

**INTEGRATION OF INFORMATION AND COMMUNICATION  
TECHNOLOGY IN TEACHING ENGLISH**

**Renu Kumari Singh**

**A Dissertation for the Degree of Doctor of Philosophy in English Education**

Submitted to

**Faculty of Education**

**Office of the Dean**

**Tribhuvan University**

**Kathmandu, Nepal**

August 2021

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**Prof. Jai Raj Awasthi, Ph.D.**

Dissertation Supervisor

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## ABSTRACT

An abstract of the dissertation of Renu Kumari Singh for the degree of Doctor of Philosophy in Education was presented to Faculty of Education, Tribhuvan University on 5<sup>th</sup> August 2021.

Title: *Integration of Information and Communication Technology in Teaching English*

Abstract approved .....

Prof. Jai Raj Awasthi, Ph.D.

Dissertation Supervisor

The integration of information and communication technology (ICT) in pedagogy has brought a revolutionary transformation in the mode of instructional approaches all over the world. Its impact is also seen in the Nepalese education sector. In this context, my study aimed at exploring better understanding of English teachers' experiences of ICT integrated instructional practices through an overarching research question 'what are the lived experiences of English teachers teaching at public schools?' along with three sub-questions.

The framework of Interpretive Phenomenological Analysis (IPA) used in this study provided me with the methodological route to gathering and analyzing the data through the lens of social constructivism. The main data were collected through semi-structured interviews from Eight English teachers. Besides, the additional data were collected from focus groups of students and class observation. Thus, this study has explored that English teachers' practices are confined to their basic knowledge and

skills of ICT, low frequency of such instruction due to lack of adequate infrastructure and institutional support however, their students' get hooked up during ICT integrated instruction. Likewise, the study has further investigated three levels of challenges such as school, system and teacher level. These challenges are embedded to one another as lack of teachers' professional knowledge and skills of ICT, infrastructure and incentive reflect the lack of institutional support, and disinterest of school administration. Additionally, voluntary integration of ICT in instruction causes demotivation from colleagues. Moreover, their suggestions are essentially linked to the challenges that need to be addressed providing adequate ICT infrastructure to public schools, and sufficient opportunities for teachers' professional capacity building along with timely execution of the related policies.

The study concludes that teachers' professional development, capacity building of the institutions, framing and execution of policy related to 'ICT Integration in Education' are the areas to be addressed by the concerned authorities.

**DECLARATION**

I hereby declare to the best of my knowledge that this dissertation is original; no part of it has been submitted earlier for candidature to any university or organization for any degree.

.....

Renu Kumari Singh

PhD Student

Date: 5<sup>th</sup> July, 2021

## RECOMMENDATION

This is to certify that Ms. Renu Kumari Singh, a PhD degree candidate, has prepared the dissertation entitled **Integration of Information and Communication Technology in Teaching English** under my guidance and supervision. I recommend the dissertation for acceptance for evaluation.

.....

Prof. Jai Raj Awasthi, PhD

Dissertation Supervisor

Tribhuvan University, Nepal

## APPROVAL

This dissertation entitled **Integration of Information and Communication Technology in Teaching English** presented by Renu Kumari Singh for the degree of Doctor of Philosophy in English Education has been approved.

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**DEDICATION**

To

**My Parents**

(Mother Sarada Singh & Father late Jagadish Narayan Singh)

&

**My Gurus**

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**ABBREVIATIONS AND ACRONYMS**

BALL	Book Assisted Language Learning
CALL	Computer Assisted Language Learning
CDC	Curriculum Development Center
CEHRD	Center for Education and Human Resource Development
CK	Content Knowledge
DOE	Department of Education
EAL	English as Additional Language
EFL	English as a Foreign Language
ELT	English Language Teaching
ESL	English as a Second Language
ESOL	English for the Speakers of Other Languages
ICT	Information and Communication Technology
IT	Information Technology
LALL	Library Assisted Language Learning
MIT	Massachusetts Institute of Technology
MKO	More Knowledgeable Other
MOE	Ministry of Education
NCED	National Centre for Education and Development
NGO	Non-Government Organization
OLE	Open Learning Exchange

OLPC	One Laptop Per Child
PALL	Pen Assisted Language Learning
PCK	Pedagogical Content Knowledge
PK	Pedagogical Knowledge
TCK	Technological Content Knowledge
TPACK	Technological Pedagogical and Content Knowledge
TPK	Technological Pedagogical Knowledge
UNESCO	United Nations Educational, Scientific and Cultural Organization
ZPD	Zone of Proximal Development

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## CHAPTER I

### INTRODUCTION

This chapter sheds light on my interest in carrying out this research study as a part of my professional development along with an effort to expand my knowledge horizon. As a researcher, I am influenced by the philosophical and theoretical stances of social constructivism (Vygotsky, 1978) that places social interaction for the construction of experiential knowledge. Being situated in this scenario, I have incorporated the following sections in this chapter; contextualizing my research agenda, setting the scene of the English language, English as a global language, scenario of English language teaching in Nepal, different methods of teaching English, paradigm shift in the pedagogy, articulating my research problem, objectives of the study, research questions, significance of the study, and operational definition of the key terms used in this research.

#### **Contextualizing my Research Agenda**

Being professionally involved in teaching and learning, I have been teaching English as a foreign language (EFL) for about twenty-two years. In more than two decades of my instructional practices, I kept using various traditional Information and Communication Technologies (ICTs) as teaching aids like overhead projectors, audio/video devices (radio, cassette players, television etc.) in the physical classroom. In order to learn a new language, learners need lots of support in which ICTs/technologies could help them substantially (Gonen, 2019; Green, 2005; Guan, Song & Li, 2018). Thus, ICTs helped me to facilitate student learning EFL

effectively. They include the use of 'old' ICTs; radio, television and telephone, and the 'new' ICTs; computers, satellite and wireless technology, and the Internet (UNDP, 2003) in the physical classroom environment.

For the purpose of this study, the terms 'ICT' and 'technology', 'integration and mediation/assimilation' are used synonymously. The term ICT is plural that refers to a great many technologies (Anderson, 2010, p.4). Thus, "... ICT stands for Information and Communication Technologies, embraces the many technologies that enable it to receive information and communicate or exchange information with others" (UNESCO, 2010, p.3). Moreover, the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2010) defines ICT as the forms of technology that are used to transmit, process, store, create, display, share or exchange information by electronic means. This broad definition of ICT includes such technologies as radio, television, video, DVD, telephone (both fixed line and mobile phones), satellite systems, and computer and network, hardware and software, as well as the equipment and services associated with these technologies, such as videoconferencing, e-mail and blogs. The list of technologies that ICT encompasses is updated daily as new technologies are invented or designed. Thus, in a generic sense, the term ICTs refer to the tools, facilities, processes, and equipment that provide the required environment with the physical infrastructure and the services for generating, transmitting, processing, storing and disseminating of information in all forms including voice, text, data, graphics and video (Asabere & Enguah, 2012). Similarly, some more examples of ICTs are interactive white boards (IWBs), computers, computer assisted language learning (CALL) software, office applications (Word, PowerPoint, drawing tools etc.), the Internet – websites and downloadable software, commercial course

book CD-ROMs, DVD players, mobile phones, electronic dictionaries, digital cameras and videos, data recorders, document cameras, data projectors etc.

Additionally, ICT integration in pedagogy refers to “the effective implementation of educational technology to accomplish intended learning outcomes” (Davies & West, 2014, p. 6). In this sense, Inan and Lowther (2010) categorized technology-based instruction into three types; technology for instructional preparation, for instructional delivery and as a learning tool. Among these three ways of integrating ICT, the role of teachers is vital for the successful and effective assimilation of it into the classroom instruction (Kurt, 2010; Teo, 2011).

In this scenario, the widespread use of ICT/technology is a relatively recent phenomenon within education in Nepal. However, some recent studies outside Nepal on ‘ICT Integration in Education’ have recognized the educational value and the transformative potential of it (Ali & Bin-Hady, 2019; Green, 2005; Grisham & Wolsey, 2007; Medcalf, 2006; Sun & Change, 2012). These studies have concluded that ICT as a highly potential teaching tool has widely penetrated and transformed the traditional way of teaching and learning. Integrating blogs in foreign language classrooms develop writing skills, facilitate the development of an L2 writing public and foster critical and synthesizing skills (Medcalf, 2006; Sun & Chang, 2012). Grisham and Wolsey (2007) state that educational technology such as threaded discussion enhances students’ language skills extensively. Similarly, Saglam and Sert (2012) opine that innovative technology has played a major role in reshaping education with innovative pedagogy.

Despite the fact that the rapid upcoming of technological innovations in teaching and learning is quite challenging for teachers. The appropriate and effective classroom integration of ICT as a pedagogical tool is very demanding for them. Some

research studies (Acikalin, 2009; Akram, Ather, Tousif & Rasul, 2012; Al Otaibi, 2012; Aydın, 2013; Tamanna, 2017; Ozer, 2018) have explored teachers' perceptions, attitudes and beliefs regarding the use of educational technology in teaching. Al Otaibi (2012) states that the importance of studying people's thoughts, feelings or beliefs is that these can indicate what action people can take in certain contexts. Furthermore, Akram et al. (2012) recommend that teachers need more training in the use of computer-based technology. Acikalim (2009) explored that pre-service teachers' perception towards the internet and they were positive as they perceived it as a helpful tool for retrieving information. In a study, Ozer (2018) found that teachers had positive attitudes towards the use of educational technology and it was additionally found that there was a significant correlation between teachers' technology competence and their uses in teaching.

### **Setting the Scene of the English Language**

The Ethnologue lists that there are 7000 living languages in the world among them English has widely influenced national languages (Graddol, 2006) and used either as a native language, second language or foreign language. Further, he estimates that the emerging patterns of middle class and urbanization would increase the number of speakers of English to around 3 billion by 2040. Crystal (2008) has noted that 'we have moved in 25 years from a fifth to a quarter to a third of the world's population being speakers of English'(p.5). It shows that beyond the barriers of race, color and creed, there is continuing spread of English globally. The British council estimates that English is spoken as the second language by about 375 million speakers, as a foreign language by about 750 million speakers and about 80% of the English teachers worldwide are non-native speakers of the language (Brain 2010). It

is the language of world trade, administration, judiciary, legislators, press, science and technology, academia etc.

The priority of English is often linked to global economic development as “widespread proficiency in English is a key indicator for expected economic development” (Milligan & Tikly, 2016, p. 277). Therefore, regardless of many challenges in terms of the availability of human and material resources, many developing countries in Asia are giving priority to English as the first foreign language into their education plans and policies (Hayes, 2017). Moreover, the demand of English as the academic lingua franca has been accelerated at international universities (Dearden, 2014) so “the importance of English as a school subject is that it is a key skill for students to develop in order to access to further education, training and employment” (Brown, 2018, p.16). Consequently, the widespread use of the English language and English language teaching are the prime concern of policies and practices in education systems all over the world (Brown, 2018; Crystal 2012).

Thus, English is now no longer the singular possession of the native speakers of it. Dornyei, Csizer and Tartsay (2006) state that the global use of English interrogates the validity of the notion that the native speakers of it can claim its sole ownership. However, geographically disparate varieties of the world Englishes demarcate a particular speech community and identify nationality through English (Graddol, 2006). Non-native speakers have logic that using English does not mean trying to be English people rather having a distinct form of the language that is intelligible to them. Consequently, English is now representing an ‘imagined’ international community (McKenzie, 2010).

## English as a Global Language

Globalization has increased financial interdependence between different areas of the world. Consequently, globalization and economic interconnectedness has brought major impact on languages worldwide (Dornyei, Csizer & Tartsay, 2006). English has been taught globally as a second or foreign language as far back as the 15<sup>th</sup> century. It was the rise of the British Empire in the 16<sup>th</sup> century that made English recognized as an important language alongside French, Italian and Latin (Braine 2010). The growing interest in English from the 15<sup>th</sup> century to the 21<sup>st</sup> century has a remarkable shift in its widespread use internationally and intra-nationally. Moreover, the world economic interconnectedness has accelerated the global spread of English and is used as an international lingua franca for communication, administration, trade, science and technology, judiciary, education etc. Similarly, it is increasingly spoken between speakers of English as second (ESL) or foreign language (EFL) and English as a first language. To quote Jenkins (2009), "... for the time being English as Lingua Franca (ELF) and English as an International Language (EIL) as it is still sometimes known, is a fact of life" (p.39). Similarly, Ferguson (2006) opines that English is widely employed as a lingua franca with increasingly 'deanglicised features' by proficient L2 users in parts of Europe that probably will come with a separate variety with its own codifiable set of norms. Furthermore, the development of English as a 'Far East' lingua franca within the specific Asian context would be a separate variety (Karchru, 2006). The variety of the world Englishes shows the importance and popularity of English globally. Hence, Kirkpatrick (2007) views that the inception of the world Englishes or plurality of English suggests in linguistic terms that no one variety of English is better than any other.

Very precisely Stern (1983, p. 10) defines “foreign language can be subjectively a language which is not my L1’ or objectively ‘a language which has no legal status within the national boundaries’” (as cited in Cook, 2011). In this objective sense, English as a foreign language in Nepal may not have a legal status, however, it is taught as a compulsory subject at various academic levels from school to university. In addition, Graddol (2006) distinguishes between EFL and ESL. He states that EFL puts emphasis on the importance of learning about the culture, behavior and society of native speakers. It places learners as an outsider or a foreigner/a linguistic tourist who is required to respect the superior authority of native speakers of that language. On the contrary ESL emphasizes on the role of English in the society in which it is taught.

The distinction between “foreign” and “second” language teaching started in English language teaching in the 1950s (Howatt, 2004; as cited in Cook, 2011). It has been taught as ESL from the 19<sup>th</sup> century. In the country where ESL exists, it is taught informally before the children enter school. Thus, the classroom teaching of EFL gives learners a more formal and standard variety of the English language. It is also referred to as English for Speakers of Other Language (ESOL). However, the traditional twin approaches of EFL and ESL in English language teaching (ELT) have been replaced by the term ‘global English’ to meet the needs of the transnational world (Graddol, 2006). Thus, the status of English has been shifted to the global English from that of EFL and ESL that focuses on international intelligibility rather than a specific variety and promotes receptive skills in a range of international varieties. Hence, English is no longer being learned as a foreign language in recognition of the hegemonic power of native speakers rather than a new model i.e. ‘global English’ is the need of the globalized postmodern world.

The size and scope of global ELT business is increasing rapidly with the innovation and integration of ICT in education that facilitates millions of learners of English all over the world. Graddol (2006) estimates that over half of the world's international students are taught in English, accounted for 53%. English, in the multilingual country, Nepal, is taught as a foreign language with instrumental motivation and the thousands of learners have the choice of the English language variety as a second language with integrative motivation (Broughton, Brumfit, Flavell, Hill, & Pincas, 2003). Additionally, according to Giri (2010, p. 65) “the importance and demand of English in educational, professional and social spheres in Nepal is growing due to globalization, internationalization of education and global advancement of information/communication technology (ICT)”. In short, English is the language of global communication with varied purposes and also functions as a global lingua franca.

### **Scenario of English Language Teaching in Nepal**

The inscription at Hanuman Dhoka (Royal palace of Malla Kings & Shah Dynasty) shows that Pratap Malla (1624-1674 AD) had the literacy of the English language that he developed for business transactions with Tibet and North East India. Though ELT in Nepalese education system was introduced by the 19<sup>th</sup> century while the training for Gurkha soldiers took place in English (Giri, 2015), the credit goes to Jung Bahadur Rana, the then Prime Minister of Nepal. He saw the affluent lifestyle of the British people and the advancement during his visit to Europe in 1850/51 that inspired him to introduce English based education in Nepal. According to Sharma (1990) “after his trip to Europe, Jung Bahadur realized the importance of English for communication with the outside world and felt that his sons should be given a ‘western education’ (p. 3). Thus, only the children of the privileged Rana families



were allowed to get education at Durbar School, the first modern school in Nepal. The methods of teaching and learning might have been designed on the traditional British model of schooling as there is no any clear evidence of it. Moreover, formally education was allowed to the general people in 1951 after the establishment of democracy in Nepal. However, the then rich families used to send their children to India for education. Thus, the establishment of democracy brought many changes along with the sense of social equality in the Nepalese societies. Consequently, the Government of Nepal appointed Hugh B. Wood (a US Fulbright scholar) as an advisor to the Nepal National Educational Planning Commission (NNEPC) in 1954 (Awasthi, 2003).

The commission presented a report on Nepalese education system that turned out to be the foundation of language education policy in Nepal (Giri, 2015). The National Education System Plan (NESP 1971-1976) acted to unify the public education system through District Education Offices (DEOs) to run schools all over Nepal (Thapa, 2011). These historical steps are proved to be milestones to uplift the education system in Nepal that can be acknowledged in the structure of education, pedagogies and institutions of higher learning (Bista, 2011). The decades of reformation in the education system has undoubtedly brought gradual improvements particularly in English language teaching in Nepal. The prominence of English in the Nepalese education system can be observed in the way it has been incorporated into the curricula (Giri, 2015), in addition, school students' proficiency into it is a prime concern of ministries of education globally (Hayes, 2012).

Thus, officially, English is in the status of a foreign language in Nepal. It is taught as a compulsory subject and also used as a medium of instruction in academic institutes. However, there are some major challenges in English language teaching in

terms of curriculum, textbooks, methodologies and use of teaching resources (Bista, 2011) that need revisions to meet the latest global standard. In doing so, it is necessary for the government to have a clear-cut education policy to address the challenges (Bhattarai, 2014) for the betterment of Nepali ELT.

### **Different Methods of Teaching English**

Different methods of English language teaching (ELT) have been practiced over a century now. The methods in ELT exercised globally are being used in Nepal, too. ELT today has got numerous changes and innovations. “Language teaching today reflects the changed status of English ...” (Richards & Rodgers, 2014, p. ix) that characterizes the frequent change and innovation of the 21<sup>st</sup> century. Thus, from the earliest known classical method (Grammar-Translation) to many more scientific methods and approaches such as Audio-lingual Method, Silent Way, Natural Approach, Total Physical Response (TPR), Communicative Language Teaching (CLT) etc. to Computer Assisted Language Learning (CALL), English teaching has passed through many changes. Moreover, rapid innovations in communication technology have widely influenced pedagogy in general. Integration of educational technology in teaching/learning has both been enjoyable and challenging for teachers. Because the mode of language instruction is “a dynamic composite of energies within a teacher that changes (or should change, if one is a growing teacher) with continued experience in learning and teaching” (Richards & Renandya, 2010, p.11). In absence of change, the result would be horrible as it is seen in the context of Nepali ELT. “ELT is deteriorating, as a consequence, and there is a massive failure in English at the secondary and post-secondary levels” (Giri, 2010, p. 65).

Thus, ELT practitioners need to dismiss the non-interactive modes of language pedagogy such as traditional grammar-translation and audio-lingual methods based on

structuralism and integrate modern technology tools for constructivist pedagogy. As constructivism has brought a paradigm shift in traditional mode of teaching and learning, it places learners in the center of learning outcomes (Parker & Becker, 2003 as cited in Tomei, 2009). The shift from transmission of knowledge from instructors to learners took a turn towards knowledge construction by learners that emerges from specially designed learning environments where they construct knowledge from their own meaningful experiences (Jonassen, 1994, as cited in Tomei, 2009). In this sense, a constructivist learning environment promotes learners' active participation for explorative and interactive learning. Additionally, an individual learner could construct knowledge out of their interaction in groups that essentially creates a social environment for learning.

Thus, the new paradigm of the 21<sup>st</sup> century teaching methodology is required to use modern ICT tools along with conventional ones like radio, TV, cassette player, computer, projector and so on (UL-Amin, 2014). These tools will certainly innovate and sharpen Nepalese ELT by bringing change in conventional mode of teaching and learning.

### **Paradigm Shift in Pedagogy**

ICT integration in pedagogy has fundamentally brought some changes in the roles of teachers and students. Traditional non-communicative approaches of pedagogy based on structuralism were limited to rote learning, drill and practices for transmission of knowledge to students. Conversely, constructivist pedagogical approaches are student centric that promote students for knowledge construction utilizing technology (Harasim, 2012). They use technology to create their products, answer questions and solve relevant issues and teachers mediate them through guidance and ensure the quality of their products (Prensky, 2012). Moreover, this

changing paradigm is oriented towards making classrooms the place for learning the skills in order to be competitive critical thinkers, innovative creator, effective communicator and collaborator to compete in the ever-changing digital global workforce (Gunn & Hollingsworth, 2013; Robinson, 2015; Wagner, 2014). Thus, the paradigm shift has assigned a new role to teachers in terms of partnering in student learning being guided on the side, one-to-one coach, designer of quality contents and rigorous assignments applicable to students (Prensky, 2012). Further, he opines that the new role of teachers also influences students in which “the onus is then completely on the students... it emphasizes that the roles of each group, teachers and students, are different, but equal” (pp. 14-15).

Technology integrated instruction could mediate between the changing roles of teachers and students because some portions of their work can be mediated through innovative tools like anytime access to instruction for students (Hassel & Hassel, 2011). From their research study, they also recommend that technology integration makes their roles much flexible and teachers could give timely feedback to students remotely through blogs, email, wikis, or other technological means and reversely students could also report teachers about their learning activities. Prensky (2010) explored from his extensive research that many students experienced boredom being at school. Nevertheless, if teachers became adaptive to technology mediation with the belief that they would be “guide on the side” for their students rather than “sage on the stage” would bring transformation in the classroom atmosphere. In this sense, “...computer games, email, the Internet, cell phones, and instant messaging are integral parts of their lives” (Prensky, 2012, p. 68). It shows that today students are more connected to the globe through technology than their previous generation. Thus, this generational gap existed between the way teachers and students think could be

filled by technology (Prensky, 2010). Further, he opines that the technology integrated learning strategies promote students to collaborate with their peers, work independently being facilitated by teachers, get onus of their learning through autonomy and use their passion and interests in learning.

However, integration of ICT in pedagogical practices has some negative impacts on students' learning along with teachers' profession. The findings of some research studies (Carr, 2011; Fried, 2008; Spitzer, 2014; Wentworth & Middleton, 2014; ) assert that access to and the use of ICT in pedagogy primarily affect the three basic skills of students' competency in reading, writing, and arithmetic, dehumanize educational environments and distort the rapport between teachers and students (Wilkins, 2014). Additionally, they get the feeling of isolation, show disinterest in social interaction that promote digital and social divide among students (Steele-Carlin, 2017; Van Dijk & Hacker, 2003). Thus, much reliance on ICT in pedagogy brings negative impacts on students' performance (Denoël et al., 2017). Exposure of Internet-connected devices distracts students' attention more than that of without it (Carter, Greenberg & Walker, 2017). With the use of ICT devices, students tend to take short-cuts in writing by using abbreviations under the effect of chatting and messaging through social sites (Purcell, Buchanan & Friedrich, 2013). Similarly, text messaging has badly affected students' writing, spelling, sentence construction and syntactic structures. They are habituated in using short forms and abbreviations that influence their classroom writing as 'u' for you, 'b/4' for before, '2moro' for tomorrow, '2day' for today, 'Eng' for English, 'pls' or 'plz' for please and so on (Dansieh, 2011).

In regard of negative impact of ICT based instruction on teachers' profession, Hennessy, Harrison, and Wamakote (2010) remark "the teachers who lack the chance

to develop professionally in the use of modern ICT, feel under threat” (, p. 42). They are under threat of technophobia that causes the fear of losing their dignity and expertise before students while having ICT integrated teaching and learning. They know that students today are techno-savvy who could use technology much better than them. Resultantly, they feel reluctant to technology use and prefer the conventional authoritative role of the teacher as expert to being facilitator. In this sense, their discomfort may not be due to the lack of knowledge and skills of ICT rather with the idea of losing/relinquishing the expert role and control of class (Azarfam, & Jabbari, 2012). Thus, teachers’ attitudes, expertise, lack of autonomy, and lack of knowledge and skills of ICT, lack of adequate ICT infrastructure, conventional curriculum, and socio-cultural mindset of teachers are the pertinent and prominent factors that hinder teachers’ readiness and confidence in integrating ICT for pedagogical practices (Hennesy et al., 2010; Maski Rana, 2020).

To sum up, we need to be assured that ICT cannot replace quality teachers instead it is a tool that can harness teaching and learning. It could help teachers ignite students’ curiosity for construction of knowledge if it is integrated into the curriculum appropriately (Razak, Habibah, Steven & Nor, 2018). In this sense, the impact of digital technology can be seen in terms of rapid shifts in educational paradigms that have influenced pedagogy. Thus, it is greatly required for English teachers to adopt “a more dynamic ELT pedagogy in an age of rapid advances in information and communication technology” (Bashyal, 2018, p. 229). However, heavy reliance on technology for the sake of effective pedagogy can harm more than harness it.

### **Articulating my Research Problem**

The rapid growth in modern ICTs has brought a drastic change in almost every sector of human life. It has transformed the way we think, learn, work and live (Boggs, 2019). In this sense, digital competence has become a basic requirement for all formally and informally as it is obligatory to integrate ICT for work in the 21st century (UNESCO, 2014). Consequently, education cannot remain untouched with such technological innovations. Some previous studies (Andrews et al., 2007; Davies & West, 2014; Grisham & Wolsey, 2007; Lawrence & Tar, 2018; Medcalf, 2006; Saglam & Sert, 2012; Salleh, 2016) suggest that educational technologies can enhance better performance in teaching and learning of various subjects. However, various studies (such as Becker, et al., 2019; Ertmer & Ottenbreit-Leftwich, 2013; Inan & Lowther, 2010; Kurt, 2010; Morrison & Lowther, 2010) assured that teachers' integration of technology into instructional practices was limited to performing low level tasks such as using word office. Consequently, ICT integration into instruction is slow and ineffective (Inan & Lowther, 2010). In addition, though educational technologies have potential to enhance pedagogical practices directed towards student centric learning activities, "English teachers might be averse to or feel uncomfortable using technology in their classrooms" (Becker, Silva dos Santos, Muhammad, Hegelheimer, Kochem, 2019, p. 46). It shows that some teachers are quite ready to integrate technology while some others are reluctant to it.

In Nepal, under the revised 'IT policy 2010', the Ministry of Education (MOE) has initiated the programs such as expansion of access of the internet to all schools, development of ICT infrastructure in education and alternative modes of schooling through ICT in education (Neupane, 2010, Annex A) in order to promote schools to integrate technology for advance academic progress. Similarly, NGOs,

trusts and individuals are also providing computers and other necessary accessories to schools. In addition, school teachers were given basic computer training to integrate ICT tools into their subject teaching/learning (ICT in Education Master Plan 2013). In spite of that ICT integration in subject instructional practice is ineffective and unsatisfactory (Joshi, 2017; Newa, 2007; Rana & Rana, 2020; Thapaliya, 2014). This particular problem motivated me to carry out an in-depth study as it provides the justification for studying a particular phenomenon (Creswell & Creswell, 2018; Denzin, & Lincoln, 2018). Thus, the problem seeks for the better understanding of the context through a research approach. Seemingly, my personal experiences in teaching English as a foreign language (EFL) integrating ICT was found very effective for my profession. I found it highly motivating for my students. On the contrary, even in such a technologically innovative world, some teachers are reluctant to use technology in their instructional practices. I often question to myself ‘why is ICT integration in teaching various subjects slow or unsatisfactory?’ Being inspired from my own curiosity, an attempt was made to explore the English teachers’ experiences of ICT integrated instructional practices of the physical classroom including challenges and suggestions of overcoming those challenges.

### **Objectives of the Study**

The present research study had the following objectives;

- To explore English teachers’ lived experiences of ICT integrated instructional practices;
- To find out the possible challenges to ICT integrated instructional practices;
- and
- To elicit English teachers’ suggestions for overcoming the challenges.



### **Research Questions**

Qualitative research requires a central question in general terms that can further be broken into more specific questions (Creswell, 2007). Additionally, the research questions should be framed specifically using ‘how’ or ‘what’ for open-ended and evolving answers. Thus, the study was guided by a single overarching question ‘What are the lived experiences of English teachers teaching at public schools?’ that was further divided into three sub-questions as given below:

1. In what ways do English teachers make sense of their lived experiences of ICT integrated instructional practices?
2. How do English teachers interpret the challenges they are facing for ICT integrated instruction in the physical class?
3. What suggestions do English teachers provide for overcoming the challenges?

### **Significance of the Study**

The significance of the study can be justified on various bases. Firstly, it essentially provides the scenario of the ground reality. As ICT integration in teaching in the context of Nepal is in its initial stage, it requires to be studied for effective implementation of it in school education ((Dhakal & Pant, 2016; Laudari, 2019; Laudari & Prior, 2020; Maski Rana , 2018; Poudel, 2020; Shrestha, 2017). In this sense, Rana, (2017 & 2018, as cited in Rana & Rana, 2020) assures that the integration of technology into instructional practices is “an under-researched area in the context of Nepal and that there is limited literature found in this field” (p.38). Thus, this study has also explored the English teachers’ lived experiences of the ICT integrated instructional practices, challenges and suggestions to overcome those challenge from their perspectives. In particular, the findings and discussions of the study contribute bringing some awareness to school stakeholders, policy makers,

teachers and researchers about the relevance of educational technology in the language classroom. Additionally, the study helps teachers understand ICT as the potential teaching tool into the instruction as Saglam and Sert (2012) stress that modern innovative technology has great potential as a teaching tool.

Secondly, it is important to explore teachers' practices and experiences because there are certain factors related to teacher, school and system that influence teachers' decisions in the use of technology in the classroom (Baek, 2008; Costa, 2012). Essentially, the success of ICT integrated instruction depends on teachers' positive perceptions, attitudes and beliefs of it (Saglam & Sert, 2012) that is manifested in the way they practice and experience.

Thirdly and particularly, it signifies that teachers need to be updated to facilitate students with paradigm shifts because ICT integration in teaching in general and ELT in particular has greatly increased in the past few years (Al Otaibi, 2012; Green, 2005; Lee, 2006; Rana, 2018; Rana & Rana, 2020; Saglam & Sert, 2012; Sun & Chang, 2012). In this sense, integration of ICT in pedagogy has transformed the teaching and learning paradigm, consequently, face-to-face learning has been changed into blended learning or web-enhanced instruction through internet based resources and systems (Saglam & Sert, 2012). This paradigm shift requires schools to educate students in such a way that it helps them developing the skills of the 21<sup>st</sup> century: critical thinking, creativity, communication and collaboration (C4). Essentially, integration of ICT as computer mediated communication (CMC) in foreign or second language classrooms has made fluency of interaction possible between students and native speakers of the target language (Diez-Bedmar & Perez-Paredes, 2012).

To sum up, this study is highly significant in order to bring awareness in terms of ICT as a potential teaching tool and ICT integrated instructional practices.

Additionally, it fills the research gap particularly found after reviewing the available related empirical literature carried out in the context of Nepal (Newa, 2007; Thapaliya, 2014; Pangeni, 2019; Poudel, 2020; Rana & Rana, 2020). In this sense, it would be a further addition into the limited literature available on the integration of ICT into instructional practices and lived experiences of the English teachers in Nepal. Similarly, the study is an invaluable work for ELT practitioners, researchers, policy makers, and the Ministry of Education, Science and Technology (MOEST) to get some useful information and reframe the ‘ICT policy’ for the school education that will certainly enhance pedagogical practices as well.

### **Operational Definition of the Key Terms**

**Information and Communication Technology (ICT).** ICT refers to the forms of technology that are used to store, retrieve, manipulate, process, create, transmit or receive information electronically in a digital form (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2010). Broadly speaking, it captures a range of digital devices (old and new) such as computers, tablets, multi-touch screens, interactive whiteboards, mobile devices, cameras, DVD and music players, audio recorders, electronic toys, games, e-book readers, and old analog devices still being used such as VCRs, tapes, record and cassette players, light tables, projectors, and microscopes (retrieved 24 June 2017 from NAEYC & the Fred Rogers Center, 2012, <http://www.naeyc.org/>). In the context of this study, ICT stands for the pedagogical usage of it for the construction and delivery of knowledge.

**ICT Integration.** The integration of ICT refers to the utilization of innovative technologies into instructional practices that has nothing to do with simple improvements of the traditional instruction but to a radically new pedagogy; shift from the traditional instruction mode of knowledge transmitting towards autonomous,

active and collaborative learning through students' engagement in ICT-based learning environments and share learning resources. <https://igi-global.com>

**Technological Pedagogical and Content Knowledge (TPACK).** It refers to the teachers' integrated knowledge of the three components; technology, pedagogy and content knowledge. Mishra and Koehler (2006) modified Shulman's framework of PCK by extending it to the phenomenon of technology integration in teaching that is called Technological Pedagogical Content Knowledge (TPACK).

**English as a Foreign Language (EFL).** English as a second or foreign language is the use of English by speakers with different native languages. English as a foreign language is used for non-native speakers learning English in a country where English is not commonly spoken. It is used as a language of official or legal affairs and media of today. Brown (2007, p. 116) differentiates between ESL and EFL as "ESL contexts are those in which the classroom target language is readily available outside, ... EFL contexts are those in which students do not have ready-made contexts for communication beyond their classroom. They may obtain the language through language clubs, special media opportunities etc. like teaching English in Japan, Morocco or Thailand...".

**Constructivism.** Ontological and epistemological views disallow the existence of an external objective reality independent of an individual from which knowledge may be collected or gained. Instead, each individual constructs knowledge through social interaction (Tavakoli, 2012). It stresses on subjective reality that can only be known through experience. Thus, there is importance of experience in the knowledge creation process. In this sense, the study is grounded under the subjective experiences of the participants in terms of giving meaning to them.

**Social Constructivism.** A theory which addresses the ontological and epistemological questions of constructivism in describing the bodies of knowledge developed over human history as social constructs that do not reflect an objective external world. It views scientific inquiry as value-bound and not value-free. Thus, the process of inquiry is influenced by the researcher and by the context under study. This philosophical perspective argues that reality is socially constructed by individuals and this social construction leads to multiple meanings (Tavakoli, 2012).

**Phenomenology.** It is a philosophical movement that is mainly used in qualitative research methodology to explicate the meaning, structure, and essence of the lived experiences of a person or a group of people of a certain phenomenon (Christensen, Johnson, & Turner, 2010).

**Interpretive Phenomenology.** A school which is based on the assumption that humans are interpreted through their individuality of lived experiences. Humans dwell in the world with no capacity to be completely free of the world. Interpretive phenomenology holds that there is no access to brute data (i.e., data containing no presuppositions or pre-understandings). Human science mirrors humans in that humans are the kind of beings who allow other beings to be revealed and known. Interpretive phenomenology focuses on understanding practical worlds, skilled know-how, situated understanding, and embodied lived experiences (Tavakoli, 2012).

**Digital Divide.** Digital divide refers to the economic, educational and social inequalities between those who have computers and online access and those who do not have. <https://www.merriam.webster.com/>. It is one of the major causes that has brought gaps in information society among people of different classes and categories. Specifically, the study has highlighted the term to explore its impact on technology integrated instruction.

**School.** The term ‘school’ refers to the public secondary schools of the Kathmandu valley. There are two types of school in Nepal; Public and Private that are categorized and named under the ‘Federal Education Act 2075’. For the purpose of this study, public secondary schools of three districts; Kathmandu, Lalitpur and Bhakatpur have been chosen. <https://Sajilosanjal.com/>

### Chapter Summary

Particularly, ICT integrated instructional practice is a global requirement in the 21<sup>st</sup> century. Though it is a relatively recent phenomenon in Nepal, various research studies carried out globally and in Nepal have concluded that ICT has potential to transform the traditional mode of instruction into a highly interactive student-centered mode of instruction. The aim of this study was to explore and interpret the lived experiences of English teachers’ ICT integrated instructional practices in the physical classroom environment at public secondary schools in the Kathmandu valley including challenges and suggestions for effective instructional practices. The study would be significant to the ELT practitioners, textbook writers, syllabus designers, researchers, and policy makers. The problem of the study was stated in terms of the research findings of the previous research studies (Newa, 2007; Rana, 2018, Rana & Rana, 2020; Thapaliya, 2014) claim that ICT integration in subject instructional practices is unsatisfactory and requires to be studied in-depth. Though the use of ICT in Nepal is not widespread, its impact can be seen at the world level and still it needs some more in-depth study to promote it locally (Eng, 2005, Önalán & Kurt, 2020) as findings from the research studies have indicated small positive effects and consequently a need for more in-depth and longitudinal studies into the impact of ICT on teaching/learning and factors affecting teachers’ technology use.

## CHAPTER II

### PONDERING OVER RELATED LITERATURE

The chapter incorporates the review of the related literature and conceptual framework of the study. The existing information reviewed from the previous works helped me develop insight to carry out the research. Additionally, it provided me with some concepts to frame the methodologies for the same. In this sense, literature review is considered as the prerequisite for developing the conceptual framework that ‘best functions as a map of how all of the literature works together in a particular study’ (Christopher & Carrie, 2018, p. 2).

The aim of this chapter is to provide a synopsis of the available thematic, theoretical and empirical studies carried out globally specially being focused on ICT integration in teaching English, benefits and barriers to ICT integrated instruction. Despite, it also delineates some implication of the literature reviewed and specifies the research gap.

#### **Emerging Themes Related to the Study**

This section deals with the emerging themes related to the study. It consists of ICT in education, overview of ICT development in Nepal, infusion of ICT in Nepalese education, ICT in English language teaching, ICT for English teachers’ professional development, digital divide, and technological pedagogical content knowledge (TPACK).

## **ICT in Education**

Information and communication Technologies (ICTs) have recently gained a very wide popularity in different disciplines. In the beginning, use of computers was confined to teach computer programming and education was entirely untouched. It was in the early 1970s the development of the microprocessor brought revolution with affordable microcomputers into schools and the computing skills became the need of daily life. In the 1990s computer communications and information access, especially with accessibility to internet-based services such as electronic mail and worldwide web (www) became popular and could connect the entire world with networking. The CD-ROM replaced the floppy disk and became the standard for distributing packaged software. However, educators, researchers and thinkers have taken up the challenges of using ICTs since the 1980s with varied success. Among them, the use of ICTs in education and research is immense. Thus, ICT has become one of the basic building blocks of modern society and the skills and competency of ICT has become the core part of education now (Daniels, 2002). Apparently, the research studies on ICT integration in teaching (Bariu, 2020; Belay, Khatete & Mugo, 2020; Hennessy, Ruthven, K., & Brindley, 2005; Eng, 2005; Hismangolu, 2012; Rana & Rana, 2020; Newa, 2007; Ul-Amin, 2013) carried out globally have shown that the effective infusion of technology has been found to improve students' performance comparatively better than the teaching without it. Consequently, educators became more focused on the use of the technology to improve student learning as a rationale for investment.

From the last few decades ICTs have been a significant research area for many academic researches all over the world because the 21<sup>st</sup> century has brought revolutionary technological change that has not only accelerated the way we work but



also has made us think globally and act locally. The widespread use of ICT has basically changed the different forms of endeavors within business, medication, education, engineering, governance etc. Particularly, the quality education which was imparted through qualified teachers was taken as teacher centered teaching and learning. But now the scenario has been totally changed with the integration of ICT in education. It has made teaching activities more student-centered. ICT tools and competency of integrating them have become one of the requirements of education to facilitate instructional activities. However, there is a misconception regarding technology that it merely refers to computers and computing related activities. It is not true because ICTs combine computers and their applications in modern information management along with other technologies. Near the end of the 1980s, the term computer was replaced by information technology (IT) signifying a shift of focus from computing technology to the capacity to store and retrieve information. This was followed by the introduction of the term ICT around 1992 when email started to become available to the general public (Pelgrum & Law, 2003). Furthermore, the United Nations (1999) reports that ICTs cover internet service provision, telecommunication equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centers, commercial information providers, net-work-based information services and other related information and communication activities. ICT may be regarded as the combination of 'Informatics technology' with other related technology, specifically communication technology (UNESCO, 2002). ICT tools are available in wider range with high relevance to education like teleconferencing, email, audio-conferencing, television lessons, radio broadcasts, interactive radio counseling, interactive voice response system, audiocassettes and CD ROMs etc. are used in education for different

purposes (Sharma, 2003; Sanjal, 2001; Bhattacharya & Sharma, 2007, as cited in Ul-Amin, 2013).

It is found that the field of education has been highly influenced due to the emerging technologies being integrated with the older technologies to make ICT application in education more effective that has increased the use of mobile technology to enable access to education. The research studies carried out until recently on modern technology in education have shown that all the academic disciplines would be greatly modified in terms of quality and age suited education. Because ICTs have the potential to innovate, accelerate, enrich and deepen skills to motivate and engage students to help relate school experience to work practices, create economic viability for tomorrow's workers as well as strengthening teaching and helping school change (Lawrence & Tar, 2018; Ul-Amin, 2013).

