the observation of the participants' classes as advised by O'Leary (2013). The social reality is constantly changing (O'Leary, 2013) due to the recurrent corona Pandemic crisis. As suggested by Cohen et al. (2007) I followed semi-structured interviews with the participant teachers and observed their ICT practices in English language classrooms. The case in this study is the strategies of using ICT for teaching the English language in secondary schools in Morang district, Nepal. For that, I studied the secondary school's setting and the teachers' activities in their classes regarding their practices and understanding of ICT in teaching English.

Sociocultural Approach to Research

(Gee, 2010) stated that the sociocultural approach focused on the social, cultural and institutional setting of the study. He also argued that this approach paid attention to a person's experiences of practising various social and cultural groups mediated by various digital technology Language, art and social norms are the cultural factors that play a crucial role in innovating knowledge in a natural setting (John-Steiner & Mahn, 1996). For that, I studied the institutional context for the study. I met the headmaster and talked about the cultural background of the school society. I also talked about the ICT culture of the school. When they started and how they experienced it.

As this approach suggests, I entered the field with an idea of the socio-cultural diversities of the participants. The social background of the cases was essential for the study. So I had chosen three schools from different geographical and cultural backgrounds. This approach also provided me with the flexibility to talk to them and observe their practices of ICT in their natural classes to have information from their understanding based on their values and experiences.

During the interview and class observations, I was very careful about my language and activities with the participants. I tried to create a friendly environment to allow the participants to speak freely and frankly about their experiences of using ICT in teaching and learning activities.

Case Study

Denzin (2011) stated that a case study examines an individual unit, a person, an organization, an event, a decision, an action, or a location intensively as indicated by (Yin, 2018b) that a case study investigates the case in its real-world context based on the idea that mental constructions are based on personal experience and social setting. The case in this study is strategies for using ICT in English language classrooms in secondary schools in Morang district, Nepal. For that, I studied the schools' context and the teachers' experiences in using ICT in teaching with the challenges they have to face going with the new technology as well as their practices to create the learning environment with ICT.

Denzin and Lincoln (2017)and Yin (2018a) state that a case study focuses on a *context* of a specific time and place. So I centred my study on the teachers' activities through observation and their experiences and perceptions through interviews of urban, semi-urban and rural community schools.

This study explored multiple cases (Yin, 2018a). The occurrence of COVID-19 influenced the direction of this study due to the massive use of ICT to teach students virtually since the students could not attend physical classes. I decided to study three cases in three schools located in three different geographies. These places were selected based on COVID-19-affected areas and the availability of ICT in language classrooms. The first school was in a highly populated area, a metropolitan city where most of the schools are in access to ICT, and the second was from comparatively less populated and less affected by the virus. It was a municipality having less access to the use of ICT. The third and last was from the village development committee where the schools are poorly managed to use ICT in teaching and also in the low risk of corona pandemic.

Multiple Case Studies

Yin (2018b) and Stake (1995) indicate that the study including more than one single case required multiple cases. I had to deal with three different contexts of teaching-learning activities as I selected three schools from three different demographic and cultural background areas. There were three cases in my study: urban, semi-urban and rural areas. So a multiple case study was required. I analysed the data of the study within each setting and across setting showing the similarities and differences between the cases.

The Schools

I purposively selected the three secondary schools in this study; Himalaya Secondary School, Sagarmatha Secondary School and Machhapuchhre Secondary School. Each school has its characteristics and context for teaching learning activities as well as different locations and social backgrounds. All of the schools are at access to motorable roads. I visited the schools on my motorbike. Himalaya Secondary

School is in the middle of the crowded city, of Biratnagar. Sagarmatha Secondary School is on the national highway but Machhapuchhre Secondary School is in a remote area from the cities and is located in a peaceful village environment with wide open areas.

Participants

In this study, I interviewed six secondary English teachers from the three selected schools and observed their classes (one class for each participant). These six participants were from Himalaya, Sagarmatha and Machhapuchhre Secondary schools. I interviewed two secondary English teachers from each of these schools and observed their classes too.

The criteria of the selection were level and subject-specific: the secondary English language teachers. In the process of selection, I contacted the headmasters of each school separately and asked them to mediate an informal meeting with the concerned teachers. In the meeting, I explained my purpose and finally, they gave their consent to be volunteer participators in my study. In the following table, I present the list of all the participants and their schools, their posts and names (pseudonyms).

Table 1
Participant Schools and Teachers

School	Participant	Gender	Posts
Himalaya	*Mohan*	*Male*	*Secondary English Teacher*
,,	*Ashmita*	*Female*	*Secondary English Teacher*
Sagarmatha	*Rasita*	*Female*	*Secondary English teacher*
,,	*Bipin*	*Male*	*Secondary English Teacher*
Machhapuchhre	*Rupendra*	*Male*	*Secondary English Teacher*
,,	*Hem Raj*	*Male*	*Secondary English Teacher.*

Transcribing Audio Recordings

I interviewed the participants observed their classes in March and April 2021 and accumulated audio records with each of the six participants. The interviews were conducted virtually in Microsoft Teams in the Nepali language which supported me to elicit in-depth information. After the interviews, I listened to the audio many times to confirm if the information is clear and explore new issues on the subject so that I could manage them in the second interview. I carefully listened to the audio several times and translated them into the English language. I read the transcription and corrected it to maintain the exact meaning of the participants while translating the record.

After finishing the interview, I visited the schools and consulted the teachers and the headmasters for observing the participant teachers' classes. After setting the

routine, I got into their live classes physically, stayed for 45 minutes in each class and took notes of teaching-learning activities.

Organizing Observation Notes

I have made a thick description of the data through the notes developed during the time of class observation (Ponterotto, 2006). I intended to explore deep information about the classroom context of information and communication technology (Denzin & Lincoln, 2017). My observation notes reflect the participants' teaching atmosphere regarding strategies for using ICT in teaching the English Language.

I assembled all of the notes from the class observations I made and checked them minutely to organize them into various categories. Finally, I developed an argumentative reflection on the participants' teaching activities with digital technology (Rana, 2018)

Thematic Analysis

I used thematic analysis, a method for identifying, analyzing and reporting themes within data (Clarke & Braun, 2013), for the interviewed data. (Kiger & Varpio, 2020) explained thematic analysis, as an appropriate method of analysis of seeking to understand experiences, thoughts or behaviours across the data set. Using NVivo software, I generated initial codes, searched for themes and named them in the process of analyzing the data (Bakar & Management, 2020). The patterns I identified were produced from the context based on Jeong & Hmelo-Silver's (2016) core affordances that technology can provide for collaborative learning. I considered the insights given by the writers would support me to organize the wide range of information systematically.

As suggested by (Kumar, 2018) and (Clarke & Braun, 2013) and I assembled, integrated, transcribed, examined and described the collected data to develop main themes and classify them in a proper organization of the issues in the collected information.

Research Ethics

While developing the research proposal I considered research ethics as my moral principle and study guide from the beginning to the period of publication Rana (2018a). I took the consent of the participants' voluntary participation through the information sheet and consent form from the head teachers and the participant teachers of the selected schools.

The information sheet also contained the purpose of the study and the means of data collection. Similarly, during the meetings with them, I assured them that I would respect their privacy and that I wouldn't interfere with their freedom to provide the information within the limit of my research. Moreover, I confirmed to them that my study wouldn't create any negative feelings for them. They wouldn't have any obligation to provide the information they did not want.

I reassured them that confidentiality and anonymity would be maintained explaining to them that the interview and observation data would be stored on my laptop and after the submission of the paper it would remain in the university library.

CHAPTER IV

PLANNING AND DEVELOPING LESSONS THROUGH THE USE OF ICT

The corona pandemic has accelerated the use of ICT in language teaching. Teachers have started planning of teaching language using ICT tools such as a laptop and mobile. They used them for preparing daily lesson plans and storing lesson-related information including audio and visual materials. Besides, the teachers also set up a discussion forum to engage the students in the related topic where they could interact and share their knowledge before coming into the classroom.

Introduction

This chapter presents the analysis of teachers' experiences and practices in teaching English in secondary grades using ICT. Moreover, this chapter offers how the teachers create the learning environment for their students with the use of ICT in the classroom and outside. In addition, it discusses the teachers' experience with students' participation and collaborative work using ICT tools in learning. This also presents the ways of students' joint tasks inside and outside their classroom link virtually.

The COVID-19 pandemic opened up new room for academic discussion from the pedagogic perspectives. Due to the disease, the educational institutions that have been utilizing blended learning techniques shifted to complete virtual classrooms. When the lockdown was over, the institutions got back to the previous physical face-to-face position of the classrooms.