However, ICT does not have a direct educative value in itself but it becomes valuable when teachers integrate it into their pedagogical practices (Hismangolu, 2012). Further, he assures since teachers are the key figures to utilize technology in educational settings productively and to help integrate it into the curriculum, they need support and training to disseminate it into their classrooms. In this sense, their technological skills should go alongside their pedagogical practices (Li, Garza, Keicher & Popov, 2019). Specifically for teaching/learning purposes computers would take over the teachers' job in the same way as a robot computer may take over a welder's job. Moreover, the use of technology in education has been divided into two broad categories; ICT for education and ICT in education. The former refers to the development of information and communication technology and the latter refers to the adoption of general components of information and communication technologies in the teaching/learning process.

In his literature review, Ul-Amin (2013) has intensively explored the role of ICT in education. He views that the input of ICT in educational practice at present might be quite small but the impact will grow considerably in coming years and will become a strong agent for change among many educational practices. The continuous use and development of ICT within education will have a strong impact on enhancing; teaching learning process, quality and accessibility of education, learning environment, learning motivation, scholastic performance (Ul-Amin, 2013)

Further, he mentions that the adoption and use of ICT in education not only have a positive impact on teaching/learning and research but also they will increase flexibility so that learners can access knowledge regardless of time and geographical barriers. They could get wider availability of best practices and best course materials in education that undoubtedly foster better teaching and improved academic achievement of students. In other words, the assimilation of technology in education seems successful even beyond the geographical barriers.

### **Overview of ICT Development in Nepal**

Nepal is one of the world's most beautiful places situated in the southern Asia. Its outstanding beauty is surrounded by geographical complexities and diverse climatic conditions stand for its beauty and barriers both for development (Friedman, 2006). Immediately surrounded by two Asian powerful countries, India and China which are having pioneering steps in the field of information technology (IT) have also influenced Nepal to stand with the strength of technology for the sustainable growth in different sectors like economic, agricultural, banking, education, commerce, health care, media, transportation etc. Thus, a developing country like Nepal with geographical complexities can enter the main-stream productivity in public

administration, communication, education, infrastructures, industry and agriculture with the help of innovative technology (Asian Development Bank, 2017).

It was two decades before, 'IT policy 2000' introduced information technology in Nepal for the first time. It was revised in 2010 that particularly focused on teachers, students, and schools in regard of producing competent human resources with the provision of expansion of access of Internet to all schools, coordination and collaboration with national and international institutions to develop skilled human resources for continuous, relevant and quality education and formulation and implementation of special IT program ((MOIC, 2000/2010, GON, 'IT policy 2010'). In 2009, School Sector Reform Plan (SSRP) 2009-2015 was executed to expand ICT integrated pedagogical strategies in all schools and to equip schools with ICT infrastructures (MOE, 2009). 'Three Year Plan 2011-2013' was designed to promote ICT integration in all aspects of school education (NPC, 2011). However, the first separate ICT policy related to ICT in school education 'ICT in Education Master Plan (ICTEMP) 2013-2017' was introduced to expand equitable access to education, enhance the quality of education, reduce the digital divide and improve the service delivery system in education (MOE, 2013). In 2015, Ministry of Information and Communication brought 'National ICT Policy 2015' for integration and deployment of ICT in education system, e-learning system, ICT based teacher training and so on (MOIC, 2015). Additionally, School Sector Development Plan (SSDP) 2016- 2023, a revised form of 'SSRP 2009-2015' was designed by MOE (2016) with the provision of increasing effectiveness and efficiency of overall educational system focusing on ICT deployment (MOE, 2016).

Obviously, the revised ICT policies in Education (SSRP, 2009-2015; ICTEMP, 2013; SSDP, 2016-2023) emphasize the integration of ICT in school

education to transfer the mode of instruction, however, due to the lack of sufficient budget, the policies cannot achieve their goals (MOE, 2016). Additionally, the government also lacks specific strategies to support schools providing budget, ICT infrastructure, and professional development opportunities to teachers for ICT integrated pedagogical practices. However, in order to promote the ICT based education, the government has allowed several NGOs and INGOs like OLE, Korean project, Samsung Company etc. to support schools for ICT infrastructure and professional development opportunities to teachers (Rana & Rana, 2020).

Thus, Nepalese government has already taken the praiseworthy steps to modify education blending ICT in the curriculum of teacher education and to train school teachers in its competency and skill for effective teaching/learning activities. However, on the basis of the brief overview of all the plans and policies related to ICT in school education in Nepal, “it can be said that ICT practices in school education is not satisfactory” (Joshi, 2017, p. 412). Undoubtedly, the documentation of those policies is well designed but the executions are not effective. The reasons might be various such as lack of sufficient funds, geographical diversity/complexity, socio-cultural and socio-economic contexts, insufficient infrastructure, lack of sufficient professional development training etc. Among many other priorities in the policy, the investment on the education sector, though slow, is gradually gaining its set goals (Joshi, 2017; Laudari, 2019; Laudari, & Maher, 2019; Lee & Sparks, 2013; Maski Rana, 2018; Shrestha, 2017).

There are altogether eleven universities currently running in Nepal and mostly all universities are giving prime focus on promoting ICT penetration in subject teaching in general and ICT education in particular (MOE, 2013). Similarly, the ministry of science and technology has planned to establish two new institutes; the

Institute of Information Technology (in the IT Park in Kathmandu) and the Institute of Technology (in Western Nepal, focusing on biotechnology and IT research).

Additionally, the contribution of NORHED QUANTICT Project is remarkable for the promotion of ICT integration in education in Nepal. These pioneering steps are supposed to promote the assimilation of technology in different sectors in Nepal. It also shows that the Nepalese education system cannot remain aloof from the global standard of ICT integration for developing technologically skilled human resources at the local level.

### **Integration of ICT in Nepalese Education**

With the paradigm shift in the scenario of the world education system information and communication technology (ICT) has greatly influenced the education system from school to university education in Nepal (Dhakal & Pant, 2016; Laudari, 2019; Laudari, & Maher, 2019; Lee & Sparks, 2013; Maski Rana, 2018; Shrestha, 2017). Like other sectors, the need of ICT is highly demanded for innovative and creative pedagogical practices. In this sense, the term ‘digital resident’ is perhaps the nickname for people today who are quite curious to adopt the technology in their daily lives. Thus, ICT integration in Nepalese education system in general and in the school education in particular is highly significant. Tribhuvan University and other regional universities have already launched B. Ed. in ICT and M. Ed. in ICT course for pre-service teacher education (MOE. 2013). Likewise, Kathmandu University School of Education has integrated ICT in M.Ed. and M. Phil programs with special courses (KUSOED, 2015).

These initiations have been taken to prepare ICT skilled human resources for effective integration of ICT in education. Moreover, it is mandatory to prepare teachers for effective, safe and responsible use of ICT (SERU-ICT) (UNESCO,

2015). In this sense, the universities require having SERU-ICT course as “there is no such a course called SERU-ICT in either of the universities” in Nepal (Dhakal & Pant, 2016, p. 106).

MOE, Master Plan (2013) in the supported initiatives of UNESCO, Bangkok and UNESCO, Kathmandu, mentions that the revised IT Policy (2067/2010), National Plan for Action (NPA 2001-2015), School Sector Reform Plan (SSRP 2009-2015), and Three Year Plan (TYP 2011-2013) of the GON have stated some policies and strategies for the development and integration of ICT in education. They are as follows;

- Expansion of access of the internet to all schools; coordination and collaboration with national and international institutions to develop skilled human resources for continuous, relevant and quality education
- Promotion of Industry-Academic Collaboration (IAC); and formulation and implementation of a special IT program focusing on students, teachers and schools in order to develop competent human resources. (MOE, 2013; p.10)

The plan (TYP, 2011-2013) of GON (NPC, 2011) has further included the following policies for ICT penetration in education;

- Schools will be encouraged to use ICT in education to increase access to quality education in rural areas,
- Digital divide will be reduced, and
- ICT will be integrated in all aspects of education (MOE, 2013,p. 12)

In order to achieve the set objectives for school level programs, the Ministry of Education (MOE) has implemented some of the programs with ICT in education. Similarly, the Department of Education (DOE), and some NGOs provided interactive digital learning materials to school level students in different subjects. Under the grant schemes (2007 to 2010), DOE provided two computers and one printer to 3038 schools (DOE 2010), under the Formative Research Project of the Education for Program 2004 - 2009, MOE provided 60 schools with one computer and one printer to each. Some NGOs, Trusts, and individuals also have helped schools providing computers and other accessories and given basic computer training to teachers (ICT in Education Master plan 2013). During the fiscal years 2010 and 2011, the government of Nepal has supported 785 schools with ICT infrastructure and internet connectivity. Besides, DOE has provided internet connectivity to 85 secondary schools to promote distance education programs for secondary level (DOE, 2012). MOE has provided some additional ICT related equipment to all District Education Offices (DEOs) and launched a website in each DEO to improve educational management and delivery systems. Furthermore, the MOE has endorsed a guideline for implementing ICT in school education in Nepal in June 2012.

For the significant implementation of ICT policy, the following ICT projects are launched in schools in our country with the initiation of non-government organizations (MOE, Master Plan, 2013);

- Open Learning Exchange (OLE Nepal)
- One laptop Per Child (OLPC)
- Nepal Wireless Networking Project (NWNP)

Open Learning Exchange Nepal (OLE Nepal) was established in September 2007 with the purpose of promoting online learning. It worked in two levels; E-Path



and E-Pustakalaya. The E-path consists of interactive learning modules that mapped to the topics in the curriculum presented by Curriculum Development Centre (CDC) of Nepal. The OLE Nepal developers work with the subject experts to create interactive learning activities. They developed easy software that was rich in multimedia elements including text, audio, video and animations for teachers and students to understand concepts prescribed in the curriculum. The OLE Nepal launched the program 'one laptop per child' (OLPC) in collaboration with Nepal government, Department of Education (DOE) in April 2008. The program was also supported by the Danish government and was implemented in 26 schools of 6 districts in April 2009. Further, the UN food program gave some additional support to run the OPLC program in 56 schools of 15 districts. The program contributed to train more than 389 school teachers to teach using laptops and digital learning materials. OLE Nepal has designed over 500 modules of interactive digital learning materials for concepts in some subject curricular such as science, English, Mathematics and Nepali (Retrieved. 21 June 2016, from <https://www.olenepal.org//>)

E-Pustakalaya (Library) is an electronic library that allows children to navigate, search, and link different documents including reference materials and course related content. Content creation in the E-Pustakalaya is a continuous activity (Retrieved, 21 June 2016, from <https://www.epustakalaya.org//>)

In short, OLE Nepal has collaborated with several national and international organizations to create materials; these include Room to Read, Rato Bangala Foundation, Library, Save the Children, World Education, and E-Learning for kids and Azim Premji Foundation. Hence, OLE Nepal continues to work with other organizations to supplement this database. (Retrieved, 21 June 2016 from <https://www.olenepal.org//>)

Mahabir Pun, the president of E-Networking Research and Development (ENRD) informally started Nepal Wireless Networking Project (NWNP) to promote wireless technology connecting rural areas with urban areas that has made the transfer of technologies possible from urban to rural areas of Nepal. Currently, NWNP is providing services to 175 villages of 15 districts in Nepal (the services are internet access, E-Commerce, E-education, telemedicine, environmental and agricultural services). The facilities are especially utilized mostly by schools, health clinics, public centers, hostels and individuals. (Retrieved, 21 June 2016 from <https://www.olenepal.org/>)

For the implementation of ICT courses, the Ministry of Education (MOE) provides ICT training to in-service teachers teaching ICT courses in schools or to those teachers included in educating children having laptops under one laptop per child (OLPC) program through NCED. These trainings basically focus on the operation of computer knowledge about software and hardware and some maintenance of computers. NCED has collaboration with UNDP, UNICEF and other local NGOs to run the ICT training for teachers that continues for at least 10 days at a time (MOE, Master Plan, 2013).

Corroborating this view, Rana, Greenwood, Fox-Turnbull and Wise (2018) assert that “Nepal has developed a comprehensive policy and curriculum affirming the use of ICT in all schools in order to transform traditional teaching styles into more student-centered” (p.149) with the aim to produce skilled human resources who could compete in the global markets. Likewise, the National Curriculum Framework (NCF 2005 & MOE 2013) for school education has clearly expressed the need for ICT in two ways; ICT in education and ICT education. However, Laudari (2019) argues that the Nepalese national policy on ICT in education itself is a barrier as MOE does not

have designed any policies about ICT integration in teacher education program provided with ICT competency as a core competency of school teacher (MOE, 2016). Further, he states that MOE does not provide any guidelines to teacher education institutions (TEIs) for the expected outcomes from pre-service teacher education program. Consequently, in absence of private guidelines on the use of ICT, its integration in pedagogical practices remains ineffective. Moreover, this lack is prominently visible in two folds; first, teachers lack ICT integration skills and second, school administration lacks a framework for ICT integration (Lee & Spark, 2013). In addition, the in-service teachers' ineffective use of ICT in pedagogical practices reminds the gap that exists in the curriculum of pre-service teacher education program run by the Nepalese universities (Dhakal & Pant, 2016; Laudari, 2019; Maski Rana , 2018). Similarly, lack of adequate ICT integration policy, teacher educators' technological incompetency, lack of adequate framework for ICT integration, lack of technical support and technological resources are the factors that influence pre-service teachers' skill and knowledge of ICT for their future practices (Dhakal & Pant, 2016; Laudari, 2019; Laudari, & Maher, 2019; Laudari & Prior, 2020; Maski Rana , 2018; Shrestha, 2017). These research studies substantially highlight the great need of the government policy on ICT integration in education and its proper implementation at academic institutions.

Thus, the proper implementation of ICT integration in education is still at the crawling stage in Nepal. As Giri (2010) asserts that the training provided to the in-service teachers, particularly in the context of EFL, neither translates the current situation of ELT nor fulfills the pedagogical needs of average teachers (MOE, 2009). Consequently, average ELT practitioners in Nepal are still confined to give “a

traditional focus on knowledge of the language, rather than its usage. In addition, memorization of information and rote learning are encouraged” (Giri, 2010, p.67).

### **ICT in English Language Teaching**

ICT is a broad term however, specifically for the purpose of this study, it could be defined as technologies that refer to computer and the Internet consist of two types of application: generic software applications, e.g., word processors, presentation software, email packages, and web browsers; and CALL software applications and useful websites with a focus on purposeful language teaching and learning (Sarkar, 2012). There are various usages of ICT such as location and retrieval tool (Mbalamula, 2016), interaction tool (Zhang, Benbasat, Carey, & Davis, 2013), material creation tool (Montrieux, Vanderlinde, Schellens & De Marez, 2015) and teaching tool (Peeraer & Van Petegem, 2012). Teachers could utilize these various usages of ICT for their instruction. Technology as a location and retrieval tool helps teachers to look for supporting materials such as e-books, photos, audios and videos, etc. for teaching and learning from the Internet (Mbalamula, 2016; Kirkwood & Price, 2013). Technology as an interactional tool can create synchronous and asynchronous environments for interaction between teachers and students and also between/among students (Zhang et al., 2013). Similarly technology can be used as a material creation tool to create customized learning materials from the digital resources available on the Internet (Montrieux et al., 2015), word processing and presentation application soft-ware help teachers for designing different types of language learning activities that can be made attractive to promote students’ participation in learning (Aydin, 2013; Rendall & Davies, 2012).

Moreover, Dang (2013) states that audio and video editing tools can be used for recording, making changes to audio and video files such as splitting audio and

video files into smaller pieces or merging them into a larger file, adjusting voice speed and creating sound/video effects. Likewise, technology as a teaching tool can be used to display teaching materials by connecting a computer to a data projector that will facilitate classroom instruction (Peeraer & Van Petegem, 2012). Additionally, ICT mediated instruction can create a motivating learning environment, foster active participation, help teachers in tailoring their lessons to fit their students' needs and interests that saves teachers' time and facilitates instruction (Gonen, 2019; Guan, Song & Li, 2018; Wong & Yang, 2017).

Technology integration in language teaching and learning in particular has a long history. Computer-Assisted Language Learning (CALL) was introduced for language instruction in the 1960s (Davies, 2003). Computer application in language instruction as a technological tool, has passed three different phases (Warschauer, 1996); behaviorist, communicative and integrative. Computer usage in behavioristic language instruction was as a tool to deliver instructional materials to learners; communicative usage of CALL promoted language skills through practicing language including student choice, control and interaction and integrative usage of CALL brought two innovations into language instruction; multimedia tools and the Internet. Multimedia tools could enhance all language skills: listening, speaking, reading and writing through a single activity whereas the Internet along with multimedia tools make synchronous and asynchronous communication possible between teachers and students (Warschauer, 1996). This paradigm shifts in language instruction with the integration of innovative technology tools have changed the mode of instruction from transmission of knowledge to construction of knowledge in learners' own frames of reference (Jonassen, 1999). The teachers who are constructivist pedagogues utilize maximum technology penetration to promote student-centered approaches (Tam,

2000) that lead them towards higher order critical thinking skills, deepening knowledge through collaboration with peers synchronously or asynchronously, reflecting upon their own products and getting the ownership of their publications (Gonen, 2019; Guan, Song & Li, 2018). These features of technology integrated instruction require English teachers to be professionally competent and creative to facilitate their classroom instructions through modern innovative technology tools.

Traditionally, language teachers integrate old technology tools such as printed texts, images, audio materials and video materials to teach language skills and aspects. Modern innovative ICT tools and technologies range from wider perspectives to promote language aspects and skills in an integrative way. As for example, Interactive whiteboards (IWBs) provides whole-class presentation devices and software and used with multimedia projectors to project pictures, texts, and other information during classes (Davies, 2003; Mehri & Izadpanah, 2017; Sadeghi, Rahmany, & Doosti, 2014; Shahlou & Izadpanah, 2016).

However, effective utilization and maximization of technology tools in language teaching and learning gets interrupted due to some reasons. They are lack of infrastructure that includes poor power supply, lack of modern computer hardware and software facilities and technologies, unavailability of internet services, old and poorly built classrooms, lack of modern teaching aids and furniture (Imhonopi & Urim, 2010; Serdyukov, 2017).

### **ICT for English Teachers' Professional Development**

Teaching is a complex, cognitive activity that requires expertise in organizing many kinds of knowledge (Putnam & Borko, 2000; Shulman, 1986). These include knowledge of diverse groups of learners thinking and learning, knowledge of subject matter, knowledge of pedagogy and technology, too. In this regard, Darling-

Hammond, Hyler and Gardner (2017) confirm that an effective PD program requires to be “content focused, incorporates active learning, supports collaboration, uses models..., provides coaching and expert support, offers opportunities for feedback and reflection, and of sustained duration” (p. 4).

In other words, professional development refers to the activities, that develop individuals skills, knowledge, expertise and other characteristics as a teacher (OECD, 2009; Creating Effective Teaching and Learning Environments; TALIS Database). (Retrieved 9<sup>th</sup> July 2017 from <https://dx.doi.org/> )

In the context of Nepal, Hayes (2018) suggests;

Teacher professional development is required for any new system to ensure that teachers have the ‘assessment literacy’ ... to implement it as the designers intend. To date this has not happened in Nepal and reforms seem to have confused teachers more than enlightened them. (p. 3)

Further, he comments that school teachers regularly need support from school stakeholders to cope up with changing circumstances but unfortunately “education administrations will lack the human and material resources to provide sufficient assistance in a timely manner” (p. 3).

Teacher professional development is most successful when it is decentralized by empowering teachers with some elements of command, control and ownership along with collaborative pedagogical design driven by participants (Bedadur, 2012; Borko, 2004; Desimone, 2009; Wei, Darling-Hammond, Andree, Richardson & Orphanos, 2009). Further, Borko (2004) views that teachers collaboration and collegial discussion in networked professional learning communities promote improved practices of teaching and professional development. Thus, strong professional network and collaboration of teachers considerably bring better student

performance and achievement (Fishman, Marx, Best & Tal, 2003; Timperley, 2008). It is obvious that teaching is no more a solitary practice, it can create many chances for professional discourse, reflective inquiry and collaboration with colleagues, consequently, the ownership of their learning empowers them with professional development through professional learning communities (Raval, McKenney & Pieters, 2012) and become more open and receptive to change (Klein, 2005).

With the changing roles in traditional mode of knowledge delivery to knowledge construction, teachers need to be professionally empowered to both adopt and adapt the innovative technology blended pedagogy. Their personal beliefs, attitudes and understanding will certainly influence their teaching practices (Penuel, 2006). In doing so, the in-service teachers need formal professional development training on a regular basis. These trainings bring ample opportunities for teachers to share and discuss their knowledge that may emerge with time like technology integrated teaching practices, guiding students' work using technology (Drayton, B. Falk, Stroud, Hobbs & Hammerman, 2010). Additionally, "teacher workshops often focus on providing teachers with skills they need to use technology themselves, but many reported that what was most critical was a focus on helping teachers integrate technology into instruction" (Penuel, 2006, p. 338). Formally, professional development training on technology assimilation should incorporate such elements; contents being taught, opportunities for teachers to engage in "hands on" work, teachers' needs and beliefs, and classroom management skills (Hew & Brush, 2007).

It is mandatory to prepare and develop teachers' professionalism for the use of ICT in their classroom (MOE, 2013). Thus, ICT for English teachers' professional development requires the control and crucial managerial role of English teachers for penetration of ICT in teaching since they are the managers of the teaching



environment. The use of ICT develops teachers' skills for cooperation, communication and lifelong professional learning, and the use of ICT in professional development promotes self-directed learning environments for teachers through a dynamic, contextual and constructive approach (Bell & Morris, 2009; Noor-UI-Amin, 2014). Further, some research studies assure that the usefulness of professional development is linked to the adoption and integration of ICT in classroom practice (Lawless & Pellegrino, 2007; Prestridge, 2008). The World Bank (2013) has declared that traditional teacher practices must go along with the access to innovative, appropriate and on-going professional development and the time and resources to explore the new learning base and develop new skills. In this sense, the investment on ICT at Nepalese schools will continue to be ineffective as "the government has not provided technology resources and initial or continuing teacher training in ICT, but rather allowed NGOs to provide the technology and short blocks of training" (Rana, 2018 as cited in Rana et al., 2018, p.149). Though the SSRP was aimed at enhancing teachers' qualifications and professional competencies to better facilitate students learning processes (MOE, 2009), "... the training does not reflect the existing ELT situation, nor does it serve the practical needs of an average teacher" (Giri, 2010 p.67). Consequently, average ELT practitioners in Nepal are still focused on delivering knowledge of the language neglecting its usage (Giri, 2010).

In this sense, English teachers require professional development opportunities to update their knowledge and skills for effective pedagogy. Similarly, research studies into ICT integration in teaching English requires a serious attention through in-depth studies on teachers' technology reflection, teacher networking and teacher collaboration for professional development of English teachers within the context of

Nepalese education (Newa, 2007; Pangen, 2019; Poudel, 2020; Rana, et al., 2018; Rana & Rana, 2020; Thapaliya, 2014) and are recently emerging phenomena.

Researchers often claimed that the effectiveness of ICT integrated instruction depends on how teachers use it in their classroom, i.e. what instructive strategies they apply when integrating technology (Zhao, Bo & Lei, 2008). Graddol (2010) rightly argues “aspiration of such magnitude is a heavy burden for any language and for those who have responsibility for teaching it, to bear” (p.120). Majority of teachers agree that technology integration promotes teaching and learning but a few teachers integrate it into their pedagogy because they lack professional development training. Traditionally, the funds for professional development are utilized to train teachers in the use of productivity tools rather than pedagogical practices with technology integration (Ferriter & Garry, 2010). It necessitates for teachers to be adaptive towards effective technology integration into their instruction to engage students on learning activities in order to multiply their performance outcomes (Yu, Yu & Lin, 2010). Students today, are digital natives, and are highly positive and enthusiastic for technology integrated instruction that promotes them to interact and communicate online, enhances higher-order thinking skills, and enables them to take stand for exchanges of positions and perspectives to construct meaning (Yu et al., 2010).

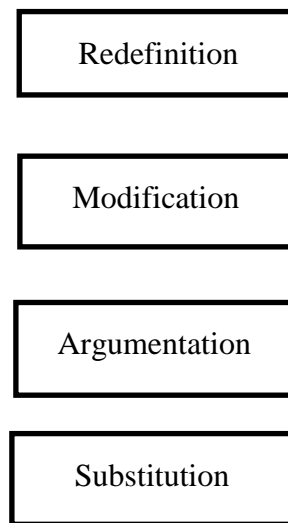
Though technology integrated instruction is a basic requirement of the 21<sup>st</sup> century teaching and learning activities, teachers are confined to use technology performing low-level tasks like word processing or presentation of information instead of integrating technology into their subject areas (Francom, 2016/2020; Gray, Thomas & Lewis, 2010; Hur, Shannon & Wolf, 2016; Mishra & Koehler, 2006). Therefore, some research studies (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012; Keengwe, 2007; Mishra & Koehler, 2006; Lawrence & Tar, 2018;

Salleh, 2016; Onalan & Kurt, 2020; Rana & Rana, 2020) advocate for enabling teachers through professional development trainings on technology integration to bring change in their educational beliefs, instructional practices and content knowledge.

Moreover, the term professional development has gone through some modification in recent studies that have coined the terms professional support and evaluation to meet the challenges technology may bring as Costa (2012) views “this shift is meant to communicate the need for shared responsibility for learning that must be the expectation in a 21st century school” (p. 131). In this sense, professional development training on technology mediated instructions should educate teachers to incorporate different technological models into their teaching practices.

Ruben Puentedura developed the SAMR model in the late 1980s that deals with four levels of technology blended instruction. They are substitution, augmentation, modification and redefinition or the acronym SAMR in short (Puentedura, 2012). The model starts from the lowest level, substitution that substitutes technology for teaching directly or without it in the previous technological model. The augmentation level seeks for some improvements in functionality without any change in instruction or assignment. Hence, these first two levels enhance instruction without any essential change in the previous model. The third level modification allows redesign learning activities and assignments that basically require technology integration into instruction. The fourth level, redefinition brings transformation in learning activities, assignments or tasks that requires authentic audience and formative feedback on the student work. The latter two levels are the core of this model (Puentedura, 2012).

*Figure 2.1 SAMR Model*



The TPACK model was developed by Mishra and Koehler (2006) that combines the three types of knowledge; technology, pedagogy and content. Likewise, the Pedagogy Wheel model was developed by Allan Carrington (2012) that is based on the New Bloom's Taxonomy. It deals with cognitive complexity an individual brings in learning. Bloom's Taxonomy has three levels; remembering and understanding, applying and analyzing, and finally evaluating and creating. These three levels on the taxonomy allow teachers for technology integration to access resources from different apps and check students' skills in learning activities (Carrington, 2012).

### **Digital Divide**

Digital divide refers to the economic, educational and social inequalities between those who have computers and online access and those who do not have ([https://www.merriam\\_webster.com](https://www.merriam_webster.com)). Thus, it is a term that indicates the gap between demographics and regions, skills of technology, language and literacy in terms of access and usage of modern ICT and those that do not or have limited access and usage. The technology includes gadgets such as telephone, mobile phones, television,

laptops and the Internet. Furthermore, access to and usage of technological tools requires sufficient skill, proper infrastructures, and ability to understand the information that the Internet provides. Eventually, there are two things; lack of proper infrastructures and lack of skill/knowledge of technology seen as two major challenges that have hindered mass connectivity to ICT.

However, solutions lay in the problem itself, in the same way, digital divide could be bridged up by providing adequate infrastructures and ICT skill/knowledge to each and every individual, by incorporating rural communities with urban into the process of knowledge creation and transmission. In this scenario, One Laptop Per-Child (OLPC) program is an attempt to narrow down the digital divide. The OLPC program was launched in 2005 to educate the children living in poor and rural regions with learning and Internet access.

It was launched to “develop and distribute a low-cost ‘children machine’ that would empower youth to learn without, or in spite of, their schools and teachers” (Warschauer & Ames, 2010, p. 34). However, this program failed to bridge up the gap of digital divide in education. Warschauer and Ames (2010) highlighted some of shortcomings of the program and remarked that “unlike Negroponte’s approach of simply handing computers to children and walking away; there needs to be large scale integrated education improvement efforts” (Warschauer & Ames, 2010, p. 34). Thus, the another project, OLE Nepal being an alliance with the OLPC project worked to implement ICT based education in collaboration with the Nepal Government's Department of Education (DOE). The then deputy director of DOE mentioned in an interview that DOE signed a document to work in collaboration with OLE Nepal in November, 2007 to implement the OLPC program phase-wise in the rural schools of Nepal. OLPC is a non-profit US organization which manufactures affordable XO

laptops, specially designed for developing countries to use as an educational tool. It was a praiseworthy step towards narrowing the gap, however, after the second phase of effective implementation in 26 schools the program was bound to be closed due to lack of budget. The then executive director stated “we’ve provided each enrolled at primary level with an XO laptop but our job goes beyond giving these children a device, which is a major drawback of the OLPC program”. (Retrieved April 15<sup>th</sup> 2017 from <https://www.myrepublic.a.com> Nov 9, 2009)

The educational material that they developed together with Curriculum Development Center (CDC) was named E-Paath. Furthermore, OLE linked up with the Nepal Wireless Network Project (NWNP) that was another project initiated by a social activist Mahabir Pun, the founder of ‘NWNP’ has set a remarkable example of narrowing down the digital divide. It was founded in 2001 with the dire need of modern information and communication technologies for local use to help villagers of remote areas to communicate and work in collaboration with different villagers. It provided internet connectivity through a dial-up proxy server from the base camp, Pokhara. Currently, Nepal Wireless subscribes to 5 mbps Internet link to its base stations in Pokhara and Kathmandu.

These projects being aligned implemented OLE program in some schools in 2008. The schools were provided with a digital library (E-Pustakalaya), interactive learning resources (E-Path), power backup, and access points for students and teachers to easily access the materials from the servers. The consequent success of OLE Nepal with the ICT initiatives of OLPC in narrowing down the digital divide has been credited to prioritize local context in rural areas (Warschauer & Ames, 2010). Additionally, from the theoretical lens of Information Ecology (IE), the local context of ICT initiatives of OLPC was studied and concluded that the reason behind its

success is that “it had a sustainable ecosystem” (Thapa & Sein, 2018). Evidently, in the context of Nepal, digital divide is found to be wider than the developed or other developing countries. However, it proves to be a milestone the way OLE Nepal is working to narrow down the existing digital divide.

Moreover, digital divide has shifted from a gap in access and connectivity to digital technology to a knowledge divide (Graham, 2011). Because the web 2.0 technologies such as Facebook, YouTube, Twitter and blogs are easy to create online contents for many but they in fact do not know how technology works that leads to digital divide in terms of production gap (Reillay, 2011). Another one is cultural factors that are often linked with class and socio-economic status. Schradie (2011) opines that people of lower socio-economic status are unlikely to have good education and free time to be engaged with blog or website creation and maintenance. Further, Reinhart et al. (2011) found schools’ economic factors that affect the way teachers use technology in order to promote higher order thinking skill.

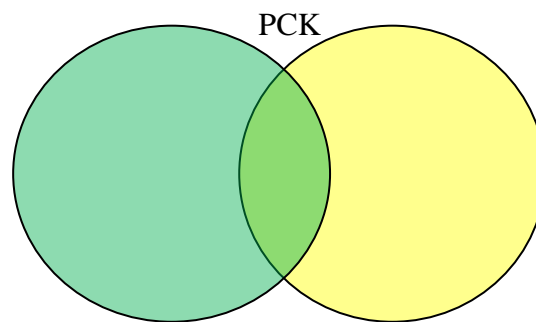
### **Technological Pedagogical and Content Knowledge (TPACK)**

TPACK is based on Lee Shulman’s (1987) concept of Pedagogical Content Knowledge (PCK). Mishra and Koehler (2006) modified Shulman’s framework of PCK by extending it to the phenomenon of technology integration in teaching that is called Technological Pedagogical and Content Knowledge (TPACK). The limit of pedagogical content knowledge is extended to technology integration. Thus, the three components of teaching/learning: content, pedagogy and technology are integrated. The integration of ICT tools in teaching has brought drastic change in the traditional mode of knowledge creation and transfer.

Technology integration in pedagogy requires teachers’ access to and knowledge of technology. Simply, pedagogical content knowledge is now not

sufficient for teaching. Primarily, teachers need to be skilled and competent in the use of educational technology. Traditionally, the knowledge of teacher education was centralized to the content knowledge of the teacher (Shulman, 1986) later it shifted its focus on pedagogical classroom practices independent of subject matter (Ball & McDiarmid, 1990). Shulman (1986) proposed the notion of PCK that exists at the intersection of content and pedagogy. Figure 2 below shows that the interface of PCK develops from the interdependence of P and C.

*Figure 2.2 Pedagogical Content Knowledge (PCK)*



Thus, PCK blends content and pedagogy into the way as to how a particular content is organized, adapted and represented and would be accessible to diverse interests and abilities of learners. Shulman (1986) argued for “pedagogical content knowledge” as “the ways of representing and formulating the subject that make it comprehensible to others” (p.9). Moreover, PCK is considered as an epistemological concept that blends the traditionally separated knowledge bases of content and pedagogy (Mishra & Koehler, 2006).

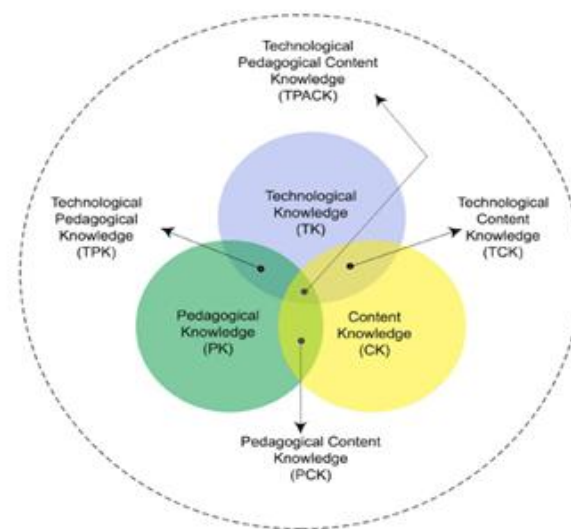
Shulman (1986) did not include technology in his PCK framework since traditionally a wide range of technologies like textbooks, charts of periodic tables, overhead projectors, typewriters etc. were in use but they were not regarded as technologies (Bruce & Hogan, 1998) in the sense they are used for educational



purposes. More recently, technology refers to digital computers, and computer hardware and software, artifacts and mechanisms, Internet and myriad applications etc. that have transformed the nature of teaching /learning with high educative potentialities. It shows that technology is an integral part of pedagogy and content.

The TPACK framework of Mishra and Koehler (2006) emphasizes the complex interplay of the three bodies of knowledge: Content (C), Pedagogy (P) and Technology (T) as shown in figure 2. 3 taken from Koehler and Mishra (2006);

*Figure 2.3 The TPACK Framework*



*Figure 2.3 Framework of TPACK [Koehler and Mishra (2006)]*

The overlapping of three circles (as in figure above) causes four more kinds of interrelated knowledge; PCK, TCK, TPK & TPACK. The overlapping of all three TPC circles together is known as TPACK that has seven constructs as mentioned below:

**Content Knowledge (CK).** Content knowledge is “knowledge about the subject matter that is to be learnt or taught” (Mishra and Koehler (2006, p. 1026).

Teachers need to have some knowledge of central facts, concepts, theories and procedures of the subject matter to teach effectively (Mishra & Koehler, 2006).

Moreover, Kang, Ni and Li (2010) state that the CK of EFL teachers include:

...language skills: vocabulary usage, conversation function, and using language to solve problems, linguistic components: pronunciation, phonetics and styles of speech, and cultural understanding: comparing the similarities and differences between English-speaking countries and non-English-speaking countries. (p. 3877)

**Pedagogical Knowledge (PK).** Pedagogical knowledge (PK) is essential for every teacher that is “generic form of knowledge that is involved in all issues of student learning, classroom management, lesson plan development and use and student evaluation” (Mishra & Koehler, 2006, p. 1026). It requires teachers to know about different pedagogical issues such as student learning, classroom management, planning lessons and implementing, and evaluating students’ performance in general.

**Pedagogical Content Knowledge (PCK).** PCK is basically a combination of two domains of knowledge: pedagogy and content. It includes the knowledge of what teaching approaches will be appropriate for the content and how the components of the content should be arranged for the effective teaching. Mishra and Koehler (2006, p. 1027) define PK based on Shulman’s (1986) notion as “knowing what teaching approaches fit the content, and likewise, knowing how elements of the content can be arranged for better teaching” and includes the knowledge about learners and their characteristics. According to Shulman (1987) PCK is a special type of knowledge that:

... represents the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented and adapted to the diverse interests and abilities of learners, and presented for instruction. Pedagogical content knowledge is the category most likely to

distinguish the understanding of content specialist from that of pedagogue. (p. 8)

**Technological Knowledge (TK).** Technological knowledge (TK) is an added domain of knowledge to the Shulman's (1986) model of PCK by Mishra and Koehler (2006). Implementation of modern technology in education recently got wider acceptance globally. Thus, it requires teachers to get ICT knowledge and skills to operate technologies for teaching and learning purposes. Mishra and Koehler (2006) define TK as "skills to operate technologies such as installing or removing devices/software programs, or creating and archiving documents ...abilities to learn and adapt to new technology" (pp. 1027-1028). Moreover, technological knowledge of teachers helps them create constructive teaching approaches for active learning. They could handle technical problems and keep themselves updated with the help of TK.

Shulman (1986/1987) did not include technology in his PCK model the reason might be the latest development of technology and research perspectives on its implementation in education are highly recent phenomena. Moreover, technology evolves over time, thus, it requires teachers to have a more specialized knowledge than that of procedural one to adapt their pedagogical practices with innovative tools (Lubke, 2013).

**Technological Content Knowledge (TCK).** Technological content knowledge (TCK) requires teachers to choose particular technologies for the content delivery. Thus, TCK is defined as "the manner in which technology and content are reciprocally related" (Mishra & Koehler, 2006, p. 1028). Further, they suggest that TCK enables teachers to change the delivery mode of the content.

**Technological Pedagogical Knowledge (TPK).** Technological pedagogical knowledge (TPK) is required to combine technologies in teaching and learning the content. Mishra and Koehler (2006, p. 1028) define TPK as the knowledge of “the existence, components and capabilities of various technologies as they are used in teaching and learning settings, and knowing how teaching might change as the result of using particular technologies”. Thus, it requires teachers to know which particular technology is effective for their pedagogy.

**Technological Pedagogical and Content Knowledge (TPACK).** It is the final construct of Mishra and Koehler (2006). It consists of the three domains of knowledge: technology, pedagogy and content that together construct a special type of knowledge for teachers to have as Mishra and Koehler (2006) state:

...understanding of the representation of concepts using technologies, pedagogical techniques that utilize technologies in constructive ways to teach content; knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face; knowledge of students’ prior knowledge and theories of epistemology, and knowledge of how technologies can be utilized to build on existing knowledge and to develop new epistemologies or strengthen old ones... (p. 1029)

Thus, TPACK represents a complex interplay of three domains of knowledge that are essentially required for teachers to integrate ICT into their pedagogical practices (Voogt, Fisser, Roblin, Tondeur, & Braak, 2012). Moreover, though the context was described as an important component of the TPACK framework, it was not included in the earlier figure. However, the framework is context bound that includes the factors such as subject matter, grade level, student background and the types of available technologies (Mishra & Koehler, 2006).

The rapid evolving nature of technology is quite challenging for teachers because it is not static over time like earlier technology. Mishra and Koehler (2013) mention that some teachers are reluctant to these new technologies due to a fear of change, lack of time, and support. They need to learn new technologies and skills to integrate ICT into their pedagogy. In this way, TPACK is practiced globally as the basis of effective teaching with technology. It requires a balanced interweaving of all three components of knowledge: technology, pedagogy and content.

### **Tracing a Theoretical Ground of the Study**

The theoretical review briefly deals with theoretical bases of teaching/learning, constructivist theory of teaching/learning and application of social constructivist perspective in the research study.

### **Theoretical Bases of Teaching and Learning**

Vygotsky's theories basically put emphasis on the fundamental role of social interaction in the development of cognition in which community plays a central role in the process of “making meaning”. Further he argues, "learning is a necessary and universal aspect of the process of developing culturally organized specifically human psychological function” (1978, p. 90). There are two principles found in Vygotsky's work; the more knowledgeable other (MKO) and the zone of proximal development (ZPD). The MKO refers to someone who is more knowledgeable than a student/learner in a particular task or process of concept e.g. a teacher or an adult, peer. However, the MKO may not always be a person, electronic tutors can also be used in the educational settings to facilitate and guide students/learners through the learning process.

The MKO is internally related to the second principle, the zone of proximal development (ZPD). ZPD refers to the distance between the actual development level ensured by independent problem solving and the potential level of development through problem solving under the guidance of adults or more capable peers (Vygotsky 1978, p. 86). Once the student masters the task, he/she becomes an independent learner.

**Constructivist Theory of Teaching and Learning.** The theory of constructivism has been extended to philosophy, psychology and cybernetics that describes how people perceive the world around them from different perspectives of philosophy, psychology and cybernetics (von Glasersfeld, 1993). Moreover, constructivism as a psychological theory originates from the field of cognitive science, particularly from the later work of Jean Piaget and the socio-historical work of Lev Vygotsky and his followers. It is not only a psychological theory of learning but also a theory of evolution and development that is rooted in biology and evolution. Piaget spent most of his time studying the genesis of cognitive structures. He argued, “the subject exists because, to put it very briefly, the being of structures consists in their coming to be i.e. their being ‘under construction’. There is no structure apart from construction” (Piaget, 1970, p.140). He believes that the human is a developing organism, not only in a physical and biological sense but also in a cognitive sense. Because an organism is a whole system, a structure consists of emotional, cognitive and physical development. Piaget describes cognition as a dynamic process of self- regulated behavior which balances two intrinsic polar behaviors; assimilation and accommodation. Assimilation is activity, the organization of experience that is the individual's self-assertive tendency, a tendency to view, understand and act on the surrounding with one’s own activity or ideas in order to

preserve one's autonomy as a part within a whole system that results in a “reach beyond the grasp” or searched for new knowledge and encounter “new territory”. Accommodation consists of reflective, integrative behavior which serves to change one's own self and explicate the object in order to function with cognition (Piaget 1970).

Piaget's work is confined to the cognitive structuring of individuals neglecting the effect of social interaction on learning. He argued, “there is no longer any need to choose between the primacy of the social or that of intellect; the collective intellect is the social equilibrium resulting from the interplay of the operation that enters into all co-operation” (1970, p. 114). Apart from Piaget, Vygotsky sees a dialectic relation between individuals and society and basically focuses on the effect of social interaction, language and culture on learning. Like Piaget, he also believes learning to be developmental and constructive but he differentiates between “spontaneous” and “scientific” concepts. He defines spontaneous concepts as pseudo concepts that emerge from the learners own reflections on everyday experience (Kozulin 1986). Vygotsky, on the other hand, proposes that scientific concepts originate in the structured activity of classroom instruction and impose on the learner more formal abstractions and more logically defined concepts than those constructed spontaneously (Kozulin, 1986). Further, Vygotsky (1986) argues that scientific concepts do not come to the learner in a readymade form or cannot be transmitted with language rather they undergo substantial development depending on the existing level of the learner’s ability to comprehend the adult’s model. Vygotsky used the term “Zo-Ped”, zone of proximal development to describe the place where a learner’s spontaneous concepts meet the “systematicity and logic of adult reasoning” (Kozulin, 1986, p. 35). This zone varies from learner to learner and reflects the ability of the

learner to understand the logic of the scientific concept. Vygotsky opines that tests or school assignments that only look at the learner's individual problem solving is inadequate instead the progress in concept formation achieved by the learner in cooperation with an adult is a significant way to look at the capabilities of learners (Vygotsky, 1986).

The widespread interest in constructivism over the last decades led to a debate that places more emphasis on any of either between the individual cognitive structuring process and the social/ cultural effects on learning. These two terms are common in the research literature. It is not important that in either of these two whether the cognizing individual or culture should be given priority in an analysis of learning or the importance is to be seen in the inter-relatedness of those two terms. In other words, an individual's cognitive structure cannot be observed in absence of the interaction in a context within a culture. Similarly, culture cannot be understood as an isolated entity affecting the cognitive structure because all knowledge is only "taken-as-shared" (Cobb, Yackel & Wood, 1992).

Constructivism claims that individuals construct knowledge on the basis of their own perceptions which constitute their experiential world (Hendry, 1996). It goes against the theory of behaviorism that views individuals as controlled respondents to stimuli (Jonassen, 1990). Solomon (1994, p. 16) takes an individual as "already a scientist" who constructs knowledge through making sense of the world implying personal strategies (filters) such as experiences, goals, curiosities and beliefs (Cole, 1992). Thus, knowledge is the outcome of individuals' active involvement in interaction with the world. Nothing is certain in the world, the notion of truth and reality lies in what an individual perceives in a certain context because "cognizing beings can never know what that reality is actually like" (Tobin & Toppings, 1993, p.



4). Moreover, individual understanding is context specific and goal oriented as Savery and Duffy (1996) state, “what we understand is a function of the content, the context, the activity of the learner and, perhaps more importantly, the goals of the learner” (p. 136). Thus, individual’s personal and subjective experiences of a phenomenon constitute a particular personal view of truth or reality passing through several interpretations (Perkins, 1991). An individual passes through a number of abstractions like sensory-motor experiences or perceptual experiences (von Glasersfeld, 1993) in the process of knowledge construction to be a viable construct under a specific context.

Constructivism is a post-structural psychological theory (Doll, 1993) that views learning as an interpretive, recursive, non-linear building process by active learners interacting with their surrounding- the physical and social world. It is a psychological theory of learning that describes how structures, language, activity and stages of thought or, one that isolates behaviors learned through reinforcement. It is now a challenge for the educators to determine the shift the new paradigm has brought to the practice of teaching.

According to Ernest (1995) “there are as many varieties of constructivism as there are researchers” (p. 459). Among them, social constructivism is found to be appropriate for this study. It believes that individuals construct knowledge in social contexts that reflect socio-cultural practices (Tobin & Toppings, 1993; Duffy & Cunningham, 1996). In addition, during the process of knowledge construction meaning is negotiated in the groups through social interactions (von Glasersfeld, 1993; Willis, 1998). It places value on individual learners as having a unique perspective (Bednar, Cunningham, Duffy & Perry, 1992) that makes learning an act of cognitive restructuring (Greening, 1998). Despite, in the creation of learner-

centered instruction, several cognitive tools including technology tools assist learners to promote active learning (Spiro, Feltovich, Jacobson & Coulson, 1991). These cognitive tools assist learners from the notion of Vygotskian ‘zone of proximal development’ and scaffolding to provide strategies in accordance to their learning ability (Mercer & Fisher, 1992; Murphy, 1997).

In short, Constructivist-learning pedagogy puts individual learners into the center of learning that empowers them for decision making for knowledge construction and application (Merriam & Bierema, 2014). Consequently, independent autonomous learning develops learners’ critical and analytical skills to take stand for their own learning.

**Constructivism and ICT.** Constructivist learning theory promotes ICT integration into the framework for teaching and learning activities (Keengwe & Onchwari, 2011). Modern ICT has potential to engage students in the process of knowledge construction through exploration. With the evolution of innovative technology tools in the 1980s and 1990s, technology-enhanced learning activities are greatly practiced in combination with the constructivist learning principles. Harasim (2012) states that constructivist learning pedagogy with the support of technology tools could mediate teachers to guide students for collaborative tasks and projects. These tools provide them purposeful and authentic resources in which they may feel challenged on the assigned tasks and projects. Further, he states that such access to required resources encourages them for exploration of knowledge independently. Because the implication of constructivist learning theory as an instructional approach encourages and engages learners for active learning to construct their own products (Keengwe & Onchwari, 2011). Constructivist learning theory proposes the following

four pedagogical principles for student-centered classroom instruction (Harasim, 2012) that promote students:

- For active participation in the learning process
- To experience learning through engagement
- To scaffold their learning
- To collaborate with peer for learning through social interaction

In order to incorporate the above constructivist pedagogical principles into the classroom instruction, teachers' role turns to be of a facilitator, guide, and mentor. They can take maximum advantages of technology tools to promote students' higher-order thinking skills (Harasim, 2012). In this sense, Sun and Chang (2012) described the usefulness of collaborative interaction on blogs in facilitating learners' meaning-making-process. Diez-Bedmar and Perez-Paredes (2012) opine that the use of computer-mediated communication (CMC) in the foreign or second language classroom has brought a wide range of possibilities of interaction between students or between students and native speakers of the target language. Some studies on technology integration in teaching (Barrs, 2012; Fox, 2008; Green, 2005; Kessler, 2012; Lee, 2006; Nurmukhamedev, 2011; Rivas, 2012; Sun & Chang, 2012) have found that the effective integration of technology maximizes target language interaction both inside and outside of the classroom.

Similarly, Barrs (2012) explains that the ICT tools such as laptops, standard mobile phones, smart phones, and tablet-computers are time-and-place independent because they are tools carried around by students. These devices foster interactive, communicative, and collaborative learning through emails, text messaging, wiki, blogs, forums, social networking sites and virtual learning environments. Warschauer (1997, as cited in Barrs, 2012) states that it is the socio-cultural perspective of looking

at language learning which “illuminates the role of social interaction in creating an environment to learn language, learn about language and learn ‘through’ language” (p.12). Moreover, ICTs are accessible tools to meet the needs and preferences of learners that bring a greater chance of exposure to target language (Stockwell, 2012). Thus, constructivist pedagogy exploits technology to scaffold teaching and learning activities (Vygotsky, 1986). Evidently, it is crucial to address teachers’ skills and ICT knowledge gap in integrating technology under the constructivist pedagogical practices (Keengwe & Onchwari, 2011).

### **Application of Theoretical Perspective of Social Constructivism in my Study**

My research study is basically guided by the theoretical perspective of social constructivism. The theory lays the fundamental base of my research study in terms of aligning with my value in and recognition of multiple realities (Vygotsky, 1978). Hence, the theory of social constructivism gives space to multiple and complex meanings of an individual’s experiences. Furthermore, constructivists view that knowledge is temporary, developmental, and socially and culturally mediated; thus learning is an active development of knowledge through individuals’ experiences, personal goals, curiosities and beliefs (Sun & Chang, 2012). Thus, additionally, constructivism in combination with cognitive constructivism (Piaget, 1970) and social constructivism (Vygotsky, 1978) has guided my study as the former describes how individuals understand things and construct/discover knowledge through interactions with the environment whereas the latter describes knowledge as emerging from social interaction, dialogue and collaborations. Apart from it, the theory of constructivism puts emphasis on technology based pedagogy as Vygotsky (1978) stresses that scaffolding or assistance one can get from a more capable person or from any tools/technologies can enhance one’s construction of knowledge. Consequently, social

interaction plays a central role in the process of knowledge construction in which individuals create meaning through their interactions with each other and with the environment they live in.

Thus, social constructivists take knowledge as a human product that is socially and culturally constructed through interactions (Ernest, 1999). In this sense, the theory of social constructivism gives space to the researcher's positionality and reflexivity in co-construction of knowledge through interpretation of the participant's shared experiences of a particular phenomenon. In this regard, the knowledge constructed socially, internally, and culturally by individuals can be explored through broad, non-directive, open-ended questions (Sultan, 2018) for the further in-depth interpretations and co-creation of knowledge. Evidently, the theoretical lens of social constructivism has guided my research study under the methodological framework of Interpretative Phenomenological Analysis (IPA). IPA is a research methodology through which "one is trying to find out how individuals are perceiving the particular situation they are facing, how they are making sense of their personal and social world" (Smith, Flowers, & Larkin, 2009, p.54). Hence, the essence of IPA lies in the exploration of individuals' lived experiences of the phenomenon that brings the experiencers and the researcher together in order to derive meanings through their interpretations.

### **Pondering over Empirical Literature**

This section presents my endeavors of pondering over some globally available empirical literature in terms of gaining insights related to my study along with implication of the reviewed literature and the research gap. Moreover, the literature review is one of the essential requirements for any research. It contributes to researchers in terms of research works carried out in the area of concern. It brings clarity and focuses on research problems, improves methodology, broadens

knowledge in the research area, and contextualizes the findings (Kumar, 2009). In doing so, the empirical research studies carried out nationally and internationally on ICT in education, or in teaching and learning English in particular, have been reviewed under six categories below:

- ICT integration into instructional practices
- Teachers' perception, belief, attitude of ICT in teaching
- Professional ICT trainings of teacher
- ICT integration in teaching language aspects and skills
- Impact of ICT Integrated Instruction on students' learning
- Challenges/barriers to ICT integrated instruction

### **ICT Integration into Instructional Practices**

Kolade (2012) described in his article that the application of ICT in teaching and learning has made it possible for teachers, students and others to reshape the pedagogy and ameliorate the initial constraints in the teaching/ learning process globally and locally because away from being passive listeners, the students now want to be involved in what, where, and how they learn. In this sense, technologies have made teaching and learning revealing, rewarding, exciting and thrilling by offering a balanced pedestal for self-actualization and societal transformation.

Similarly, Kern (2016) in his article explored the key issues arising from the status of Computer Assisted Language Learning (CALL) to the recent integration of ICT in teaching and learning a language. He described the paradigm shifts from book-assisted language learning (BALL), pen-assisted language learning (PALL), library-assisted language learning (LALL), computer -assisted language learning (CALL) to ICT integrated language learning in which computer plays a vital and powerful role in the process of language learning. He concluded that technology has offered us a

means to reframe and rethink our conceptions of language, communication and society.

Jamieson-Proctor, Paul, Burnett, Finger and Watson (2006) carried out a research that included 929 teachers from 38 state schools on different aspects of ICT and found that 73% female teachers are less confident than their male counterparts in using ICT with students. They also found that the confident teachers use ICT more frequently to both enhance and transform the curriculum. It is also revealed that the year of teaching experience did not have any impact on the level of ICT use in teaching and learning.

Adetimirin (2011) conducted a research study to investigate the availability, use of information and communication technology and the ICT literacy skills of undergraduates in seven Nigerian universities. The quantitative research was designed and four faculties were purposively selected with a sample size of 1702. The study revealed that computer, telephone and the internet were three ICTs mostly used by them and over 25% were found to have poor ICT literacy skill in the use of the three ICTs and three major factors were identified to affect the ICT literacy were irregular power supply, inadequate ICT and its limited duration of the use of technology. These findings recommended better availability of technological tools, their literacy and sufficient duration of time to use these in teaching and learning.

Dunleavy, Dextert and Heinecket (2006) conducted a qualitative study including students, teachers, and administrators of two middle schools in the southeastern United States. The data were collected through formal and informal interviews, observations, and document reviews revealed that “teachers reported designing lessons that are more student-centered and constructivist, allowing for less lecturing and more facilitating or guiding students in the learning process” (p. 448).

The findings showed that some teachers used technology to create virtual communities and used synchronous and asynchronous modes of communication to share ideas, solicit feedback, or ask relevant questions about the learning task. Such use of technology for teaching strategies promoted the pedagogy of modern time.

Oliver's (2010) mixed-method study consisted of groups of participants such as students, teachers, technology facilitators, and school leadership teams. The data collected through test scores, surveys, classroom observations, and interviews and focus groups revealed that the gradual increase in teachers' technology integration into their classroom instruction over time brought substantial changes from the partial integration of technology to the frequent use of it into their pedagogical practices.

Thakur and Raghuwanshi (2016) discussed the innovative role of ICT in teaching and learning systems. Integration of ICT in teaching and learning makes learning an active construction instead of a transfer of knowledge. The paradigm shifts away from teacher-centered, lecture-oriented towards learner-centered, interactive and constructive learning environments in which multimedia and ICT can play the role of catalyst for such educational reforms. Moreover, technology encourages higher order thinking skills and helps to construct knowledge socially.

Martin (2016) conducted a study under a descriptive survey of explanatory nature to assure the extent of ICT-pedagogical integration among secondary school teachers in Kenya. They addressed some issues like professional development experiences and needs in computer technology use in mathematics instruction, the type of computer software used in mathematics curriculum content delivery, the influence of accessibility to ICT infrastructure and technical support, teachers' competence and confidence on ICT integration in teaching and learning. 200 teachers from schools were selected using proportionate stratified sampling techniques.



Questionnaires, interview and observation schedules were used to collect the data from the participants. The data were analyzed using descriptive statistics that involved computation of frequencies, percentages and inferential statistics along with Pearson correlation and multiple regression analysis. The findings revealed that there was limited use of ICTs into instruction practice which was attributed to low self-confidence and incompetence in use of ICTs and inaccessibility to appropriate software materials and technical support. Thus, it was concluded that schools should be equipped with adequate ICT infrastructure including content specific software and technical support, professional development training for teachers to integrate ICT in pedagogy and a need for a thorough monitoring strategy including implementation, feedback and evaluation of technology plans by the stakeholders of the education sector.

In short, the studies mentioned above (Adetemirin, 2011; Jamieson et al., 2006; Kern, 2016; Kolade, 2012; Majumdar, 2016; Martin, 2016) found that ICT integration in teaching by confident teachers is more effective, constructive and transformative. The studies revealed that lack of teachers' confidence, time and ICT tools hinder ICT integration in teaching. These studies are of great help for the present research study because they provide insight into whether in the context of Nepal, ICT integration in teaching is effective or not and also what hinders or promotes the effective integration of ICT into instructional practices.

### **Teachers' Perception, Belief and Attitude of ICT in Teaching**

Hismanoglu (2012) investigated the 85 prospective EFL teachers' perceptions of ICT integration in the distance higher education system in Turkey. The data collected through a questionnaire that had two parts. The first part of the questionnaire collected the demographic data and the second part contained nine items based on a 5-

point Likert scale (from 1=strongly disagree to 5= strongly agree). The two sets of questionnaire were administered to the participants through the Internet. Among them, twenty-two were interviewed online for three weeks in order to cross-check the information obtained from the questionnaire. The data were analyzed using the statistical package for social sciences (SPSS. 16) and descriptive statistics to find frequencies, percentages, mean and standard deviation. It was found that the majority of participants expressed negative attitudes to ICT integration because they did not feel sufficiently competent to use ICT in their subject teaching. The results of the quantitative and the qualitative data were found to be similar. The researcher recommended that training should be given to the teachers to become competent in and receptive to ICT for distance education realms.

In their review, Hennessy, Ruthven and Brindley (2005) found that gradual process of pedagogical evolution was apparent, teachers were developing and trying new strategies specifically for mediating technology supported learning. In particular, these overcame the potentially obstructive role of some forms of ICT by focusing pupils' attention into underlying learning objectives. In addition, technology integrated instruction can regulate learning in terms of being a driver of change, a bridge to academic excellence, and a platform for decision making and accountability. Thus, ICT in education has revolutionized the conventional way of teaching and learning to the recent hi-tech way of teaching with the help of the internet. It provides immense internet resources to facilitate teaching and learning. In this sense, “the importance of Internet resources and technologies in education is indisputable today” (UNESCO, 2003, p. 12). However, ICT in education in the context of Nepal is still in its infant stage. Therefore, research studies on different

aspects of ICT usage, effectiveness, perceptions and integration etc. are recently being given priority.

Jimoyiannis and Komis (2007) carried out a research on teachers' beliefs about ICT in education. Total 1165 preschool, primary and secondary education teachers (540 males and 625 females) participated in the survey. The research sample was approximately 60% of the teaching population in the area. The survey was administered in the Ioannina Prefecture, Greece. Before the collection of data, the participants were given some training on basic ICT skills. The instrument used was a Likert-type scale with a five-point scale that consisted of 'strongly agree' and 'strongly disagree'. The data were analyzed at two distinct levels i.e. the statistical description of the data and the multivariate analysis of the input data was done using the method of Multiple Correspondence Analysis. The findings showed that the majority of teachers had positive attitudes for the training given on the role of ICT in education and the integration of ICT in the educational process however, some were found to have negative attitudes. Additionally, the researchers identified three groups of teachers through multivariate analysis that had different attitudes towards ICT in education. The first group of teachers had a positive attitude towards the items of the research, the second group with negative attitudes and the third group with neutral beliefs about ICT in education. After analyzing these three groups of teachers' perceptions on ICT in education, they found that personal factors like subject matter, teaching experience and gender are greatly linked with the ICT beliefs and perception of teachers' in education. They have mainly recommended that ICT should be taken as an efficient teaching and learning tool, and teachers should be encouraged to develop a new educational culture by integrating technology.

Samak (2006) carried out his Ph.D. research to investigate factors that influence the Jordanian EFL teachers' attitudes towards information and communication technology (ICT). The data were collected through a random sample of 363 EFL Jordanian teachers and were analyzed using descriptive and inferential statistics. The research explored that the Jordanian EFL teachers had positive attitudes towards ICT integration and had moderate positive cultural perceptions of ICT, computer competence and had high access to ICT. Similarly, age and teaching experience were found to have a negative correlation with attitudes while qualification had a positive correlation with attitudes. However, a weak positive correlation was found between training and attitudes. He has recommended an in-depth qualitative research in future to provide deeper insight into attitudes towards ICT.

Albirini (2004) carried out a research study to explore the EFL teachers' attitudes towards ICT in terms of computer attributes, cultural perceptions, competency and access of computer in Syria. He also explored the relationship between attitudes towards ICT and certain demographic variables; age, gender, income, school, location, teacher qualification, teaching experience, computer training and teaching method. He followed the mix-method paradigm to collect data through the random sampling of 326 Syrian EFL teachers and 15 teachers were interviewed. The research findings showed that Syrian EFL teachers had positive attitudes towards ICT in education. They had a neutral perception of the cultural relevance of ICT to Syrian society and schools. However, they were found to have low levels of computer competence, computer access and limited in-service training. It was recommended that the EFL teachers should be provided with more professional workshops on computer training and builds a more comprehensive updated infrastructure to ensure

the teachers' access to computers in schools. A similar research was carried out by Al-Ammari (2004) in Qatar. She explored female teachers' perceptions of computers in teaching with regard to the correlation between the female teachers' perceptions and computer training and computer lab use. The findings revealed that the female teachers in Qatar highly favored the implementation of computers in education for better teaching and learning. However, they faced many external and internal barriers for the implementation of computers in education. The external barriers included lack of manuals, limited number of labs, lack of time, lack of incentive for using computers, limited proficiency in English and the high cost of hardware and software. The internal barriers referred to personal factors such as teachers' lack of knowledge and competence, fear of computers and lack of confidence.

Newa (2007) conducted a research to explore teacher effectiveness in relation to work satisfaction, media utilization and attitude towards the use of ICT among secondary school teachers of Nepal. The study site was three districts of the Kathmandu valley: Kathmandu, Bhakatpur and Lalitpur. The study applied a descriptive method to investigate public and private secondary school teachers of different academic streams; language, science, mathematics and social sciences with respect to teacher effectiveness, work/job satisfaction, media utilization, attitudes towards ICT. The researcher implied the five 2x3 ANOVA designs and five dependent variables. Thus, the research is quantitative in nature. He took sixty secondary schools and 300 teachers as a sample population. The collected data were analyzed through descriptive analysis techniques and explored that both types of teachers exhibited comparable teacher effectiveness. However, language teachers were found to be the least satisfied with respect to job concentration and economic factors compared to the teachers of other academic streams. Both types of teachers

were found to be comparable in attitude towards media and ICT and believed that ICT could bring changes in teachers' role in the future and could increase quality of learning, analytical abilities of students, make teaching and learning enjoyable experience, and promote social skills. Additionally, the findings revealed that technology intervention can lead to conversion of formal, non-formal and in-formal education and can increase learner's autonomy in choosing an institution and course. In short, technology-based findings are highly positive in the context of Nepalese secondary school teachers.

Similarly, Thapaliya (2014) carried out a research study based on descriptive qualitative design to explore English teachers' perceptions and practices of ICTs in Kathmandu district. A questionnaire was used to collect the data from 47 EFL teachers including 30 males and 17 females from 10 private secondary and higher secondary schools. The data were analyzed descriptively under three headings: what types of ICTs used, how the ICTs were used and why they used ICTs in ELT classrooms. The result showed that EFL teachers had positive perceptions of ICT integrated instructional practices, use of ICTs motivated students and EFL teachers were found to be confined to certain tools. Additionally, the study reported some of the major challenges such as inadequate ICT tools, insufficient class time and lack of on-going technical and pedagogical support. Further, the participants suggested providing sufficient ICT based teaching materials, teacher training and appropriate infrastructure.

Ozer (2018) conducted a research study based on quantitative approach with the aim to investigate prospective English language teachers' views about using computer technology in their profession in Turkey. The participants of the study were 174 pre-service teachers studying at the department of English Language Teaching of

Hacettepe University in Ankara. The sample group consisted of 131 (75.3%) female and 43 (24.7%) male students. A single questionnaire was used to collect data that was composed of four sections. The first section of the questionnaire was related to demographic information of participants, and other three are related to computer use and literacy, perceptions of participants on computers in general, and using computers for educational purposes. The 5-point Likert-type scale from “strongly disagree” to “strongly agree” was also used in some parts of the questionnaire. The collected data were analyzed with SPSS. 21. The research questions were addressed calculating descriptive and inferential statistics. Analysis of Variance (ANOVA) and independent sample t-tests were used to reveal the effect of the variables such as gender, grade, and GPA of participants on their attitudes. The findings revealed that prospective ELT teachers had positive attitudes towards integrating technology into language instruction, participants mostly used computers for sending email, finding materials related to their courses, and preparing presentations, as well as social purposes such as chatting and shopping online. They did not use programs that required advanced ICT knowledge and skills. Thus, though prospective teachers were eager to implement technological tools into the teaching process, lack of knowledge and skills of technology integrated instruction impeded them. It was recommended that they required training about technology integration both in pre-service and in-service years. Similarly, a mixed method research approach was recommended for further studies to identify perceptions and attitudes of participants to have better results.

Ahmed, Qasem and Pawar (2020) carried out a descriptive survey study aimed at exploring South Yemeni EFL tertiary teachers' attitudes towards implementing ICTs in their English language teaching, their current uses of ICTs in their teaching and difficulties they faced implementing ICTs in their teaching. The data were

collected through a questionnaire from 81 EFL teachers (including 68 male and 13 female) and was analyzed using SPSS. The questionnaire consisted of five-Likert items and open-ended questions. The findings revealed that EFL teachers of the concerned universities held positive attitudes towards using ICTs in their teaching of English and there were no significant differences in teachers' attitudes attributed to gender, academic level or computer competence. They perceived ICTs as an effective tool in facilitating language teaching and learning, motivating students to learn and developing all language skills. However, their actual uses of such technologies in their classroom teaching were not up to the level required. A significant difference in teachers' actual uses of technology could be attributed to their computer competence as those teachers with a high computer competence were found using ICTs more than their low computer competence counterparts. It was concluded that South Yemeni teachers' lack of implementing ICTs in their EFL classes due to many factors such as lack of ICT tools in their departments, unavailability of internet and lack of computer competence and training. They recommended for further research in order to investigate students' perceptions of computer assisted language learning and to assess the effectiveness of CALL and MALL applications in developing language skills of EFL students.

In short, the studies reviewed above (Jimoyiannis & Kommis, 2007; Samak, 2006; Albirini, 2004 & Al-Ammari, 2004; Newa, 2007; Thapaliya, 2014; Ahmed, Qasem & Pawar, 2020; Ozer, 2018) revealed in common that teachers' perception, beliefs and attitude of ICT integration in teaching play a crucial role for effective construction of knowledge in students. Their negative perception, lack of technological skill, competence and confidence, and fear of technology could impede



ICT penetration in teaching. Moreover, the insights derived from these studies are highly beneficial for my study.

### **Professional ICT Training of Teachers**

It is believed that teachers are the key agents of any educational changes (Abuhmaid, 2011) that take place in an academic sector. Likewise, along with the technological blending into traditional ways of teaching, teachers are at the center of focus to be accustomed in the use of such educational technology. Thus, new knowledge and skills are given to them through training. Bhattarai and Gautam (2005) reviewed the changing status of the English language situation in the Nepalese context and the changing perspectives explored through the curriculum, textbooks and the ELT market. They explored the fact that the teachers had to update their skills and knowledge according to the changes in the area of science and technology and language use. They recommended that English teachers today need to equip themselves with the information technology (IT) skills in order to meet the needs of the 21<sup>st</sup> century. The IT skills make them able to avail the great amount of the literature in ELT from the Internet free of cost. Moreover, DEOs scheduled to conduct teacher training programs to update in-service teachers' knowledge and skills, however, "The in-service training program of the Department of Education (DEO; MOE) is ritualistic and therefore ineffective, usually run by under-qualified and poorly trained trainers" (Giri, 2010, p.66).

Abuhmaid (2011) carried out research focusing on the conduct and effectiveness of ICT training courses within the Jordanian education system. Interviews, questionnaires, direct classroom observations and field-notes of classroom practices were used for data collection. The findings recommended that ICT professional development courses for teachers were helping them to improve their

ICT skills and knowledge. Furthermore, the findings also highlighted problems regarding the conduct and the nature of these courses including timings and modes of training, follow-ups, teachers' belief, school, culture, workload and motivation appeared to impact on the effectiveness of training courses.

It is a global need now to make every teacher competent in integrating ICT in teaching. Their competence is supposed to be linked with their professional development that updates them to meet the global needs. Baylor and Ritchie (2002, as cited in Galonouli, Murphy & Gardner, 2004) opine that support for professional development and the level of technology competence in school have a very important impact on how effectively technology is integrated in the classroom. Teachers are the change agents, therefore it is crucial for them to be involved in such initiatives from the beginning.

The relevance of content and the training along with the commitments of head teachers are the most important factors to enhance ICT integration in teaching/learning. There are four different models of professional development training; the 'home grown expert' approach, the 'comfortable shoe' approach, the 'let them struggle' approach and the 'killer application' approach (Watson, 2001). In the first approach the professional development training tutor goes through the process and seen as 'having come from the trenches', in the second the tutor demonstrates the techniques and closely monitors and supports the teachers as they work on their own, the third requires the tutor to stop taking responsibilities for being the one person in the room who knows 'it all' and the fourth relies on the attraction of good technological resources to create motivation and interest in teachers. Watson (2001) claims combining some of the approaches may overcome the problem providing successful ICT professional development training.

In short, an effective model of ICT professional development training for teachers should include a wide range of factors such as sufficient time, good technical and social support, good equipment and resources, flexible delivery mode, relevant course contents, teacher attitudes and competence to ICT.

King (2002) carried out a research applying the model of transformational learning on 175 teachers undertaking ICT related professional development training. She used critical reflection and self-examination of one's own perspective for new knowledge. Her study revealed the fact that technology changed the participants' perspective of their profession in terms of their concept of the role of the educator and their world view of education. It is supposed to be an important finding that resists change in the mind-set of many teachers and seen as the most difficult barriers to the effective integration of ICT to invade.

Galanouli, Murphy and Gardner (2004) carried out a research study to explore the effectiveness of New Opportunities Fund (NOF) training for all UK school teachers in Northern Ireland. The survey yielded over 450 responses from the teachers on a number of educational technologies related issues and their responses on items related to NOF training. The data collected through narrative commentaries from the teachers on their experiences with an attitude scale comparing different types of respondents e.g. male/female, and secondary/primary. The findings revealed that NOF training has had a good impact on increasing teachers' confidence in integrating ICT in their teaching but had a negative reaction to form and content of the training.

Similarly, Valcke, Rots, Verbeke and Braak (2007) explored the validity of the content and format of the teacher training to find the extent to which the ICT teacher training linked to policies of school in the Flemish educational context. They

organized in-depth interviews with the respondents of primary, secondary and adult education schools. They found that ICT school policies were not well developed and found a partial match between policies, needs and the actual in-service training. The most important finding was that more innovative applications of ICT were not promoted in the current approaches of teacher training. The research was successful in the implementation of the research findings in training policies.

Bajracharya (2019) carried out a research study in Nepal with the purpose of developing and validating the 'TPACK Integrated Worked Examples' based on Gagne's Nine events of instruction (a micro level instructional design model). The study implemented Development and Design research to develop and validate the 'worked examples'. The qualitative and quantitative data were collected from the three instructors of the Teacher Education Program who used the 'Worked Examples' during their classroom instructions. Analysis and interpretation of the three types of data; class observation, interviews, and reflective journals found that Worked Examples with various chunks (phrases and key components) helped the instructors to develop technology mediated lesson plans for technology integrated instruction and also saved their time. Additionally, it revealed that even the instructors with low technological competencies could save their time and could effectively do technology integrated instruction provided with the well-structured Worked Examples step by step. Moreover, though the study employed a mix-method approach, it was good with qualitative data but in case of quantitative data, the number of participants was inadequate. Thus, the findings of the study cannot be generalizable.

The studies (Aduhmaid, 2011; Bajracharya, 2019; Bhattarai & Gautam, 2005; Galonouli, Murphy & Gardner, 2004; King, 2002; Valcke et al., 2007; Watson, 2001) reviewed above conclude that teacher training is inseparable part of quality teaching.

It builds up teachers' confidence to adopt change. Technological innovation and integration has brought wider changes in teaching that requires teachers to be competent in employing various models of technology integrated instruction like TPACK (Mishra & Koehler, 2006, as cited in Zainal, 2012), it is technological, pedagogical content knowledge for constructive and transformative teaching/learning. Thus, the ICT skill and competency should be incorporated as an important component in teacher education courses. The findings of these studies provided some insight to my research because ICT integration in the context of Nepal is recently being given priority (Neupane, 2010). Therefore, in-service teachers need ICT integration training for subject teaching. In addition, lack of proper training impedes one of the barriers to the effective assimilation of technology.

### **ICT Integration in Teaching Language Aspects and Skills**

Technology integration in teaching is thought to be very effective and motivating to learners. The studies (McNeely, 2005; Oblinger, 2003; Windham, 2005 as cited in Lim, Pellett & Pellett, 2009) have revealed that today's students are media literate and experientially grounded to enjoy learning by doing i.e. kinesthetic, which is based on experiential-based activities and prefer learning by doing against learning by listening. Technology in general and digital video technology in particular is a strong tool that can help students to develop a variety of skills, including research, communication, decision making, problem solving and other higher order critical training skills (Theodosakis, 2001, as cited in Lim et al., 2009).

Lim et al. (2009) in their article discussed the importance and benefits of digital video integration. They described the essential tools required (e.g. hardware and software) and the steps to create a digital video and provided examples of digital video assignments or projects and an evaluation rubric for assessing them. The article

recommended that digital video projects and assignment strategies help learners develop higher order cognitive skills. Thus, it is important to train the educators/teachers to use the required tools effectively and consistently in the classroom.

Zainal (2012) reported a case study of four secondary school ESL teachers' use of ICT in teaching English literature to second language (L2) learners. The data were collected through observation of teachers' lessons. Each lesson was video recorded and the ESL teachers' were also interviewed. The TPCK (Technological, Pedagogical Content Knowledge) model proposed by Mishra and Koehler (2006, as cited in Zainal, 2012) was used to analyze the data. Further, they opined that teachers' use of technology is guided by the dynamic relationship between teachers' technological, pedagogical and content knowledge. The findings of the study has provided a better understanding of how the different types of knowledge interact and influence teachers' use of ICT in teaching English literature. The study has also hoped to advance the TPCK model and role of literature in language teaching.

Arnell (2012) explored how six English teachers worked with or without the use of ICT in comparison to a more traditional approach. The data collected through interviews conducted with five secondary school English teachers and one primary teacher in southern Sweden. The teachers taught English grammar at three different schools with different approaches to ICT. Some teachers were well experienced in using ICT whereas some were not. Their experiences and thoughts on grammar teaching assimilating modern technology were discussed. The findings showed that only one teacher had good knowledge and skills of integrating technology in teaching English grammar, some teachers were positive at technology integrated instruction and on the contrary most of them were unaware of the available resources and

integrating technology properly in teaching. Moreover, Swedish schools have provided laptops to their pupils so that the teachers even need more training to do ICT mediated instruction. Similarly, in their review, Golonka, Bowles, Frank, Richardson and Freynik (2014) explored the effectiveness of technology integration in foreign language learning, and revealed that technology had various levels of effectiveness in regard to learning language aspects and skills. However, they concluded that technology could be effective when it fit the pedagogical goals.

In short, the studies (Arnell, 2012; Golonka, et al., 2014; Lim et al., 2009; Zainal, 2012) on ICT in teaching language skills and aspects have found that good knowledge and skills of ICT integration in teaching English was more effective and interactive than teaching it without having the knowledge and skills of integrating ICT. Thus, the insights of the studies are relevant to route my research study.

### **Impact of ICT Integrated Instruction on Students' Learning**

The research carried out by Gustad (2014) viewed students in elementary schools as digital natives and were comfortable using it both inside and outside of the classroom. The study explored that the technological tool such as podcasting had the potential to motivate students to read and to encourage active engagement in literacy learning among the English as an additional language (EAL) students. The study used a self-reflective, differentiated engagement approach to make reading a dynamic process. It encouraged the students for authentic reading that was stimulating to practice and to refine their English language skills. The study had many limitations, thus, the researcher viewed to have more research into this area of technology literacy in English language Learning (ELL).

Islam and Fouji (2010) carried out a research study to explore the relationship between ICT and the performance of students at the undergraduate level. The BBA

students were the sample population at ASA University Bangladesh (ASAUB). The study revealed the fact that the impact of ICT on the academic performance of the students was very negligible; majority of the students were unaware of the potential role of ICT, ICT access provided to them were not utilized to enhance their academic performance rather a source of recreation. The study suggested some steps that would ensure better use of ICT by the students for their academic performance in the long run.

In a mixed method study, Niederhauser and Lindstrom (2006) found that the participant teachers of elementary and secondary schools remarked that the students used technology profoundly for their learning activities. Because “Web browsers and widespread Internet availability in schools provides access to inert static information sources, but also allows students to interact with experts, converse with peers, and share ideas and products with an authentic world-wide audience” (p. 109). Similarly, Shapley, Sheehan, Maloney and Caranikas-Walker (2010) conducted a quantitative research study on middle school students and teachers. The study revealed that the students, who had access to technology tools, could produce quality projects and products in additional time outside of their school. In short, technology access to students helped them increase creativity and autonomous learning.

In a mixed-method research study, Mouza (2008) collected data from different sources such as questionnaires, interviews, teachers’ classroom observation, and focus group discussion. The study found that technology provided opportunities to students for being engaged in learning. Their learning motivation, classroom interaction and engagement with technology affected their achievement in writing and doing mathematics. Further, she pointed out that the integration of technology made them spend more time practicing revising and editing writing.



The studies (Gustad, 2014; Islam & Fouji, 2010, Mouza, 2008; Niederhauser & Lindstrom, 2006; Shapley et al., 2010) found that ICT impact on students was very motivational and stimulating. However, the studies suggested ensuring the better use of ICT by students for their academic performance rather than ICT as a source of recreation. In short, the rapid innovation in technology has created wide potentialities in order to promote knowledge construction and transmission. Their usage in teaching English helps students create and communicate in interpersonal contexts that shape and sharpen their proficiency in English as a foreign language (Brown, 2007).

Moreover, it is assumed that students' better performance shows teachers' skill and knowledge of the content, pedagogy and required technology too. Their ICT skill and knowledge depends on the way they have perception of it. Thus, the studies are useful for my research to investigate English teachers' experiences of ICT integration from different dimensions.

### **Challenges/barriers to ICT Integration Instruction**

Various studies (Bai et al., 2019; Hamidi, Ghorbandordinejad, Rezaee & Jafari, 2011; Hoyles, 2018; Rana, 2018; Rana et al., 2018; Rana et al., 2019) affirm that integration of ICT promote pedagogical practices, however, several challenges appear at the implementation level. In comparison to developed countries, developing countries have entirely different contextual and technological factors that impeded the use of technology ((Rana et al., 2019). Developing countries have some major challenges related to contextual and technological factors such as poor economic condition, lack of skilled human resources, lack of sufficient budget, lack of implementation strategies of ICT in education policy, managerial and socio-political issues (Hamidi et al., 2011; Malapile & Keengwe , 2014; Rana, 2018; Rana & Rana, 2020).

Thus, some research studies particularly carried out on barriers or challenges to ICT integration in teaching have been reviewed. Ertmer, Addison, Lane, Ross and Woods (1999) carried out a research based on the factors influencing elementary teachers' use of ICT in the United States of America. They categorized the barriers into first-order and second order. Further, they recognized the first order barriers as “extrinsic to teachers and include a lack of access to computers and software, insufficient time to plan instruction, and inadequate technical and administrative support” and the second-order barriers as “intrinsic to teachers and include beliefs about teaching, beliefs about computers, established classroom practice, and unwillingness to change” (Ertmer et al., 1999, p. 54). In addition, Ertmer et al. (1999) found a complex relationship between the first order and second order barriers in which a teacher played an important role. They concluded that the second order barriers to ICT integration were more critical than the first order barriers.