Systematic Planning for ICT Integration in Language Teaching

ICT integration refers to a process of using any ICT tools such as multimedia programs, websites, social media and audio videos meeting platforms such as Facebook, zoom, Teams, messenger, YouTube and emails to enhance students'

learning (Ghavifekr et al., 2014). Through the integration of ICT devices, the
participant teachers have practised creating the context of a collaborative learning
environment participating almost all of the students for their individual and joint
tasks.

The participant teachers in my interview reported that they prepared the
lessons on PowerPoint slides for the presentation before the class for both the direct
physical class and zoom conference. Similarly, they also uploaded the videos, if
needed, on these slides to play them when necessary. Moreover, they collected the
related materials from the internet and stored them in their files such as pdf, word
documents, and PowerPoint slides. Some of the participant teachers recorded the class
before the presentation and uploaded them to a YouTube channel so that the students
can use them in their free time. While presenting, they also use the online link to show
the subject-related materials through multimedia. For example,

> I use a laptop and a projector in my classrooms. I teach the students
> through slide presentations from which I can present text, audio and
> visuals that I stored before. I stored the materials in pdf form of the
> textbook, websites, blogs and other e-books from the Internet
> (Ashmita, a teacher from Himalaya Secondary school)

> I always carry my laptop to my class. I download the text from the
> textbook and store it on my laptop. The reading software reads the text
> for the students to listen to the sound of native speakers. (Bipin, a
> teacher from Sagarmatha Secondary School)

These sayings indicate that the use of ICT can support the teachers to plan and
store the contents for teaching which they can use for creating the students' learning

environment for language skills. Similarly, the information collected from other participants' interviews and class observations reflected that digital technology has been a part of teaching especially for planning things and storing them for future use.

Learning Environment

ICT can create several learning contexts that enrich the language skills of the learners. Internet connectivity and communication technologies can find a new information and can be stored and used for teaching and learning activities. Besides, it provides the access to distant learners through the use of virtual tools and social media such as zoom, Facebook messenger, Teams and YouTube channels.

The interviewed participant teachers reported that they created a learning environment through the use of ICT tools providing the students with opportunities through individual study-based tasks or through collaborative learning activities where they could develop their creativity by attempting to solve common problems with their friends. Through the use of ICT gadgets, students can store and reuse the sources that they are presented in the classroom. For example, Rupendra, a teacher at Machhapuchhre said:

> I have created Face book messenger group for the students. I have also recorded the classes and uploaded them on YouTube and provided them with the link to the videos to the students on the Facebook messenger group to study them individually and in groups. I have regularly followed them up. The students keep their questions and curiosities in the group which I replied. I have also encouraged them to use digital tools in learning the English language and uploaded the teaching materials to the group regularly.

Ashmita consented to Rupendra and further reported

During the Pandemic, I did the lesson delivery from zoom and I also

made a messenger group chat from which I uploaded the documents

and the students uploaded their tasks. I recorded the zoom classes and

uploaded them into a YouTube channel which students could use in

their free time.

Besides, they used messenger and Google classroom as the discussion forum

in a virtual mode of learning. Moreover, they uploaded their task of assignments in

zoom and Google classroom and also share the video links and websites with their

friends to discuss the particular subject matter. For example,

I inform the students of the particular websites and blogs or the e-

library websites through which they find the sources using the search

engines such as Google Chrome and they share the resources with their

friends through Facebook messenger and Google classroom. (Binita, a

Teacher from Sagarmatha Secondary School)

These data reflect that the participant teachers conducted the virtual and

physical classes with the use of ICT tools that could create a new learning

environment for the students where they could work individually and or in groups.

The learning materials could also be stored for future use.

ICT Access to Teaching and Learning Activities

Access to the use of ICT in language teaching can enhance language learning.

It has been an integral component of learning as the teachers can choose a program,

application, or website for helping learners to learn language skills. Teachers can use

ICT tools inside or outside the classrooms to engage students in collaborative work

and communication.

The participants I interviewed said that the learning environment with ICT has been changing rapidly, especially due to COVID-19, inside and outside the classroom. The concerned agencies such as the school managing committee, district education office and government of different levels have funded ICT management with technical support including teacher training. For example, Rupendra said

> In the beginning, I started with audio tools and used a speaker to get students to listen to the recorded videos. But later when my school started an ICT programme in my school supported by the District Education Office and the Government of Province no 1, I have been using a multimedia projector and a laptop.

During the time of observation, I found that the teacher taught the English language in class x using an interactive board. He warmed up the class with an attractive video he had stored in the panel. He also showed me a computer lab with a projector where the students can use the internet for searching various sources related to their text. However, the other participant in the same class was not satisfied as he was teaching another section of class ix he did not use any ICT tools there except a photo from his smart mobile and he said

> There is no extensive use of ICT here in my school. A year before the corona Pandemic, we started a multimedia projector in a classroom. The number of students is very big. We have just set up an interactive board. It has been set up in a meeting hall. There are other interactive boards too but they have not been set up in the classroom

This reflection reveals that the school administration is aware of using ICT in language teaching classes but still the access is not fully supported for all classes.

Teachers are not using ICT as a part of teaching; only the selected teachers are motivated to use them voluntarily.

Collaborative Learning with ICT

According to Poudel (2020), digital technology has become a common interest in the practice of using ICT in classrooms that are concerned with learning together through social interaction in a technology-supported learning environment. It also supports collaborative learning which indicates learning together for the construction of knowledge. Similarly, Álvarez and Bassa (2013) indicated that technology-mediated collaborative learning is carried out by employing a group negotiation where the participant learners work collaboratively and provide several opportunities in English language teaching and learning activities.

In my study, the participant teachers shared similar experiences regarding students' collaborative learning. Through the help of the ICT devices they could be able to engage students in group works for common results. Students made group discussions orally and in written form, and they exchanged their ideas and shared the sources related to their learning even though the practice they made was limited due to the poor internet access in their locality, especially in rural areas. For example, according to Ashmita

> The students use the group chat box to make discussions
> between themselves in which they make written and oral debate
> putting their arguments. They upload their problems in the box and ask
> their friends to solve them. The students who join the group try to
> solve them on their part. They try to find the information from their
> textbook and internet sources and share their solution. Very often they
> get the solution but I have to support them to go ahead.

This was also justified in my class observation where the participant teacher divided the class into various groups and asked them to make a discussion on the problem given on the projector. The students took part actively and work collaboratively for the solution though they were not allowed to have any digital gadgets in the classroom. They had to depend on the devices used by the teacher.

However, Hem Raj reported to me that technology was not easy for them since they were new to it. They had just started using it due to the occurrence of COVID-19. He said

> We, teachers, do not have great knowledge of using this digital technology in teaching. Our students cannot handle it properly though they are practising with Facebook messenger. We got the training on digital literacy organized by the provincial government but still, we are not ready to go with it.

The study found that English language teachers had a positive attitude toward handling digital technology for engaging students in sharing their ideas and working collaboratively. However, they are still working voluntarily since they have not developed technology as a part of the teaching methodology.

The Use of Textbook and Online Sources

Teachers can use a textbook for different purposes. The textbook is the supplementary guideline to inspire the students for learning activities to achieve the goal of the curriculum. It also provides the teachers with knowledge and skills for instructional activities. However, the teachers can supplement the textbook with self-created materials through the use of ICT. The use of ICT can access the teachers to collect essential information for teaching to address the need of the students

recommended by the curriculum and the textbook and also make the classroom dynamic. (Garinger, 2002).

The participant teachers were not yet in the position of using the computer for all their classes. They had to follow the assigned curriculum and had to follow the lessons in the textbook. It was only the teachers who could use the ICT tools because the students did not have any computers on their desks and were also not allowed to carry any gadgets into the classroom. So the students work with the textbooks with the support of the multimedia used by the teachers in which the content from the internet sources and the textbook are presented in various forms such as pdf, PowerPoint slides, audio and video.

The teachers brought the content of the textbook either in pdf or in PowerPoint slides and presented them through multimedia but the students went with the textbook in front of them. The teachers also used the videos related to the text the link of which was given in the book as a reference for the content. For example, Ashmita, a teacher at Himalaya Secondary School reported

> I use a soft copy of the textbook in the face-to-face classroom. I
> prepare slides and pdf files to display the text on the projector. I
> display the pdf form of the book while presenting the slides.
> Sometimes I also use the hard copy. I always carry it with me to class.

My observation of the classroom also indicated that the teachers took the textbook to the classroom with the softcopy in pdf and some notes in PowerPoint slides. They also carry some more references from the internet to make the class livelier and more active. For example,

> While teaching poetry, I prepare the class content before class time. I
> search the references on the internet, get them printed and take them to

the class. I have got also the textbook to me. I write the content very

shortly on the board and describe them in detail for the students. (a

teacher from Sagarmatha Secondary School).