BECTA (2004) studied the factors influencing teachers' integration of ICT in schools in the United States, United Kingdom, Australia and Canada. Their literature review and research showed a complex interdependence among the barriers that were broken into different sub-barriers as “a lack of access to resources” (p. 12) into sub-barriers such as “a lack of hardware, poor organization of resources, poor quality hardware, inappropriate software and lack of personal access by teachers” (p. 14). Further, BECTA (2004) categorized the barriers into two levels: institution-level and teacher-level. The private/school level barriers were “lack of time, lack of access to resources, lack of effective training and technical problems” whereas teacher-level barriers refer to “lack of time, lack of confidence, resistance to change and negative attitudes, no perceptions of benefits and lack of access to resources—home or personal” (p. 20). Some of the main barriers of these two levels were found

interconnected because “a lack of teacher confidence” reflected “a lack of personal access” at school and at home, “technical problems (lack of technical support)” and “fear of things going wrong”, and “a lack of teacher competence” due to “a lack of skill training, self-training and pedagogical training” (BECTA, 2004, p. 21). In conclusion, teacher-level barriers were more pertinent than institution level. Thus, teachers should be empowered to address the teacher-level barriers themselves to integrate ICT into their instructions (BECTA, 2004).

Yildiz (2007) conducted a research study on ICT integrated instruction in schools in developed and developing countries. The study recognized three types of barriers; physical, educational and philosophical. Physical barriers were a lack of hardware, software, resources for infrastructure and slow and unstable Internet connection, educational barriers were teachers’ resistance to ICT integrated instruction, lack of belief in technology, large classrooms, inflexible curriculum and lack of institutional support, and philosophical barriers referred to the assumptions that governments and administrators held in terms of spending huge budget in purchasing innovative tools would result into “immediate better education” (Yildiz, 2007, p. 151). On the contrary, ICT integrated instruction requires additional funding “for planning, training, maintenance, support and upgrading, recruiting technology-support personnel, and providing opportunities for training and professional development” (Yildiz, 2007, p. 148) that encouraged teachers for effective integration of ICT in classroom instructions.

Onyia and Onyia, (2011) conducted a research study on teachers’ confidence levels in integrating technology in their classroom instruction. Sixty teachers participated in the survey which revealed that 10% felt confident in using a database, 15% felt confident in the use of spreadsheets and surprisingly 62% did not feel

confident in using technology into their practices. Thus, they concluded that teachers should start integrating technology tools and should improve technological skills for effective instructional practices because their improved practices would prepare students to compete in a technology based workforce.

Groff and Mouza (2008) conducted a study on factors influencing technology integration in school education in the United States. They identified four categories of influential factors: “the Context [School], the Innovator [Teacher], the Innovation [Project], and the Operator [Student]” (p.35) which were “directly addressed by the teachers” (Groff & Mouza, 2008, p. 23). Context could influence technology integration if it lacks administrative, advocacy, peer support and professional training. Innovators lacked technical knowledge and skills, lack of resources, their negative attitudes and beliefs towards technology integrated instruction could be major barriers to effective implementation of technology. Innovation might impede teachers’ use of technology if it could not suit the existing culture of the school and was less likely to be controlled by teachers. Barriers in terms of operators (students) included lack of ICT experience and skills, negative attitudes and beliefs of ICT. These were similar to teachers who were reluctant to technology integrated pedagogy (Groff & Mouza, 2008).

Park and Son (2009) carried out a research study on factors that impeded EFL teachers’ technology integrated school instruction in Korea. They categorized barriers as external factors and internal factors. They found many external barriers such as limited time, insufficient computer facilities at school, inflexibility of curriculum and textbooks, lack of administrative support from the school or the government and pressure from the society. Similarly, the internal barriers or teacher-related barriers were found to be teachers’ limited computer skills and knowledge about Computer-

Assisted-Language-Learning (CALL) and their perceptions and attitude towards CALL.

Goktas, Yildirim and Yildirim (2009) carried out a research study to explore the main barriers of integrating ICTs in Turkey's pre-service teacher education programs. The selected sample populations were 53 deans of school teacher education (STE), 111 teacher educators and 1330 prospective teachers. The data were collected using questionnaires and from interviews of six teacher educators and six prospective teachers. Their study investigated that the majority of the participants believed that lack of in- service training, lack of appropriate software and materials, and lack of hardware are the main barriers of integrating ICTs in pre-service teacher education programs.

Likewise, Andoh (2012) reviewed three factors; personal, instrumental and technological that prevented teachers from ICT use in teaching and learning. These barriers included lack of teacher ICT skills, lack of teacher confidence, lack of pedagogical teacher training, lack of suitable educational software, limited access to ICT, rigid structure of traditional education systems, restrictive curricula etc. The barriers mentioned above were helpful to tackle the problems effectively.

Salehi and Salehi (2012) carried out a research study to explore the high school English teachers' perceptions of the factors discouraging them to use ICT in the classroom. Stratified random sampling was used to select 30 high school English teachers from the five main educational districts in Iran. The findings revealed that insufficient technical support at schools and little access to Internet and ICT prevented teachers from using ICT in the classroom instruction. Likewise, the duration of class time was also another important discouraging factor for ICT integration in teaching.

Khan, Hossain, Hasan and Clement (2012) reviewed existing research works published in international journals on barriers encountered while introducing ICT into the classroom. The review was aimed at identifying the factors that influenced teachers' decisions whether or not to implement ICT in teaching/learning situations in the context of Bangladesh. They put the barriers into two categories; external and internal. The external barriers were; lack of equipment, unreliability of equipment, lack of technical support and other resource related issues. The internal barriers were both school level factors, such as organizational culture and teacher level factors such as beliefs about teaching and technology, and openness to change.

Belay, Khatete and Mugo (2020) carried out a research study in Africa to assure secondary school teachers' skills for ICT integrated pedagogical practices. They adopted descriptive survey research design and selected 12 public secondary schools from 12 sub-regions using stratified random sampling technique. The total participants were 12 school directors, 34 teachers and 175 students. They collected both qualitative and quantitative data using three instruments; questionnaires, interview and observation schedules. They analyzed quantitative statistics using Statistical Package for Social Sciences (SPSS). The qualitative data obtained from the open-ended questions were analyzed thematically being focused on research objectives. The findings revealed that the majority of the teachers had received inadequate training on computer literacy. They did not receive any formal training on how to assimilate technology in teaching and learning practices that eventually caused low integration of ICT in their instruction. They recommended that teacher training colleges should incorporate computer literacy and training on how to integrate ICT in education in the curriculum for pedagogically well prepared ICT competent teachers.

Bariu (2020) conducted a research that investigated the state of ICT infrastructure in teaching and learning in Kenyan secondary schools. A descriptive survey research design was adopted and questionnaires, interviews and observation schedules were used to collect data from the participants. There were a total 45 participants that included nine principals and 36 teachers. As the questionnaire was the primary source of data, all together 276 questionnaires were distributed to the participants. Additionally, Journals and research papers related to the study were analyzed to develop logical frameworks. It used both qualitative and quantitative data. The collected data were analyzed using descriptive statistics in form of frequencies and percentages. The result showed that many secondary schools in the County did not have ICT facilities to use them in teaching and learning activities. Likewise, the state of computers and internet was poor in most secondary schools that impeded technology integrated instruction. It was also found that most schools had low investment in ICT infrastructure due to high costs of computer hardware, software and other digital tools. The study recommended that all in-service teachers, principals and students need to develop new skills and competencies of integrating ICT. Secondly, it was necessary for all the stakeholders to address the challenges that hindered ICT supported teaching activities to make the schools move forward.

The studies discussed above have explored some barriers or challenges to ICT integration in teaching. These barriers or challenges include internal and external factors such as insufficient technical support and time, lack of teachers' ICT skill and confidence, rigid structure of traditional educational systems, lack of incentive, demotivation from peers etc. Undoubtedly, these barriers hinder satisfactory performance with ICT integration in teaching. Moreover, the literature review on the barriers of ICT integration in teaching are mainly found to be closely related to

teachers' ICT knowledge and skills, and beliefs and attitudes. The barriers related to institution/school are lack of leadership support, technical support and administrative support. In addition, the role of teachers is found to be crucial to overcome the barriers to ICT integration.

The findings of the above reviewed studies brought me a clear concept regarding their methodological strategies, findings and gaps. Despite the fact, these studies were conducted outside Nepal including developed and developing countries, and had different environments compared to Nepal (Rana et al., 2018). In this sense, some old and recent studies (Newa, 2007; Thapaliya, 2014; Pangen, 2019; Poudel, 2020; Rana & Rana, 2020) carried out in Nepal regarding technology integrated instruction were also reviewed below to understand and to get the exact scenario of it that essentially helped me to locate the gap in the locally available empirical literature. However, some other recent empirical studies conducted in the use of ICT in the context of Nepal are Dhakal's (2019), and Jha's (2020) which mainly focused on introducing ICT enhanced pedagogy in higher Mathematics education named as M-VLE and distant learning in higher education respectively against the purpose of this study.

Newa's (2007) research study is found to be the first study on ICT integration in teaching in Nepal. His mixed-method study reported on the findings of ICT effectiveness in teaching various subjects. However, the research has some gaps like which ICT tools, hardware and software were found to be used by teachers, more or less effective, their perceptions of ICT tools and barriers that may hinder them from implementing ICT in teaching, have not been explored. The study has included both male and female teachers in general but did not explore the difference between them in relation to perceptions of ICT integration in teaching. Further, the researcher



suggests for the more intensive study in the emerging area of ICT integration at schools, colleges and universities of Nepal in future. Similarly, a research study, Thapaliya (2014) conducted has well documented the English teachers' perceptions and practices of ICTs in teaching. The study used a mixed sample population from public and private secondary and higher secondary schools.

Pangeni (2019) explored the uses of web technologies in higher education in Nepal designing online learning environments and activities. The study was framed on the theoretical stand of social constructionism and found to have used a fusion of netnography and ethnography as a mixed approach to research methodology. Netnography was used to access and observe online learning platforms and ethnography to access to physical (not virtual) campuses in order to observe context and interact with research participants in the field. Likewise, ten participants under two categories; four teachers and six students among them three female participants (one teacher and two students) were purposively selected from three HEIs of Nepal and Norway that provided online learning or eLearning opportunities. Additionally, online learning platforms hosted by the selected HEIs were also observed for the in-depth data. The findings revealed that that the designs of the online learning environment at the HEIs were based on the open source Learning Management System (LMS) and had a lack of high-tech human resources in HEIs to customize or develop own learning platforms. Moreover, the study proposed an innovative approach to pedagogy i.e. acculturation of online learning that integrated various teaching strategies and student support mechanisms. Evidently, it showed a shift from conventional to digital learning (use of a digital form of learning resources and assignments via online learning platforms). The study recommended for assimilating technological evolution and its influence on online learning programs in education.

Similarly, the professionals involved in education required the technological knowledge and skills to follow new direction and forms of HEIs in order to acculturation of online learning as an integral part of higher studies.

Poudel (2020) carried out a research study framed under Case Study to explore the use of ICTs in English Language Teaching and Learning (ELTAL) involving the students, teachers, and administrators as the participants in the context of secondary school education in Nepal. It took two cases from two ICT resourced private schools having ICT-integrated teaching as one of their instructional strategies from the Kathmandu valley. To explore the uses, benefits and challenges of integrating ICTs in ELTAL, the study was framed under the theoretical perspective of constructivism with qualitative research design and used multiple case study strategy. Moreover, two types of data (qualitative and quantitative) related to the two purposefully selected cases were collected through the research tools such as observation, interview, FGD, questionnaire, and document review. The thematic, and descriptive and inferential statistical analyses were used to analyze the data. The main unit of analysis in the study was ICT integrated compulsory English class of Grade XI. The findings were derived using the analytic techniques such as within-case analysis, cross-case analysis and pattern-matching. The findings revealed that ICTs facilitated teachers and students in teaching and learning English, accessing learning resources, and carrying out collaborative activities in their ELTAL to some extent, secondly, ICT tools helped the students to increase the amount of exposure to English, to access learning resources, and to make their ideas and information sharing easier and faster while conducting collaborative activities. Thirdly, the teachers used ICTs to make themselves updated, and to prepare and present their lesson. The findings on challenges revealed that the teachers were not well confident in using specific

websites/software, the students' access to information was more teacher dominant, and the collaborative activities were more focused on the students' communicative skills than their higher order thinking skills. In addition, inadequate ICT infrastructure, inadequate technological-pedagogical skills, parental attitudes, and nature of the curriculum were found to impede the use of ICTs. The study recommended for the availability of adequate infrastructure development and improved pedagogical practices using ICTs along with further research studies on effectiveness of using ICTs in teaching and learning English at different grades, and study of multiple cases in the related areas outside of the Kathmandu valley.

Rana and Rana (2020) examined the integration of ICT in teaching and learning activities in higher education in Nepal. The research site was the faculty of education at a key university in Nepal. This case study adopted qualitative interpretive design and used semi-structured interview, observation and document analysis as research tools to collect data. Likewise, six participants; a faculty head, a tutor and four Master's Degree students from four different departments were randomly selected through a lottery strategy. The thematic analysis and interpretation of the interview and observation data brought the findings that firstly, the Faculty of Education has managed to install a computer lab, purchase projectors and provide internet facility for the teachers and students with the support of the international organizations that worked for a certain time could not assure the sustainability of the project. Secondly, insufficient ICT infrastructure, unreliable internet (Wi-Fi), and teachers' low level of ICT knowledge and skills were found to have impeded the effective use of the available ICT resources in teacher education. Moreover, the study recommended bringing systematic private change in the traditional teacher education system by providing sufficient ICT infrastructure, digital learning environment to

students, and professional training to teachers to have technology integrated instruction.

The research studies reviewed above in the area of ICT integration into instructional practices brought me the knowledge that the findings explored are highly significant in the context of Nepal. Additionally, the review helped me find the gaps and develop the methodological framework of my study.

### **Implication of the Literature Reviewed and Research Gap**

The reviews of theoretical and empirical literature presented and discussed in the preceding sections guided me immensely with operational procedures to carry out my study. Though it was an arduous work in itself, it brought me a sense of satisfaction and excellence as Kumar (2009, p.30) states “reviewing literature can be time consuming, daunting and frustrating but it is also rewarding”. Additionally, the reviewed literature had considerable implications for the study. First of all, the review of theoretical literature awakened me about the psychological and philosophical grounds of my research. In doing so, the theory of constructivism in general and social constructivism in particular made me well informed in terms of the nature of teaching and learning integrating technology. Secondly, it provided me sufficient insights to frame my study on the subjective experience of my research participants.

Thirdly, the empirical reviews of the related literature carried out globally and within Nepal brought me some visions about the existing related literature that essentially helped me find the research gap along with frame the methodological aspects to have been employed in my study. Particularly, the review of related research studies (Newa, 2007; Thapaliya, 2014; Pangen, 2019; Poudel, 2020; Rana & Rana, 2020) conducted in Nepal helped me envision the frame of reference to claim that my study is distinct from them. In doing so, it has attempted to bridge up the gap

that was clearly visible in them. There was not a single in-depth study conducted to explore the English teachers' lived experiences of ICT integrated instructional practices at public schools in the Kathmandu valley.

Additionally, some gaps were identified between the reviewed literature and the main agendas of my research. The gaps were addressed in terms of research objective, methodology and interpretation of the data obtained from the participants. Firstly, unlike other research studies, this study is in-depth as it explored the three pertinent areas; lived phenomenal experiences of English teachers' ICT integrated instructional practices, possible challenges to having ICT integrated teaching and suggestions to overcome the challenges. Secondly, unlike other research studies, it investigated the current practices of ICT assimilated instruction and impact of such practices on the students. The ICT integrated instruction was explored in the light of existing frameworks such as TPACK, SAMR. Thirdly, the overall methodology and techniques of data collection were particularly rooted into the framework of IPA which made the study unlike other research studies. Fourthly, the context of the literature reviewed was highly different from the context of Nepal where the uptake of technology in education is very recent. In this regard, the reviewed research studies took place in totally different contexts i.e. high-tech or well managed set up so that they could not resemble the local context that my study addressed. Additionally, unlike the other studies that were reviewed had different research designs like mixed method approach, qualitative and quantitative approaches, descriptive survey research, case study, fusion of netnography and ethnography, and so on. They addressed technology mediated instructional practices of teachers of different subjects including English, their perceptions, attitudes and beliefs of technology based teaching, their strategies of integrating ICT in teaching different subjects in general. A

research study though sounds similar to my study, conducted by Poudel (2020) on the use of ICTs in teaching and learning English at private secondary schools of the Kathmandu valley is mainly different in terms of research approach, research design, nature of school, and procedures of data analysis.

My study is solely focused on exploring the lived experiences of English teachers' ICT mediated instructional practices from the theoretical lens of social constructivism under the framework of IPA that is based on the principles of phenomenology, hermeneutics and idiography/ideography (The study of the individual, or of single events or facts). In doing so, this study has also addressed the challenges to ICT integrated instruction and suggestions to overcome the challenges from the perspectives of the research participants that were unlikely addressed by any of the reviewed empirical literature in a single study.

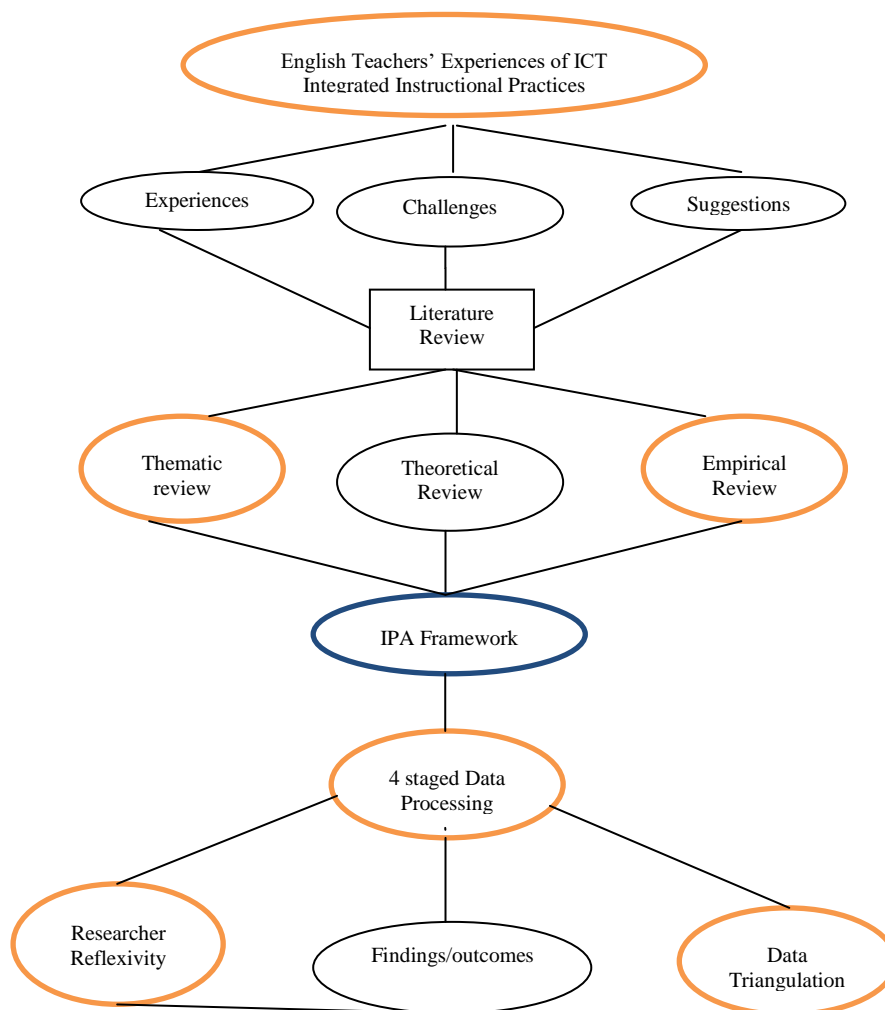
### **Conceptual Framework of the Study**

Theoretical framework is the prerequisite for designing conceptual framework for a research study (Kumar, 2011). Additionally, conceptual framework of any research study incorporates the “systems of concepts, assumptions, expectations, beliefs, and theories that support and inform your research” (Miles & Huberman, 1994, p. 33) to put foundation for the research to be carried out. Thus, the conceptual framework of my research study is based on social constructivism and interpretive phenomenological analysis (IPA). Vygotsky's social constructivism of cognitive learning theory (1986) is non-positivist and stands against behaviorism which emphasizes behaviors or skills as the goal of instruction rather than cognitive development and deep understanding of knowledge given. Additionally, the study adopted the framework of IPA under the paradigm of qualitative phenomenological research that allowed me to explore the meanings of the lived experiences of the

research participants through the process of a double hermeneutic approach (Smith, Flower & Larkin, 2009). In this sense, individuals construct knowledge on the basis of their practice and understanding of the surroundings

Figure 2.4 demonstrates the conceptual framework of my study. In regard of technology integrated instructional practices, this study explored and interpreted the English teachers' lived experiences of doing technology mediated teaching activities, challenges to them and suggestions to minimize the challenges. In doing so, the theoretical perspectives of social constructivism and IPA methodological framework were adopted to address the lived phenomenal experiences of English teachers. Additionally, the reviews of thematic, theoretical and empirical literature are presented in the diagram to show the themes and categories related to the study.

Figure 2.4 Conceptual framework for the Study



As it is shown in the diagram above, the prime focus of the study is integration of ICT in teaching English as a foreign language (EFL). The study is basically grounded under the theoretical perspectives of social constructivism and methodological framework of IPA. Apart from this, thematic and empirical reviews were done to get the required knowledge and insights related to the study. The IPA data collected from three sources; semi-structured interviews, class observation and focus group discussion which captured the major areas of concern; English teachers' phenomenal experiences of ICT integrated instructional practices, challenges to them and suggestions to overcome the challenges. In doing so, the overall findings were



evolved as the outcome of this study that represents the ontological and epistemological underpinnings of my research.

### **Chapter Summary**

The review of primarily available thematic, theoretical and empirical studies carried out previously specially being focused on technology integration in teaching English along with benefits and barriers/challenges to it in general helped me develop insights. The thematic review incorporated certain themes such as information and communication technology (ICT) in education, overview of ICT development in Nepal, ICT integration in Nepalese education, ICT in English language teaching, ICT for English teachers' professional development, digital divide, gender inclusion in ICT integration, technological pedagogical and content knowledge (TPACK), The seven TPACK constructs, and barriers of ICT integrated instruction. The review of these themes informed and confirmed that the ICT integrated instruction is now a global requirement for effective teaching and learning. Similarly, along with time the government of Nepal through the ministry of education (MOE, 2013) has already taken pioneering steps to integrate ICT into school education. Additionally, the review of theoretical literature under certain themes such as theoretical bases of teaching and learning, constructivist theory of teaching and learning, constructivism and ICT, and application of theoretical perspectives in the research study pertinently provided with some insights to frame this study. Moreover, some available empirical studies especially conducted within Nepal and outside were reviewed critically under seven categorized or themes such as ICT integration into instructional practices, teachers' perception, belief, attitude of ICT in teaching, professional ICT trainings of teacher, ICT integration in teaching language aspects and skills, students' impact of ICT integrated instruction, gender and ICT in teaching, and barriers or challenges to

ICT integrated instruction. The review of related literature guided this study in order to find the gap existed in the previous studies along with the invaluable insights related to research objectives, research design and tools for data collection, procedures of data analysis, and interpretation and findings. Likewise, the conceptual framework of the research is shown diagrammatically above.

## CHAPTER III

### NAVIGATING THE INQUIRY PROCESS

This study was conducted to explore English teachers' lived experiences of technology integrated instructional practices including the challenges and suggestions of overcoming those challenges. Under the 'IT policy 2010' of Government of Nepal (GON), it is mandatory to integrate ICT into the instructional practices of school education (MOE, 2013). This made me explore whether or not ICT integration existed in practice in the schools of Nepal. Thus, the research study was designed under the framework of the qualitative research approach as Creswell and Creswell (2018) substantiates that "the focus of qualitative research is on participants' perceptions and experiences, and the way they make sense of their lives" (p. 278). Additionally, it goes in-depth of the natural phenomenon and seeks for better understanding through multiple ways rooted in theories and -isms (Creswell, 2009). Its conviction is in subjective and multiple realities in the socio-cultural setting rather than objective and single reality in the created setting. As the study was primarily linked with the English teachers' individual perspectives for ICT integrated instructional practices in their own socio-cultural background, the phenomenological research design was chosen. Since there are many versions or schools of phenomenology, I found the framework of interpretive phenomenological analysis (IPA) well suited to understand "how people make sense of their major life experiences" (Smith et al., 2009, p.1).

Giorgi (2005) opines that phenomenology has brought an important shift from a positive cause-effect focus to human subjectivity and discovers the meaning of action. It is practiced under a human science perspective that results into invaluable

knowledge about individuals' experiences. In other words, it is the approach which goes deeper in terms of in-depth data collection from different perspectives so that the claims it makes are highly relevant and constructive for productive implementation. Pereira (2012) carried out a research on thoroughness in phenomenological research and claimed that "to be judged valid a phenomenological study must take into consideration methodological congruence and experiential concerns that provide insights in terms of plausibility and illumination about a specific phenomenon" (p. 19). Moreover, an interpretive method seeks for the better understanding of a research problem (Creswell, 2013). Hence, a phenomenological research design of qualitative research is based on rigorous and intensive methodology for it to be valid and reliable in its research findings.

In short, qualitative research comprises a plethora of approaches, methods, tools and paradigms in which these all are inter-related. Creswell (2014) captures all these considerations and describes that the philosophical or theoretical lenses range from broad perspectives such as ontological and epistemological assumptions to ideological stances such as postmodernism and critical perspectives to theories. Thus, "Paradigms can differ based on ontology (the nature of reality), epistemology (the nature of knowledge), axiology (the values associated with areas of research and theorizing), or methodology (strategies for gathering, collecting, and analyzing data that connect with one's philosophy about the world)" (Tracy, 2020, p.49). In the same way, my research study interpreted the research agendas being grounded on the philosophical consideration (ontology and epistemology), ideological stances (interpretive) and required tools for qualitative data collection. Broadly speaking, all of these in turn module the whole research philosophy. Ontological assumptions give rise to epistemological assumption; these in turn give rise to methodological

consideration; these in turn give rise to issues of instrumentation and data collection (Cohen, Manion & Morrison, 2011/2018, Tracy, 2020). Likewise, philosophical considerations take place to interpret the data from different theoretical perspectives.

### **Philosophical Considerations**

Philosophical considerations include ontological, epistemological and methodological considerations that are required to map the research study in order to construct the new knowledge in regard to integrating ICT in teaching English as a foreign language at public secondary schools in Nepal.

#### **Ontological Consideration**

Ontology is the branch of metaphysics, concerned with identifying the nature of reality (Creswell, 2014). The word comes from the Greek; ‘ontos’ means ‘being’ and ‘logos’ means ‘study’ in combination, it is the study of ‘being or reality’. It is mainly concerned with addressing the questions like "what is form and nature of reality" (Guba & Lincoln, 1985). Further, Mackey and Gass (2012) cite Lincoln and Guba (1985) that “reality is relative” and that “it is co-constructed through social interaction” (p.182). Thus, the form and nature of reality is assumed to be created on the basis of peoples’ subjective experiences of their internal/external world. It is constructed in the minds of individuals (Guba & Lincoln, 1985) that is what an individual perceives in the context and significantly varies from person to person and place to place. Additionally, interpretive paradigm takes ontological consideration for the interpretation of reality which is subjective and multiple in natures. It does not rely on absolute or universal truth rather on multiple truths or realities which are context specific and socially constrained.

In this sense, the ontological assumption of my research was based on the IPA paradigm of reality which is subjective and multiple as experienced by the individual participant of the research study. Similarly, social constructivism is also based on the assumption of subjective reality and freedom of ideas that are socially constructed (Vygotsky, 1978). In other words, reality is subjective, context specific and multi-interpretive that values individuality of lived experiences. Thus, my study is ontologically grounded in the concept that the nature of reality is multiple that is socially constructed and interpreted in search of meanings.

### **Epistemological Consideration**

Epistemology is the branch of philosophy that studies knowledge. The word comes from the Greek, ‘episteme’ means ‘knowledge’ and ‘logos’ means study and in combination it means ‘the study of knowledge’. It attempts to answer the basic questions; what distinguishes true (adequate) knowledge from false (inadequate) knowledge, what is the relation between the knower and known? How do the assumptions guide the process of knowing and the achievement of finding? How can the quality of the research and the reliability of those findings be accessed? It does not seek universality because it believes that the nature of reality is subjective and relative and makes up a persistent, creative activity that is renewed over time, and consequently there appears “multiple realities” (Cohen et al., 2018; Creswell & Creswell, 2018; Denzin & Lincoln, 2018). Additionally, “each individual constructs his or her own reality and therefore learns different things in very different ways even when provided with what seems to be very similar learning experiences” (Williams & Burden, 1997, p. 2). Thus, epistemology is mainly concerned with the knower and the known. Consequently, knowledge constructed by individuals through social interaction is subjective and relative in nature. Similarly, it is also concerned with the

relationship between the researchers and that being researched (Creswell, 1994) in which the researcher's personal belief regarding the nature of knowledge and how it is derived basically gets affected.

In this sense, my epistemological positioning was subjective and closely linked to the research participants to see the phenomenon from the participants' perspectives. The emic perspective brings direct interaction with the participants in the research context, in the field, face to face with real people (Rossman & Rallis, 2003). The philosophical underpinning of the researcher's belief regarding the nature of knowledge and how it is derived or created, assure the epistemological positioning of the researcher (Lincoln, Lynham & Guba, 2011). Moreover, as the nature of reality is subjective and multiple, "research findings are created through the interaction of researchers and their participants" (Lincoln & Guba, as cited in Mackey and Gass, 2012, p. 182), cannot be claimed as universal and generalized because these findings would be contextual in terms of research site, participants and methodology employed to achieve the set objectives of my research study. Additionally, as knowledge is created in interaction among the participants in the socio-cultural setting of the school environment or in their real life situation, each individual may have uniqueness and multidimensional understanding in the way they construct the knowledge with critical subjectivity and holistically (Lincoln, Lynham & Guba, 2011).

Additionally, the study is based on the theoretical perspectives of constructivism. The roots of constructivism are extended to both philosophy and psychology. The epistemological foundation of understanding addresses the process of knowledge acquisition and the psychological theory addresses the process of understanding by individuals (Merriam & Bierema, 2014). Likewise, Denzin and Lincoln (2018, p. 57) confirm that "the constructivist paradigm assumes a relativist

ontology (there are multiple realities)” and “a subjectivist epistemology (knower and respondent co-create understandings)”.

Moreover, epistemologically, knowledge develops from the multiple interpretations of the beliefs, attitudes and experiences of individuals who construct subjective meanings (Lincoln & Guba, 2013). Individuals’ subjective interpretations of truth and reality evolve through their social and cultural perspectives that cannot be constant (Lincoln & Guba, 2013; Luo, 2011). Thus, individuals construct the meanings of any phenomenon on the basis of their subjective experiences and processes. Likewise, ontologically, the plurality of reality is constructed on the subjective beliefs and experiences of individuals in social interactions that are also not constant (Lincoln & Guba, 2013; Wahyuni, 2012). In this sense, from the axiological perspective, the research participants and the researcher, as I myself have personal engagement with technology integrated instruction, have essential personal impacts on the interpretation of phenomenological data (Lincoln & Guba, 2013). Finally, the methodological perspective of this study is grounded on the qualitative phenomenological research design that is interpreted as “the significance of understanding how and why participants’ knowledge of a situation comes to be what it is” and “the social and cultural situatedness of actions and interactions, together with participants’ interpretations of a situation” (Cohen et al., 2018, p.21).

### **Methodological Consideration**

Methodological consideration is one of the important components of any research work. It is mainly concerned with the research process which is primarily inter-related with the research objectives, learning theories and philosophical perspectives (Irny & Rose, 2005; Lincoln, Lynham & Guba, 2011). Tracy (2020) asserts that “theories serve as sensitizing concepts” (p.33) that provide guidance to



what to observe, what questions to be asked, or to take notes on, and potential organizational frameworks of a research study. Likewise, philosophical underpinning is required to make a choice of a research design in regard to methodology and methods to be used (Creswell, 2018). In addition, it is the general research strategy that outlines the way in which research is to be taken and identifies the methods to be used in it. These methods described in the methodology, define the means or modes of data collection or sometimes how a specific result is to be calculated (Howell, 2013). Hence, methodology does not define specific methods even though much attention is given to the nature and kinds of process to be followed in a particular procedure to attain an objective.

For the purpose of my research study, I adopted the research process developed by Kobi Yamada (2014). Yamada (2014) specified the “idea” character in the book entitled *What Do You Do with an Idea?* The book mentions a child who gets an idea who is hesitant at first but later learns to be adaptive to it. The idea makes him feel better and educates him that inspiring moments can change the way one thinks, acts, and feels (Yamada, 2014). Similarly, the “idea” character resembles my ideas of doing research inquiry of the English teachers’ lived experiences of ICT integrated instructional practices. In doing so, the cultivation of the ideas was germinated from my own personal, professional, and academic experiences of teaching English. Thus, my research process consisted of the reason behind choosing the qualitative research approach, and framing the methods of data collection and analysis under Interpretive Phenomenological Analysis (IPA).

### **Qualitative Research Approach**

There has been a growing interest in qualitative research approach in education since the early 1980s (Cooley, 2013). It has gained a wider acceptance for

enhancing the understanding of teaching and learning (Johnson, 1995, as cited in Hoepf, 1997). Among many research traditions, a qualitative research approach is widely used by the recent SLA researchers. Harklau (2011) reports the recent reviews (Benson, Chik, Gao Huang & Wang, 2009) that qualitative research approaches are well represented in recent SLA research that are not only limited to SLA but also the impact is seen on teaching/learning English as a second or foreign language.

Patton (2002) views qualitative research as a “research about persons’ lives, lived experiences, behaviors, emotions and feelings as well as about organizational functioning, social movements, cultural phenomena, and interactions between nations” (p. 11). Moreover, the qualitative research approach is flexible in its nature, as it is linked with a plethora of different methods, perspectives and approaches to describe and interpret participants’ understanding of a phenomenon (Willig, 2013). It is an umbrella term used to refer to a complex and evolving research methodology and has rooted in different disciplines; anthropology, sociology, philosophy and now in social sciences including applied linguistics (Croker, 2009). It certainly does not represent a unified set of techniques or philosophies and indeed has grown out of a wide range of intellectual disciplinary traditions (Mason, 1996, as cited in Mackey & Gass, 2005). Furthermore, it is grounded on philosophical considerations like ontology and epistemology which are basically confined to subjective, inter-subjective and multiple realities that are context specific. Thus, the knowledge is constructed in multiple natural contexts using participatory personal experience (Taylor, 2014). Similarly, Creswell and Creswell (2018) state that, “the focus of qualitative research is on participants’ perceptions and experiences, and the way they make sense of their lives” (p. 278). In this sense, it explores opinions, thoughts, problems of a group or population or shares stories of others’ understanding of their

world (Creswell, 2013; Denzin & Lincoln, 2011). Thus, primarily the characteristic features of qualitative research are thick description, the practice of going beyond surface understandings from participants' perspectives in regard to explore the contextual meanings of behaviors and actions that "requires immersion, time, interpretation, empathy, and logical inference" (Tracy, 2020, p.32).

Moreover, qualitative research in applied linguistics has been defined as "research that relies mainly on the reduction of data to words (codes, labels, categorization systems, narratives, etc.) and interpretative argument" (Benson, 2013, p. 1). Additionally, compared to quantitative research, qualitative findings generally depend on particular ways of collecting, analyzing, and interpreting data in specific contexts (Creswell & Poth, 2017; Denzin & Lincoln, 2017).

Hereby, my methodological framework was mainly divided into two categories. The first focus was on the construction of social realities through discourse using audio recordings and texts whereas the second was on the broad socio-cultural and ecological context of language learning/teaching using the methods; class observation and focus group discussion.

Moreover, a qualitative research approach is best suited for my study as it explored technology integration and educational issues with the participants involved in the actual setting and context where they experienced and practiced the related issues (Marshall & Rossman, 2011). The participants' lived experiences or their emic (insider) perspectives made them construct the meanings. Qualitative research primarily is focused on dealing with the participants' construction of meaning out of their lived experiences that feature correlates it with constructivism (Merriam, 2009). Additionally, it often takes participants' experiences, understanding and perceptions as the data to uncover reality instead of relying on numerical data (Thanh & Thanh,

2015), utilizes inductive reasoning to interpret the data, and construct the meanings from the emerging themes/patterns (Merriam, 2009; Creswell & Creswell, 2018; Tracy, 2020). Hence, I peeped down into the insights of the participants' technology integrated instruction through inductive interpretation and analysis of the emerging themes from the collected data.

In short, a qualitative research approach is highly applicable for my study in order to obtain information related to the English teachers' lived experiences of the phenomenon (Creswell, 2009; Creswell & Creswell, 2018; Tracy, 2020). The following sections shed light over my research design under qualitative research approach.

### **Research Design**

Qualitative research is very flexible in its approaches. It has diversities in it that allow seeing a problem with different perspectives (Denzin & Lincoln, 2018). Thus, there are many different research designs used in qualitative research such as narrative inquiry, case study, ethnography, action research, phenomenology and grounded theory. Thus, out of various qualitative research designs, particularly applied in the field of applied linguistics, I chose the phenomenological research design because it is specially designed to study several individuals' lived experiences of a phenomenon (Creswell, 2007; Croker, 2009; Cilesiz, 2011; Creswell & Creswell, 2018) and works from a humanistic point of view (Lucca & Berrios, 2003). Further, Martinez (2007) suggests that when people talk about their lives, they link with the experiences that are significant to themselves. The belief that knowledge is subjective, multiple and context specific requires the study of social phenomena that underpins the phenomenological base of the research study because "a phenomenologist or interpretivist is committed to understanding social phenomena from the actor's own

perspective and examining how the world is experienced" (Taylor & Bogdan, 1998, p.3).

### **Phenomenological Research Design**

Moustakas (1994) was supposed to be the founder of phenomenological research, viewing that a person's experience and behavior were in an integrated and inseparable relationship of a phenomenon. Moreover, according to him phenomenology research uses qualitative methodologies such as "focusing on the wholeness of experiences rather than solely focusing on its objects or parts" and searches for "meanings and essence of experience and not explanations" (p. 21). It reduces individual experiences of such phenomenon to a description of the basic 'essence' of the experience by creating a composite description of it for all of the participants. Christensen, Johnson and Tuner (2010) justify that the main objective of a phenomenological study is to explicate the meaning, structure and essence of the lived experience of a person, or a group of people of a specific phenomenon. In this sense, lived experiences refer to the immediate consciousness of life's events, prior to reflection and without interpretation, and are influenced by external and internal things (Speziale & Carpenter, 2007). Moreover, lived experiences give meaning to an individual's practice of a particular phenomenon and shows what is true or real in his/her life (Giorgi, 2005). It attempts to understand human behavior through the eyes of participants in the study. Likewise, Cohen et al. (2018) characterize phenomenology as "the significance of understanding how and why participants' knowledge of a situation comes to be what it is" and "the social and cultural situatedness of actions and interactions, together with participants' interpretations of a situation" ( p. 21). Additionally, Chiari and Nuzzo (1996) see a strong connection

between phenomenology and constructivism that deals with how the world appears to a particular person is based on his/her personal views and experiences.

Thus, I used the phenomenological research design in order to get comprehensive descriptions of English teachers' lived experience of integrating ICT into their teaching. Moustakas (1994) states that perception is considered the primary source of knowledge and phenomenology describes lived experiences by studying a small number of subjects that develop patterns and relationships of meaning. For Creswell (2013) phenomenological approach "describes the common meaning for several individuals of their lived experiences of a concept or a phenomenon" (p. 76). Thus, it is primarily concerned with the belief that all experiences and constructions are basically grounded in a particular perspective that is context specific and time bound. It does not begin with a theory, rather considers a phenomenon. In other words, phenomenology is related to a phenomenon under study. Similarly, Tracy (2020) assures "phenomenology is focused on richly describing the experiential essence of human experiences and capturing the present living moment. Along the way, phenomenologists are cognizant of the ways words, languages, concepts, and theories distort, mediate, and shape raw experience" (p. 65).

There are two broadest categories of phenomenological research frameworks; Edmund Husserl's transcendental phenomenology and Martin Heidegger's hermeneutic phenomenology (Kleiman, 2004; Finlay, 2011; Tracy, 2020). "Edmund Husserl is considered to be the founder of transcendental phenomenology – an effort focused on identifying the basic structures of consciousness that must be in place for any experience to arise in the first place" (Tracy, 2020. p. 65). Further, she quotes Orbe (2009) "Husserl suggested that to access the essence of some experience, researchers must put aside or "bracket" their biases via a process known as

phenomenological epoché (Orbe, 2009)” (p.65). This meant that researchers should suspend their categories of deliberation and their habits of seeing. On the other hand, “Hermeneutic phenomenology, linked closely with Heidegger and Hans-Georg Gadamer ([1960], 1989), analyzes how experience is subjective and closely linked to humans’ use of language in context” (Tracy, 2020, p. 66).