Besides, the teachers had to depend on the textbook when there was no backup

to continue the class at the time of the power cut. While observing a class, there was a

coincidence that a power cut while teaching in class ten. The teacher waited for the

power but until the power was supplied she used the textbook for teaching. Indicating

the situation, she reported that

We cannot fully depend on the use of digital technology due to

irregular power cuts. Sometimes it does not get back in the class

period. So, I have to change my class presentation schedule. I use the

textbook in such situations.

The above information reported by the participant teachers indicated that the

face-to-face language classrooms still depend on the textbook since the students do

not have access to any gadgets in the classes. This reflects that the curriculum should

be improvised including the use of ICT which makes it possible to vary the teaching

process significantly through the use of active teaching-learning methods such as

problem-solving, project work, group work and so on.

Synchronous and Asynchronous Use of ICT

Synchronous learning takes place on a planned routine. Learners and

instructors meet together online at the same time where the teachers can present

lessons, and give the lesson for discussions or class assignments. Students can

participate at the same time and take part actively where they can communicate with

their friends and the teachers, share, store ideas and do group activities. Asynchronous

classes, on the other hand, let the students have a long period to do the learning

activities, for example, they are given to submit the assignment within a week or two. They can search the reading materials on YouTube videos, websites or blogs.

The participant teachers practised both synchronous and asynchronous teaching in a virtual mode of learning. Most of the teachers used Facebook messenger to upload the content for the assignment and the students did the exercises on their own time and submitted them to the teachers uploading on the same site. Similarly, the students communicated various contents from Internet sources or scanned copies of hardcopies to their students in the chat box where they could download and study and give feed or other reactions to their friends. They also shared the YouTube video links and other links to websites or weblogs with their colleagues as references for course content. The participant teachers reported their experience as the following

CHAPTER V

STRATEGIES OF USING ICT IN THE CLASSROOM

This chapter deals with the strategies of using ICT in English language classrooms. Moreover, this chapter analyses ways of building learning communities among students so that they can communicate and share their ideas. Besides, it also discusses Monitoring and regulating the students' learning activities, through the use of digital tools and how teachers apply ICT for checking their assignments and giving feedback to them. Moreover, this presents the ways the teachers and the students share their ideas and content through the use of social media using ICT.

The COVID-19 Pandemic created a new teaching-learning environment where the teachers mainly conducted virtual classes but later when it was over they got back to the physical classes where they could use the strategies of making groups, monitoring and providing assignments and feedback as well.

Finding and Building Communities

According to Salam (2004), ICT learners can learn by interacting via student forums in the normal sense of collaborating and by continually exchanging ideas and experiences that stimulate the thinking and learning capabilities of learners. ICT creates a social network where people with similar interests, goals or similar practices interact to share information and knowledge in social interactions. Members of the community can choose the resources; define their objectives and themes according to their interests, needs and motivations. Access to information enhances creativity and fosters development.

Group Formation

Students use the Internet to address their learning activities being affected by the social, cultural and institutional context. They work in groups independently or collectively based on their cultural backgrounds such as religion, or caste or on their location such as neighbourhood or the place where the network access is available. The relationship between cultural background and the learners cause either a virtual learning setting or a combination of physical and online learning context that create an environment of group activities among students for teaching (Hernández et al., 2017).

The use of ICT is expanded both inside and outside of schools. The relationship of one learning context to another has become an effective matter of virtual learning or in the physical classroom, students work in groups either independently or on the criteria applied by the teachers. While working independently, they form their groups based on bench position, class position or based on their gender.

The interviewed teachers in my study reported that the students are from mixed communities: various castes and ethnicities, with almost equal numbers of boys and girls. All of the students did not have equal access to the Internet for online learning. However, in the face-to-face classrooms, they made their groups for sharing ideas about the use of ICT as much as they could. For example, the high-performing students, the first benchers made their groups from the same knowledge level but the less competitive students did not join that group. The girls, on the other hand, made their groups which the boys generally do not join. The talented students remained more active as they made their groups and communicate with the teachers and search the sources from the internet to associate them in their learning. Similarly, the

students from some ethnic communities did not have the access to the internet and are less active to make groups and do learning activities. For example,

> The students from the Madhesi community are from poor family backgrounds and have less participation in using ICT and do not show any interest to join the group for sharing their learning experiences. It is because they do not have the opportunity of handling the ICT tools at their home.

However, other participant teachers reported that the students make their groups based on the level of their knowledge rather than based on ethnicity, cultural background or gender. For example,

> Students made the group of more active and interested students themselves and communicated and shared their ideas based on their interests. Students are from different sections so they make the group based on their proximity, and the meaning of their section. They do not make the groups based on gender and ethnicity.

The information from the interviews and class observation indicated that students make their groups and do the learning activities inside and outside the classroom.

Monitoring and Regulation

Digital technology creates a new learning environment which provides learners with the alternative option of being self-regulated through the use of ICT on their own. The learners verify and evaluate their pace of learning through self-correction and online tests. However, students' digital practice is very limited since they have poor access to and knowledge of the technology for learning.

Many LMS and platforms are used for monitoring students learning activities such as their attendance, participation in discussions, number of chats they make with their friends and teachers, and the interaction they make with their friends and teachers LMS can also be used to monitor the learners' satisfaction through the survey and online interviews regarding the use of software and the items recorded online. Moreover, students' achievement: the result of formative and summative assessments can be monitored using a Learning management system (LMS). The participant teachers, however, reported that they did not use any software to monitor students' learning activities either online or face-to-face classroom activities.

> There is not any special software to monitor the students' learning activities. In a face-to-face classroom, I monitor them observing them physically but in virtual learning, their activities are monitored through their attendance record and their assignment submission. But I can't say how much time they spend on learning or searching the documents for them.

Learning Analytics

Learning analytics deals with collecting, analyzing and reporting learning activities. It also evaluates the learners' progress by keeping the record online. It is an effective tool to improve the learners' performance through which they can have information on their learning habits and progress on particular subject matters. It also provides personal feedback that facilitates learning showing the current position of the students in Online and blended classrooms where they can go with the course-related materials before getting into the classroom. (Yilmaz & Yilmaz, 2020)

However, the interviewed teachers in my study reported that they did not use any LMS containing analytics but they used other ICT tools such as Zoom and

Facebook messenger to study the students' progress and to give them essential feedback. For example,

> Most of the students uploaded their assignments in the Facebook messenger chat box. I checked their assignments there and give essential feedback. Similarly, the students did the discussion there which I guided and controlled so that they couldn't go out of track. (Ashmita, a teacher from Himalaya Secondary School)

She further reported that her school was preparing to install a new LMS in her school's library but she was not sure when it would start. She said

> We have new software now (I can't name it now) but we have had two days of training to use it by technicians. The software will provide us with analytics and discussion groups, blogs etc. It has access to the class courses of all levels in which we can make discussions, comment, keep a record, check students' progress and give feedback offline and online.

> The students used Facebook messenger and Google classroom as the discussion forum. They uploaded their assignments and queries to the sites and I checked them up and provided them with feedback. We don't have any software to know about the student's progress and engagement except for these tools. (Binita, a teacher from Sagarmatha Secondary School)

The data described above reflects that ICT tools can contribute to monitoring students' learning activities and providing feedback for the learners. It is equally supportive to monitor students' engagement in learning and assessment of formative and summative evaluation both in Online and face-to-face language classrooms.

Assignments and Feedback

Assignment, as an integral part of learning, provides students with the opportunity of engaging to learning activities where they can practice their existing experience to innovate new ideas. The assignment following the feedback is particularly significant in the classroom where the teachers use the ICT tools to check their tasks virtually. Digital technology has also opened up new possibilities for enhancing learning through collaboration. Even in the physical classes, teachers can upload the assignment to the students on their assignment sites and can check them with essential feedback in their leisure time which the students can review when they become free out of the class. For example,

> I give feedback on the student's assignments through messenger with an editing option tool. I can also work with it while conversing with my friends or during my tea time. I use convincing language as much as possible. While correcting the participant, I use a colourful pen with different colours for different students. (Ashmita, a teacher from Himalaya Secondary School)

Another participant shared a similar type of experience for giving assignments and feedback to the students through the use of Facebook messenger.

> The students are provided very simple assignments by typing on their mobile and sometimes they download them and solve them on their paper. They scanned the answer paper and upload that again which I check on the screen and give feedback there but I have not downloaded them to get them printed.

The above-mentioned data reflects that teacher ICT tools can facilitate teaching-learning activities, especially for providing the assignment, correcting them

and giving feedback for the improvement in their leisure time. Students can also use their free time to do and submit assignments in their free time on their own.

Sharing Resources

Digital learning facilitates the learners to study on their own without any fixed schedule and content. The learners can freely access essential content according to their level of knowledge. They can also store and control the materials in a short period. They are. Similarly, teachers can effectively collect, store, organize, and plan digital materials through online sources and deliver them to the students enforcing their learning power. Digital learning improves the learners' skills to collect and share them through digital tools such as a computer or a smart mobile. They can easily find the required content using the search engine with the support of the keywords in a particular subject area. One of the participant teachers reported that

> In the virtual mode of learning, the learners shared the content without any schedule because they are free to work on their own. They look for content related to their text and share them through the chat box with their friends. Sometimes, they also share the YouTube video they think is relevant to the text.

The students made use of ICT in different ways at home and school. In the virtual mode of learning, especially at the time of the COVID-19 Pandemic, students couldn't attend school and they had to fully depend on ICT tools to do learning activities with their teachers and friends. The students were not allowed to bring their electric gadgets to school. So the use of ICT tools in school was limited since they did not have enough computers in the classrooms. At home, most of the families had got smartphones but still, they did not have strong network connections. Students had to buy limited data from telephone companies. However, they could manage to learn

more at their home rather than at school. Their access was to a smart mobile rather than computers. One of the interviewed participants reported that

> Most of the students do not have internet access; they have to spend to
>
> buy the data. They also do not have personal laptops or smart cells.
>
> They have got just one piece of the cell phone in their family which
>
> they can use only for a limited time. Students are not allowed to have
>
> gadgets in school. So they have to share the desktops in a computer
>
> lab.

Sharing Contents

A social community is formed for proper social relationships as the learners build better connections with each other in an online learning environment where they can develop their knowledge through interaction sharing and communication. The learners often share the Knowledge voluntarily but sometimes they have to follow their instructor to submit the assignments which have to be solved in groups and need sharing of knowledge. However, networking leads the learners to more effective interaction and product knowledge.

Students make their groups for exchanging their ideas through social media with their friends. They visit websites and blogs through search engines such as Google Chrome and collected the information to share in the group through the messenger chat box. The participant teachers reported that the students shared their knowledge in the virtual mode of learning.

> The students work collaboratively in the group. They do a lot of
>
> interaction through the use of ICT. They mostly use the Facebook
>
> messenger chat box. They uploaded the information they found on the

Internet and sometimes they scan pages of hard copy and upload them

in the box. (a teacher from Himalaya Secondary School).

The students are not allowed to bring any gadgets to their classroom. They can

share knowledge while using desktops but mostly they remain without computers

since there are not enough desktops to engage them in learning.

CHAPTER VI

POSSIBILITY AND CHALLENGES OF USING ICT IN TEACHING ENGLISH

This chapter deals with the possibility and challenges the teachers had to face while using ICT in a classroom. It discusses the training they were provided by the local government which were not sufficient for them with the modern technology for pedagogical purpose. Besides, it analyses the ICT infrastructure in schools which was not satisfactory though all of the concerned agencies were confident that they could change the learning environment with the use of ICT in the future. Teacher Training

ICT teacher training is organized in a variety of forms. Even though many participant teachers reported that they had had training in digital technology to handle it effectively in English language teaching, the teaching was not still effective as the learners were not able to go with the new technology due to a lack of digital knowledge and access to it (Jung & Society, 2005).

Howard et al. (2021) indicated that contemporary classrooms go with direct face-to-face interaction and virtual modes of learning. Teachers, therefore, need to develop the digital competencies for online virtual learning keeping students at a distance and also using ICT tools to handle physical classes effectively.

The participant teachers had similar types of experiences regarding ICT skills and their uses in language classrooms. However, they did not have enough learning environment to handle ICT tools since they had to encounter many difficulties while integrating the ICT tools into teaching and learning activities such as lack of electricity, poor internet and also the training programs were not regular and the trainers did not monitor them even after the training. Many of them had bought their laptop but the others could not afford them and they could not practice digital tasks

due to the lack of the tools. As one example case from Sagarmatha Secondary School is provided below.

> We, teachers, have got computer training for the teachers with basic computer skills with basic applications such as word document, Microsoft Excel and Microsoft PowerPoint presentations. For example, one of the training organized by the Municipality trained many of the teachers from my school but the majority of them do not use the skills in the classroom because they do not have their laptops and are not still confident to apply their skills.

Another example from Machhapuchhre Secondary School participant teacher, Hem Raj reported that

> We, teachers, do not have enough knowledge of using ICT. We learnt something from the training organized by the provincial government before the Pandemic. It was on basic computer skills. It encouraged us to use ICT in classrooms but due to the poor management of ICT tools in the classroom and poor internet network, we have not used the skill.

All the participant teachers agree that ICT is a powerful part of teaching which can make language teaching interesting and time-efficient but the training the teacher has got now is not sufficient to build their confidence to apply ICT as a part of pedagogy The teachers need to have pedagogical training rather than how to use the ICT tools in the classrooms. They also need to have personalized support from the technicians or the trainers for pedagogical support with the use of digital technology.

Lack of Appropriate ICT Infrastructure and Software

. ICT infrastructure is one of the key requirements of a classroom for effective teaching. ICT equipment such as a computer, internet and multimedia projector can

access the digital learning environment to the students. However, due to the lack of poor ICT infrastructure, lack of quality hardware, suitable educational software and lack of classroom management, teachers are facing problems in teaching with ICT.

Participant teachers used Zoom and Google classroom and very often Facebook messenger to have direct interaction with their students in an online mode of learning. But the teachers did not feel that the students had good interactions with the teachers during the class. The teachers could not even know what the students are doing on the screen. As one of the participant teachers shared his experience that

> It is very difficult to inspire students towards learning who are less interested and motivated in their tasks. We cannot focus all of the students online, and cannot monitor if the students are learning or passing time on something else, for example, online games or chatting with somebody else.

Moreover, technical issues affect directly and indirectly in an online learning environment. While students attend their classes on zoom or Google chrome, the network may suddenly cut off and the computer shut down. It takes time to restart and re-join the device. The school I observed did not have any particular LMS though one of the participants reported that the school was going to start it in the coming month still the teachers were not aware of using it as Ashmita reported

> We have new software now (I can't name it now) but we have had two days of training to use it by the technicians who will support us with an e-library which can be used offline. The software will provide the analytics and discussion group, blog, etc. It is an LMS which can give the link to the students through an offline and online connection with

access to discussion, comments and record keeping, and a link to an e-

library.

The data indicate that physical infrastructure, electricity and connectivity are

the challenges for maintaining digital infrastructure in a school. To supply the

required connectivity, the school will have to manage an alternative power system.

Lack of Appropriate Materials and Time

Technology has been rapidly changing with new ideas and tools used for

teaching. For example, new tools and applications for teaching such as smart boards

and LMS equipped with intelligence, internet brand with new features and high

powers for language teaching. This new technology is an indispensable part of

teaching-learning activities through which the learners and the teachers both can

search for information easily and smoothly for effective and permanent learning.

Access to the Internet makes learners able to communicate with others, expand

educational services and empower learning areas by storing the learning materials on

their demand. Besides, using and sharing knowledge via the Internet increases the

interest of the learners through the expansion of knowledge area (Tutkun, 2011).

The Internet has added access to teachers and students to connect to the

outside world and connect resources which motivates teaching and learning taking the

learners beyond the classroom. Moreover, the teachers' view provides the dynamic

power for teaching and also facilitates learning empowering the learners'

comprehension with rich contextual learning opportunities both in virtual and physical

classrooms.

However, the interviewed teachers in my study reported that Internet access to

the students was limited. Many of the students were from low socio-economic

backgrounds and could not manage the technology for their studies.

Poor Internet Connectivity

The Internet network can significantly improve the impact of ICT and diminish many problems. Information and software, as well as other digital equipment such as printers, scanners, and multimedia projectors including computers, can be shared, administered and also protected through the network. The Internet network can significantly improve the impact of ICT and diminish many problems. Information and software, as well as other digital equipment such as printers, scanners, and multimedia projectors including computers, can be shared, administered and also protected through the network.

Teachers can get access also download relevant text, pictures, sound and video through the web browser and store them on their personal computers also can search YouTube videos related to the lesson at the time of presentation. Besides, they can use the network to provide live pictures of the place, for example, live pictures of a particular city through the use of Google Maps. They can also create the learning environment by providing a particular task for the students collaboratively for example, the students have to write a paragraph on 'The use of a computer in Language Learning' and the students search the information from the web, collect the related contents, organize and put them into the right order to produce a paragraph (Pritchard, 2007).

The participant teacher, however, reported that they had to face challenges with very poor internet bandwidth in their schools. This reflects that the teachers need LMS installed with curriculum content and other online libraries where they can keep students' records and other learning sites such as discussion forums and assignment pages.