In the former, the researcher assumes a readiness to listen to the descriptions of the lived experiences as described by the participants and in the latter, the researcher uses his/her prior knowledge and insights to interpret and uncover hidden meanings in order to produce a vivid textual representation of the phenomenon described (Kleiman, 2004). The Husserian descriptive phenomenology is focused on to reveal essential general meaning structures of a phenomenon whereas interpretive phenomenology came into existence from the work of hermeneutic philosophers including Heidegger, Gadamer (1996), and Ricoeur (1970). For Heidegger (1962) “The meaning of phenomenological description as a method lies in interpretation” (p. 37). This means interpretation is not an additional procedure instead it is an inevitable and basic structure of “being-in-the- world”.

Finlay (2009) found many versions of these two approaches used in research studies. Giorgi (1985) used descriptive Husserlian method known as the Duquesne approach or tradition (Wertz, 1985 & Fischer, 1974), some of the researchers explicitly favored hermeneutic versions such as the existential, hermeneutic approaches of the Dallas School (Churchill, 2003; Garza, 2007; van Manen, 1990); the open life world approach of Dahlberg et al. (2008); the dialogal approach of Halling and his colleagues (2006); the embodied enquiry approach of Todres (2007); and the Interpretative Phenomenological Analysis (Smith, 2007).

Interpretative/interpretive phenomenological analysis (IPA) has emerged from the overlapping of the previous traditions. For Pietkiewicz and Smith (2014) IPA is based on both traditions “resulting in a method which is descriptive because it is concerned with how things appear and letting things speak for themselves, and interpretative because it recognizes there is no such thing as an uninterpreted phenomenon” (p. 8).

### **Interpretive Phenomenological Analysis (IPA)**

As it is stated above, there are a plethora of different methods, perspectives and approaches in qualitative research paradigm (Willig, 2008), among them I found the framework of IPA best suited for my study.

The theoretical foundation of IPA was put by Jonathan Smith, a health psychologist in the United Kingdom (Smith et al., 2009). For them, “IPA is a qualitative research approach committed to the examination of how people make sense of their major life experiences” (2009, p. 1). Additionally, they asserted that “IPA shares the views that human beings are sense-making creatures, and therefore the accounts which participants provide will reflect their attempts to make sense of their experience” (p. 4). Thus, IPA is grounded in principles of phenomenology, hermeneutics and idiography that is aimed at exploring individuals’ meaning-making related to certain significant experiences (Pietkiewicz & Smith, 2014). It prioritizes diversity attached to lived experience, freedom to explore context, and relationship to life narratives (Chan & Farmer, 2017; Smith, Flowers, & Larkin, 2009). Larkin and Andrew (2011) mention that IPA consists of two major components; an element of ‘giving voice’ (capturing and reflecting upon the principal claims and concerns of the research participants) and ‘making sense’ (offering an interpretation of this material, which is grounded in the accounts). Thus, the researcher is required to collect



detailed, reflective, first-person accounts from research participants. These two key concepts of IPA can be realized through idiography and hermeneutic phenomenology that make it distinct from other versions of phenomenology.

Like other qualitative approaches, IPA is concerned with meaning-making that is conceptualized at the level of the person–in-context rather than phenomenon-as-experienced (Finlay, 2011). The first focus is given on the meaning of an experience of a particular participant and then the significance of the experience for that participant is recognized. In doing so, the researcher implies an idiographic level of analysis and double hermeneutic/interpretation of the participants' experiences. Smith and Osborn (2007) rightly explain that “the participants are trying to make sense of their world; and the researcher is trying to make sense of the participants trying to make sense of their world” (p.53). Thus, the perspectives of both the participants and the researcher are incorporated in order to interpret the participants' meaning of their lived experiences of the phenomenon that constitutes the process of IPA (Larkin & Andrew, 2011).

IPA is based on a double hermeneutic method that focuses on two interpretations: participants' interpretations of their own experience, and the researcher's interpretation of the participants' interpretations (Smith, Flowers & Larkin, 2009). This process of knowledge creation relates IPA with constructivism as it views learning as a social phenomenon where people participate in co-creation of knowledge (Vygotsky, 1978; Creswell, 2013; Sultan, 2018). Such interpretation along with my own perspective of seeing towards the reality gives a thick description of the information obtained from the participants. In this sense, Ponterotto (2006) asserts that “thick description refers to the researcher's task of both describing and interpreting observed social action (or behavior) within its particular context.” (p.543)

that makes the readers easy to understand and can make judgment about the relevance of the research (Croker, 2009). In addition, it gives importance to micro concepts such as individual perspectives, personal constructs, negotiated meaning and definitions of situations (Cohen et al., 2018; Taylor, 2014). Thus, it is flexible in its interpretation in terms of seeking for many possible ways for accessing realities which are relative and multiple. However, these meanings are often very difficult to interpret since they depend on other systems of meanings (Lincoln & Guba, 1985).

Hereby, it is a prime requisite for IPA researchers to apply the method of double hermeneutics. They need to explore how the participants interpret their lived experiences by seeing through the lens of the participants. Hence, knowledge construction is a bilateral process that is co-created and shaped by active and dynamic involvement of the researcher and the participants together (Creswell, 2013). In this sense, the researcher's position is founded on the belief that reality is socially constructed and fluid. The knowledge is always negotiated within the cultures, social setting and relationship with other people. From this perspective, validity or truth cannot be grounded in an objective reality rather negotiated with multiple valid claims to knowledge (Angen, 2002).

Another important component of IPA is idiography. Smith et al. (2009, p. 29) assert that idiography/ideography brings in a "commitment to the particular" against a generalized description of the participants' experiences. Similarly, Creswell and Creswell (2018) put it forward as "idiographic interpretation is utilized. In other words, attention is paid to particulars; and data is interpreted in regard to the particulars of a case rather than generalizations" (p. 278). In this sense, a two-step research process was adopted. At first, an in-depth analysis of each participant's experiences/perspectives was done separately, being more focused on specific

experiences of the phenomenon before developing generalized statements. Secondly, it required the researcher to explore how the participants perceived the particular experience of the phenomenon.

As mentioned above, my research journey through the IPA process is based on the central theoretical underpinnings of phenomenology (the study of human experience and consciousness), hermeneutics (interpretation) and idiography (the study of the particular).

### **Researcher Reflexivity**

Reflexivity can be defined as an attitude of attending systematically to the context of knowledge construction, especially to the effect of the researcher, at every step of the research process. Malterud (2001, pp. 483-484) views reflexivity as "a researcher's background and position will affect what they choose to investigate, the angle of investigation, the methods judged most adequate for this purpose, the findings considered most appropriate, and the framing and communication of conclusions". Thus, it gives analytical attention to the researcher's role in qualitative research.

As a concept, reflexivity demonstrates self-awareness (Lambert, Jomeen, & McSherry, 2010), i.e. being actively involved in the research process whereas as a process it introspects the role of researchers' subjectivity in the research process in terms of understanding how their "social background, location and assumptions affect their research practice" (Hesse-Biber, 2007, p. 17). In this sense, reflexivity plays a vital role "to make the relationship between and the influence of the researcher and the participants explicit" (Jootun, McGhee & Marland, 2009, p. 45).

In addition, as they are two different terms; reflection and reflexivity, it is crucial to make distinction between them. Reflection is a practice within the mind or

in writing, in doing so, the researcher thinks about, deliberates, and assesses his/her experience (Mann, 2016). On the contrary, reflexivity is a technique, which requires the researcher to be present with the research having awareness of personal biases. As Fook (2002) takes reflexivity is a process that makes the researcher take “a stance of being able to locate oneself in the picture” and acknowledges how one’s subjectivity influences both choices and actions” (p.43).

Thus, my reflexive position during the research process was guided by my self-awareness of being critical “to take circumstances and relationships into consideration rather than merely reacting to them and help review and revise ethical ways of being and relating” (Bolton, 2009, p.14). In this regard, I positioned myself as a critical interpreter in order to make a relationship between the phenomenon and the lived experiences of the participants.

### **Sampling of Research Participants and Sites**

Sample population refers to the two different terms in which sample is a group of people from whom the data are obtained to make generalizations about the population (Patton, 2015) whereas population stands for a group of elements or cases either people, objects or events under a specific criteria that generalizes the outcomes of the result (McMillan & Schumacher, 2010). Thus, the sampling of the research participants and the site were purposive and small unlike other traditional research paradigms. Moreover, a purposeful sampling procedure is used in qualitative research that selects a group of targeted people who represents and informs about the research agendas (McMillan & Schumacher, 2010). In addition, the selection of sample size in qualitative research is based on the research purpose, question and design as the richness of information data inform the validity of qualitative inquiry more than the sample size (Patton, 2015).

## **Sampling of Research Participants**

Sampling of research participants refers to “choosing people to interview and also choosing specific locations, times of days, various events, and activities to observe in fieldwork” (Tracy, 2020, p. 82). In the case of a number of participants, “there is no right answer to the question of...sample size” (Smith et al., 2009, p. 56) however, in IPA research; small sample size is preferred for its idiographic interpretation. Likewise, the idiographic nature of IPA not only requires the depth of individual cases but also it takes care of pragmatic limitations, such as time and resources while deciding on sample size (Rubel & Okech, 2017). Therefore, it is recommended to have small sample sizes of average 5-10 relatively homogeneous participants (Pietkiewicz & Smith, 2014) that is the moderate sample size for professional doctorates (Clarke, 2010). Additionally, the small sample size is comfortable for the researcher to keep the individuality of particular experiences that is a key principle of IPA (Smith et al., 2009). In the similar vein, qualitative researchers mostly engage in purposeful sampling i.e. they purposefully choose data that fit the suggestions of the project’s research questions, goals, and purposes (Patton, 2015; Tracy, 2020).

Moreover, none of the participants was known to me so that the sampling bias was neutralized as the participants’ views were not influenced by my experience of the phenomenon (McMillan & Schumacher, 2010).

Following the sample size advised for the doctorate level IPA study by Clarke (2010), I purposively selected a fairly homogeneous sample size of eight English teachers as my research participants including equal numbers of male and female. They were homogeneous only in terms of their profession i.e. all the eight participants were English teachers at the public secondary schools in the Kathmandu valley. In

addition, they were heterogeneous in regard of gender, age, years of experience, academic qualification and knowledge and skills of technology integrated instructional practices. Eventually, one of the participants dropped in the middle as the participation was voluntary; anybody could withdraw at any time (Annex C), which made me search for one more participants. Therefore, I requested an English teacher from one of the SMART schools (the schools with SMART interactive board with 24 hours Wi-Fi connection) to participate in my research study and got the approval accordingly. One English teacher was already on the study from the same school. Consequently, two teachers participated from that SMART school. In fact, I intended to select eight English teachers from eight public secondary schools of the Kathmandu valley to get in-depth data. It was only a change that took place during my study. The research participants' pseudo name and demographic description are given in the table 1 below:

Table 3.1 *Pseudo Name and Demographic Description of the Research Participants*

Participants	Sex	Age & Qualification	Teaching Experience	Experience with ICT	Frequency of ICT Integration
Akriti	F	33 yrs. M. Ed., M. A.	7 yrs.	2 yrs.	2/3 times a week
Anil	M	47 yrs. M. Ed.	23 yrs.	3 yrs.	2/3 times a week
Bishanu	M	46 yrs. M. Ed.	16 yrs.	3 yrs.	2/3 times a week
Dinesh	M	44 yrs. M. A., M. Phil.	25 yrs.	12 yrs.	2 times a week
Ganesh	M	38 yrs. M. Ed.	15 yrs.	5 yrs.	2/3 times a week
Nilu	F	32 yrs. M. Ed., M. Phil.	15 yrs.	8 yrs.	Once a week
Sampada	F	35 yrs. M. Ed., M. Phil.	10 yrs.	3 yrs.	2/3 times a week
Sushila	F	35 yrs. M. Ed., M. Phil.	13 yrs.	8 yrs.	2 times a week

Note: 'yrs.' stands for years

Apart from the eight participants, I also purposively selected seven focus groups (FGs) of students who were taught by them in their perspective schools. The

reason as to why there were eight research participants from seven public schools has been discussed in the preceding section that caused to select seven FGs. Moreover, there were five students in each FG. The purpose of including them in the study was to get some additional data to cross check the ground reality of the English teachers' experiences of ICT integrated pedagogical practices. Similarly some additional data were also collected from the class observation of the participants. In doing so, with the prior consent of the English teachers (Annex G), an audio device was used to record the FGs' voices and the textual data were collected from the class observation. In doing so, the credibility and trustworthiness of the study has been maintained. The section under 'Data Collection Procedures' sheds light on my stand in detail.

### **Sampling of Research Sites**

In Nepal, basically, there are two types of schools; public schools and private schools. On the basis of one of the research gaps reviewed in 'chapter two', public secondary schools of the Kathmandu valley were chosen as there was not a single research study that was carried out to explore the public school English teachers' lived experiences of ICT integrated pedagogical practices including challenges and suggestions. With the reference to the available empirical literature reviewed (Newa, 2007; Maski Rana, 2018; Poudel, 2020; Rana & Rana, 2020; Thapaliya, 2014) I found public schools as one of the under researched areas in comparison to private schools in Nepal.

The required details of the public schools and the head teachers were provided by the district education (DEO) office of the three districts of the Kathmandu valley. They had also highlighted some schools where teachers were more or less integrating ICT into their instructional practices. I visited those schools in person on different dates and times starting from the year 2017 May 24<sup>th</sup> to 2018 Dec

2<sup>nd</sup>. First I met the head teachers in order to get information regarding English teacher, ICT infrastructure at school, ICT integrated instruction etc. (Table 2). All the head teachers were very supportive and friendly and they were found to be very enthusiastic for implementation of ICT into instructional practices in school education. They introduced me very warmly to the English teachers and allowed me to have a look of ICT infrastructure available at their school.

I purposively selected seven public schools of the Kathmandu valley because the ICT exposure was found to be better there than those in other cities of Nepal. Before being headed to the valley, I wanted to select Birgunj Metropolitan as the research site. After being assured that I could not get the required data from there, I discussed the matter with my supervisor and co-supervisor and then ultimately I chose the Kathmandu valley as my research site. Hence, among seven purposively selected public secondary schools of the Kathmandu valley, only the four secondary schools had SMART boards along with some other ICT tools Wi-Fi connection and power back up in a hall like room i.e. called ICT lab. The other three also had an ICT lab or audio-video room equipped with laptops, projectors, sound systems, Bluetooth, white boards, Wi-Fi connection and power back up. Additionally, all the schools had a computer lab with 50 computers and the three schools also had 50 tablets for the students to practice doing project work given by teachers. Unfortunately, due to technical problems between the donors and the government, those tablets and SMART boards were not being used to the way they should have been integrated into instructional practices. The table 3.2 gives the details of the schools:



Table 3.2 *Details of the Schools Participated in My Research Study*

Public Sec./Higher Sec. School	No. of Participant	Place	ICT Lab	Computer Lab/no. of com.	ICT Tools available at school
A	1	Kathmandu	1	1/20	Audio-visual room, projector, computer, audio system, white board, pen-drive, Wi-Fi connection & power back up (solar)
B	1	Kathmandu	1	1/34	SMART board, two big screens (fixed on wall), printer, sound systems, mike, computer, pen-drive, Wi-Fi connection (supported by an INGO)
C	1	Kathmandu	1	1/20	SMART board, computer, sound system, Wi-Fi connection, power back (INGO support)
D	2	Lalitpur	1	1/20	SMART board, computer, sound system, Wi-Fi connection, power backup (18 battery solar panel)/INGO support
E	1	Bhakatpur	1	1/30	Laptop, projector, whiteboard, TV screen, Wi-Fi, Bluetooth, sound system
F	1	Bhakatpur	1	1/20	SMART board, computer/laptop, audio system, projector, Wi-Fi connection
G	1	Bhakatpur	1	1/15	Laptop, projector, Bluetooth, white board, Wi-Fi connection

### Data Collection Procedures

Qualitative research is an inquiry aimed at describing and clarifying human experience as it appears in people's lives; researchers using qualitative methods to gather data serve as evidence for their detailed description (Polkinghorne, 2005). In order to get a comprehensive understanding of a phenomenon, qualitative research uses multiple procedures of inquiring into a problem as Denzin and Lincoln (2018) believe that "qualitative research, as a set of interpretive activities, privileges no

single methodological practice over another” (p. 46). It implies multiple strategies of data collection (Creswell & Clark, 2018). Moreover, qualitative data are gathered basically in the form of spoken or written language such as interviews, observations, documents and artifacts rather than in the form of numbers (Polkinghome, 2005). Further, according to Creswell (2003), “the data collection steps include setting the boundaries for the study, collecting information through unstructured (or semi-structured ) observations and interviews, documents and visual materials as well as establishing the protocol for recording information” (p. 212). Additionally, in qualitative research, the researcher is considered to be as the instrument. In this sense, Tracy (2020, p. 88) recommends “that researchers be as all-inclusive as possible and consider providing bulleted notations about various topics the interview will cover if the exact questions are not yet developed”. Thus, my involvement as an instrument to data collection through interviews and focus group discussion was all inclusive to stimulate the participants’ response providing various topics related to their pedagogical experiences of technology integration.

Moreover, I searched for in-depth data through multiple strategies such as semi-structured interview, class observation, and focus group discussion. Thus, the data gathered through different strategies/tools are briefly described below:

### **Semi-structured Interview**

Interview is often taken as a core method in qualitative research because it focuses on the nature of experience. It is generally used in different qualitative research designs like phenomenology, narrative inquiry, case study, ethnography, action research and mix method research. Interview is described as professional conversation, a conversation with a purpose (Kvale, 1995 & Burgess, 1984, as cited in Heigham & Croker, 2009). Thus, interviews are effective for several reasons; first,

they provide information and background on issues that cannot be observed or efficiently accessed, second, the topic of study is very specific and third, it strengthens and complicates other data (Tracy, 2020). Moreover, there are three different types of interviews: structured interview, open interview and semi structured interview generally used in qualitative research.

Structured interviews are highly controlled and prepared around exact questions and seek specific information. Open interview is in-depth and semi structured. The aim of this interview is to explore the in-depth experiences, views or feelings of the respondents. In such interviews, meaning is jointly constructed through the process of interaction in which analysis explores the respondents' understanding through a careful reading of the interaction (Heigham & Croker, 2009). Semi structured interview is commonly used in research. It has in common the features of both interviews; structured and open interview. It is taken as a compromise because it draws upon the features of both of the types to some extent (Dornyei, 2007, as cited in Heigham & Corker, 2009). Moreover, the participants are interviewed on the basis of the interview guide. Likewise, conducting an interview requires skill and experience so that the responses could be gathered in good faith. Patton (as cited in Best & Kahn, 2006) points "the purpose of interviewing is to find out what is in someone's mind. The purpose of open-ended interviewing is not to put things in someone' mind but to assess the perspective of the person being interviewed" (1990, p. 265). It is very important for the interviewer to follow Patton and also equally important to make the interview unbiased and genuine by making the interviewees unaware of the perspective of the interviewer.

Semi-structured individual interviews are commonly used as primary sources of data collection in IPA (Larkin & Thompson, 2011; Smith et al., 2009). They

promote real-time in-depth conversations with participants and remain consistent with the idiographic commitments of IPA and allow the research to explore unexpected issues through real-time dialogues (Pietkiewicz & Smith, 2014). Additionally, semi-structured interviews help build rapport with research participants that enhances meaningful reflection and sharing (Rubel & Okech, 2017). With the belief “participants are not “subjects” but rather are co-researchers and should provide significant input on all parts of the research design, collection, and analysis” (Huffman, 2013 as cited in Tracy, 2020, p.78) that could crystallize the research penetration. Since IPA research requires the researcher to enter the life world of the research participants, it is highly important that the questions asked to the participants need to be open-ended and non-directive (Willig, 2008). Thus, I used semi-structured interview to collect the data from my research participants (Annex D).

The participants were requested to select date, time and location as they felt comfortable for being interviewed. All of them chose to their school location and leisure time for the semi-structured interviews and so on. Besides semi-structured interviews, IPA allows freedom to collect in-depth data using different tools such as observations, focus group discussions, dairies, and field notes (Pietkiewicz & Smith, 2014).

I mainly used twenty eight open-ended questions for the semi-structured interviews. The duration of the first interview was 30-45 minutes. Since an IPA researcher is required to enter the lived world of the research participants, it is extremely important that the questions asked to them need to be open-ended and non-directive (Willig, 2008). Thus, the overarching research question “what are the lived experiences of English teachers teaching at public schools?” was further divided into

three sub-questions along with some probing questions. The three sub-questions are displayed in the table 3.3 below:

Table 3.3 *Interview Questions Aligned with Research Questions*

S.N.	Research Questions/Central & Sub-Questions	Interview Questions
Part 1	In what ways English teachers make sense of their lived experiences of integrating ICT into their instructional practices?	(Annex B)
Part 2	How do English teachers interpret the challenges they are facing for ICT integrated instruction in physical class?	(Annex B)
Part 3	What suggestions do English teachers provide for overcoming the challenges?	(Annex B)

There were altogether 28 open-ended questions including eight probing questions. These questions were divided into three parts; technology integrated instructional practices, challenges to them and suggestions to overcome the challenges. Further, they were requested to manage some spare time for some additional interviews. As they delayed managing time, I sent them an email (Annex E) attaching the eight probing questions and informed them about the email questionnaire to respond contacting them through the mobile phone. It was found that they were not used to checking their email inbox regularly. However, through the phone contact, I reminded them of the email response.

### **Class Observation**

Another data collection tool that I used was class observation to collect data for my IPA study. It is an important tool of data collection in the qualitative research approach. It is important because it gives first-hand information in a natural setting. Natural setting refers to a classroom, a teacher's room or any environment where teaching/learning of English is done in applied linguistics (Cowie, Croker & Cowie,

2009, as cited in Heigham & Croker, 2009). Additionally, participant observation or participant witnessing brings something into focus which interviews cannot because “meaning is often tacit (Schindler, 2015, as cited in Tracy, 2020), which means that people frequently cannot put into words what is important to them or why they acted in a certain way” (p. 78). It is the conscious noticing and detailed examination of participants' behavior. There are three main reasons for using observation as a tool in applied linguistics:

- It helps to uncover the familiar and fixed activities of teachers and students that have fixed value, belief and assumption about the activities.
- It helps to triangulate additional evidence for a research study.
- It helps teaching and research both commonly observe the complex situations. (Cowie, 2009)

Class observation in qualitative research usually consists of “detailed notation” of behaviors, events and the contexts surrounding the events and behaviors (Best & Kahn, 2006, p. 264). Thus, the role of observer may be of full participant or complete outsider or hanging around. Further, Patton (1990, as cited in Best & Kahn, 2006, pp. 264-265) proposes five dimensions of observation:

- The observer's role may vary from full participant or complete outsider.
- Observations may be covertly conducted (from behind or hanging around).
- Those being observed may be given full, partial, no explanation or a false explanation.
- Observation may take place for a long or short time.

- The observations may be quite broad or narrow.

In short, class observation is a stimulating and worthwhile tool of data collection that is prepared and done on ethical consideration of the participants. Thus, I used class observation as a tool to collect observation data that were noted in a diary. It was done to observe the research participants' classes in order to cross-check how they had interpreted their lived experiences of ICT integrated instructional practices during the interview sessions (Annex F).

### **Focus Group Discussion**

Focus group discussion (FGD) was used as a qualitative data collection tool in social sciences in the 1920s as a market research tool and still it is used widely (Greenbaum, 1998). It collects qualitative data from a small number of research respondents in an informal group discussion being focused around the research objectives or issues. The discussion is usually based on some sets of objectives and the researcher moderates the groups by asking questions, keeping the discussion flowing and encouraging members to participate fully in the interaction (Wilkinson, 1999; Merriam & Tisdell, 2016). Morgan (1988) opines that the interaction between research participants and the potential analytic use of the interaction is the 'hallmark' of focus group research. Moreover, its popularity lies in its flexibility of the method i.e. it can be used either as a qualitative method or combined with quantitative techniques (Wilkinson, 1999). Further, she mentions that it includes different types of data analysis like content, thematic, ethnographic, phenomenological, narrative, experiential, biographical, or conversational analysis.

It is important for the moderator to have some basic interviewing skills, knowledge of group dynamics, and some experience in managing quiet and talkative participants to obtain high-quality focus group data (Bloor, Frankland, Robson &

Thomas, 2001; Krueger & Casey, 2000). Similarly, Green, Barbour, Bernard and Kitzinger (1993) state that the moderator is required to be well prepared to deal with ethical issues related to the interactional nature of focus groups such as group members may collude to silence, intimidate, or harass participants or even the researcher (moderator).

Comparatively focus groups are more naturalistic than interviews to obtain data quickly from a large number of participants and the most striking feature of focus groups is dynamic quality of group interaction. They discuss, debate, and disagree about key issues (Jarrett, 1993). In this sense, I decided to use FGD as one of the second additional sources of data collection. Particularly, the focus group discussions (FGDs) were conducted with the seven groups of students who were taught by the eight key participants (English teachers) of my research. Ultimately, students are supposed to be authentic receivers of their teachers' instructional practices. Thus, they could portray the real picture of how their English teachers integrate educational technology in teaching activities and whether their learning was promoted or disrupted while they were taught that way. Moreover, the FGDs were conducted after the semi structured interview and the class observation of teacher participants to verify how they used ICT to facilitate students' learning of English as a foreign language. The students on the FGDs were studying in class 9 and 10 at public secondary schools in the Kathmandu valley. Before the initiation of the discussion, the prior oral consent was taken from the head teacher and English teacher to use an audio device for recording. As it was an additional source of data collection, only those issues were incorporated into the discussions which were found to be relevant in relation to the themes emerged from the semi-structured interviews (Annex G).



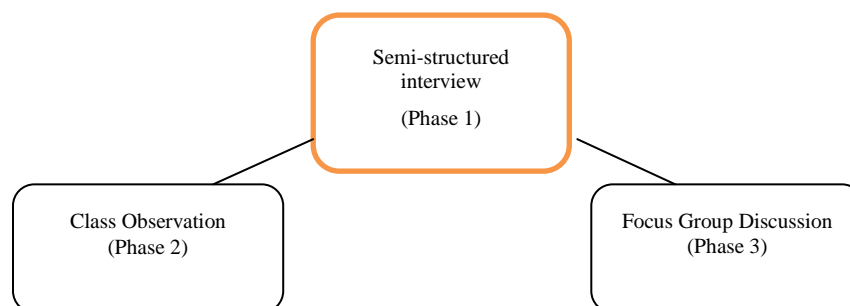
## Triangulation of Data

Triangulation of data is one of the major features of qualitative research.

Hernandez, Fernandez and Baptista (2010) view triangulation as the use of “different sources and collection methods” (p. 439) that ensures the research validity. Similarly, Creswell (2007) defines “triangulation is the process of corroborating evidence from different individuals, types of data, or methods of data collection....This ensures that the study will be accurate because the information is not drawn from a single source, individual, or process of data collection” (p. 280). Thus, I triangulated the main data with the additional data obtained from class observation and focus group discussion to ensure accuracy and credibility of the research report (Creswell, 2007).

Triangulation of data is shown in the following figure 3.1:

*Figure 3.1* Data Triangulation Strategies



The three phased triangulation process consisted of the three different data collection tools. The first phase of data collection tool was semi-structured interview that was conducted with the research participants (English teachers) to gather data in regard of their lived experiences of teaching with technology, the second phase of data collection tool was class observation that was done to obtain data related to hands on practice, and the third phase of data collection tool was focus group discussion that was conducted with the seven focus groups of students. These three tools were used to gather the thick and rich data according to the requirement of IPA. Primarily, the

information obtained from the semi-structured interviews were taken as the main narratives of the participants' lived experiences of technology assimilated pedagogical practices that were triangulated through the information obtained class observation and focus group discussion. In doing so, the trustworthiness or credibility of the study is assured.

### **Data Transcribing and Coding Process**

As I was given the prior consent of recording the audio of their semi-structured interviews, I played those audio records 3/4 times for clear understanding of the participants' experiences and reread the textual data 2/3 times for highlighting the essential views. After transcribing all the collected data, I visited the participants to have some discussion over it. They did not want any refinement on the transcribed data. I also had noted some non-verbal clues expressed by the participants that helped me with extra details like excitement, resentment, complaint, annoyed etc. Moreover, I maintained a diary and field note for additional insights. Those endeavors resulted in better understanding of the person-in-context from the participants' lenses to develop themes. The commonalities among the themes were condensed into compact themes (Annex H). Moreover, I developed specific codes and themes from the transcribed data in parallel with the reviewed literature carried out globally and used comparative methods to search similarities and differences. The emerging themes and concepts were adjusted with codes to refine the information (Patton, 2015). Additionally, triangulation of the three types of data (interview, class observation and focus group discussion) ensured the authenticity of the information collected from the participants.

### **Data Analyzing Process**

Smith (1997, p. 189) characterizes IPA as “an attempt to unravel the meanings contained in . . . accounts through a process of interpretative engagement with the

texts and transcripts” (as cited in Willig, 2008, p. 57). Thus, the IPA research data collected from the semi-structured interviews, and additional data collected from class observation and focus group discussion were organized in the form of transcripts. The textual and the audio data found in the Nepali language were transcribed into English. Moreover, as the data were collected from the English teachers and the groups of students, the majority of them expressed their views in the English language. Thus, I did not need to transcribe those data which were in the English language.

In regard to analyzing the data, IPA provides a flexible set of guidelines to the researchers in accordance with their research objectives and is encouraged to be creative in their thinking (Pietkiewicz & Smith, 2014). In doing so, “such engagement is facilitated by a series of steps that allows the researcher to identify themes and integrate them into meaningful clusters, first within and then across cases” (Willig, 2008, p. 57). Thus, IPA allows for a flexible, iterative and multi-directional analysis of the collected data through the following distinct stages (Smith, et al., 2009; Willig, 2008, pp. 60-61);

- researcher’s initial encounter with the text (Reading and rereading of the text),
- identification of themes,
- clustering of themes, and
- production of a summary table of the structured themes and quotations

Basically, I followed the aforementioned stages to analyze my data. These stages are further described and explained in the following sections, in relation to my IPA research.

## **Stage 1**

This is the first stage of analyzing the data in IPA that involves the reading and rereading of the texts/transcripts. It is like intensive reading that is one of the techniques of teaching reading texts to my students. Through intensive reading, the reader is required to foster a thoughtful and critical analysis of the text. Thus, at this stage, the researcher produces wide-ranging general notes that reflect the initial thoughts and observations he/she may wish to record in response to the text. These could include associations, questions, summary statements, comments on language use, absences, descriptive labels, and so on (Smith et al., 2009; Willig, 2008). I wrote my notes in the left margin of the texts and in some loose sheets of paper, too. Those notes were simply a way of addressing issues that appeared to me during my initial encounter with the texts. This way I also incorporated Husserl's (1970) method of description into my IPA research. Husserl developed the method of epoché or "bracketing" that is regarded as a radicalization of the methodological constraint. This means, any phenomenological description should be done from a first person point of view to ensure that the text is described exactly as is experienced, or intended, by the subject/participant. In doing so, I used the "method of epoche," at the first stage. In other words, the method of epoche makes the researchers to bracket their biases and experiences having an awareness of their conceptual perspective towards the phenomenon studied. Thus, I bracketed my theoretical and professional knowledge along with personal experiences of the field. It allowed me to be unbiased and open minded for the data description at this stage.

## **Stage 2**

In this stage, the researcher is required to identify and label themes to characterize each section of the text which are noted in the left margin/or in a separate

sheet. Then the label themes were linked into broader themes or categories being grounded in research objectives in order to establish relationships among the facts or codes. The titled themes are conceptual that should capture the essential experiential quality represented by the text (Willig, 2008). Following it, I identified and labeled the emergent themes that were noted during the first stage of analysis. In doing so, I used some separate sheets of paper to list all those emergent themes and titles that essentially represented the experiential quality of the text. Since phenomenological research is primarily focused on the nature, quality and meaning of experience, the theme labels should capture the experiential quality of what is being described in the text (Willig, 2008). In this sense, I listed all the theme labels in the loose sheet of paper besides the notes made in the first stage. While listing the identified theme labels, I applied Moustakas's (1994) phenomenological rule of horizontalization. Moustakas (1994, p. 96) states that in horizontalization, "there is an interweaving of person, conscious experience, and phenomenon. In the process of explicating the phenomenon, qualities are recognized and described; every perception is granted equal value, non-repetitive constituents of experience are linked thematically, and a full description is derived". In this descriptive process, I did an acute examination of the data and granted each label equal weight and brought imaginative variation (Moustakas, 1994) in viewing the data from different perspectives. Moreover, special attention was given to the non-repetitive constituents of experience in search of thematic linkage. Thereafter those non-repetitive labels were organized into clusters or themes.

### **Stage 3**

In the third stage of data analysis, I listed the clusters/themes emerged from the second stage of analysis in a hierarchical order. I applied the strategies provided

by Smith et al. (2009) for the third stage to link themes such as abstraction (pair similar emergent themes), numeration (frequency of emergent themes), subsumption (themes can be incorporated with other emerging themes) and function. This process of data analysis at the third stage is similar to the strategy called phenomenological reduction. It requires the researcher to return continually to the essence of the experience in order to derive the inner structure or meaning in and itself. It isolates the phenomenon to understand its essence (Moustakas, 1994). Following these strategies, I worked over the themes moving back and forth to remain honest to the original experiential quality of the text. This process was repeatedly done separately for each and every individual of all eight research participants (for the data obtained from semi-structured interviews and class observation) and also was done the same with the data obtained from the seven focus groups of students. Moreover, the themes emerged from the first transcript were used as guiding one for analyzing all the other transcripts. It goes along the line that the emerging themes of the first transcript provide the guideline to recognize similarities and differences among experiences (Smith, et al., 2009).

#### **Stage 4**

In the fourth stage of data analysis, it is required to produce a summary table of the structured themes together with the relevant and supporting key words/quotations, lines/excerpts in accordance with the transcripts. The summary table includes the themes that essentially consist of the intent of the participant's experiences of the phenomenon. In doing so, the researcher may exclude some of the themes emerged during the second stage. Those themes are filtered which are not relevant to the researcher's interest and orientation. Moreover, the summary table includes theme labels along with the sub-ordinate theme labels such as brief

quotations, references, excerpts expressed in the interview transcripts. In doing so, I developed a summary table and listed all the filtered themes together with some relevant and supporting words, quotations or sub-ordinate themes. However, in many cases I copied the lines/excerpts directly from the transcripts which were found to be highly significant to expose in the texts.

### **Presentation of the Data**

Three research instruments; semi-structured interview, class observation and focus group discussion were used to collect the main and additional data to be assured of the validity of the participants' views (Annex F). The data obtained from different ways cross-checked their accuracy and credibility. Moreover, the obtained data were mostly in the English language. But some of the students expressed their views in Nepali that were transcribed into English, and all the audio data were converted into the textual data for further analysis. In course of listening to the audio recordings, I found that one of the recordings was totally blank. In sheer surprise, I recalled the scene from the back of my mind that reminded me:

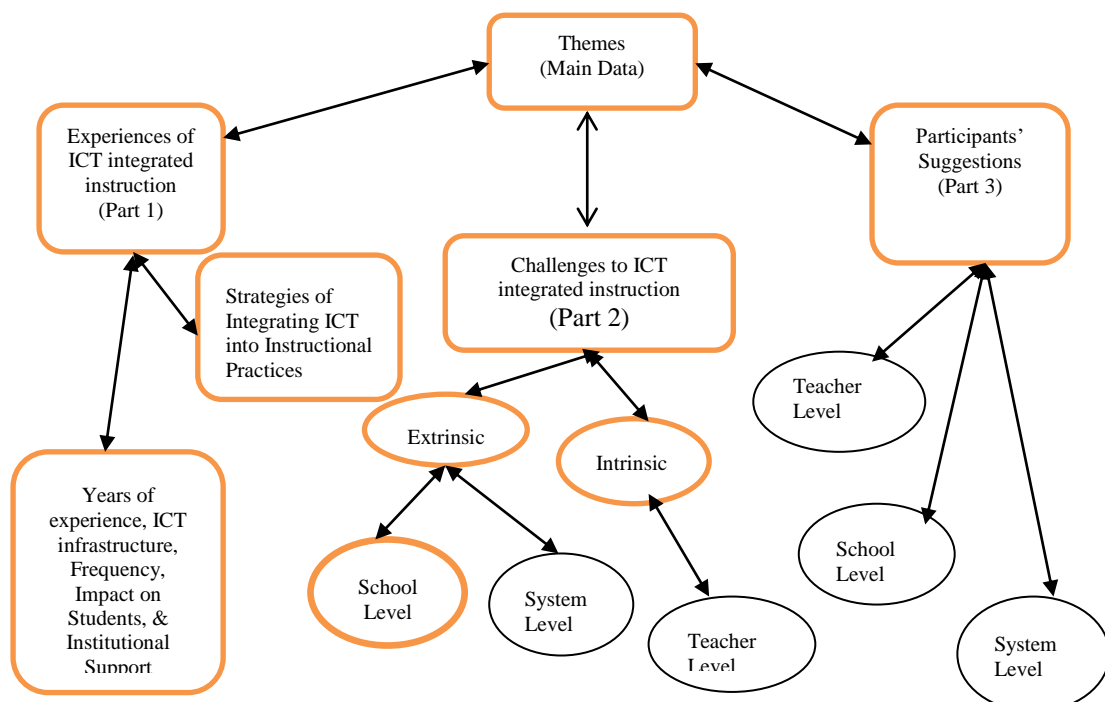
Once one of my participants and I were having some snacks at the school canteen which I wanted to utilize with some more talking on his experience of technology integrated instruction. With his permission I used my audio device to record that conversation but later on I found that the memory space of my audio device was full. Consequently, nothing was recorded. Unfortunately I lost that additional data due to my own mistake.

Additionally, some field notes which were maintained during each face to face formal/informal meetings at the school/the canteen and the telephone talks with every participant provided some additional information regarding their school

activities/holidays/festive vacations, students, their profession and so on were taken into consideration to facilitate the analysis of the data.

The data analysis procedures of a phenomenological study consists of studying the transcriptions, pointing out what is of common interest in the text (coding), searching for connecting threads and patterns (themes), and interpreting the themes (Seidman, 2013). My engagement with the data was facilitated by a series of four steps as mentioned above, that allowed me to identify themes and integrate them into meaningful clusters, first within and then across cases (Smith, et al., 2009; Willig, 2008). It has been well explained in the previous chapter. Thus, the main and additional data were separately analyzed following the methods of IPA to explore themes (Annexes: H, I, & J) that denoted the individuality of particular experiences of the phenomenon under study. Moreover, all the themes were essentially developed in association with the reviewed literature; thematic and empirical. In doing so, the themes developed from the main data were put under three parts along with the further extensions as shown in the figure 3.2 below:

*Figure 3.2* Themes Generated from the Main Data





The figure 3.2 displays the themes that emerged from the analysis of the main data that were obtained through semi-structured interviews of the participants. The themes are put under three parts in which part 1 consists of the ones related to the participants' experiences of ICT integrated instruction along with extended sub-themes; overall experiences of ICT integrated instruction that consists of ICT infrastructure, frequency of ICT integrated instruction, impact on students, institutional support and English teachers' strategies of integrating ICT into instruction, part 2 exhibits the themes related to challenges to ICT integrated instruction that are divided into two parts; extrinsic and intrinsic together with further sub-themes and part 3 consists of the themes related to the participants' suggestions to overcome the challenges along with the sub-themes; teacher level, school level and system level.

### **Verification of the Data**

Verification of data ensures credibility and validity of qualitative research. Data verification refers to the process of corroborating evidence from different individuals, types of data, or methods of data collection. It ensures accuracy and credibility to the research report (Creswell, 2013; Denzin & Lincoln, 2018). Thus, I verified the data obtained from applying three different strategies such as semi-structured interviews, class observation, and focus group discussion. Basically, the data obtained from interviews were triangulated or cross-checked through the data obtained from class observations of each participant and focus group discussions of their students. These different methods of data collection, and thick and rich description of the data explored the participants' lived experience and the true essence (Geertz, 1973) of ICT integrated instructional practices.

The analysis and interpretation of the three types of data brought up the similar findings. The information obtained from the participants at the semi-structured interviews was cross-checked through their ICT integrated class observation and the focus group discussion with the students. Figure no. 3.2 displays the themes generated from the semi-structured interviews and all the themes emerged from the data analysis have been kept in the annexes (H, I, & J). Moreover, the most prominent themes were found to be common across the three types of data. They are low frequency of ICT integrated instructional practices due to inadequate ICT infrastructure at school, teachers' workload, insufficient class time; English teachers' knowledge and skills limited to basic or low level ICT integrated instructional practices due to lack of professional trainings on technology mediated teaching; and students' enthusiasm and motivation for frequent ICT integrated instruction. Additionally, digital divide among students, parents' fear of allowing their wards to go to cyber for doing project work/home assignments, traditional setting of classroom, English curriculum of secondary level, exam-oriented instruction, lack of institutional support were found to be commonly experienced as challenges to ICT integrated instruction by the teachers and the students.