Insufficient ICT Tools and Poor Maintenance

The teachers cannot be confident with technology as they could not have the digital infrastructure in their classroom. It is important that determining digital tools such as computers, software and the classroom infrastructure help teachers achieve the desired result in the classroom. The digital environment should be as comfortable as possible for them, particularly when self-confidence in the use of technology is at a low level. It should support the teachers to make classroom notes, lesson tips, and orientations on how to organize student work and manage students' portfolios. For that purpose, the teachers need to install the software on their computer: Besides, every teacher need a multimedia-installed classroom with regular power and strong bandwidth Internet (Hepp et al., 2004)

The disproportionate ratio between students and computers was a big challenge while using educational technology. From the interview, it emerged that three or four students had to share a single desktop in a physical classroom.

Similarly, the maintenance of digital tools is a key factor in teaching with ICT because the school staff may become frustrated due to unreliable technology such as power cuts and slow networks or sometimes the tools do work properly. Technical support is also essential to reconfigure computers and printers, install new software, update new applications and eliminate viruses.

However, the respondents indicated that the computer laboratories in the school are not adequate. In my observation, I found that most of the schools did not have multimedia projectors in the classes. Similarly, there was no technical assistance too. So the teachers had to face the problem of not repairing digital tools. For example,

There is no specific e-library in my school. Students try to find sources

from free Internet sites. We have not developed any software for

learning too. We don't have any record Online except the messenger

chat group. We use Zoom and Google Classroom for virtual classes.

There is no multimedia projector in my classroom now. It needs

repairing but there is no technical assistant in my school. So it has been

stored in a room. (Binita, a teacher from Sagarmatha Secondary

School)

Hem Raj, the next participant teacher from Machhapuchhre Secondary School, reported that the multimedia projector has been put only in a computer lab. Other classes do not have the Internet or a projector. He specified that only limited computers were allocated for the staff. He presented his class in a traditional classroom where there was no computer or overhead projector to display the materials. He used his own mobile set to show a picture of the text-related figure in the classroom. For that inconvenience, he reported that

I have not used a multimedia projector recently. There are some

interactive boards, but still, we don't know how to operate them. They

have been put into a store room and one of them has been put in a

computer room only.

The teachers were not confident with the technology as they could not have the digital infrastructure in their classrooms. One of the participants, Ashmita, from Himalaya Secondary School, Biratnagar did not start her class on time because she could not operate the multimedia projector in her classroom. So she shifted to another classroom and started her class after ten minutes but that disturbed the routine of the

assigned teacher. She reported that that disturbance was the due to the lack of regular repairmen of the tools. She said

> My school generally installs the ICT tools once and does not care
> about them. The ICT tools such as laptops, desktops, projectors and
> internet connecting tools need repairing but the administration does not
> monitor the continuity of these things in the classroom. Some of the
> classrooms do not have internet access and the electric wires are cut
> off.

All the informants noted that they did not use Learning Management System. This indicates that the school had not managed a proper learning environment in these schools and also indicated that the teachers were still not aware of using teaching learning software in teaching English.

The above data concludes that regular preventive maintenance at a deeper level can solve the problems and increase teachers' confidence towards the use of technology. Moreover, computer-based technology can coordinate new skills for pedagogy, evaluation system, and teachers' professional development with effective teaching-learning activities.

Parents' Attitude to the Use of ICT in Teaching

The use of technology needs the support of administration, teachers and parents for making teaching-learning activities more effective and attractive. During the corona pandemic when the students were required to link with the teachers and their friends virtually, they needed sufficient access to the Internet and digital tools such as a laptop, a mobile or a desktop.

The participant teachers reported that there was a gap in access to technology between the school and the students' residential environment. The parents were not

ready to provide technical support to the students due to the extra burden on them to buy the tools and manage them with the Internet. So the students had to work with limited access to time and tools as the participant reported

> The students work independently on the sites, they are often restricted by their parents because they had to expend much on the management of the internet and the digital tools for their learning. The parents mainly focus on the textbook so they think that the tools: mobiles, laptops, or desktops are a burden for them. (Rupendra, a teacher from Machhapuchhre Secondary School)

Similarly, Ashmita, another participant teacher reported that

> Most of the students are from poor family backgrounds. They do not have the opportunity of handling the ICT tools in their home because of their poverty or their parents' disinterest in it. However, they are interested to use ICT tools and share ideas virtually. They visit the nearer internet access places for the online class which cannot always be feasible for all.

The data indicate that the students are interested in learning with the use of ICT but they are not the proper access to digital technology due to their poverty and parents' disinterest in using the technology in classrooms.

The practice of Using ICT in Teaching Learning Activities

. Schools manage the Internet to link people, cultures and places worldwide. Through such connectivity, the learners respect and celebrate these cultural diversities and lifestyles. The teachers, therefore, are to mediate the technology and the learners to inspire and support them for effective learning. For that schools are forming their Websites coordinated by local agencies and Internet Service Providers.

. Schools must establish ICT infrastructure to access effective communication and networking for learning. Internet, digital hardware and software for learning support the learners and school to deliver essential information and maintain healthy Communication Schools develop their websites for connecting the institution to the world outside. Besides, students can utilize other managerial facilities such as bill payment, form fill up and information about the school (Leask, 2001).

. It is usually the teachers who will have the duty and responsibility to maintain and improvise the ICT facilities in schools. So they involve in the digital system to edit, add and renovate such projects.

Many teachers are capable of using digital technology effectively in school and outside while some of them do not know even basic computer skills. Skilful facilitators can create an effective learning environment and deliver their lessons to the students engaging them in teaching-learning activities. The absent students can also use the recorded classroom activities on their own time and place and improve their learning.

Pedagogy and Practice

The practice of ICT in teaching can innovate encourage, reinforce and engage students to increase their motivation towards learning The influence of effective use of digital technology in schools include the availability of the tools, their accessibility, planning for teaching, technical support for the use and maintenance of the technology, For example, during the observation, I found that one of the participants was claiming about the lack of ICT equipment, she was urging the headmaster to provide her with a laptop so that she could arrange the classes virtually or physically presenting the slides on the projector. Her position was justified by her interview in which she reported

I usually make complaints about missing or lacking ICT tools in the

classroom to the headmaster. I also suggest the headmaster add some

more material to go with ICT for example, a pen drive for the teachers

to store the items and carry to the places, and an additional router into

the teaching class so that the net brand remains strong. Besides, I teach

my students to work with laptops and mobile so that they can go with

the internet browser to find the internet materials and can also share the

ideas or the content they acquire with their friends. (Ashmita, a teacher

from Himalaya Secondary school)

Another participant teacher added a similar type of teaching experience where

he could support the students to explore new ideas through the use of ICT. At the time

of my classroom observation, he was guiding his students with their mobile to get the

link to their chat group through Facebook messenger. In the interview, he reported

that

I often support the students to make their Facebook ID and link them

to their friends in the messenger group. They also need to have the idea

of downloading the materials from the Internet store them in

appropriate folders. Last week I taught them to make their email ID in

gmail.com and how to email others and store the information sent into

their email inbox.

Practices in Classrooms: Similarities and Differences in Urban, Semi-urban and Rural Schools

The key information made was that the schools tried to manage the ICT

learning environment though they did not have enough tools and skilled manpower.

All the interviewed teachers were interested in using ICT for the improvement of

language learning. But they were not satisfied with the proper management and also were not confident with the skills they have acquired from their professional development and the training arranged by various concerned agencies.

ICT can play an important role in education to gather information and knowledge. The teachers and the students can use computers or smartphones for browsing the internet to collect information and multimedia projectors to present the collected information. Digital technology has also extended access to village areas which can connect to the world outside It has brought the remote and rural areas into the global learning community where the learners are not limited to any geographical boundaries.

(Joshi et al., 2021) claimed. However, learners from poor rural families have poor access of using ICT due to the lack of Internet access or the lack of gadgets they can't manage expensive digital technology due to their low income but comparatively learners from urban areas have got easier access to technology (Rana, 2018a). For example, the participant teachers reported that

> Most students, especially from rural areas, are still out of access to the Internet. Some of them have got that access but are not strong enough to do the learning activities. Moreover, they do not have supportive gadgets because their parents can't afford to buy them. (Hem Raj, a teacher from Machhapuchhre Secondary School)

Another participant teacher from the rural part of the study reported that the school management can't manage the ICT learning environment partly due to

> The internet network is not strong enough to conduct the classes. They are often disturbed. We have joined two networks. One is in the office room and the other is in the classroom. The old router has been broken.

So we have to set up the new router. The headmaster has informed us that the Provincial government is going to provide us with a powerful network. Hopefully, it will bring us access to every corner of the school. (Bipin, a teacher from Sagarmatha Secondary School)

According to (Kharel, 2018) technology has extended access to village areas which can connect to urban areas and with worldwide connection. So the use of ICT can bring rural communities closer to the global information community. However, poor people in rural areas could not grab the opportunities of using ICT due to poor Internet access or the lack of gadgets which they couldn't afford to buy.