Thus, the verification of the research data ensured that the credibility and validity of this qualitative research study were highly maintained.

### **Trustworthiness of the Research Study**

Assessing credibility and trustworthiness of the qualitative research is completely different from that of quantitative research. Trustworthiness can be defined as a set of standards that demonstrates that the research has been conducted competently and ethically. A trustworthy study is acceptable only when it is based on competent practices and is sensitive to ethical issues (Lincoln & Guba, 1985).

There are some strategies to establish trustworthiness or credibility of qualitative research study (Rallis & Rossman, as cited in Heigham & Croker, 2009);

- Study is designed to gather data over a significant period of time, either long or short, very intensively.
- Triangulation through multiple data sources, data collection, methods, co-researchers, theoretical perspectives etc. strengthens the credibility.
- Member- checking shows respect for the participants.
- Research study needs to be as participatory as possible.

Among several qualities of qualitative research member-check or participant verification of research findings ensures research validity and credibility (Harklau, 2011). It requires few participants to work with more intensively than quantitative research and is less concerned about generalizability (Mackey & Gass, 2005).

However, qualitative research methods are ever questioned for their validity because they are rooted in subjective and multiple realities that may give space to critics too. Thus, I used different validation strategies to ensure validity, reliability and trustworthiness of the research study.

Validity of a research study refers to the degree of consistency between the explanation of phenomenon and the realities of the world (McMillan & Schumacher, 2010) and can be instituted in different ways (Denzin & Lincoln, 2018; Flick, 2018). Among them triangulation is one that is asserted by Mathison as “good research practice obligates the researcher to triangulate, that is, to use multiple methods, data sources, and researchers to enhance the validity of research findings (as cited in Flick, 2018, p. 780). In this regard, I applied the process of data triangulation as discussed above, in order to cross check the information obtained from my research participants.

In the similar vein, I ensured content and descriptive validity of the three research questions that I deployed in my research i.e. interview questions, class observation checklist and focus group discussion questions/themes from the two experts; my supervisor and co-supervisor. Some modifications were done on the basis of their invaluable feedback.

It is necessary for qualitative phenomenological study to ensure content validity (Golafshani, 2003) that measures the validity of the content designed to implement for the required data (Patten, 2014). Similarly, Thomson (2011) opines that descriptive validity measures the accuracy of the data which are collected should reflect participants' views accurately. Thus, open-ended questions were designed and implemented in semi-structured interviews and in focus group discussion that allowed the participants to express their experiences freely that also allowed emerging themes. The interview data and focus group discussion data were recorded on a digital audio device, field notes and a diary. The class observation data were noted in the diary based on the checklist. Those audio and textual data were transcribed and then I personally visited all the participants along with the transcribed data to get assurance from them. In order to increase interpretative validity, I went to meet the participants four times to follow-up and to ask some probing questions (Rubin & Rubin, 2012) in order to dig up deeper into their lived experiences of ICT integrated instructional practices and so on. Additionally, Thomson (2011) ensures that interpretative validity measures how well the researcher accesses the meaning of the participants' experiences. Moreover, the duration of each interview was 30 to 45 minutes and sometimes longer depending upon the participants' eagerness and excitement of sharing the information. The duration of each focus group discussion was 30 to 50 minutes as open-ended questions gave the participants freedom of expressing their

views and experiences. Finally, the duration of each class observation was the class duration of each period i.e. 45 minutes.

Reliability refers to the consistency of results that an instrument brings conducted over time with participants (Patten, 2014). In order to check the reliability of the interview and focus group discussion questions along with class observation checklist, I designed a research instrument protocol with open-ended initial questions, follow up questions and probing questions/concepts (Rubin & Rubin, 2012) for pilot testing. The pilot test was conducted with three experienced English teachers who were not the research participants. After the pilot study, 8 more open-ended questions were added, and brought some refinement and adjustment in my skill of interviewing and in the instrument protocol on the basis of the oral feedback given by those teachers. Additionally, I shared my experience of the pilot testing to my supervisor in order to modify the questions. Thereafter I conducted the interviews and focus group discussions being guided by the output of the pilot testing. It helped me neutralize biases during the interviews and focus group discussion sessions.

Additionally, as Smith et al. (2009) recommend Yardley's (2008) 'four principled' approaches to ensure the validity of IPA research: sensitivity to context, commitment and rigor, transparency and coherence, and impact and importance, I followed the model to assess the quality of my research as stated below;

**Sensitivity to Context.** This principle requires the researcher to pay attention to the context where the participants were situated, the existing literature and the information collected from the interviews. As the research was aimed at exploring how the English teachers' interpret their lived experiences of ICT integrated instructional practices, an extensive literature review (Chapter II) was carried out on various related issues and research studies to be informed about past and present

scenario of ICT integrated instruction and challenges to it. Likewise, this principle was applied in the analysis of each participant's experiences of the phenomenon including some prominent verbatim extracts from the interviews to give the participants a voice in the analysis and interpretations (Chapters IV, V & VI).

**Commitment and Rigor.** This principle requires the researcher's commitment and rigor in the process of data collection and analysis. Thus, each interview needs to be well conducted making the participants feel comfortable in sharing their experiences of 'person-in-context'. In this sense, my commitment could be seen in purposive recruitment of the participants, intensive in-depth interviews, and the four staged analysis of the collected information (Chapter III). In regard to the markers of rigor, I have interpreted and discussed the research findings being grounded under the thematic, theoretical, and empirical reviews along with philosophical underpinning of ontology, epistemology, methodology and axiology.

**Transparency and Coherence.** This principle requires the researcher to pay attention to the implementation of all the stages mentioned in the research process while writing up the study. As I followed the four staged process of IPA data analysis recommended by Smith et al. (2009), those steps were strictly implemented in the process of data transcription, analysis, developing codes, and clustering themes emerged from three different types of data collected through three different research tools: semi-structured interviews, class observation and focus group discussion. Additionally, transparency was also achieved through member checking as the participants were given the analysis of their interview data to read for the further feedback (Chapter III). Similarly, coherence was achieved through clustering the themes together and presentation of my arguments in order to claim the construction

of realities based on the participants' interpretation of their lived experiences of the phenomenon. In doing so, I frequently got feedback from my two supervisors.

**Impact and Importance.** This final principle requires the researcher to present the writing in such a way that stimulates readers' interest to find it interesting and useful. Thus, the presentation of the findings "needs to be plausible and persuasive in terms of the evidence presented to support the claims made and the writing needs to be bold and confident in presenting the interpretation of that unfolding evidence trail" (Finlay, 2011, p. 142). In achieving it, I have presented the researcher's reflexivity to capture minute details and reflexive account of all the occurrences related to the participants, location and researcher's position, and how these all influence each other (Finlay, 2011). Apart from this, the final measurement of validity and trustworthiness of my research heavily relied on the input forwarded by my supervisors and the research committee members.

### **Ethical Consideration and Consent**

Ethics is a word derived from the Greek word 'ethos' which means 'character' i.e. a researcher's moral principles that guide how to act in a given situation. Philosophers and ethical theorists have grouped ethical behavior in two broad categories; consequentiality and non-consequentiality, the former ethics claims that actions are right if they are useful or for the benefit of a majority and the latter claims for universal moral principles that guide all behaviors regardless of space and time that includes individual rights and responsibilities, social justice, and care (Crocker, 2009). According to Tracy (2020) "research invariably influences and affects other people, and therefore, taking account of ethical considerations is imperative, including issues of permission, confidentiality, participation, researcher relationship, and transparency" (p.89).

In short, a qualitative researcher very sensitively needs to follow ethical issues like ethical codes of conduct, privacy, confidentiality, consent and trust in the research study. Thus, the research participants were assured of their privacy in the research. The validity and ethical consideration of the research study were given prime focus through triangulation and saturation of the data from different data collection tools. The research participants and the selected schools were pseudo-named. They were ascertained that their names were not disclosed and their opinions would be used for the research purposes only. Thus, I strictly took care of all the ethical issues in the research procedures. However, it was quite challenging to seek the required information from the participants within the time boundary because English teachers were found to be very busy. Thus, it took a yearlong span of time to collect all the three types of data that was started from conducting semi-structured interviews to class observation and then focus group discussion from 28/01/2018 (14/10/2074) to 01/02/2019 (18/10/2075). Additionally, the school annual scheduled curricular and extra-curricular activities were bound to be conducted in time such as terminal and final examinations, sports, school annual programs, winter vacation, festive vacations (Teej, Dashain, Tihar, ID, Christmas, Losar & so on) etc. also made me wait for a long time to get response from the participants. Moreover, some participants dropped in the middle that was ethically allowed to them and also informed them earlier in the consent letter about it.

In order to obtain the participants' consent to participate in the research study, a consent letter (Annex C) was given to each participant before conducting semi-structured interviews, class observation and focus group discussion with students. They were informed about the purpose of the research study, strategies of the data collection and other formalities through the consent letter. Additionally, they were



informed about their voluntary participation that they were free to withdraw from the research at any time and their informed consent was taken to assure that they would “not lose any benefit or entitlement by refusing to participate” (Tracy, 2020, p. 88). Similarly, they were assured of the confidentiality of their views expressed along with the permission for audio recording of their interviews. Further, they were assured of the minimal risks regarding every sort of confidentiality and ethics.

### **Delimitations of the Study**

The research study had the following delimitations;

1. The integration of ICT into instructional practices referred to the physical environment against the virtual one.
2. Among various frameworks for pedagogical integration of technology, the focus of study was on the framework of TPACK.
3. Among various theoretical perspectives, the study was guided by social constructivism and methodological route of IPA.
4. The study focused on the public secondary schools against private schools because a research gap was found in this area in the context of Nepal.
5. Eight English teachers were purposively selected from seven public secondary schools of the Kathmandu valley that had minimum ICT infrastructure for having ICT integrated pedagogical practices.

### **Chapter Summary**

In this chapter, I presented the navigation process of my inquiry from the philosophical lens of ontology and epistemology, ideological stance of interpretive paradigm and the tools of the data collection. Ontologically, it is based on the assumption that the form and nature of reality is relative and multiple that is constructed epistemologically being grounded under the theoretical perspectives of

social constructivism through the phenomenological research design of IPA framework that requires the in-depth data collected from employing different strategies. In doing so, open-ended questionnaires, interview guidelines, and class observation checklists were used to collect the experiential information from the research participants. Additionally, the chapter flashed light over the selections of the participants and the sites, data collection procedures, transcribing and analyzing data, presentation of data, validity and reliability of the research, trustworthiness, ethical consideration and consent, and delimitation and limitation of the study.

## CHAPTER IV

### PHENOMENAL EXPERIENCES AND PRACTICES

In this chapter, I have explored, interpreted and discussed the queries related to the first research question that addresses ‘In what ways do English teachers make sense of their lived experiences of ICT integrated instructional practices?’ Moreover, the chapters V and VI deal with the remaining two research questions related to challenges of ICT integrated instruction and possible ways of overcoming the challenges from the participants’ perspectives. In addition, I cross-checked the explored themes evolved from the semi-structured interviews through the additional data obtained from class observation of the eight participants and focus group discussion with the seven groups of students.

Moreover, the thematic sections of this chapter consist of the themes generated from the semi-structured interview data. The themes are Teachers’ Experiences of Integrating ICT, Frequency of Technology Integration, Infrastructure at School, Benefits of using Technology, Strategies of Integrating ICT, Impact on Students, Teachers’ Knowledge and Skills, and Institutional Support. These themes were generated passing through the manual data analysis process of transcribing, cross-cutting of themes, analytical coding, fabricating quotations and framing IPA analysis as mentioned in the previous chapter on ‘Navigating my Inquiry Process’.

The IPA research design is a version of phenomenological research that moves “from the particular... to the shared and from the descriptive to the interpretive...” (Smith et al., 2009, p.79). In this sense, the methodological aspect of IPA consists of two distinct levels of interpretation. The first level of interpretation is more

descriptive, empathic that allows the researcher to enter the participant's lived experience of the phenomenon, whereas the second label of interpretation critically interrogates the participant's experience to get further insight into its nature, meaning and origin (Smith et al., 2009).

Additionally, the theoretical lens of social constructivism is taken into consideration in order to analyze the themes primarily pertinent to classroom instructional practices. According to social constructivism, pedagogical practices should be student centric instead of teacher centric. In doing so, ICT can be integrated to scaffold teaching and learning (Vygotsky, 1987). Moreover, the themes emerged from the focus group discussions and class observations were embedded into the themes of the semi-structured interview data. The themes emerged from FGs' discussions are Infrastructure and Frequency, Students' Impact of ICT Integrated Instructional Practices and Teachers' Knowledge and Skills of ICT. This process of data triangulation was done to ensure the trustworthiness and credibility of the obtained information.

### **Teachers' Experience of Integrating ICT**

The process of getting knowledge or skill from doing, seeing, or feeling things constitutes experience (<https://www.dictionary.cambridge.org>). In this sense, the research participants' experience of integrating ICT in teaching has been explored to be assured whether they are familiar with it or not. All the participants were found to have different years of familiarity with ICT knowledge and skills of integration into their instructional practices. The range of their experience varied from 2 to 16 years (Table no. 3.1). Their experience signified the educative value of ICT, however, it did not have an educative value in itself but it became valuable when teachers integrated it into their instructional practices (Hismangolu, 2012). Though years of teaching

experience did not have any direct impact on the level of technology use, the continuous use and development of ICT within education would have a strong impact on the teaching/learning process (Jamieson-Proctor, Paul, Burnett, Finger & Watson, 2006; Ul-Amin, 2014). In this line, one of my research participants, Sushila, who tried remembering the years of being interested in using ICT, said, “... *not fully being a teacher, I was interested from the very beginning ... but using ICT from 5/6 years*” (Interview Audio Record no. 46). She expressed that she started using technology while she was a student and further added that she learnt it to integrate in her instructional practices very lately “... *very lately... professionally I learnt something of integrating ICT into my teaching*”.

Another participant, Sampada said that she got the 3-month basic computer course just after she took her SLC examination in 2001 which was 15/16 years ago and started to integrate ICT in teaching EFL after she joined the school in 2006. Thus, she has been using ICT tools in teaching for 12/13 years. She remarked, “*I passed the SLC in 2001 so it means it’s around 15/16 years... in that school there were ICT tools and then it’s 2006...yes 2006*” (Interview Audio Record no. 37). Similarly, Nilu said, “*Personally I’ve been using it for 6/7 years and in teaching for 2/3 years*” (Interview Audio Record no. 06). Bishanu was first introduced to ICT integrated instruction about 6 months ago after the school brought SMART board and other ICT tools. Similarly, Akriti, Anil and Ganesh were found to be familiar with ICT integrated EFL instructional practices from some years ago. One of the participants, Dinesh mentioned, “... *just last year when a SMART board was introduced to our school in a formal way ... making some materials from Google etc. from the past 2/3 years*” (Interview Audio Record no. 47). All the participants were found to be well experienced to integrate ICT into their EFL instruction.

### Frequency of Technology Integration

Frequency of ICT integrated instructional practices is one of the important aspects of technology supported teaching. It is found that constructivist pedagogues/teachers utilize maximum technology penetration to promote student-centered approaches for developing higher order critical thinking skills, deepening knowledge through collaboration with peers synchronously or asynchronously, reflecting upon their own products and getting the ownership of their Publications (Tam, 2000). Additionally, Jamieson et al. (2006) state that the confident teachers integrate ICT more frequently to both enhance and transform the curriculum than the teachers who lack confidence.

Despite the participants were integrating ICT into their instructional practices for a long time, the frequency of it was found low i.e. once or twice a week/a fortnight/a month. A participant, Bishanu reflected, “... *after teaching theoretical classes for about 4/5 days ... practically we’ve to show them at least once a week, we’re using ICT*” (Interview Audio Record no. 02). He used to integrate ICT at least once a week to make students see the visual of what was taught before. Anil stated that he integrated technology (old and new ICT) especially to teach listening skills almost every week. To quote him, “... *in our course book, we’ve a special topic ‘listening skill’ and there almost every week, we use cassette player, multimedia and television*” (Interview Audio Record no. 11). On the contrary, Akriti expressed that she used ICT once a month that depended on the availability and requirement of the lesson as she stated, “*Not once a week but whenever I find suitable materials ... let’s say once a month ... it depends on availability and requirement of the topic, yes*”! (Interview Audio Record No. 35). Likewise all the other participants used to integrate ICT in teaching EFL on the similar basis that was not compulsion from the school

administration nor from the content of the course. However, one of the participants, Sushila commented that she used ICT as the demand of lessons i.e. sometimes 2/3 times a week, sometimes once a week and sometimes once a month according to the requirement of the EFL content. Sampada expressed a similar view to Sushila. She mentioned, “... *once a week, once a fortnight it depends on the topic. According to the topic, which topic needs to use ICT*” (Interview Audio Record no. 37). Dinesh tried to integrate ICT in teaching at least once a week (“*Once a week at least I try to use*”). Moreover, Nilu, one of the participants stated that she did not use ICT as a routine requirement. She expressed, “*It’s not that I’ve made a routine but according to the course or lesson I use it so it requires ... requirement based, once a week kind*” (Interview Audio Record no. 06). On the contrary to all the seven participants, Ganesh was found to have frequent integration of ICT into his EFL instructions. Even he left writing on the whiteboard that means he is used to ICT. He stated, “*It’s all the time, regularly and I teach my students with ICT every day, every class because I’ve left writing on the whiteboard also*” (Interview Audio Record no. 12).

Though there was low frequency of ICT integration into EFL instruction in the majority of cases, all the participants were integrating ICT more or less. Seven of the participants were found to integrate ICT in low frequency whereas one was found to be very frequent and regular to have ICT integrated instructions. Such frequent integration of ICT even made him stop writing on the whiteboard. Moreover, the constructivist teachers/pedagogues intended to create contexts for maximum integration of ICT into their instructional practices (Tam, 2000).

The information regarding frequency of technology integrated instruction obtained from the seven focus groups (FGs) of students is also found similar to what their teachers expressed. In addition, my intention of cross checking the information

obtained on a similar theme from two types of my research participants is to confirm the credibility of the research data. Thus, except one (Ganesh's students), all six FGs of students had similar experience of low frequency of ICT integrated instruction by their English teachers. Unlike them, the focus group of students who were taught by Ganesh expressed that they had technology integrated class teaching on a regular basis.

FG1 stated that in many cases it depended on their EFL teacher's mood but once a week was scheduled according to the availability of the ICT lab. They reflected, *"In many cases, it depends on our teacher's mood but once a week according to the lab schedule too"*. FG2 mentioned that they got the ICT integrated EFL instruction as required in the lesson. They expressed, *"our teacher uses technology as required in the lesson"*. FG5 viewed that their English teacher took them to the SMART class 2/3 times a week and also according to the lesson requirement. They stated, *"2/3 times a week and also depends upon the requirement of lesson. Students are more eager to go to SMART class for technology integrated class"*. FG4 stated that their teacher gave them ICT integrated EFL instruction on specific topics twice a week. They mentioned, *"It happens for specific topics twice a week"*. FG6 expressed that ICT integrated instruction depended on the context of the lesson however, they got such three times a week, as they said, *"Frequency of ICT integrated class in English depends upon the context of the lesson, at least 3 times a week"*. Similarly, FG7 viewed that it was compulsory for their teacher to integrate ICT into his/her instruction at least once a week. They remarked, *"Only one day/once a week, it's compulsory. Every EFL teacher compulsorily teaches in ICT lab"*. On the contrary, FG3 expressed that some teachers integrated ICT every day and some teachers never used ICT as they did not have the skills of integrating it into their



instructional practices. They said, “*Some teachers use every day and some never. They don’t know how to use technology* (all laughed)”. They laughed in the sense that some of their teachers still lacked digital literacy.

### **Infrastructure at School**

Infrastructure refers to the availability of ICT tools along with related requirements such as schools’ physical structure, power backup, internet connectivity etc. In this regard, Adetimirin (2011) assures that it requires better availability of ICT tools, ICT literacy and sufficient duration of time to use these for effective integration into instructional practices. Putting this view into the ICT policy of 2010, more than 3038 schools were provided with ICT infrastructure and internet connectivity throughout Nepal by the government of Nepal and non-government organizations (NGOs). Moreover, it provided some additional ICT related equipment to all District Education Offices (DEOs) and launched a website in each DEO to improve educational management and delivery system (MOE, 2013). In the similar line, all the participants reported that their school had an ICT lab/a computer lab in which they used to conduct ICT integrated EFL instructions. Later, I myself visited the lab of all the seven participating schools and found out what ICT tools the participants mentioned during the semi-structured interviews were there. Though the available tools were not sufficiently equal to the number of students in each school, an initial attempt was found to be taken for ICT integrated instructional practices. What tools were available at the school ICT lab were reported by the participants. One of them said, “*It has one projector, there is one computer, also internet connectivity, no SMART board...*”. Anil and Sushila belonged to the same school. Anil stated, “*... it’s big with free Wi-Fi, well equipped ... we’ve multimedia, SMART board in the same computer lab. We’ve portable television as well ... 30 to 40 students can use the*

*computer lab at a time*” (Interview Audio Record no. 11). The participant, Bishanu expressed, “*We’ve 40 computers ... one interactive board/Samsung SMART board ... It’s a free Wi-Fi area so teachers can search materials...*” (Interview Audio Record no. 02). The school, where Ganesh works has a small ICT lab as he said, “*We’ve a small computer lab ... we’ve e-library also we’re using and we’ve projector in each classroom and for the teachers ... and ... the teachers can use Internet in all classes*” (Interview Audio Record no. 12). Similarly, Dinesh reflected that the ICT lab at his school consists of some computers, SMART board, and forty tablets for students that were donated by a company along with a special program. However, the program was not formally handed over to the school. Consequently, in absence of that soft-ware program the tabs could not be connected to the SMART board. He mentioned, “*ICT lab ... computers and that SMART board ... there’re forty tabs ... there was especial program assigned by the company but the program was not formally given to us yet ... without the soft-ware program the tabs couldn’t be run because board (SMART) and tabs could be well connected ... they’re useless*” (Interview Audio Record no. 47). Sampada’s school has a well-equipped ICT lab that has latest technology as she said, “*... it’s highly equipped ICT lab ... CC cameras, SMART board, bench wise laptops ... internet connectivity*” (Interview Audio Record no. 37). The participant, Nilu said that her school ICT lab was like a room that was equipped with some of the devices. She expressed, “*ICT lab ... it’s not as a lab but there’s a room, ... and it’s equipped with a SMART board, a laptop, and some sound speakers ... nearly 40 students can accommodate inside at a time*” (Interview Audio Record no. 06).

All the seven schools where these participants were teaching, have managed some ICT tools, though those were not sufficient, the students were being given more or less exposure to ICT integrated EFL instructions. Additionally, during the

discussion, all the seven focus groups (FG) were also asked about the availability of infrastructure at their school. All the seven FGs stated that their school had an ICT lab with some tools like SMART board, laptop, computers, multimedia/projector, Bluetooth, sound system, Internet connection, solar panel/power back up etc. One of the FGs (Sampada's students) pointed out that their English teachers only had access to ICT equipped classrooms with a laptop, a projector, the Internet and a whiteboard in each and every classroom that made them to have ICT integrated instruction whenever it was required. They meant to say that students were not allowed to have the access of those devices at their school.

Moreover, the schools did not have adequate infrastructure for technology integrated instruction that were additionally ensured during the class observation of each of the participants.

### **Benefits of Technology Integrated Instruction**

The benefits of integrating ICT into instructional practices were reported by the participants/teachers as more student-centered and constructivist, allowing for less lecturing and more facilitating or guiding students in the learning process (Dunleavy, Dextert, & Heinecket, 2006). Further, they mentioned that integrating ICT helped create virtual communities through synchronous and asynchronous modes of communication to share ideas, solicit feedback, or ask relevant questions about the learning task. Thus, the teachers are highly required to promote the skills of the 21<sup>st</sup> century. One of the major benefits of ICT integrated instruction is that it makes learning an active construction of knowledge instead of a transfer of knowledge (Majumdar, Retrieved 2016/07/11 from // [www.docplayer.net/10814571](http://www.docplayer.net/10814571)).

All the eight participants were found to be very positive towards ICT integrated instructional practices. They were asked about the benefits of it in terms of

student motivation and effective EFL instruction with ICT/without ICT. They had good experience of the benefits of integrating it for effective instruction. Almost all the participants agreed that technology integrated instruction could hold the attention of students and could make the class student-centered. Thus, ICT mediated teaching English helps students create and communicate in interpersonal contexts that can shape and sharpen their proficiency in English as a foreign language (Brown, 2007).

One of the research participants, Nilu reported that ICT integrated instruction not only motivated the students but also made teaching convenient. Additionally, she said, “*we can even bring experts into our class without troubling them physically; we can bring their videos or invite them virtually. Web sites can broaden and deepen our knowledge on any type of topics*” (Interview Audio Record no. 06). She added that without ICT, a teacher might need lots of physical effort to motivate the students. She said:

*... Teaching becomes convenient when you use ICT. You don't need to give much more physical effort in the class ... when you're in class without ICT you might need to control your class ... you've to use lots of physical strength, maybe your voice but through ICT it becomes easier ... students are participatory, attentive ... no need to repeat the same thing again and again. It becomes student-centered and a motivating tool for them so it's effective.* (Nilu, Interview Audio Record no 06)

Sampada viewed that she could not imagine teaching without ICT. It made her drop the ‘chalk & talk’ method of teaching standing with the books and duster. With ICT her students feel so much motivated that they cooperate with her for such instruction. In addition, she expressed that in absence of ICT tools the class became

teacher-centered and inactive because students acted as showing interest in learning.

She clearly expressed her experience as:

*I can't imagine teaching without ICT, yeah, I feel like that because whenever I go to the classroom and there's no time to take the help of (more excited)... ICT at that time just I think that it's making that the teacher-centered classrooms. I think like that because I myself only preaching there and being active, all the students I see their face, they're being little bit inactive & being compelled to be active and just from outside part they're showing that 'we're active inside obviously not' and being as a teacher we've to understand their psychology as well. (Interview Audio Record no. 37)*

This shows that the benefits of integrating ICT into English instruction are immense. It helps reduce the physical effort of teachers that is spent to motivate students to make teaching learning activities much engaging and participatory.

Sushila found ICT integrated instruction helped her students being motivated, concentrated as well as enthusiastic to learn. Teaching through lecture methods consumed much time and also could distract the students' mind from learning. Thus, using ICT as an aid could hook up their attention equally from beginning to end.

However, she commented that it did not mean without technology teachers could not teach well. She stated:

*... lecture method, it takes time to understand for the students and divert their mind ... It helps to motivate the students & they'll be more concentrated as well as enthusiastic to learn ... from beginning to the last ... then it doesn't mean that without ICT, we can't teach ... but ICT helps ... (Interview Audio Record no. 46)*

Akriti, a participant, viewed that the benefits of ICT could be seen in terms of students' excitement for ICT integrated instruction plus their curiosity in learning English. She expressed, "*Use of ICT is obviously effective to teach English and in classroom presentation also that can increase the students' achievement rate but the main problem we're facing here is availability of suitable materials*". Likewise, Dinesh found ICT very effective for his instructional practices. It helped him a lot to elaborate the subject matters and to lead the students into the subject matters. As the four skills of language are intertwined, ICT integration in those areas could be very effective. He stated, "*... when they're interested in one of the areas e. g. listening, or speaking that would be helping to all the other areas ... These areas can be effectively presented when we've ICT facilities'*" (Interview Audio Record no. 47). Ganesh experienced the benefits of integrating ICT in teaching in terms of updating teachers in subject matters and providing encouragement to students for better learning. Further, he said that ICT use into instruction made class very effective and interesting for students. He said, "*... teaching with ICT is more effective and more interesting and the students can keep all these things in their memory for a long time because it's visualized*" (Interview Audio Record no. 12). Bishanu mentioned that the use of ICT into English instruction was highly motivational for students that could be seen into their better performance. He realized the benefits of ICT integrated instruction not only in terms of his students' performance but also improved his professional career. He stated:

*Certainly, it can improve my professional career ... help me to develop my competence especially using those ICT tools and if I know about those things then I would be confident in my teaching if they've some problems then I think that there might be sources I can search ... teaching different skills and*

*aspects of English ...many sources from the internet ... it builds up my confidence.* (Interview Audio Record no. 02)

Anil stated that integrating ICT tools helped him get authentic materials to teach the subject and motivate the students for learning better. He expressed:

*... in the context of teaching language, my English no matter how I know is typically controlled by my cultural background so my pronunciation isn't so effective, so convincing but after using ICT tools I was able to make my students understand how British or American native speakers pronounce the word ...after using ICT tools, I think their learning achievement has grown up ...*(Interview Audio Record no. 11)

Almost all the participants were found to be familiar with the benefits of using ICT into their instructional practices. Their experiences of teaching English with integrating ICT facilitated them for effective teaching, made them feel confident and convenient to bring variety incorporating audio/video materials into the EFL contents and could improve their professional career. Additionally, technology supported instruction helped their students not only improve their pronunciation through audio/visual displays but also increased their achievement/proficiency level in terms of language aspects and skills. Moreover, the participants' experience of benefits of ICT integrated EFL instruction was in the similar line with the previous studies (Green, 2005; Lee, 2006; Fox, 2008; Nurmukhamedev, 2011; Barrs, 2012; Kessler, 2012; Rivas, 2012; Sun & Chang, 2012) which found that the effective integration of technology maximized target language interaction both inside and outside of the classroom.

### **Strategies of Integrating Technology**

There are many different frameworks especially designed for pedagogical practice with technology infusion. They are Puentedura's SAMR model (2012), the TPACK model developed by Mishra and Koehler (2006), and The Pedagogy Wheel model developed by Carrington (2012). These models basically guide teachers in terms of incorporating ICT as a tool into their instructional practices. Thus, they could develop various strategies of integrating ICT tools into their instructional practices in particular. In a study, Zainal (2012) found that the TPACK model provided a better understanding of how teachers' different types of knowledge; technology, pedagogy and content interacted and influenced the integration of ICT in teaching English literature.

However, when the participants were asked about their strategies of integrating ICT tools, most commonly they expressed that their instructional practices were confined to PowerPoint presentation, downloading EFL content materials from Google and YouTube. Further, they did not use any specific EFL soft-ware or technological models for their teaching purposes.

Some of the participants mentioned that they used EFL audio/video materials based on the courses of Grades 9 and 10 into their instructional practices which were prepared and uploaded on YouTube and other sites by CDC/NCED. Those materials were primarily designed under the theoretical perspectives of Activity Theory. Moreover, all the participants were found to utilize their basic knowledge and skills of ICT into their instructional practices.

One of the participants, Sampada, a constructivist pedagogue, said that lots of the EFL contents of grades 9 and 10 required ICT tools to teach. Normally, she used different web-sites and soft-wares such as Vocab App, Online Dictionaries,



answer.com etc., and PowerPoint, YouTube, Windows etc. for teaching EFL. Further, she mentioned that she mostly used YouTube to download audio/video materials related to the contents of the subject because YouTube helped her for effective teaching. Additionally, she used some web-sites like chrome, google.com, wikis, YouTube etc. Thus, she enjoyed integrating ICT tools like projector, tab, and mobile into her instruction that have reduced her physical efforts. She also insisted students to search information related to the course that helped promote their creativity. Her experience of integrating ICT is remarkable as she found it reduced the physical effort and at the same time it promoted students' creativity. However, her instructional practices of integrating ICT was simply confined to the basic usage of her knowledge and skills of ICT i.e. PowerPoint, YouTube, windows, different web-sites, vocab apps, online dictionaries, answer.com web-site. She expressed;

*... I use mostly ICT classrooms, projector, tab, mobile etc. And PowerPoint, YouTube, windows, different websites, Vocab apps, online dictionaries, answer.com website etc. ... I use only YouTube to facilitate my teaching by showing different videos related to subject matter. I try to make students creative themselves by telling them to search for information related with content. It makes me easier to teach and explain to students about the subject matter. I don't have to waste my energy by shouting too much. (Interview Audio Record no. 37)*

What Sampada expressed during the interview sessions, was found alike in her practice during the time I observed her class.

Dinesh mentioned that ICT integration facilitated his classroom instruction through SMART board. The audio/video materials were very effective for teaching language skills. He used to download course related materials; poems, stories, movies

etc. to display during the instruction. Moreover, he added that he could get authentic EFL materials from the Internet for listening and speaking activities. In addition, he used YouTube from where he could get sufficient resources uploaded by experts that facilitated his instruction. He used PowerPoint presentations to teach the English language skills and aspects incorporating audio/video materials from YouTube. Additionally, he found PowerPoint presentations very effective for teaching writing skill especially in brainstorming ideas and supplying content along with vocabulary. Similarly, he used some samples of success stories, travel accounts downloaded from YouTube. Overall, his experience of integrating ICT into EFL instructional practices was highly effective. Thus, ICT facilitated him to visualize authentic materials related to the contents. He expressed:

*I use Smart boards, laptops, sound systems, and the Internet to teach language skills. I download the course related materials such as poems, stories, movies etc. and display on the SMART board. Audio and visual together are very effective for teaching language skills... Facebook, and YouTube are the best means of teaching real and authentic voices of the native speakers of English. I use those sites as suggested by seniors and most importantly Google and YouTube. PowerPoint presentations help the teachers to teach writing skills especially in brainstorming the ideas and supplying content and vocabulary. It can be used to teach grammar (summarizing rules). (Interview Audio Record no. 47)*

I got the idea from Dinesh's stories of his experiences of technology supported instructional practices that he used to demonstrate his basic knowledge and skills of ICT. However, his interest and enthusiasm for it, which I captured during our

formal and informal talks, were highly praiseworthy. He was found to be a constructivist pedagogue.

Another participant, Anil stated that he frequently integrated ICT and some social sites such as Facebook, WhatsApp and YouTube to facilitate his EFL instruction. He used Facebook to get connected with the students. He said, “*I frequently use my laptop, projector, Bluetooth, mobile and Internet. These ICT tools help me download required EFL materials from Google and YouTube that I show my students using projector...*” (Interview Audio Record no. 11). ICT helped him download the required content materials. He used those materials such as ‘Correct Usage of EFL’ that helped students do speaking practice, enhanced language skills and aspects. As he said, “*They could hear the correct pronunciation of the English language, do speaking practice in groups. Reading and writing skills get enhanced through summarizing story, poem, writing essays for which they get supporting materials from the internet...* His strategies of integrating ICT consisted of downloading the required EFL audio/video content materials from YouTube, Google search to incorporate into PowerPoint slides that he presented in the EFL class. “*My strategies usually are collecting EFL course related materials from Google search and YouTube...*” He used the materials for teaching grammar designed and uploaded by other expert teachers that he pointed out, “*I download videos made on grammar items by other expert teachers and visualize that in class. For vocabulary, I mainly use an online dictionary that app I’ve on my mobile phone. It’s easy to use with the help of Bluetooth*”. Further, he used PowerPoint presentations incorporating audio/video materials to teach the skills and aspects of the English language. He remarked, “*PowerPoint is a highly used soft-ware for presenting course materials using projector and whiteboard. It certainly helps me facilitate my classroom*

*instruction*”. It was easy to use soft-ware for him. Similarly, he found YouTube very effective for his instructional practices, as he said, “*YouTube is effective and commonly used by EFL teachers to download course related audio and video materials for classroom instruction. These are effective to teach language aspects and skills together like integrated skills*”. However, the EFL curriculum of grades 9 and 10 required overall change for ICT integrated instruction.

It shows that Anil was a frequent user of ICT into his instructional practices that revealed his confidence in using technology. But his confidence was confined to basic knowledge and skills of ICT like other participants. ICT integration in subject teaching requires some additional expertise in using some specific soft-wares instead of searching the required materials from Google/YouTube and incorporating into the slides prepared for PowerPoint presentation. In addition, he mentioned that he used social sites like Facebook to get connected with his students in terms of informing them about the school activities. To quote him, *Facebook helps me get connected with my students who have ICT availability at home... Mostly they use their parents’ smartphones to get informed about school activities ...*

The experience and practice of integrating ICT into EFL instruction of Ganesh, one of the participants, was in terms of “*bringing variation in instructional phase and saving time in the classroom*”. He integrated ICT into his EFL instructional practices frequently such as “*... Internet, laptop, OHP and speakers frequently in teaching language skills*” however, he preferred to use YouTube to other ICT tools. YouTube helped him filter the items as his need and also because it could be operated easily. His major strategies were presentation and discussion through using ICT tools for teaching language skills and aspects. Further, he stated that YouTube helped him to find sufficient content materials. He remarked, “*Presentation and Discussion are*

*my major strategies of using ICT tools/ SMART board for teaching language skills and aspects ... YouTube is an effective tool*". Similarly, Google, Wikipedia and PowerPoint soft-wares facilitated him not only to teach different aspects and skills of language but also motivated students, saved his time bringing variation into instructional practices. Moreover, he viewed that the curriculum of grades 9 and 10 gave priority to functions of language that required frequent ICT integration. He expressed:

*Different websites ... I usually go through Google, Wikipedia and YouTube. Power-point presentations facilitate me to teach different skills and aspects of the English language by holding ample motivation for the students towards learning, ... At the present syllabus/textbook of the English subject of class 9/10 the language functions are given due priority therefore the teaching involves frequent use of ICT materials.*(Interview Audio Record no. 12)

Sushila stated that she integrated ICT in teaching language skills and aspects. She said, *"I mainly use a smart board, mobile while teaching four language skills ... use social media like Facebook, YouTube etc. for sharing the main information and presenting on smart board"*. Her strategies to integrate ICT were to download the required authentic audio/video EFL content materials from Google search, YouTube, Dictionary app that she used to display through the SMART board to facilitate her EFL instruction. She took the students in SMART class once a week regularly. Additionally, she used her smart phone in the classroom to teach word meaning, pronunciation and listening skills. She found YouTube the most powerful tool to teach English as she commented, *"YouTube is the most powerful tool to teach English because it is audio visual which presents every language aspect and skill lively. It*

*presents authentic materials*". Further, she viewed that ICT was very effective for her instructional practices. She expressed that:

*I take the students once a week in smart class on a regular basis but when needed, we can use the internet at any time. I use my smartphone in the classroom while teaching, to teach word meaning, pronunciation and listening skills. Mostly I use Google search, YouTube and online dictionary to support my classroom instruction. Spoken English Practice. ...Fluent U. ...Duolingo. ...TED Talks. ... YouTube. ... My English Pages all the language skills are given importance so most of us integrate ICT while teaching different language items.*(Interview Audio Record no. 46)

Nilu used to integrate ICT in teaching, listening, speaking, and reading more frequently than in teaching writing skill. She said, *"I usually use laptops, speakers for listening and use multimedia for reading and speaking whereas I use ICT tools less frequently for writing skills"*. In addition, she used mobile for teaching vocabulary and multimedia for grammar. She mentioned that YouTube helped her teach EFL that provided her with expert exposure for teaching EFL along with some websites, Wikipedia, PowerPoint presentation soft-ware helped her instructional practices. For her, *"You Tube is an effective tool for teaching the English language because we may not be able to explain everything exactly but videos can show and gives sense what we wanted to explain exactly"*. Like other participants she also found PowerPoint very powerful for the presentation of EFL content materials. She commented, *"Power-point presentation tool is the most powerful program for the presentation. So, this is one of the programs that I use frequently to get students present their work and make my own presentation.* Moreover, she viewed that the curriculum of grades 9 and 10 is not changed for technology integrated instruction; however, especially for teaching

listening skill, ICT is required inevitably. She expressed, *“There is not much change in the syllabus/textbook of the English subject of classes 9 and 10 to support ICT integrated instruction but listening sessions required ICT integration inevitably”*.

Akriti mentioned that she frequently used ICT tools and technology into her instructional practices. She pointed out, *“The ICT tools that I frequently use in teaching language skills are projector, multimedia, computer, pen drive and mobile phone in teaching language aspects too”*. She integrated Facebook and some links shared by British council, and NELTA to get ideas for teaching English. Further, she expressed that she watched videos on YouTube for teaching language aspects and skills that guided her for her teaching activities. She was experienced in learning by doing, discovery methods and some techniques to EFL instruction along with ICT integration. She opined that YouTube was a very effective tool for teaching as it was easy to use and save time too. In addition, she stated that YouTube carried various useful pedagogical resources for teachers. Like others, she also found, *“YouTube is an effective tool because it is easy to use. ...it is time saving. The videos uploaded on it carry the vast materials of various pedagogical resources. The materials are equally useful for teachers”*. Additionally, she frequently used *“the websites like <https://www.britishcouncil> (British council), [www.americanenglish.com](http://www.americanenglish.com)[www.lyricstraining.com](http://www.lyricstraining.com)[www.doe.com](http://www.doe.com) to teach EFL.*

She expressed that:

*... I also see the links shared by the organizations like British council, NELTA and their activities... I use YouTube equally to get practical ideas about how to incorporate ICT in the class. I watch videos of ICT class teaching language skills, aspects and grammar. Yes ... I frequently use PowerPoint presentations which are quite helpful in presenting the materials in an*

*interesting and systematic way. In the recent grade 9 and 10 curriculum, for the listening skill, the learning outcome has been designed to make them able to respond accurately to spoken direction or instruction from a variety of sources ... (Interview Audio Record no. 35)*

According to her the EFL course contents of grades 9 and 10 were basically focused on developing the listening skill. In doing so she integrated ICT frequently into her classroom instructional practices. However, her strategies of integrating ICT were similar to all the other participants.

Likewise, Bishanu followed some strategies of integrating ICT into his instruction of language aspects and skills mostly using mobile, computer and SMART board. He commonly used Google and YouTube for searching EFL content materials that he incorporated into the PowerPoint slides to visualize them in the ICT class. He said, *“Mostly Mobile, computer, you tube for listening; picture slides, maps through smart board for speaking; computer, Google drive, for reading; computer, multimedia, YouTube, PowerPoint presentation, email for writing. Use online flashcards, YouTube, pictures from the Internet to teach vocabulary”*. Additionally, he stated that he frequently used some websites; [www.nced.com](http://www.nced.com), [www.ncedvirtualclass.com](http://www.ncedvirtualclass.com), [www.worldsteps.com](http://www.worldsteps.com), [www.vocabularygames.com](http://www.vocabularygames.com), [www.bbclearningenglish.com](http://www.bbclearningenglish.com), [www.languagegames.com](http://www.languagegames.com) (NCED virtual Class, Word steps, Vocabulary games, BBC learning English and language games). He equipped his presentations with different types of media - including images, sounds, animations etc. that increased the students' abilities to retain what they were being taught. Moreover, he integrated ICT in various ways that promoted students' participation in learning English including , *“... online games, grammar games and computer for teaching grammar inductively ... social media to share information for direct*



*interaction with learners ... by making different files and applications such as PowerPoint, word and excel ... changing it into interactive board and involving the students directly in learning.* Being a constructivist pedagogue and confident user of ICT into his instruction, he used to equip his presentations with different types of media that allowed him a more dynamic way of instruction rather than lecturing and writing on the whiteboard. His experience and practice of ICT integrated EFL instruction brought him the perception that ICT not only helped increase his students' abilities to retain the taught lessons but also made his class interactive to teach all skills and aspects of the English language in an integrated manner.

*... lessons in a more dynamic way than simply lecturing and writing on the whiteboard... equipping our presentations with different types of media - including images, sounds, animations etc... increasing the students' abilities to retain what they're being taught... focusing on the class and interacting with the students instead of writing on a board dealing with all language skills and aspects in an integrated manner... practical, relevant to the curriculum...*

(Bishanu , Interview Audio Record no. 02)

The above excerpts contain the views and experiences of all the participants regarding their strategies of integrating ICT into their instructional practices. Almost all of them followed similar strategies. Commonly, they used the Internet for downloading EFL content materials; audio/video, animated and authentic materials for incorporating into PowerPoint presentation slides. Mostly, they found YouTube very effective to present authentic EFL materials uploaded by experts/seniors that well facilitated them for classroom instruction. Moreover, many of them used some social sites; Facebook, and WhatsApp to be in touch with students and for giving school information, holiday assignments etc. They expressed that most parts of the

curriculum of class 9 and 10 were still traditional and needed overall change for the constructive classroom instruction. Additionally, their strategic efforts for ICT integrated EFL instructional practices were found to be confined to their basic knowledge and skills of ICT. Particularly, the paradigm shifted into the instructional practices of English from CALL to ICT integrated instruction in which computers played a vital and powerful role (Kern, 2016) in order to reframe and refine the process of language teaching and learning. However, all the participants were found to be confined to their basic knowledge and skills of ICT (i.e. PowerPoint slides and downloading the required EFL materials) integration into EFL instruction.

Moreover, the class observation of each of the eight participants revealed that their strategies of infusing technology into their instruction were limited to their basic knowledge and skills of ICT. Thus, the information obtained from their interview sessions and from their class observation was exactly the same.

### **Impact of ICT Integrated Instruction on Students**

Students are one of the major components of school education and their performance determines how effectively they participate in teaching and learning activities. Their active participation is accelerated only when they are well motivated. Thus, it was pertinent to ask my research participants about the impact of technology integrated instruction on their students. Moreover, teachers and students belong to two different generations. For Prensky, (2001) teachers are digital immigrants whereas students are digital natives. Comparatively digital immigrant teachers are not raised in the same environment as the digital natives i.e. today's students, are being raised, as a result, teachers may not be as adaptive and adoptive towards technology as their students are (Ashrafzadeh & Sayadian, 2015). Thus, being grown up in digitized

surroundings, students certainly feel well motivated for ICT integrated instructional practices.

All the participants were found to have similar experience that technology supported instruction hooked up students' attention to the content taught to them and was highly motivational for them. Additionally, the participants expressed that it basically made the class student-centered in which students' enthusiasm and curiosity facilitated their learning. Moreover, they expressed that their students' achievement comparatively increased after ICT integrated instruction.

Anil shared his experience “... *after using ICT tools, I think their learning achievement has grown up and that interest has grown up ... they prefer the visual classes mostly*”. It was very effective for students that increased their achievement level. Further, he said that the students were highly motivated and mostly preferred visual classes. He expressed, “... *the students were able to store the information in their minds after having the visuals of the different items in the class, and their achievement level has increased*”.

Similarly, Bishanu mentioned that ICT integration in teaching EFL brought a positive impact on his students' motivation that was seen in their better achievement. He stated, “*Yes, certainly yes, if they're motivated, they learn better and if they learn better, their achievement will be better that's why I feel differences after using these tools*”.

Ganesh reflected that ICT integration in teaching made his class very effective. Students were very much motivated and some exceptional progress was also seen in them. He found his students very positive and co-operative for ICT integrated instruction that was seen in terms of some exceptional progress in them as he mentioned, “... *they're very positive & co-operative ... they feel very interesting & the*

*class is effective ... there's some exceptional progress in students*". Further, he added that the visualization along with audio of the contents facilitated the students' understanding and learning of the lesson. They could get the native like pronunciation in the ICT class. He expressed, "*... and not only they listen to teachers' voices and they see some pictures and then the writing also on the monitor so at the same time they can learn listening and writing and the real language learning, native like pronunciation*".

Nilu expressed that students assisted her in technology supported teaching English. She said, "*... if they're not interested then I would be discouraged to integrate ICT in my teaching. So they follow my instruction and they're motivated, very supportive ... seem much energized*". Thus, her students were very motivated for the ICT integrated instruction. They seemed much energized, excited, interested while visualization was done. Further, she mentioned that they felt more connected with text after ICT integration in teaching. She remarked, "*I can see some changes in them ... e.g. for they were not so much connected with the text before & now they feel that connected with the text*". Additionally, such instruction increased learners' creativity and autonomous learning (Shapley et al., 2010). Similarly, Dinesh mentioned that students were fully motivated and mostly preferred ICT integrated instruction to regular mode of teaching. He said, "*They mostly prefer these modern technologies and they are far superior to us also sometimes because when they use one thing, they know more than one thing in the class*". He meant that the students were grown up with technology that made them far superior to teachers in technology usage and they assisted to manage technology during the classroom instruction. Further, he said, "*they're very enthusiastic. They know the ideas & get the ideas so quickly than us and they are very eager to learn*".

Akriti stated that her students got highly motivated with ICT integrated English teaching. Because visualization brought them better understanding of the contents and especially their pronunciation skill developed noticeably. She opined:

*Yes, they want more that means they're motivated and plus not only their achievement level also becoming higher than before because they don't forget once they see or hear something and once they've done this in the class so they never forget and it's totally different from the material that they find in print or other things. ...their change in that skill in pronunciation makes very noticeable changes like ... very cooperative and enthusiastic. (Interview Audio Record no. 35)*

Similarly, Sushila expressed that students were highly motivated to participate in technology integrated classes actively that increased their learning efficiency. Further, she remarked, *"They're interested, enthusiastic, curious and ... they're motivated & participate actively ... their learning efficiency is much more increased"*. In the similar vein, Sampada expressed that when students went to the ICT lab, their expression and reaction were totally different. They felt very much excited and motivated. ICT supported instruction made them understand the contents through different activities. She mentioned, *"today is the ICT class then their expressions and reactions are totally different ... they say Hurray! ... that is their response, their reaction. In the ICT integrated classroom, they can learn from seeing and then doing and another one is that hearing, every kind of our skills, we can develop. Her experience of students' enthusiasm for ICT integrated English instruction was highly positive.*

Thus, all the participants found that their students had a highly positive impact on ICT integrated EFL instruction. They got their attention hooked up during the class

as Mouza (2008) reported that technology provided opportunities to students for being engaged in learning. Additionally, their learning motivation, classroom interaction and engagement with technology affected their achievement. Further, she pointed out that the integration of technology made them spend more time practicing, revising and editing writing.

Additionally, the above information obtained from the eight participants was conformed to the information collected from the seven FGs of students to ensure the dependability of the research data.

All of the FGs were asked about the impact of ICT integrated instructional practices on them. They expressed that it was highly motivating for them and could hold their attention during instruction. Further, they added that it had pros and cons, did assignments using ICT tools, traditional way of instruction consumed time, attention drew in traditional mode, however, grammar teaching was effective in the traditional mode. Their views are stated below:

FG1 stated that they felt very comfortable with ICT tools. Further, they added that ICT integrated instruction brought enthusiasm to learn and it gave them energy so it was their energy booster. They pointed out, “*We feel very comfortable with ICT tools. ... Even if we don't like to study, the notice of ICT integrated instruction brings enthusiasm, the curiosity of learning so that I think ICT gives us energy. It's our energy booster*” (Transcribed version). FG2 expressed that learning with the help of technology brought better understanding than taught through textbooks. They added that when the teacher integrated technology into his/her instruction; they felt excited because visualization of the content made them remember it well. Moreover, visualization in learning even brought better understanding to the students who were hesitant to ask questions to their teachers. Their views: “*We can remember through*

*what we have seen so ICT has great influence in students' life ... When we hesitate to ask questions to teachers, videos make it clear to us to understand all ... learn everything well ...".*

Similarly, FG3 mentioned that ICT was perfect for their learning as it improved both the quality of teaching and the learning process. Moreover, teaching and learning was monotonous without ICT. Similarly, it broadened their concept over a particular topic or subject that set up in their memory for a long time and made them innovative. They expressed, *"We were taught the poem of 'The Road not Taken' and it gives a kind of clear vision over what the subject is about. It clarifies us and it makes us innovative"*. FG4 reflected that ICT integrated instruction made them concentrated and brought better understanding or clear concept of the content through visualization. They remarked, *"ICT integrated instruction can make us understand the specific meaning of words clearly and can bring the clear concept..."* (Transcribed version). FG5 stated that ICT integrated instruction helped arising students' interest in learning, focused on the content, got varieties of teaching style and worldwide knowledge. They reflected, *"... it's interesting because traditional classroom teaching deviates our attention but teaching through videos is very interesting that holds our attention in the SMART class"* (transcribed). FG6 expressed that they could get a good style of teaching using audio and visuals through the use of ICT that brought them better understanding. Visualization of colorful pictures by the use of ICT/SMART board made them easier to understand the content than the textbooks. They opinionated, *"Government school textbooks don't have colorful pictures. Pictures are all black so nothing is very clear from the book but going to SMART class, everything is very clear ... very easy to understand ... use of ICT brings varieties in teaching styles"*. Additionally, FG7 stated that ICT integrated instruction

held their attention, increased their creativity and brought them better understanding of lessons through visualization of actions. They viewed, “*SMART class holds our attention ... Visualization of actions in the SMART class and pictures make us understand and remember the lessons easily. (Transcribed) ... it increases our creativity*”.

The above interpretation and discussion revealed that all the eight participants had better understanding of the positive impact of ICT integrated instruction on their students.

### **Teachers’ Knowledge and Skills**

The paradigm shift in classroom pedagogy requires teachers to coordinate student learning being guided on the side, one-to-one coach, designer of quality content, and rigorous assignments applicable to students (Prensky, 2012). This new definition of pedagogy has essentially made technology integration one of the components of classroom instruction. It helps correlate between the changing roles of teachers and students that can be mediated through innovative tools like anytime access to instruction for students (Hassel & Hassel, 2011). Thus, teachers’ knowledge and skills of ICT integrated instruction is a crucial requirement to redefine and refine their professional career.

It is already stated that my research participants were used to integrating technology into their classroom instruction for a long time. In this sense, their knowledge and skills of it were crucial to their profession. Moreover, the class observation data articulated their confidence in using ICT into the instructional practices that reflected their understanding of it. In addition, they were asked about the ICT training they had and the impact of the training into their professional practices.



Dinesh, one of the participants, stated that he personally managed to take a three month basic computer course that simply brought him some digital literacy. Apart from this, he did not get any formal training from any organization. But after the introduction of SMART board at his school, the donor of it managed a two-day training to all the teachers on how to use SMART board, how to get ideas, how to make lesson plan using it as he said *“not formally, but when the SMART board was introduced, 2 days training was there; how to run SMART board, how to get the ideas, how to make lesson plan using the SMART board etc.”*. Further, he mentioned that the training was confined to the basic usage of computers, *“those training were quite the basic training, just how to operate the keyboard, mouse etc. and then I’ve not gone through any specific training like windows packages etc.”* However, he himself managed to learn ICT usage into his practice for professional development that helped him more than his class teaching. He commented, *“I myself made an effort to study and use those materials ... in professional development it has helped me more than in my class teaching e.g. getting some materials, some ideas, some training, some effective questions, collaboration with colleagues, sharing the ideas even on social networks like Facebook.* (Interview Audio Record no. 47)

The participant, Nilu stated that her knowledge and skills of ICT were confined to basic usage of computers. She took two courses; basic computer course and PageMaker *“I’ve got a course, basic computer training, I’ve taken personally. I went to a private institute for a basic computer course ... school’s ... I’ve not taken from school or any organization. I’ve done 2 courses, one is basic and one is related to PageMaker”*. Moreover, she could use technology for the PowerPoint presentation, her own study and teaching as well. The basic computer course supported her ICT integrated instructional practices to some extent. Further, she remarked that the basic

computer course was just an initial attempt for her to be able to operate the devices. Additionally, she mentioned that she would need some advanced trainings for her professional development. She expressed:

*I got a basic computer ... I can use the word, PowerPoint as required. ... I don't see any weaknesses of ICT training because I support ICT should be used but if advanced courses would be given I would take ... ICT helps you to grow professionally ... you can be more professional, sharing knowledge with colleagues. (Interview Audio Record no. 06)*

One of the participants, Sampada expressed her experience of ICT knowledge and skills which had been very useful for her profession. Though she did not get any kind of such skills from her school or any organizations, she personally learned to integrate it informally. She said, *“Actually till I didn't get any kind of skill, course or training from the school or any organization. I just learned those things, ICTs personally”*. Further, she added that the basic knowledge and skills made her feel connected with the globe and helped develop professionally. Similarly, it was the demand of students to get ICT integrated instructions but the ICT knowledge and skills which she had were not sufficient as she remarked *“... this one because time has been changing then the students' demand ... students are becoming so much smart and smarter so ... whatever I learnt ... that isn't enough for me. So obviously I need more and more trainings”*. Her experiences and pedagogical practices on integrating ICT brought me the concept that English teachers like her needed to be professionally empowered. She commented, *“if we don't know ... ICT then we'll be ... apart from this globe that's why ...to develop professionally, we need the ICT skills”*. Thus, it is highly amenable to update all English teachers according to time because Sampada is an example among them.

Sushila, luckily got a 14 month training related to an online course. The training gave her sufficient knowledge and skills of ICT to integrate into her instructional practices. She also mentioned that ICT knowledge and skills were greatly required for professional development and for sharing ideas in collaboration through video conferencing. She opined:

*... I got one of the training courses that relates to online training. It was conducted for 14 months. ... It's the demand of the time. The training is sufficient for me ... but in the context of Nepal still it's new for the teachers ... it's the demand of the time but I think it's best for professional development. In case of our professionalism, we're scattered here or there through video conferences. Also we can share ideas, we can talk about our professional topic etc. collaboratively. (Interview Audio Record no. 46)*

Anil got a short period of ICT training which was not sufficient for his profession as he said, *"Yes, I had but the training was not sufficient because it was a short period training and we were not told anything about the use of the Internet in the classroom"*. He believed that the knowledge and skills of ICT were very helpful for professional growth that would enable him for effective instructional practices. Further he added, *"Yes, for professional growth ICT skill and knowledge is very helpful and it's essential as well. After having the training, I would be able to keep them (students) with the exact concept of English ... about the pronunciation"*. For him, students needed to learn correct pronunciation of English words and sentences that would be facilitated through technology supported classroom instruction. Similarly, Bishanu's knowledge and skills of ICT were confined to his personal attempt in the lack of formal trainings as he expressed, *"... I've been using computer in school, at home also ... in my own so I don't have any special training, but I can*

*use ... what I'm using, it's not sufficient now because I need more training". He was found unsatisfied with his instructional practices in the lack of proper knowledge and skills of ICT. Thus, he realized that he needed some technical support to do better with confidence. He reflected, "If I get training, technical support, then I could do better ... certainly, it can improve my professional career ... It will help me build up my confidence & skills also for teaching different skills ... language skills and aspects of English ... it builds up my confidence".*

Additionally, Akriti mentioned that she took the basic computer training for her personal use that was not for her teaching purposes. To quote her "*not from school. We're not given such training in school or some other organization but in the very beginning I've taken basic computer training myself, personally*". However, she understood the importance of professional knowledge and skills of technology that not only helped professional development but also be acknowledged as an impressive teacher. She reflected:

*... it's just for literacy in the computer ... for personal use not professional ... professional training has not got ... use of ICT means not only you know, like in school also if a teacher regularly does that & the impression of the teacher is very high & other teachers also acknowledge that O! This teacher ... more knowledgeable ... it makes you different from others who're just doing their normal thing ... helps professional development. (Interview Audio Record no. 35)*

In the similar vein, Ganesh stated that his knowledge and skills of ICT were managed informally due to his personal interest which was not sufficient professionally. Very strongly, he remarked:

*No ... no ..., I've not got any training & but I got these ideas & I got practice myself. Personally managed informally so I'm so interested ... It's not enough for teaching like writing & teaching reading, teaching grammar & some other language functions & we can teach them with ICT but I feel a little bit uneasy while teaching writing ...* (Interview Audio Record no. 12)

Though he was highly interested in ICT integrated instruction, his knowledge and skills of it were not sufficient. This was not only the case with one individual English teacher. I found almost all of my research participants were highly enthusiastic, in fact their interest in integrating modern technology into their instructional practices was of paramount importance.

Moreover, the information obtained from class observation and focus group discussion in regard to teachers' knowledge and skills of technology integrated instruction is in a similar line. Every individual participant displayed their basic knowledge and skills of ICT integration during their classroom instruction. The following section would give the details of each research participant's technology supported classroom teaching activities. Apart from this, the views of all the seven FGs are incorporated herewith.

All the FGs were asked about the knowledge and skills of their teachers in terms of ICT integrated instruction. They expressed that their teachers were quite confined to the basic usage of technology knowledge and skills into their classroom teaching. Their views are given below:

FG1 stated that if their teachers had good practice of integrating ICT tools into their instructional practices, it would be easier for them. Further, they added that their teachers were somehow doing it to their instruction. They expressed, *"If the teacher has some knowledge about ICT and he has been doing it somehow sometime ... he*

*needs training, not the hard training but he needs training to use ICT... they would do best practice of ICT after getting training ...*" (Transcribed). FG2 mentioned that their EFL teachers could do better after being well trained. Their teachers' limited knowledge and skills of ICT also affected their learning with it. Further, they doubted whether teachers got training at government schools. They reflected, "*... At government schools, teachers lack training. They don't know much, they only have limited knowledge that's why students also get to see or learn limited things. The teachers need more training*" (Transcribed). FG3 were quite hesitant to express their views on their teachers' knowledge and skills of ICT. It was found that some of the students had some conflicting views as some students stated that their teachers were well trained as they said "*yes, they're well trained and the knowledge they've is sufficient*" and on the contrary some students disagreed and pointed out, "*they're not too skilled ... so they need some more training according to these upgraded technology*". They viewed that technology kept changing so the knowledge and skills which their teachers had at one state might not be useful at the other. They expressed, "*with changing time every day many more devices are being invented and then the functions and applications soft-wares are also being added so the teachers need to adopt that and this should be changing with the time*". On the contrary, FG4 expressed that some teachers were trained and some were not at their school. Moreover, their English teachers were well trained. They reflected, "*English teachers are well trained*". Similarly, FG5 viewed that their teachers were well trained in using YouTube, Google etc. for searching materials and they taught them using the SMART board and PowerPoint. Further, they added that their teachers needed more training to use ICT in varieties of ways. They stated:

*They're well trained in using YouTube, Google etc. for searching videos and other materials related to our course. They teach us through videos on SMART board and also use PowerPoint software for presentation of poems but I think they need some more training to use ICT in varieties of ways to teach us.*

FG6 expressed, *“if teachers had much knowledge then it would be beneficial for us that make us understand easily”* (Transcribed). In addition, FG7 mentioned that their teachers were still learning to integrate ICT and they did not have any training so they greatly required it. Further, they said that they assisted their teachers during such instructions. They expressed, *“no, they're still learning ... we're getting now that means teachers didn't have ... some teachers know and some don't know. We've to keep helping them”*.

### **Institutional Support**

Modern technology has great potential as a teaching tool however, is highly demanding and challenging to schools for implementation (Scharg, 2003). Additionally, the role of stakeholders is equally important to provide timely support to schools. Therefore, it was highly crucial to find out the supports provided to the teachers at their respective schools. All the research participants were asked about the support they might have got from their school administration, DEO, NCED, NGOs/INGOs and others for ICT integrated instruction. Majority of them revealed that their school administration was very supportive and frequently encouraged technology integrated instructional practices, however, inadequate ICT infrastructure at school restricted them from doing that.

DEO and NCED made some effort to update teachers by giving turn-wise professional development trainings to integrate modern technology into their

instructional practices. Those trainings were confined to a two-day workshop based on the basic usage of computer knowledge and skills that had nothing to do with ICT integration in any subject or EFL instructional practices. Additionally, some NGOs/INGOs contributed some short listed public schools with ICT devices such as SMART board, laptop, tablets, sound-systems, multimedia etc. Further, they tried to train some teachers in general to use the SMART board connecting with the tablets to make students practice for better performance.

Ganesh, one of the participants, expressed that DEO helped frequently with financial support and programs, “... *DEO is very supportive and they're very positive to our school ... we've been getting support and if they've programs or budget and we get a little bit from time to time*”. Similarly, NCED provided some online audio/video materials related to course contents. He stated, “... *NCED ... they've many videos on YouTube, course related along with the curriculum design*”. The support provided by DEO and NCED to the school in terms of budget and audio/video materials related to the English courses uploaded on YouTube encouraged and facilitated Ganesh to integrate ICT into his instructional practices. On the contrary, Akriti commented that her school did not get any support from DEO or any other organizations but the school principal encouraged all the teachers for ICT integrated instructions. She remarked “*from that DEO or some other organizations, we've not received any kind of training or materials/tools till now. But at school, principal sir & madam, they're encouraging us how much we've done up to now...*”. She meant to say that the DEO and any other organizations did not give her school any support for ICT infrastructure, training to teachers and so on. However, the school administration was very supportive and kept encouraging teachers for ICT integrated instruction. Likewise, Bishanu expressed that his school had an ICT lab and a science lab, and an e-library



was proposed to be built. However, the related authorities; DEO, Education Office and the school head teacher needed to be serious about building up technological capacity of teachers. Additionally, he stated that frequent professional ICT training programs should be made available for teachers. He remarked:

*Personally I want to say something about this ... our school is full of ICT equipment ... and for those things there are several hands to support it ... DEO, Education Office ... management team of the school, head teacher , so they've their special roles to contribute to those things ... we've those materials but we don't have technical knowledge, how to use them. That's why we want to be trained so training programs should be conducted time & again so they should manage those sorts of training. (Interview Audio Record no. 02)*

The school where Bishanu was teaching, had sufficient ICT infrastructures, but they were useless because teachers did not have sufficient technical knowledge of integrating those ICT devices into their instructional practices.

Anil stated that his school supported teachers for ICT integrated instructions. It provided a two-day basic computer training. Further, he mentioned that DEO and NCED did not offer any training to the teachers at his school. NGOs/INGOs were not allowed to donate because the school is able to manage on its own. He expressed, *“from my school, DEO & NCED, we've not received any training but in the context of NGOs/INGOs, in our school, we don't allow them ... we are doing -on our own & succeeded”*. It was the school that did not allow NGOs and INGOs for donation of any type. The reason was that such NGOs, and INGOs used to put some terms and conditions (source; informal talk with Anil) . Therefore, the school, instead of accepting those terms and conditions, tried to manage the required infrastructures on

its own. However, it expected some support from DEO and NCED in order to update the teachers.

Another participant, Sampada mentioned that the school ICT lab was well equipped and she got the chance to participate in a ten-day training program that gave ICT training only for two days on how to use PowerPoint software in teaching. She expressed, “... *for the ICT lab, our school is supported by ... education organization and for the training, we just got the 10 days TPT training ... We got two days of ICT training only, we learnt to prepare PowerPoint presentation*”. Her school was supported by an INGO that donated a well-equipped ICT lab along with some training to teachers to use those devices into their instructional practices. Moreover, that training was primarily focused on to train teachers to prepare PowerPoint presentations for teaching course contents.

Sushila took a training given by the DEO that continued for three months and it also tried to train teachers turn wise. Some NGOs/INGOs were also contributing but those trainings were not very effective for instructional purposes. She stated:

*From the DEO, I got training, a 3 month training. Not only in case of me then per year, they're trying to give to the teachers, maybe this school or that school turn wise. Some of the teachers are getting from the part of DEO or MOE. And NGOs or INGOs are from time to time coming here but we're not getting any effective ideas.*(Interview Audio Record no. 46)

Dinesh viewed that DEO used to train teachers but he did not get any opportunity to take professional ICT integration training conducted by DEO. He said, “... *very rarely teachers got such training ... conducted by DEO and then only one teacher got the facility ... DEO is supportive because sometimes they're providing us computers, and then they encourage us to make SMART school because their consent*

*mainly could help us*". Further, he mentioned that the DEO wanted to make their school "SMART school" but it did not provide any substantial amount of help. However, DEO helped his school with some computers and also encouraged them to make it a SMART school. In case, consent was required from DEO for being supported by any NGOs/INGOs, it agreed. Apart from this, none of the organizations gave them sufficient help to promote ICT integrated instruction. Further, he mentioned, "... *Samsung company wanted to give us and their consent was necessary that they gave it but financially ... none of the organizations gave us a substantial amount of help ...*".

Nilu pointed out that she did not get any training from DEO, NCED, NGOs/INGOs yet. She said, "*Right now I've not participated in any training from these organizations, not at all till now. Maybe they will be providing in future*". However, she wished that she would get such training in future.

Most commonly, the participants were not given sufficient training to integrate ICT into their instructional practices. However, they were attempting to integrate ICT tools and technology into their classroom practices on the basis of the knowledge and skills that they personally afforded to learn either formally or informally. Privately, the support provided by DEO and NCED were also very limited. A very few teachers got a chance to participate in the training on ICT integration in subject teaching.

### **Interpretation of Themes of Class Observation**

All the participants were requested to allow me to observe their ICT integrated class. They normally used to integrate technology into their instructional practices once or twice a week/fortnight that made me wait for some time. However, they were highly supportive and enthusiastic as well for my research project. In fact, they wanted to get their voice addressed for the problems they were facing in terms of ICT

integrated teaching at public schools. They put their individual efforts for it even though the school had very limited resources and infrastructures. After being assured of the individual participant's planning the instruction, I went to the perspective schools on the different dates and days that were allowed to me. Many of the participants conducted their instruction at the school ICT lab and some of them had that in the regular classroom. The duration of each class was 45 minutes and the teaching items were related to the skills and aspects of the English language according to the curriculum.

Moreover, the data collected from the class observation of each participant were analyzed and searched for the relevant themes. The following seven themes were generated from the thematic analysis of the collected data:

- Teaching/learning of language aspects and skills
- Integration of ICT tools available at school
- EFL teacher preparation of ICT integrated instruction
- Use of EFL teacher's knowledge and skills of ICT into instructional practices
- Teaching/learning activities
- Evaluation of the taught lesson and
- Challenges appeared to ICT integrated instruction

The above themes are interpreted in terms of individual participant's ICT integrated class observation data (Annex J). Moreover, the last theme; 'challenges appeared to ICT integrated instruction' has been kept and interpreted under the chapter that deals with the second research question related to challenges to ICT integrated instruction.

## **Sampada**

It was 5<sup>th</sup> September 2018; I reached the school, where Sampada took me to the class that I had already got informed about the day before. It was grade 9, the number of students was 50 and the time was 10 am/ 1<sup>st</sup> period. All the students were informed that they would get the ICT integrated EFL instruction in the ICT lab. The teaching item was ‘Interpreting charts and diagrams’ of the 9 grade textbook content. The objective was to develop reading and writing skills through interpreting charts and diagrams. She conducted the class in the school ICT lab i.e. a hall like room having two rows seating in the traditional way. The ICT lab was equipped with a SMART board, two big screens (fixed on wall), printer, sound systems, mike, computer, pen-drive, Wi-Fi connection (supported by an INGO). It took her 10/12 minutes to set up students and tools in the lab. There appeared some problem in the mike (sound system) that took 3 minutes to get fixed by the computer teacher. She was prepared to teach the content ‘Interpreting charts and diagrams’ that was focused on developing reading and writing skills. The objectives were set to acquire through constructive mode of learning activities. Her ICT integrated instructional activities are interpreted under the following themes:

**Preparation for ICT Integrated Instruction.** She looked quite confident to conduct the ICT integrated instruction. She had prepared 14 PowerPoint slides with colorful charts and diagrams. The students were found highly motivated and enthusiastic for it. Moreover, she drew the attention of the students talking about the teaching item that she displayed on the SMART board.

**Teaching/Learning Activities.** She used the SMART board for visualizing the colorful charts and diagrams and other activities. She conducted the constructive class in the 2 phases. In the 1<sup>st</sup> phase, she described different types of charts, diagrams

and graphs and asked the students to read the information given there. Some students responded quickly and actively. Visualization of different types of charts, diagrams and graphs with the help of the SMART board made her and the students feel comfortable and they were found to be comprehensible to the information presented through the slides. She displayed a colorful flow chart on 'Weather report of different regions' and made 2 students read aloud one by one in the class. All the other students comprehended the information listening to their friends and the teacher. Hence, she concluded the first phase teaching, making students read and listen to the text with comprehension and copied the information presented/displayed on the SMART board. In the 2<sup>nd</sup> phase, she described the process of interpreting charts and diagrams. Then she displayed a chart containing information on the population of Nepal with the reference of the English textbook information. All the students interpreted non-textual information and copied the displayed materials from the SMART board to do classwork/practice. However, there was not enough time left for the students to practice in the class.

To sum up, the teacher followed the P<sup>3</sup> techniques; presentation, practice and production to teach the content being focused on reading, listening and writing skills integrating ICT tools in the ICT lab.

### **Akriti**

It was 5<sup>th</sup> September 2018; I went to Akriti's school at 2 pm where I found her waiting for me. It was the 4th period and she was prepared for ICT integrated instruction in grade 8. The number of students was 40. She had already informed the students about the ICT integrated EFL class in the audio/visual room which was on the 2<sup>nd</sup> floor in one of the buildings. She set the ICT devices available (audio-visual room, projector, computer, audio system, white board, pen-drive, Wi-Fi connection &

power back up) there. The room was quite small and had two rows of traditional sitting. After the bell rang, the students came into the room that took nearly 10/12 minutes to get well managed there. The course content/item was 'Foolish barber/story' and the objectives were to develop listening skill through dialogues and comprehend the audio-video texts. The constructive objectives were focused on developing listening and reading skills of the students. She used the projector to display audio/video form of the story downloaded from YouTube. Eventually, every now and then power cut off created some problems during the audio/visual display of the teaching content that was set by one of her colleagues.

**Preparation for ICT Integrated Instruction.** She downloaded the EFL course related audio/video form of the story 'Foolish Barber' from YouTube. She also prepared some slides for PowerPoint presentation and incorporated audio/video text into slides. Additionally, she used a pen-drive to keep all the materials on it so that she could display in the class. Thus, she looked well prepared for the instruction.

**Teaching/Learning Activities.** The teacher set up the audio/visual room for the ICT integrated instruction in advance. She warmed up the students asking some pre-questions about the teaching item. The students looked very curious and enthusiastic for the audio/video presentation of the story. However, due to the frequent technical disruptions, they felt hung up along with the teacher. Up and down of the power voltage made the projector off frequently and wasted much of her class time in fixing the problems. She looked quite anxious as she had a time limitation and the class load of 5/6 periods a day. Anyway, the students watched the video of the story attentively. The audio-video material was comprehensible for students. She set them some questions based on the story before displaying the video so that the students watched the video being guided by the questions. The 12 minute long video

of the story made students understand it easily. Moreover, disruption during the presentation of the teaching item annoyed the teacher and the students. Even though the problem technicality disrupted the instruction, the teacher tried to maintain the students' attention hooked up for the story.

The audio-video helped the students with correct pronunciation, dialogues spoken by the different characters with visualization of their gestures and postures promoted the students' conversation skill. It helped improve the English language proficiency through visualization of authentic materials. Further, they got familiar with difficult vocabularies and pronunciation. The audio/video incorporated instruction facilitated learning connecting action and meaning. The video made them laugh from time to time and the animated materials were interesting for the students. They enjoyed teaching with learning some aspects and skills of English. After the video was over, the students practiced in groups on the six previous questions/group discussions. The class time was about to finish and they could discuss 2 questions due to the lack of time. She monitored the groups for knowledge construction because her instruction was student-centered with the help of ICT tools. Moreover, the students and the teacher looked in a hurry to pack up teaching. They could answer only two questions through the group discussions. However, audio-video integrated PowerPoint slides found to have facilitated the students to understand and comprehend the story.

### **Dinesh**

It was 11<sup>th</sup> September 2018; I went to Dinesh's school that I had already fixed with him. He told me to observe his ICT integrated class at 1.00 pm. He was prepared to teach in 10<sup>th</sup> grade in which the total number of students was twenty. The teaching item was a listening text 'A story about two friends' and he set two objectives; comprehend the listening text and summarize the story. He used the available ICT



tools; SMART board, computer, sound system, Wi-Fi connection, power backup (18 battery solar panel) for the instructional practices. The teacher set up the SMART class in advance for the listening text ready on the computer to display connecting to the SMART board. The students entered the ICT room after the bell rang.

**Preparation for ICT Integrated Instruction.** The teacher found well prepared and well confident for conducting technology supported instruction. He downloaded the audio material based on the English course of grade 10 from the Internet/YouTube. He divided the audio text of the story into 2 parts and set some pre-questions for the students based on the listening text. The listening text prepared each for 15 minutes. He prepared some comprehensive questions along with arranging the jumbled sentences in order from 1 to 5. He spent the first 15 minutes being prepared for listening text.

**Teaching/Learning Activities.** He facilitated the students about the listening text to arouse their interest in it. The ICT integrated instruction was found effective for the students since their attention was hooked up in learning the content. He displayed some questions on the SMART board that the students copied. Further, he instructed them about the two parts activities. He displayed the audio of the story for the students to listen. The students were engaged in searching for answers while listening to the audio track. The class looked like on a listening test. They comprehended the audio material with interest and tried to understand the text discussing it with friends. Later, he made the students involved in the whole class discussion for the 1<sup>st</sup> part audio text. They enjoyed the technique of 4 word answers to the questions. The learning activities hold their attention in the class. And then, he displayed the 2<sup>nd</sup> part of the audio text that was followed by some questions to arrange the sentences in order/sequence. The activity engaged the students into the 2<sup>nd</sup> part

listening text. Overall, his instructional activities were entirely student-centered and mediated by ICT tools. He packed up the classroom activities in time. Moreover, he set the EFL lesson activities following pre-listening, while listening and post listening.

To sum up, the teacher was found to employ the constructive mode of classroom instruction that engaged the students in the process of knowledge construction being mediated by technology.

### **Sushila**

It was 3<sup>rd</sup> September 2018; I went to Sushila's school to catch her class at 3.45 pm. She was ready to conduct her class in the 9<sup>th</sup> grade. The total number of the students was 17 in the class.

The teaching item was 'If conditional' i.e. one of the language aspects. She set two objectives: use conditional sentences into contexts and differentiate among 3 types of conditional sentences. The available ICT tools were SMART board, computer, sound system, Wi-Fi connection, power backup (18 battery solar panel) in the SMART class. She set up the SMART class for the instruction in advance. There were two rows for the student sitting. There was no individual access of ICT tools for the students to practice instantly in SMART class. However, the available ICT tools were fixed up properly for integration into the EFL instruction.

**Preparation for ICT Integrated Instruction.** She downloaded some video materials on 'if conditional' from Google/YouTube and prepared some texts to describe 'if conditional' in contexts. She collected sufficient examples on different types of 'if conditional' and made the SMART class ready for instruction. Her

teaching activities were planned based on the P<sup>3</sup> technique; presentation, practice and production.

**Teaching/Learning Activities.** She was found well confident and comfortable to teach integrating ICT tools into the content. Similarly, all the students looked very enthusiastic for ICT integrated instruction in the SMART class. Their high interest showed the readiness of learning English. As she had already set the ICT tools for the instruction, she displayed a text on the SMART board and made a student read the text aloud. Then, she described the incident in the text to draw attention of the students and asked students to make some conditional sentences. After the students wrote some conditional sentences, she played a video on the SMART board that itself was like an English teacher teaching 'If conditional' to class. The students got their attention focused on the video describing 'If conditional'.

Eventually, she got some useful materials based on the native speaker teacher's instruction. She paused the audio-video time to time to describe the content in the Nepalese context. The students enjoyed watching the audio-video on the usage of three different types of 'If conditional'. She confidently facilitated the class on 'if conditional' through visualization. She taught grammar inductively using contextual examples. Additionally, she made the students play a game on 'if conditional'. The video game was well suited for teaching different types of conditionals. The students practiced the conditional for some time. There after she packed up the class in time.

### **Bishanu**

I got informed from Bishanu to observe his ICT integrated instruction on 21<sup>st</sup> September 2018 and the time was 11.05 pm. I reached the school nearly half an hour before and found he was making some preparations to conduct the ICT integrated EFL instruction into the SMART class. After the school bell rang, as the students

were already informed about the SMART class, they excitedly entered the class where their English teacher and I were waiting for them. They were the class 8<sup>th</sup> students and the total number was 40. The teaching content was 'Dadeldhura' and teacher was aimed at teaching reading and writing skills of the English language through the objectives; recognize Dadeldhura in the map of Nepal, describe geography, population and local language of Dadeldhura, and say the meaning of difficult words of the text. As the class was to conduct in the ICT lab that was made ready for instruction in advanced and the ICT tools i.e. SMART board, sound system, internet and power connection were checked to be sure of their function.

**Preparation for ICT Integrated Instruction.** The teacher was found to be well prepared and confident enough to conduct the SMART class in order to teach reading and writing skills of language. He was prepared to instruct Dadeldhura directly connected to Google using SMART board and prepared PowerPoint slides for presentation of the English content.

**Teaching/Learning Activities.** As the students knew about ICT integrated instruction, they looked highly motivated and enthusiastic for a class in the ICT lab. The teacher searched the Map of Nepal with the help of Google. Visualization of the map on SMART board made the students easy to locate Dadeldhura in the map of Nepal. He displayed some slides to describe Dadeldhura through a communicative approach to teach the content. Then, he switched to the word office doc to display information related to geography, population and local language of Dadeldhura. The creative use of the SMART board holds the attention of students in learning. The students were found to enjoy the SMART class through visualization of Dadeldhura. The Internet made it easier to picture Dadeldhura exactly to them. The colorful visuals of Dadeldhura gave details of the place. The teacher linked the Google information

with the English textbook content. He made a student read the text aloud and the whole class participated listening to the text. He spent 25/30 minutes describing the place and summed up the text in a simplified way. Thereafter, he made students familiar with some difficult words of the text. During slide presentation students copied some important information into their notebook. Later, he made the students do classwork using pen and paper. Some questions/match items were displayed on the SMART board for the students. They copied and answered the displayed questions in 10 minutes. Their answers were checked making a student read the correct answer. Again he displayed some questions to choose the best answer. They copied all the questions from the SMART board and answered quickly. Some were very fast in response. All questions were based on the earlier discussion of the content. Finally, he gave some questions to them as home assignments that did not require ICT availability at home. Thus, he packed up the class in 50 minutes.