CHAPTER VII

CONCLUSIONS AND IMPLICATIONS

This chapter presents a conclusion of the findings from the study. It summarizes how secondary English teachers integrate ICT into education and what challenges they faced in the use of digital technology. It also shows the effect of the COVID-19 pandemic on the use of ICT in teaching in urban and rural areas. Finally, it presents implications for curriculum designers, policymakers and teachers.

ICT Infrastructure and Teachers' Training in the Use of ICT

It was found that English language teachers in the selected three schools used ICT tools in a classroom though they did not have enough ICT learning environments. All of the schools had a functional computer lab where they could bring their students to present classes using the overhead projector. They also had the interactive boards stored in a cell but did not use them in the classroom except in Machhapuchhre Secondary School.

Most of the students and teachers used ICT during the lockdown of the COVID-19 Pandemic. They mostly used Facebook messenger, Zoom and Google Teams to conduct virtual classes, upload files and check assignments and give feedback to the students. Moreover, they also searched the Internet for information to communicate with their friends and teachers. The teachers sometimes uploaded YouTube videos prepared by them or found on sites related to the topic which the students watched and communicated to others.

The study found that the participants had received basic training in using ICT in classrooms. The training was organized by provincial and local governments. The interviews with the teachers in this study indicated that the training was focused on

the basic use of computers but not on teaching methods. However, they said that the training was supportive of using digital devices.

The evidence of this study shows that the participant teachers had received a positive perception of the training that had developed their confidence in using digital tools in a classroom. However, they reported that the training provided by the local government was not enough. They needed more training with personalized follow-up activities from a technician to operate software and maintain the hardware of the digital tools used in teaching. However, they also needed the skills to link the available ICT tools with the modern teaching methodology.

The respondent teachers agreed that the lack of ICT handling skills in classrooms is a barrier to using technology in teaching. The study reveals similar findings of the study which indicate that many teachers cannot use digital technology due to a lack of knowledge of it. However, they were confident that they could change the teaching-learning environment through the use of ICT even if they were not well trained. Teachers needed to learn pedagogical skills of ICT rather than using digital tools in the classroom such as Microsoft Word, Microsoft Excel and Microsoft PowerPoint. This is also consistent with that highlighted the need that focuses on not only the ways of using digital tools but also pedagogical ideas, content and knowledge.

The study revealed that the maintenance and upgrading of the ICTs are not done at the time as the schools did not have their technicians and the teachers did not have training of maintaining them. Therefore, without regular maintenance and upgrading of the hardware and software, it will be very hard to continue the classes with the support of ICT.

Use of ICT: A New Culture in Teaching

The study examined secondary English teachers' understanding and practices of ICT in teaching. The study found that digital technology changed their teaching strategies to have students communicate with each other's, work collaboratively and teach virtually during the time of Corona Pandemic. However, the teachers were not satisfied with the existing management and training provisions in the schools.

This study found that the teachers had used ICT in two different modes of teaching: face-to-face classrooms and virtual classrooms. The data indicated that they used the assigned textbooks and pdf files of the text in the regular physical classrooms using PowerPoint slides, YouTube videos, and PDFs presenting them through a multimedia projector with their laptops, desktops or mobiles. Moreover, some of them also used the interactive panel board to present the class where they could store the lessons or give the link to the internet and could join the related YouTube videos while presenting the class.

The students in the physical classrooms were not allowed to bring any gadgets to maintain classroom discipline but they could use the desktops available in the computer lab. They could watch videos or read other related content searched on the Internet. Due to the pandemic, students had increased their access to ICT and the Internet to attend the virtual class where they joined the Zoom conference, Google classroom or Facebook messenger to continue their studies. These skills were also supportive for physical classrooms where the students could get the link of the students working on the desktops. Besides, they could communicate and share their ideas at school time with their friends and teachers. Likewise, due to the use of smartphones, the learners are familiar with YouTube videos, listening tools and

search engines such as Google. They can use pdfs, glossaries, language dictionaries and online thesaurus side by side.

Similarly, the teachers found that the use of ICT tools changed their role in virtual and physical classes both. They were changing pedagogical approaches where the students were engaged in learning in groups with the given contents and materials found on the Internet. Teachers modified the culture with the use of ICT during the Pandemic before which they fully depended on the textbook and some reference books stored in their school library but now they could store massive sources from the Internet: reading texts, audio and visual materials to refer to the text as the authentic source of English language Exposure. Besides, the learners could work independently using digital tools searching for new ideas on the net or doing the assignments given by the teachers. However, the students had to face the continuous breach of the Internet and power supply. Besides, they could not manage the ICT tools due to the high price which reduced their motivation towards learning.

The use of ICT in classrooms has made a paradigm shift in teaching where the students can learn independently by their collecting reading materials from the Internet and also collaborating with their friends. Similarly, teachers adapt the new technology as a part of pedagogy which enhances learning achievement among students in both modes of learning: online and physical.

COVID-19 Pandemic: New Opportunity for the Use of ICT in Teaching

It was found that the COVID-19 pandemic affected the school educational system which caused the physical classes in schools and created a turning point in education for virtual classes which was the opportunity for schools to make the pedagogical shift of new ways of learning. For that there was a need for training for

teachers, coordination and support between school administration, teachers and parents to create a new digital teaching-learning environment in schools.

The study found that it was essential for teachers to have the skills of using ICT for new education strategies in the classrooms. So, the school administration, managing committee and other concerned agencies organized school-based short-term training in basic computer skills for the teachers. The training was organized by the provincial government in which all of the teachers of the particular schools took part. It was also found that the training changed the teachers' use of technical language teaching. Teachers' skills in using the ICT tools such as Google Meet and MS Teams made them comfortable with using technology in classrooms. However, they demanded more training to integrate the skills of ICT into pedagogical ideas. Moreover, they also needed the regular support of a technician to conduct new educational software such as LMS (learning management system) and to repair the hardware and software when needed.

Moreover, the study found that the teachers practised virtual teaching using Zoom, Google Rooms, Facebook messenger and YouTube channels to conduct the teaching-learning activities. The students, on the other hand, used the Facebook chat box to communicate with their friends and the teachers and made discussions on a particular subject matter and upload their assignments for further feedback from their teachers. One of the schools had just installed the LMS system in their school but still they had not practised yet. They were waiting for the training to conduct the software.

The teachers were found motivated and curious to use ICT tools in English language classrooms though they had to face many managerial obstacles in their teaching-learning activities. They were trying to manage the ICT learning environment on their part but they needed more technical and pedagogy support to

continue with the trend. They conducted virtual classes during COVID-19 with limited ICT access. It was very difficult for them to get the link to the students in the beginning but later they could manage it since all of the students could not attend the classes. For such absent students, the teacher provided the zoom class videos through the media such as YouTube channel and Facebook messenger through which they could download them and continued their studies.

Implications

As a result of the study, it can be concluded the practice of digital technology gives a new trend in teaching for English language teachers. As the study suggests, it encourages other language teachers to apply this new trend of teaching using digital technology. The occurrence of COVID-19 pandemic has made difficult lifestyles for educators and students both but it has also provided a great teaching and learning opportunity with digital means in education. However, in a rural area, it is a burden to manage the resources in a full-fledged system. Gradually, it will improve and all of the parents and learners will be ready for the new trend.

In this new teaching scenario, the teachers demand more training and extra assistance to manage the hardware and software of ICT tools. So, the school managing committee and other concerned agencies are also parts of this system. Facing various challenges, teachers are upgrading their knowledge and skills of new technology. Ultimately, teaching with technological advancement including a virtual mode of learning will be established.

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Appendix A**: Information Sheet of Headteacher**

Faculty of Social Sciences and Education

Nepal Open University

Mobile no: 9842419378

trpoudel12@gmail.com

15 March 2021

Experience of ICT in Secondary English Classrooms

I am Torna Raj Poudel, an M.Phil. (Master of Philosophy) student at Nepal Open University. My research study is based on secondary school teachers' ICT practice in urban, semi-urban and rural secondary schools in Morang district, Nepal. The study will explore how secondary English language teachers use ICT in English Language classrooms. The study will provide a significant ground for planning, designing and implementing educational strategies in Nepal, especially for teachers and curriculum designers.

For the study, one of your normal classes will be observed and the observation will be followed by semi-structured interviews with you. The researcher will record the interview on an audio device.

Your participation is voluntary and you have the right to withdraw your consent at any time without any penalty. In case you withdraw your consent, all the information you provided will be removed from my record. However, it is not possible to remove your data after the thesis is submitted to the department even if you withdraw your consent.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. Your own and your school's identification will not be published without your prior consent. Only the researchers,

supervisors and authorized members of Nepal Open University will have access to the

information you have provided. The information will be saved on my personal

computer secured with a password and on the official computer of Nepal Open

University for the next ten years. It will be destroyed after the stated period. A thesis

is a public document and will be available through the NOU library.

The project is being carried out as a requirement for the course of M.Phil. Degree by

Dr Netra Prasad Sharma who can be contacted at (tu.netrasharma@gmail.com). He

will be pleased to discuss any concerns you may have about participation in the

project.

This project has been reviewed and approved by the Nepal Open University Ethics

Committee, and participants should address any complaints to The Chair, Ethics

Committee, Nepal Open University, Manbhawan, Lalitpur

If you agree to participate in the study, you are asked to complete the consent form

and return it to

Torna Raj Poudel

Sundarharaicha-10, Morang

trpoudel12@gmail.com

Appendix B: Consent Form for Head Teacher

Faculty of Social Sciences and Education

Nepal Open University

Mobile no: 9842419378

Experience of ICT in Secondary English Classrooms

- I understand what is required of me if I agree to take part in the research.

- I understand that participation is voluntary, and I may withdraw at any time without penalty. When withdrawing my participation, all the information I provided should be practically achieved.

- I understand that any information or opinions I provide will be kept confidential to the researcher. Only the researchers, supervisors and authorized members of Nepal Open University will have access to the information you have provided and any published or reported results will not identify the participants and institution. I understand that a thesis is a public document and will be available through the NOU Library.

- I understand that the data collected for the research will be securely kept in locked facilities such as password-locked computers and the university digital repository and will be destroyed after one year of the completion of the project.

- I understand the risks associated with taking part and how they will be managed.

- I understand that I can receive a copy of the results of the study by contacting the researcher after the project.

- I understand that I can contact the researcher, Mr Torna Raj Poudel (trpoudel12@gmail.com) or supervisor, Dr Netra Prasad Sharma

(tu.netrasharma@gmail.com) for further information. If I have any complaints,

I can contact the Chair of the Nepal Open University Ethics Committee,

Manbhawan, Lalitpur (ssed.ethics@nou.edu.np).

By signing below, I agree to participate in this research project.

Name of the participant:

Signature:

Date:

Note: Please return this consent form through email [trpoudel12@gmail.com] or by

post or in person.

Torna Raj Poudel

Sundarharaicha-10, Morang

Appendix C: Information Sheet for Participant Teachers

Faculty of Social Sciences and Education

Nepal Open University

Mobile no: 9842419378

trpoudel12@gmail.com

15 March 2021

Experience of ICT in Secondary English Classrooms

- I am Torna Raj Poudel, an M.Phil. (Master of Philosophy) student at Nepal Open University. My research study is based on secondary school teachers' ICT practice in urban, semi-urban and rural secondary schools in Morang district, Nepal. The study will explore how secondary English language teachers use ICT in English Language classrooms. The study will provide a significant ground for planning, designing and implementing educational strategies in Nepal, especially for teachers and curriculum designers.

- For the study, one of your normal classes will be observed and the observation will be followed by semi-structured interviews with you. The researcher will record the interview on an audio device.

- Your participation is voluntary and you have the right to withdraw your consent at any time without any penalty. In case you withdraw your consent, all the information you provided will be removed from my record. However, it is not possible to remove your data after the thesis is submitted to the department even if you withdraw your consent.

- The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. Your own and your school's identification will not be published without your prior consent.

Only the researchers, supervisors and authorized members of Nepal Open University will have access to the information you have provided. The information will be saved on my personal computer secured with a password and on the official computer of Nepal Open University for the next ten years. It will be destroyed after the stated period. A thesis is a public document and will be available through the NOU library.

- The project is being carried out as a requirement for the course of M.Phil. Degree by Dr Netra Prasad Sharma who can be contacted at (tu.netrasharma@gmail.com). He will be pleased to discuss any concerns you may have about participation in the project.

- This project has been reviewed and approved by the Nepal Open University Ethics Committee, and participants should address any complaints to The Chair, Ethics Committee, Nepal Open University, Manbhawan, Lalitpur.

If you agree to participate in the study, you are asked to complete the consent form and return it to

Torna Raj Poudel

Sundarharaicha-10, Morang

trpoudel12@gmail.com

Appendix D: Consent Form for Participant Teachers

Faculty of Social Sciences and Education

Nepal Open University

Mobile no: 9842419378

Experience of ICT in Secondary English Classrooms

- I have been given a full explanation of this project and have had the opportunity to ask questions.

- I understand what is required of me if I agree to take part in the research.

- I understand that participation is voluntary, and I may withdraw at any time without penalty. When withdrawing my participation, all the information I provided should be practically achieved.

- I understand that any information or opinions I provide will be kept confidential to the researcher. Only the researchers, supervisors and authorized members of Nepal Open University will have access to the information you have provided and any published or reported results will not identify the participants and institution. I understand that a thesis is a public document and will be available through the NOU Library.

- I understand that the data collected for the research will be securely kept in locked facilities such as password-locked computers and university digital repositories and will be destroyed after ten years.

- I understand the risks associated with taking part and how they will be managed.

- I understand that I can receive a copy of the results of the study by contacting the researcher after the project.

- I understand that I can contact the researcher, Mr Torna Raj Poudel (trpoudel12@gmail.com) or supervisor, Dr Netra Prasad Sharma (tu.netrasharma@gmail.com) for further information. If I have any complaints, I can contact the Chair of the Nepal Open University Ethics Committee, Manbhawan, Lalitpur (ssed.ethics@nou.edu.np).

By signing below, I agree to participate in this research project.

Name of the participant:

Signature:

Date:

Note: Please return this consent form through email [trpoudel12@gmail.com] or by post or in person.

Torna Raj Poudel

Sundarharaicha-10, Morang

Appendix E: Interview Guidelines

Affordances	Needs and Challenges	Design Strategies	Technology Examples
1. Establishing a joint Task	Students need collaboration but can't manage it.	Context, level of the students, alignment with pedagogy	Multimedia, simulation, digital artefacts (games, Wikipedia games)
2. Communication	Students need to communicate with their friends, and collaborators but can't create the setting	Synchronous vs asynchronous communication	Chat, emails, discussion groups, peer review discussion
3. Sharing Resources	Students need to share resources but do not have access	What to share, how and when?	Websites, digital library, blogs, Annotation tools.
4. Engaging in Productive processes	Students need productive interaction. Sometimes may go off task talking.	Task structuring (division of labour, role assignments)	Online interface
5. Engaging in co-construction	Students need to find a common ground through collaboration but sometimes fail to do that	Collective responsibility, discussion support, and keeping records of the summary of what is discussed. Sociocultural norms and expectation	Joint workspaces, shared interfaces, for example, google cloud, knowledge forum, discussion forum
6. Monitoring and regulation	Students may engage in productive interaction but may go off due to adequate monitoring and regulating collaborative processes.	What to monitor (e.g., participation, agreement) and how?	Learning analytics, Visualization tools. Software for a progress report.
7. Finding and building groups	Learners need but find difficulty with finding and learning about group partners	Group formation (on their interests, level and expertise)	Peer review/ feedback system Social Networking services e.g.,

and communities		Social recognition?	Facebook, Messenger, Twitter

Other Areas

Preparing your daily lesson plan and co-ordinating the use of ICT with the textbook

- How do you divide your time in the classroom by using ICT devices? E.g., the use of video

- Do you provide the printed notes to the students or upload them to the common site, e.g., Facebook messenger?

Appendix F: Guideline for Classroom Observation and Collaborative Tasks

- Dividing students into groups

- The use of a Multimedia projector

- Collaborative tasks

- Playing language games

- Alignment of ICT tools with pedagogical activities.

Communication

- Chatting, email, discussion groups

- Smartboard

- Communication with smart board

- Storing contents in a smart board

- Presentation through smart boards

Sharing Resources

- How do the students share the resources? When? And What?

- Are they allowed to have communication gadgets?

- Do the students use the ICTs or just the teacher alone?

Engaging in Co-construction

- How do the students use their language while constructing works in a group?

- Do the ICT tools support them to use language in their tasks?

- What about the use of online resources in a classroom?

Monitoring and Regulation

- How do the teachers monitor and regulate the students' tasks?

- Traditionally or using the technology?

Finding and building groups

- How does the teacher form the students' groups in a classroom?

  Does the technology support him to do that or just follow the ways as usual?

Appendix G: Sample of Data Transcription

Researcher: How do your students work jointly through the use of ICT?

Participant: I use a laptop and a projector in my classrooms, class nine and ten, and have projectors. Students are curious to connect my laptop to connect to the projector. I teach them through slide presentations from which I can present text, audio and visuals. I stored such material before I got into the classrooms. I stored them from the textbook pdf, websites, blogs and e-books.

Researcher: You mean you can ask the students to work in groups through the use of multimedia?

Participant: I have been using messenger too. I find them very excited about the use of ICT tools. Group activities don't go on every day. According to the nature of the class, students engage in group work, pair work or individually.

Researcher: How do students communicate with themselves and with the teachers inside and outside of the classroom?

Participant: ICT tools are used one way in the classroom, students are not allowed to use any gadgets in the classroom.

Researcher: Which tools did you use to make synchronous communication among students during the period of the Pandemic while teaching virtually?

Participant: We did the lesson delivery from zoom and personally, I made a messenger group chat from which I uploaded the documents and they also uploaded the assignments there. Most of the students uploaded the assignments there but it was very difficult to check all of these tasks. So I checked some of the representative tasks. I recorded the zoom classes and uploaded them into a YouTube channel which the students can watch in their free time, especially for the students who could not attend the zoom classes. I used messenger group chat, Face book and YouTube links together.

Researcher: Did the students communicate through emails?

Participant: Yes, they used it but in a limited way. I taught them to create email IDs in the text of class nine and they started using their emails to communicate their documents. They created their emails at that time and sent their message to me. But they did not repeat it, instead, they used messenger.

Researcher: Did you make any discussion sites to make discussions among students?

Participant: No, they did the task of discussion on the messenger group. I had to give much time to control the group because the chat group needed checking time and again when students went off track in communication. I stopped them from going off track.

Researcher: Is the Smartboard in use in your school?

Participant: The smart board has been used only in training, not in classroom teaching. It has been kept in a seminar hall. This is used for special programs, for example, teachers meeting.

There are television sets too but not in my classroom.

Researcher: How are these television sets used?

Participant: These sets are specially used for pre-primary children linking the online sources directly.

Researcher: How and when do the students share the resources with their friends and the teachers through the use of ICT?

Participant: Teachers share the teaching materials, notes, references or videos in the classroom at this time as the physical classes are going on. We presented all of the materials through the multimedia projector these days in the physical classes. All of the documents are presented face to face. I uploaded grammar-related materials, pictures, and quotations in the chat group during the Pandemic; I uploaded the materials these days too. I found the references in the Internet source. I took the photos from the text and notice board and uploaded them into the chat box.

Researcher: Did you use all internet sources to upload on the Facebook page and messenger?

Participant: Yes, the internet sources and the handwritten notes were prepared by me. I took the photocopies of the hard copies and uploaded them to them. Besides, I also uploaded other sources such as school notices and photos and books.

Researcher: Is the e-library in use in your school?

Participant: There is no e-library in my school. We have not used the e-library, so I can't say more about it.

Answer: Students do Google themselves to find the references. They make video conversations in the chat group themselves; they discuss the text material, questions, and exercises in the chat box. Sometimes, I upload the voice recorder in the group but the students chat through the text only.

Researcher: How do they share the references with their friends?

Participant: They use messenger groups to share their ideas and content. For example, during the examination, they are found to be talking about the content to highlight and also about the possible question areas. They are also doing question-and-answer practice among themselves.

Researcher: Do they share the ideas orally too?

Participant: no, not orally, but I send an oral message, and voice recordings.

Researcher: How do the students fix their roles while sharing the ideas and contents virtually?

Participant: There are problems. Some of the students do not have access to the internet; some of the students are very busy and cannot afford the time. Other students make their conversations fluent and active. They use the English language accurately using appropriate language structure.

Researcher: How do you monitor them when they are out of track while sharing ideas?

Participant: I have also made a class Facebook page. I monitored them, providing them with exercises. But when the teacher remains absent, the conversation remains out of track, so the teacher's monitoring is essential. When they are out of track, immediately I guide them by providing some tasks, for example, making sentences using the word 'knowledge'.

Researcher: The collective responsibility of the students? Do they have collective responsibility?

Participant: The students show their responsibility, when the students are given the assignments in their group most of the students completed their responsibility, for example, to make a discussion on a particular topic or do the given assignments, the talented ones responded immediately and the others try their best, though they might be late. Most of the students try to attempt the given tasks. When I provide a particular topic for the discussion, particular students lead the team and start their tasks.

Researcher: How is the record of their tasks kept?

Participant: The record of the student's communication and other activities is kept automatically in the messenger group. Some of the students are more talented and can handle many ICT tools but some of the others do not.

Mainly, they do not use Google cloud; often they use Facebook and YouTube, Google search and messenger.

Researcher: Do the students create their own YouTube videos?

Participant: Yes, some of the students uploaded their creative videos, though they are not exactly from the text, related to extracurricular activities, for example, small dramas, songs and dance. They searched the text-related videos and their link and uploaded them in the chat group, for example, class ten students searched the YouTube videos related to the poem by William Words Worth and uploaded them in the messenger chat box. Around 20% of the students are very active, they have got their laptop, smart mobile, parents' support for using ICT gadgets and strong internet bandwidth but the others have to face various challenges.

Researcher: Have you used any software to keep a record of the student's progress?

Participant: We prepared the progress report of the students, progress report, result etc. through software. We have new software now (I can't name it now) but we have had two days of training to use it by the technicians who will support us with an e-library which can be used offline. The software will provide the analytics and discussion group, blog, etc. It is an LMS which can give the link to the students through an offline and online connection. It has access to the class courses of all levels, we can make discussions, comment, keep a record, check students' progress and give feedback offline and online. It has got Wikipedia and an e-library too.

Researcher: Have you made any survey of students' participation in the use of ICT?

Participant: I surveyed Google in the beginning to find the students' access to ICT, there are 48 students in class nine, and all of the students have connected to the messenger group chat but only 41 students are active on Face book page.

Researcher: How do the students create their groups in virtual learning? Socially culturally? In the geographical base, gender base or ethnic criteria?

Participant: All of the students have Facebook accounts, so we can create a new messenger group for our needs. Comparatively, girl students participate actively in the chat group. Very often they go to informal communication from their academic communication. My class consists of mixed community students, from various castes and ethnicities, an equal number of boys and girls. The students from the Madheshi community are from poor family backgrounds. The students from the Madeshi community, Shah, Choudhary, Mandal and Yadav have comparatively less participation in using ICT. They do not have the opportunity of handling the ICT tools

in their home because of their poverty or their parents' disinterest in it, still, they are interested in the classroom. Students from Chhetri-Brahmin and Rai-Limbu communities are more active participants in learning with the use of ICT.

Researcher: How do you give feedback to the students through the use of ICT?

Participant: I give feedback on their assignments through messenger using the editing option of the tool. I can also work with it while conversing with my friends or during my tea time. I use convincing language as much as possible. While correcting the answer, I use a colourful pen with different colours for different students. The chat group allows me to edit the text so I can edit the assignments by the students using different colours. It appears sometimes tiresome since the students uploading become blurry and difficult to read and correct.

Researcher: Do you use the hard copy of the textbook while teaching through multimedia in the classroom?

Participant: I use a soft copy of the textbook in the physical class. I will prepare slides and pdf files to display the text on the projector. I display the pdf form of the book while presenting the slides. Sometimes I also use the hard copy. I always carry it with me to class.

Researcher: How do you divide the class time for discussion and presentation, any ideas?

Participant: The time allotment to the presentation and discussion and sharing the ideas in the classroom depends on the planning of the teaching. Four to five minutes is spent setting the projector, so it is somehow time-consuming. The discussion becomes easier due to the use of multimedia, especially in a large class, when there is no multimedia the students at the back of the class may not hear the teacher but the multimedia makes the situation favourable. In the group discussion, a timer can be used to limit the period.

Researcher: Challenges of Using ICT?

Participant: The school generally installs the ICT tools once and does not care about them. They have set up the projector but have not given a laptop to the teachers. Teachers who already have their laptops can use multimedia but others cannot. The ICT tools such as laptops, desktops, projectors and internet connecting tools need repairing but the administration does not monitor the continuity of these things in the classroom. Some of the tools need to be replaced such as I have bought the HDMI cable for the projector and the speaker myself. Some of the classrooms do not have

internet access and the electric wires are cut off. There are four internet services available in my school but there is no backup for all. Only two connections can go when the power is cut off. My school has connected four different internet bands so that we can use them for our needs.

Researcher: What about teacher training?

Participant: All of the teachers have got computer training for the teachers with basic computer skills with basic applications such as word document, excel and presentation. I can do basic things with the computer so I did not take part in the training provided by the Municipality but my friends attended it.

Researcher: Smart boards are not available in your school? Or just in your class?

Participant: Smart boards are kept useless in the storeroom; we couldn't show our skills in the use of smart boards but they are not set in our classes. I saw it in the training session last month but it was not available in my classroom. There are twenty-two classes but just a smart board.