### **Anil**

After I had a phone contact with a request to the participant regarding class observation, he managed the time and informed me to come on 26<sup>th</sup> November 2018 around 12 pm so I went to his school on that day and time. He was quite busy at school, however he took me to the class after the bell rang at 12.15 pm. It was class 10 'A' and the total number of the students were 50. They looked very excited for the ICT integrated class. The teaching item was listening practice and the objectives were to comprehend the telephone conversation and be familiar with the language of booking a table in a restaurant. The classroom was three rows traditional sitting and was quite crowded. The teacher used audio on the mobile phone impaired with Bluetooth.

**Preparation for ICT Integrated Instruction.** The teacher was well prepared for the audio class for the listening test. He searched some audio material from Google. It was a telephone conversation between a man and a woman. They had a conversation about booking a table in a restaurant. He set an audio track impaired with a Bluetooth and a smartphone to play in the class.

**Teaching/Learning Activities.** All the students were enthusiastic to do listening practice using mobile and the Bluetooth. The teacher motivated the students describing his own experience of listening to get correct pronunciation. He used MALL (Mobile Assisted Language Learning) as a technique to facilitate the EFL listening instruction. He instructed the students to listen to the audio text attentively. Then, he played the mobile audio text material. It was some short clip of a telephone conversation (2 minutes long) between a man and a woman. The same audio was played for the 2<sup>nd</sup> time to make students assured of the content and gave some questions to answer after listening to the audio clip. Moreover, the teacher kept moving back and forth holding the Bluetooth to make the students listen to the audio text. Again he played the text for the 3<sup>rd</sup> time at the students' request. They answered all the questions correctly. After responding to some comprehensive questions, the students were asked to do writing practice answering the same questions. Additionally, a listening test was conducted in the class. Mostly objective questions (true/false and fill in the blanks) were given. The three times repeated listening of the audio made the students get the native pronunciation along with the gist of the text. In short, the instruction was student- centered that facilitated integrating some ICT devices such as smart phone, and Bluetooth.

## **Nilu**

It was 28<sup>th</sup> November 2018; I went to Nilu's school according to a pre-scheduled appointment that was set for 11.05am. I reached there at 11.00 am and found her waiting for me. As she said, she had already made the SMART lab ready for instruction. After the previous class was over, the students of class 10 'A' came to the SMART lab/ICT lab. The total number of the students was 40 including girls and boys. The teaching item was a poem 'I wandered lonely as a cloud' (Daffodil garden) and the objectives were; describe the poet's inspiration of composing the poem, summarize the poem and find out the meaning of difficult words.

The class was conducted in the ICT lab integrating ICT tools; SMART board, computer/laptop, audio system, Wi-Fi and pen-drive. The ICT lab was a hall like room and had a round sitting for the students. Those ICT tools were well managed and set up in advance for ICT integrated EFL instruction.

**Preparation for ICT integrated instruction.** The teacher was well prepared and confident for ICT integrated instruction. She downloaded the course related video material from YouTube, prepared some slides for a PowerPoint presentation. Further, she incorporated some video clips of 'the Daffodil garden' to create the feeling of how the poet got influenced passing through the garden. She prepared a portrait of William Wordsworth to describe his biography to the students and also collected some difficult words of the poem to make students familiar with pronunciation and meaning of them.

**Teaching/Learning Activities.** All the students sat around in a circle in the spacious hall like an ICT lab. She motivated them by talking about the poem that was to be discussed through ICT integration. She displayed the video clips related to the poem connecting the computer to the SMART board and audio system. The students

watched the colorful video clips attentively. The texts along with the videos made students understand the content well. Then, she paused the visual to describe the background information of the poem. The video clips visualized a colorful garden full of Daffodil flowers. The teacher linked the beauty of the garden with the poet's inspiration of composing the poem. Thereafter, she presented some slides to portrait the biography of William Wordsworth. Again she displayed some video clips along with some slides and made a student read the displayed texts aloud to the class. Additionally, she described the poem to the students and made them summarize the poem in short. Then, she described the poem line by line using the textbook being focused on some difficult words to make the students learn the pronunciation and meaning of each. Her entire instruction and practice was conducted in the English medium. In 15 minutes time, she finished a wise description of the poem. She asked some students to describe their experience of being influenced by natural beauty like the poet had being in the Daffodil garden. Their oral response promoted the English speaking skill. Before she packed up the class activities, she allowed the students if any query regarding the poem. Finally, she packed up her classroom activities in time as she had done all the preparations in advance.

### **Ganesh**

I went to Ganesh's school on 2<sup>nd</sup> December 2018 around 7.30 am as I was informed by him at my request. He was found to be very busy with many classes a day. Anyway he managed me to have the data from his class observation. It was class 10<sup>th</sup> and the total number of students was 56. The teaching item was a poem 'Road not Taken' and the objectives he set were; to be familiar with difficult words and meaning, summarize the poem. The classroom itself was equipped with some ICT tools: Laptop, projector, Bluetooth, white board, and the Wi-Fi connection.



**Preparation for ICT integrated instruction.** The teacher was well prepared and confident to conduct ICT integrated EFL instruction. He planned to integrate the NCED video materials specifically prepared for the English course of grade 10<sup>th</sup>. First of all, he downloaded the EFL course related video prepared and uploaded on YouTube by NCED. Further, he prepared to facilitate the content into two parts; teaching vocabulary and describing the poem. For the teaching of some difficult vocabulary, he prepared some PowerPoint slides to teach vocabulary. Moreover, The NCED's video materials of the grade 10<sup>th</sup> course facilitated the teacher's preparation that saved his time.

**Teaching/Learning Activities.** All the students were informed about the ICT integrated instruction in advance. They looked highly motivated for the class. At first the teacher displayed some slides to teach vocabulary and made the students familiar with difficult words and their meaning. In the video difficult words were displayed using different colorful cards. He gave some information about the poem to be instructed and made a girl student read the poem aloud from the textbook to the class. Then, he displayed the 30/31 minute long video on the whiteboard connected to the projector. All the students watched the video of an English teacher teaching the poem 'The Road not Taken' to the students. The teacher set some time to pause the video to describe the poem. The students watched the video thoroughly along with a stanza wise description from their teacher. Later, all the students practiced matching the words as the classwork. Along with the video clips, the students were asked to practice fill in the blanks and to summarize the poem.

To sum up, all the eight participants' ICT integrated instruction of English were observed on different days at their respective schools. The additional data collected from the class observation being focused on specific areas such as

preparation for ICT integrated instruction and teaching/learning activities were used to cross-check what the participants expressed during the interviews in regard of their strategies of integrating ICT in teaching English, impact of such instruction on students, and the challenges to have ICT integrated instruction in the physical class. None of them used any formal frameworks for ICT based pedagogical practices. Evidently, they were used to following informal strategies of their own. Essentially, it informed that they were not professionally trained enough to integrate ICT for effective classroom instruction.

### **Chapter Summary**

In this chapter, I presented and discussed the phenomenal experiences and pedagogical practices of English teachers in connection with my first research question. In doing so, the theoretical perspective of social constructivism and the philosophical instance of IPA were taken into consideration to interpret the themes. They were categorized under eight themes: English Teachers' Experience of Integrating ICT, Frequency of Technology Integration, Infrastructure at School, Benefits of using Technology, Strategies of Integrating ICT, Impact on Students, Teachers' Knowledge and Skills, and Institutional Support. In addition, I cross-checked the explored themes of the first research sub-question through the other two more types of data; class observation of the eight English teachers and focus group discussion with the seven groups of students.

In my interpretation, I found that all the eight participants were well experienced with varied years of individual experiences of integrating ICT into their instructional practices. The frequency of ICT integrated instruction was limited to once or twice a week/fortnight/month because the schools lacked the required infrastructure for technology integrated instruction, and were additionally ensured

during the class observation of each of the participants. Similarly, it was also confirmed by the FGs that they could not get classes in the ICT lab frequently. However, at one school, I found frequent integration of ICT tools and technology into the teacher's instruction. Moreover, the teachers' experience of the benefits of ICT integrated instruction was remarkable as they reflected that their instruction in particular, was very effective. It became easy for them to incorporate audio and video contents/materials related to the course searching from the Internet. In terms of strategies of integrating ICT tools, the teachers were primarily found to incorporate downloaded audio/video materials into their PowerPoint presentations. They used to make students have audio/video presentations of the contents in the ICT class/lab that they downloaded from YouTube which were uploaded by CDC/NCED and some others. Moreover, some of the teachers used the SMART board with the same strategies of searching related audio/video materials and displayed them with some pauses to ensure or check their students' understanding of the content. Additionally, I found the impact of ICT integrated instruction highly motivating for their students for learning English that was also observed in terms of their exceptional performance. Similarly, all of the FGs expressed that it was highly motivating for them and could hold their attention during instruction. On the contrary, it was highly demanding for the teachers to manage extra time to do all the preparations in advance. The theme; Teachers' knowledge and skills of ICT integrated instruction brought me the understanding that their expertise was confined to the basic usage and strategies of incorporating audio/video materials into the PowerPoint presentations or directly connected with Google/Internet through the SMART board or projection on white board connected to the computer/laptop. They were not used to integrating any specific software or program into their instructional practices. Additionally, the

information obtained from focus group discussion is also in a similar line. Their instruction was found to be based on a social constructivist approach to pedagogical practices. The last theme; 'Institutional support' was interpreted to ensure about the support/contribution provided by all the stakeholders of school education.

## CHAPTER V

### CHALLENGES TO ICT INTEGRATED INSTRUCTION

This chapter presents different types of challenges to ICT integrated instructional practices in relation to the second research question aimed at exploring the possible challenges that the participants experienced while having ICT integrated classroom teaching. The themes derived from the primary data collected from the semi-structured interview of the eight participants, class observation of their technology mediated instruction, and focus group discussions of seven groups of students, are interpreted and discussed through the lens of the theoretical perspectives of social constructivism. The themes were generated through the process of analysis and then analytical codes were searched manually on the basis of thematic, theoretical and empirical review done in the previous chapters; first, second and third. In addition, the themes emerged from the interview narratives of the participants on challenges of ICT integrated instructional practices were categorized under two parts with the further extensions (figure 3.2); extrinsic challenges (school & system level) and intrinsic challenges (teacher level).

These challenges were further addressed in the focus group discussion and some of the challenges were noticed in person during each participant's technology integrated class teaching. Thus, the above mentioned themes on challenges to ICT integrated instruction are also interpreted and discussed in the light of the information obtained from FGs and class observation. The challenges emerged from the FGs are Insufficient ICT Infrastructure at School and Low Frequency of ICT Integrated Instruction, Low ICT Knowledge and Skills of Teachers, Digital Divide, Parents'

Restriction from Using Internet (Parents' Fear, Misuse of the Internet), and Use of ICT in Traditional Curriculum.

First of all the information obtained from class observation of each participant on challenges to ICT integrated instruction is presented below.

### **Sampada's Experiences of Challenges**

During the ICT integrated instruction, it was observed that Sampada tried to adjust herself with the existing phenomena of the school ICT lab, insufficient class time duration, insufficient infrastructure, students lack access to tools at the school and her basic knowledge and skills of ICT. These factors were found to hinder the effective integration of technology into her teaching.

Additionally, the students could not practice using any ICT tools during the instruction due to inadequacy of those tools there. Similarly, there was a large number of students but one ICT lab, insufficient time, 40 tablets in the computer lab which were not allowed to be used by the students, only teachers could use the ICT lab. These were the challenges experienced by Sampada. As the students were never allowed to practice using laptops/tablets for ICT integrated learning, they practiced using pen and notebook in the traditional way.

Moreover, the teacher did not give any such home assignment to the students that required the ICT tools because the majority of the students lacked access at their home and also because their parents worried of misusing the Internet going to cyber. Thus, digital divide among them hindered the teacher from assigning them task based or project based language learning activities for extra practice.

Additionally, the teacher was found to be under the pressure of time to leave the ICT lab so that others could use it. The only ICT lab available at school that was away from the regular classroom, normally used to take 10 to 15 minutes to set the

tools in the lab and to manage the large number of students there. Thus, 10 to 15 fifteen minutes deduction from the total class time i.e. 45 minutes puts the teacher under the pressure of time to get the required instructional activities done in the lab. Further, the teacher's preparation was found to conduct student-centered classroom instruction integrating some ICT tools available at the school but the above mentioned barriers posed some difficulties in order to implement her teaching strategies effectively.

Another most important factor that influenced the ICT integrated instruction was the teacher's basic knowledge and skills of ICT. As an experienced teacher, she put her efforts for the effective integration of it into her instruction, but in the absence of the professional ICT integration training to use some specific software; her technology mediated instruction was found to be confined to the use of PowerPoint slides and visuals.

### **Akriti's Experience of Challenges**

Though the students were highly motivated and attentive in the ICT integrated class, the teacher required a lot much effort into it. In doing so some challenges appeared there. She passed through much technical burden, pressure of insufficient time, frequent technical interruptions, small ICT lab, much noisy during group discussion etc. annoyed the teacher and the students badly. In addition, insufficient ICT tools restrict students from practicing in the lab.

Though the school had a computer lab with some computers, it was used for giving some basic computer skills to the students and not allowed to do assignments given by the subject teachers. Similarly, home assignments that required ICT access were not given to them because the majority of students did not have the ICT

availability at home. Consequently, the digital divide hindered effective instruction of English with ICT integration.

Furthermore, her own knowledge and skills of ICT were limited to the basic usage of it in lack of professional training to integrate ICT for instructional practices. Though she looked well confident and planned, she did not have any idea of specific software that might facilitate her instruction much better than what she demonstrated was limited to the PowerPoint presentation incorporating audio/video materials.

### **Dinesh's Experience of Challenges**

The students' active participation in learning the English content was noticeable. However, there were many barriers to ICT integrated instruction that were experienced by the teacher. The traditional setting of the SMART class for ICT integrated instruction posed problems not only to the teacher but also to the students. They practiced using pen and paper in the SMART class in lack of sufficient ICT tools that created restrictions on them from using ICT tools.

Assignments were rarely given to the students due to lack of ICT access at their home i.e. termed as digital divide. The teacher's basic knowledge and skills of ICT made him confined to the low usage of it i.e. use of the Internet to download the required English content materials from YouTube and to prepare the PowerPoint slides incorporating audio/video into them. It is because he lacked professional training to integrate ICT tools especially for the purpose of instruction.

Similarly, he used to download the related content materials spending much time on the Internet. General materials downloaded from the Internet were not genuine in comparison to specifically designed software. Furthermore, the pressure of time management created a burden on the teacher. Though he packed up the



classroom activities in time as he set up the SMART class in advance during his leisure time and also the regular classroom was very close to the SMART class.

### **Sushila's Experience of Challenges**

The teacher and the students were found to be highly positive for the ICT integrated instruction that was reflected through their interest and activities. However, they found some challenges that appeared. There was lack of time to practice using ICT tools. She did not allow them to do group work/pair work for more practice and presentation. Though she tried to make the class student –centered, her basic knowledge and skills of technology made her confine to the PowerPoint presentation and the audio/visual display of the content.

The SMART class was big enough but it was in the traditional setting. The students' English language proficiency was below their level that made them difficult to comprehend the content downloaded from the Internet. Therefore, they were hesitant to respond in English. They found the content materials difficult in terms of pronunciation and accent of the language.

Visualization facilitated language learning but the students were not given ICT based home assignments as they lacked home access. Moreover, a very few students had ICT availability at home but majority of them did not have the access thus, the digital divide found to be existed among the students.

### **Bishanu's Experience of Challenges**

So far the instruction was done integrating ICT tools, the teacher and the students' active participation and enthusiasm showed that they were in favor of constructive mode of learning. The students' active participation in constructing knowledge mediated by modern technology was undoubtedly very effective, however,

some challenges to ICT integrated instruction were found to hinder the instructional practices that could have been even more effective and better than that.

Though the teacher confidently exhibited and utilized his ICT knowledge and skills which was very vital for instruction, his knowledge and skills was found to be confined to the basic usage of it. It showed that he lacked professional training to integrate ICT along with the knowledge of some specific software developed and designed by the global experts.

Similarly, the instruction was student-centered but the students were deprived of ICT tools to practice doing classwork in the lab. The two rows of traditional sitting in the lab without ICT access to the students were found to hinder the instruction. The active participation of the students during the class discussion would have been more collaborative and creative provided with the ICT access to them. Thus, lack of sufficient ICT infrastructure at school was found to be one of the barriers to instruction. Additionally, they were given usual home assignments, not the assignment that particularly required ICT access for more practice. But the majority of students lacked ICT availability at home i.e. digital divide that made them deprived of ICT usage for learning English.

Moreover, though the teacher packed up his classroom activities in 50 minutes, he utilized leisure time to set up SMART class for instruction which indicated that the regular class time i.e. 45 minutes was not sufficient for ICT integrated instruction.

### **Anil's Experience of Challenges**

The teacher tried MALL i.e. one of the approaches of instruction. It is easy to use approach and convenient for the listening practice as it simply required a smart phone and sound system for the whole class listening to an audio text at a time. He

impaired the audio text of the smart phone with Bluetooth and played for three times because it was a large class with three sitting rows for which the sound system would have been better than the Bluetooth. It showed that the school had insufficient ICT infrastructure which hindered both the teacher and the students from doing listening practices with comfort. Similarly, the highly motivated students enjoyed and comprehended the audio text well however, they would have practiced even better than that if they were provided with one of the ICT devices like tablet along with a headset to individual students for practicing pronunciation and comprehension of the audio text.

Additionally, it showed that the teacher had some basic knowledge and skills of ICT otherwise he could have used MALL more effectively than he did. He lacked professional training for ICT integrated instructional practices. Since the majority of students lacked ICT availability at home, the teacher did not give them any assignment for more listening practice and comprehension. Moreover, those who had ICT availability at home could have more practice on their own but those who did not have such availability at home, could not practice using ICT. Thus, the digital divide was found to exist among the students. In addition, as the audio text was two minutes long and was easy for the grade 10<sup>th</sup> students to comprehend, the teacher could pack up the class before the bell rang.

To sum up, the barriers such as insufficient ICT infrastructure at school, lack of professional development of teacher's ICT knowledge and skills, traditional setting of classroom, and digital divide were found to hinder ICT integrated teaching.

### **Nilu's Experience of Challenges**

ICT integration facilitated instruction effectively and could hold the students' attention during instruction. It was focused on student-centered activities. They got a

better understanding of the content. The teacher packed up the class in time. Overall the ICT integrated instruction found to be conducted effectively.

However, some barriers to it were observed as altering the maximum exploitation of technology into instruction. Though the teacher looked quite confident and well prepared, her ICT knowledge and skills was limited to the basic usage of it. She seemed to lack professional training on integrating ICT tools into her teaching. Her usage of technology was confined to downloading audio/visual materials from the Internet and using the SMART board for displaying the materials. She did not use any specific software in her instruction. Moreover, as the school lacked sufficient materials, all the students practiced using pen and paper instead of ICT tools. Additionally, the teacher did not give any home assignment to the students that essentially require ICT availability at home. It was found that the majority of students did not have ICT availability at home since some had the access. However, the digital divide interrupted the teacher and the students being deprived of having more practice in order to be linguistically proficient and technically skilled human resource.

In short, the teacher put her effort to have student-centered ICT integrated teaching on her own since she lacked professional training, the school lacked sufficient ICT infrastructure and the digital divide also was found to exist among the students.

### **Ganesh's Experiences of Challenges**

The teacher found ICT equipped classrooms and the course related videos prepared by NCED comfortable and time saving. The NCED video clips were found effective for the instruction of 10<sup>th</sup> grade. The students got exposure to some expert English teachers through ICT integration that brought varieties of information related to their course. However, the teacher was found to be confined to the basic knowledge

and skills of technology. He lacked professional training on it. It was found as one of the barriers to ICT integrated instruction. Secondly it was found that the school lacked the required infrastructure due to it the students practiced using pen and paper. Additionally, the teacher did not assign any homework to the students that would require ICT availability at home because the majority of students lacked it. Only a few students had the technology availability at home, they could practice on their own. Consequently, those who did not have, they could not practice to be technologically skilled. This gap among the students is termed as a digital divide that was also found as a barrier. Similarly, though the classroom was ICT equipped to some extent, it was found congested along with the traditional style of students' sitting and also lacked individual student's access to ICT in the classroom.

In short, the teacher was found to have set some constructive objectives and was successfully achieved through student-centered instructional strategies integrating ICT. However, some major barriers which came into the observation on the spot were primarily concerned with the teacher's low usage of ICT into instruction, insufficient ICT infrastructure at school, digital divide among students and traditional setting of the classroom.

In short, the challenges experienced by the participants during the technology mediated classroom instruction was found integrated i.e. corresponding to three major levels of challenges namely teacher level, school level and system level. These three levels of challenges have already been recognized and mentioned above. The detailed interpretation and discussion of each of the levels is herewith.

### **School Level Challenges**

School level challenges consist of Insufficient ICT Infrastructure, Demotivation from Colleagues, Inadequate Time for ICT Integrated Instruction, Lack

of Incentives, Disinterest of School Administration towards ICT Integrated Instruction, Digital Divide among Students, Lack of ICT Technician at School and Lack of Access to Specific Websites.

### **Insufficient ICT Infrastructure**

Hew and Brush (2007) stated that a lack of resources or infrastructure included a lack of “technology, access, time... and technical support” (p. 226). Additionally, BECTA (2004) broke “a lack of access to resources” (p. 12) into sub-barriers such as “a lack of hardware, poor organization of resources, poor quality hardware, inappropriate software and lack of personal access by teachers” (p. 14). Similarly, insufficient ICT infrastructure at school was reported as a challenge/barrier that influenced ICT integrated EFL instruction. Almost all the participants shared their similar view. They expressed that one ICT lab at school was insufficient for the frequent technology mediated teaching because there were many sections of each grade at their school. Additionally, they also reported that students could not practice doing project work/assignments using the ICT tools due to insufficient ICT infrastructure, it was only in single hand use by the teachers.

Akriti, one of the participants, stated that there were a very few ICT tools at her school ICT lab and there were some problems in terms of availability of suitable online materials. To quote her “... *it has one projector there's a computer also, no SMART board ... internet connectivity ... The main problem we're facing here is availability of suitable materials*”. She was one of the enthusiastic teachers whom I personally found very much interested in having ICT integrated instructional practices. The school ICT lab which I saw during my frequent visits there was, in fact, called an audio/video room. That room had the above-mentioned ICT tools which she used from time to time. Moreover, as she said there was unavailability of suitable

online EFL materials that means she was not suggested by anybody about the specific software mainly designed for teaching and learning EFL. Additionally, it reflects lack of professional ICT training to teachers causing them to be ignorant of the availability of EFL software programs. Once, Akriti shared to me (informal talk) that sometimes when she searched the course related materials through Google surfing, in which it was obligatory to be a member and required to pay for the specific software.

Moreover, Sushila expressed that the ICT lab at her school was not well managed and had insufficient ICT resources for teachers and students. She pointed out, *“It’s not well managed. We’ve some few computers, maybe 6/7, even they don’t work ... we’ve only one laptop and at this time we got one multimedia ... but it’s not adequate or sufficient for us”*. The insufficient ICT infrastructure was one of the prominent factors that constrained ICT integrated instruction at school. However, the school which had sufficient ICT infrastructure and was recognized as one of the SMART schools in the Valley, had some technical problems. Because the company could not give them the program that could operate the SMART board together with the tablets. Additionally, the teachers were not given sufficient technical knowledge and skills to operate the SMART board with the latest innovative technology. In this regard, Dinesh stated that weak internet connectivity at his school caused wastage of time during ICT integrated instruction. He viewed:

*... there’re 40 tabs ... meant to be used for the students also and there was a special program assigned by the company but the program was not formally given to us yet ... without the software program the tabs couldn’t run because the board and tab could be well connected ... sometimes net isn’t working ... it would fail in the class and time is lost ... (Interview Audio Record no. 47)*

The experience related to insufficient ICT infrastructure at school of all other participants was alike. Bishanu expressed that the ICT lab at his school did not have sufficient tools though it had a SMART board, internet connection, 40 computers etc. He said, “... we’ve 40 computers ... one interactive board is also there ... it’s not sufficient enough to manage all the students at a time ...”. Sampada could not integrate ICT tools frequently into her teaching because there was only one ICT lab “... we can’t do the ICT integrated classroom every day. This is the first challenge because even though we want to do those things, we can’t do it because there’s only one”. She had to wait for her turn to use the school ICT lab because all classrooms were not well equipped so that the ICT lab at school was required to be used turn-wise. She reflected “all classrooms aren’t well equipped. There is only one lab and so many sections are here”. In addition, Nilu stated that there were limited ICT resources at school, a single ICT hall that was also a challenge to use as when it was required it was found engaged. She remarked, “... limitation is there because a single room is there and there’re multiple subjects so it’s not possible to take them there frequently, limited resources”. Thus, her interest in having frequent ICT integrated instruction was restricted due to insufficient ICT resources at her school like the other participants.

The above challenges are quite similar to the challenges experienced by the FGs in regard to insufficient ICT infrastructure at school and the consequence of low frequency of technology based classroom instruction.

The FGs were found to be quite experienced in ICT integrated instructional practices at their school and were highly enthusiastic and cooperative to their teachers. However, they experienced some challenges at the traditional setting of their school that lacked sufficient ICT infrastructure in comparison to the total number of



students or many sections of each class. Therefore, the frequency of the ICT integrated instruction was very low. Moreover, all the FGs were found to have similar experiences. The available ICT infrastructure at school was primarily confined to teachers' use. Additionally, there was low frequency of technology integrated instruction because of insufficient infrastructure at school. These two aspects are taken as correspondence to each other. Therefore, these two themes are put together to interpret conveniently.

FG1 expressed that getting ICT integrated instruction once a week was not sufficient. They added that the ICT lab was the only place where they could get more knowledge than the textbooks. They said, "*... once a week is not sufficient for us because it's only the place we can get more knowledge after we get knowledge from our textbooks ...*". Similarly, all other groups of students insisted for frequent ICT integrated classroom instructions for EFL. Additionally, some said, "*... teachers are afraid of students that they may disturb some equipment there but good students should be recognized and given opportunity to learn in the ICT lab...*". The fear of mishandling of ICT devices by the students during the class in the ICT also was taken as one of the reasons of low frequency of ICT integrated instruction. Similarly, FG4 stated that their teachers integrated ICT twice a week to teach some specific topics that was not sufficient for them. They mentioned, "*... they use a specific topic twice a week ... should be frequent...*". Moreover, FG6 expressed that they required frequent ICT integrated teaching. They stated, "*Need frequent ICT integrated teaching...*".

### **Demotivation from the Colleagues**

Colleagues' support at the workplace develops a sense of collaboration or being in a team that promotes each and every professional to learn a new thing by sharing. If it lacks, the consequence happens in terms of demotivation. In this regard,

Groff and Mouza (2008) identified four categories of influential factors; the Context [School], the Innovator [Teacher], the Innovation [Project], and the Operator [Student]. Context referred to school that could influence technology integration if it lacked peer support, administrative advocacy, and professional training. Additionally, peer support is essentially required for teachers to adopt innovative technology for their instructional practices (Groff & Mouza, 2008), otherwise it would result in challenges. Thus, the challenges of being demotivated from the colleagues were found to be faced by some of the participants. They revealed that their colleagues, who did not want to integrate ICT into their instructional practices and were tied to the traditional way of teaching and learning, were jealous of them. The consequences were experienced in terms of leg pulling and back biting as they showed their smartness by changing the tradition of classroom practices. Thus, the teachers who wanted to do technology supported instructional practices were tried to be discouraged by their colleagues.

Sushila stated that even among teachers there were two groups; one group wanted to use ICT and the other group did not want to use ICT tools. She added that the senior teachers were not responsive with technology. She reflected:

*I can't say openly ... you know that there's leg pulling, back biting etc. if someone is working actively or moving with the time ... she is ... O! Why is she doing this? But in my case I don't care ... I decide myself then in my view point I should move in my case ... but as a whole, that affects or that influences. That's the reason ... motive should come from inside ... majority of teachers are old generation they don't want to be changed. (Interview Audio Record no. 46)*

She was a well determined teacher so that she did not care about the negative comments projected by her colleagues. However, such backbiting and leg pulling attitudes of the colleagues at the work place primarily constrained from bringing change in the way of working. Additionally, she said that motive or interest/willingness should come from inside to accept newness or change. She noted that age was one of the factors that played a vital role in coping with newness. In the context of her colleagues and teachers in general, she remarked that the majority of teachers belong to the old generation, who were stuck to their stereotypical way of teaching. Such teachers neither accepted the change themselves nor allowed others to go along with change. Moreover, Sampada expressed that the majority of teachers did not have ICT skills to integrate it into their teaching. Essentially, those teachers tried to discourage the teachers who want to do technology based instruction. They did such actions as demotivating and discouraging the peers through negative comments. She opined:

*... lots of teachers, they don't know how to do these things in lack of computer literacy. They take only some of the students there and start to talk about us that she is being so much smarter ... this one is a little bit challenging that everyone isn't doing. Only some are doing. Let's say that a kind of pulling action is happening here! (Interview Audio Record no. 37)*

The action of demotivation simply reflects the socio-cultural mind set of some of the teachers. This is another important finding of my research study as I did not come across such a factor of challenge to ICT integrated instructional practices in the literature review.

### **Inadequate Time for ICT Integrated Instruction**

It is one of the prerequisites for teachers to do sufficient preparations in advance for conducting classroom instruction. In case of technology supported teaching, it is also the same. In doing so, time factor is found as a barrier for the teachers who take many periods a day. Thus, teachers would be reluctant to adopt ICT integrated instruction in case the institution did not allow them sufficient time and support (Digedu, 2014; Ocak, 2011). They suggested that they needed sufficient time to learn new technologies to integrate into the course, and also to teach the new tools to students. In the same line, all the participants equally experienced lack of time for ICT integrated instruction. They were bound to finish the course in the scheduled time to conduct tests and examinations. Despite, ICT integration into instructional practices required extra time for planning lessons and managing the settings.

Nilu stated that the preparation for the technology mediated teaching required much time to plan the lesson searching suitable materials from the Internet and made adjustments for using the ICT lab. Further, she added that the lack of time was a big challenge. She expressed, *“Challenges, ... time management ... to prepare the things, ... need to surf in a short time. Go through which is the suitable one to bring as there are many on the internet, isn't it? So to bring what is useful one takes time”*. Similarly, Anil pointed out that the class time i.e. 40/45 minutes was not sufficient for the ICT integrated instruction and practice in the class. He strongly expressed, *“No. No, that isn't sufficient because within 40 minutes we've to arrange everything and in our school I think in one class 40 to 50 students and paying focus on each student isn't sufficient”*. Additionally, the teachers should be well prepared for technology based teaching along with having the load of 6/7 periods a day that was very tough to be engaged whole day as he remarked, *without preparation it isn't possible to go to*

*the class for that purpose ... the teachers don't have sufficient time because within one day the teacher has to look after 6 or 7 periods. And it's very tough, very engaging". .*

Moreover, the experience of Sampada was also similar to other participants. It was difficult for her to manage time for taking students to the ICT lab because the distance between the regular classroom and the lab used to take some time to manage students' seating there. She said, "*... we've to manage the time because to go to that lab it takes 5 minutes and then going there and managing everything takes another 5 minutes*" thus, arranging everything and doing technology integrated instruction in 45 minutes was very challenging. She expressed, "*And then within 30 minutes what to do so time isn't sufficient for us. It's challenging for us*". Another participant, Dinesh stated that among many challenges of ICT integrated instructional practices, time management was one because teachers need extra time to be prepared for it. It required a special lesson plan. He pointed out, "*... challenge is time management for teachers because we need extra time to prepare for ICT class. We need a separate lesson plan for them, the general lesson plan doesn't work*". Likewise, Akriti mentioned that teachers are required to teach the EFL courses being focused on examinations. It is highly crucial for teachers to finish the course in a given time i.e. terminals and final examination. She said, "*Our main target is the exam. We need to be prepared for the exam*". Additionally, finding suitable materials online for teaching the contents needed more time "*And in the class we want to use the ICT tools , I mean the materials along with the textbook but we don't have sufficient time ... so this is the main obstacle or challenge...*" She expressed.

The challenge in terms of inadequate time for technology mediated teaching has also been experienced by the FGs. They equally said that their teachers were

highly loaded and additionally, they did classroom activities integrating ICT in traditional curriculum.

During the discussion, the FGs expressed that use of ICT in traditional curriculum and workloads of teachers were highly disappointing. Their teachers used to create contexts to integrate ICT for instruction for which they did not find online materials related to the course easily. Similarly, teachers in general at public school used to take more than 7 periods a day that made them overloaded. In addition, they reflected that the EFL courses were based on memorization that required to be changed for ICT integrated instruction.

FG1 stated that their syllabus required memorization so that the curriculum should be changed to integrate ICT tools in teaching the contents. They reflected, “... *our syllabus requires memorization so that our curriculum should be changed to integrate ICT tools in teaching the contexts*”. FG3 expressed that their teachers were greatly loaded with 8/9 periods a day. They stated, “*Our teachers are very loaded with many periods a day, 8/9 periods a day*”.

### **Lack of Incentives**

Incentive refers to a thing that motivates or encourages someone to do something. In this sense, as teaching is a highly demanding and challenging profession, a small tap on the back or a few words of commendation could be an attribute of perfections for the teachers who are taking the challenges in terms of mediating technology into their teaching. On the contrary, if it is not done from the related authorities, the consequence will appear in the form of demotivation and discouragement in the teachers. Thus, such lack of incentives in the form of professional training, compensation, reward with tenure or promotions etc. hindered technology incorporation in teaching by teachers (Young, 2012; Jaschik & Lederman,

2013; Overbay, Patterson, Vasu & Grable, 2010). Moreover, incentive of any type not only promotes for betterment but also encourages others to do so. Some participants felt that professionally they needed to be rewarded for the good work. They tried to update themselves according to time facing the challenges. Thus, lack of giving incentives for their contribution from the administration/colleagues was reported by some of the participants as highly discouraging in terms of integrating ICT into instructional practices.

Sushila stated that the majority of teachers at her school belonged to the old generation and they were not willing to bring change in their profession. Consequently, such a negative attitude affected those teachers who wanted to go along with time. In that case, they were bound to face different acts of demotivation like back biting or leg pulling instead of being encouraged for effective practices. She reported:

*In my case, I don't care ...I decide myself ... I should move in my case ... but as a whole that affects or that influences that's the reason ... Motive should come from inside. ... The majority of teachers are the older generation; they don't want to be changed. (Interview Audio Record no. 46)*

Sampada expressed the similar view as Sushila that the school administration and the majority of colleagues did not encourage them by supporting ICT integrated instructional practices. She reflected, "... whenever we want to do it, they're thinking that we're becoming smarter ... even though I want to do so, I've to be quiet". It was quite surprising that a teacher wanted to integrate ICT into his/her instructional practices but the school administration was unsupportive. Colleagues being resistant out of jealousy or due to some other reasons may reflect the mindset of their socio-cultural practices. Reality is socially constructed and varies from person to person

(Schreiber & Valle, 2013). Therefore, the way an individual acts and reacts determine his/her perspectives of the phenomenon. Thus, the participants who realized that the lack of incentive for ICT integrated instruction influenced their interest in it reflected their personal experience of the phenomenon.

### **Lack of Administrative Support from School for ICT Integrated Instruction**

School administration is the backbone of doing all the required management for effective teaching and learning. It guides and leads the school for better practices and results according to time. However, in absence of proper management and leadership, teachers are bound to face challenges. In this regard, Park and Son (2009) found many external challenges including lack of administrative support from the school or the government and pressure from the society that impede teachers' technology integrated classroom instruction. Similarly, disinterest of the school administration towards ICT integrated instruction was reported as one of the major challenges for teachers. The role of the school administration should be supportive for its teachers in general by facilitating into their efforts for effective instruction.

One of the participants, Sampada expressed that the school administration did not allow for the frequent ICT integrated instructional practices. *"For the admin sector ... they say that we don't have to take the students in the ICT lab"* because they thought that such a mode of instruction made the class noisy so that the students could not learn well. Moreover, *"... they just think that study means just taking the students in the classroom and sitting on the bench and the teacher should be standing and then preaching"*. Additionally, they thought that it was just a waste of time. At this she commented *"... this is the learning and whenever the students want to learn, they say that this one is the noisy classroom, what kind of activities is this and how they learn like this..."*. With such a conventional thought of the school administration, it's



extremely difficult for the teachers dare to update their pedagogical activities. Though she was the only participant who faced the negative attitude of her school administration towards ICT integrated instruction, her lived experience of the phenomenon is highly pertinent to be addressed. It is the reality that she found impeding her classroom practices with ICT integration.

### **Digital Divide among Students**

Along with many other barriers, Groff and Mouza (2008) found some barriers in terms of operators (students) that included lack of ICT experience and skills, negative attitudes and beliefs of ICT. On the contrary, all the participants reported that their students were highly positive and enthusiastic to be taught integrating ICT. However, a majority number of students lacked ICT availability at their home. Thus, all the participants were asked about how their students practiced doing assignments in the lack of ICT access at their home. They equally agreed that there was digital divide among their students. Majority of the students at public schools belonged to low income family backgrounds that could not provide them ICT availability at home to do home assignments/project work. Thus, generally, teachers did not give them such home assignments that needed ICT availability at home. However, occasionally they used to give such assignments which the students did going to cyber.

The participants viewed that digital divide among students appeared as a barrier to ICT integrated instructions as all the students equally needed to practice more using ICT devices to be smart users of innovative technology.

Dinesh expressed that all the students did not have ICT access at their home so they would go to cyber or at their friends' home for more practice and sometimes they practiced at the school too. He said, *"Not all the students have, some have only ... sometimes they take help from and also take help from their friends"*. Similarly,

Akriti stated that most of the students were from lower middle class, they did not have ICT availability at home. Those students used to go to cyber available nearby their home. Some students had availability at home. She reflected:

*Most of them don't have because our source students are from lower middle class so most of them don't have but some of them have got ... They go to cyber to do the assignments. Cyber is available here in the city area.*

(Interview Audio Record no. 35)

Some schools where Bishanu, Sampada, and Anil were teaching, allowed their students to do assignments at the school ICT lab once a week. Bishanu mentioned that the students who lacked ICT access at their home, were allowed to do assignments at the school ICT lab once a week for more practice. He reported, “... *those students do here in the school in the lab. Once a week, we let them solve the problem sitting in the lab*”. Sampada expressed that those who do not have ICT availability at home, practiced at school ICT lab or did their assignments. She stated:

*... Some of the students are from very poor backgrounds, even if they don't have a simple laptop or computer then how can they afford the Internet or these things ... we provide them the space in our ICT lab ... computer lab ... to prepare their task or assignments/project there ...*(Interview Audio Record no. 37)

Anil had similar experiences as the other participants. He said, “... *some of them have only ICT tools availability at home besides many of them don't have ...*”. In addition, Ganesh mentioned that though they lacked ICT availability at home, they had mobile phones that they used for learning from the Internet, downloading materials, getting entertainment and knowledge too. He stated:

*It's okay with students ... all the students don't have ICT access, it may be challenging but these days almost all students are very interested to play with mobiles and I'm planning to give them some eBooks through our websites ... they'll play the mobile and at the same time they'll do their work and they'll learn themselves. (Interview Audio Record no. 11)*

Nilu had a bit of a different experience from all the other participants. As maximum students did not have ICT availability at home, she did not give them assignments because if they used the Internet going to cyber or so, their parents complained about misusing it. She reflected: *“Previously I also got some complaints about it because they're misusing it so I rarely give them any assignment ...”* Moreover, Sushila expressed that almost all students had mobile phones and even they were connected to social sites. In addition, she allowed them to use mobile dictionaries and Google, and those who did not have mobile; they went to cyber, too. She reflected, *“I let them use mobile or cell phone ... to see mobile dictionaries ... they can search through Google. Those who don't have, go to cyber, too”*.

All the participants had a similar experience of digital divide and that was also expressed by the FGs. All the FGs were asked about how they did their project work/home assignments given by their teachers after conducting ICT integrated instruction. Moreover, their school did not have sufficient ICT infrastructure to provide the students for more practice or doing project work. They said that some of the students had access to ICT tools at home whereas the majority of students lacked that availability at home. Consequently, they used to go to cyber for doing the project work and some more practice using ICT. The gap in terms of students having ICT availability at home and did not have the access was found to have created a digital

divide among them. The gap would certainly create two types of human resources in future; ICT skilled and unskilled human resources.

FG1 stated that their teachers rarely gave them project work because they knew that many students did not have access to ICT tools at their home. However, they used to go to cyber to do project work in case their teachers might give. They reflected *“our teachers rarely give us project work because they know many students don’t have ICT tools at their home and they generally go to cyber. It’s not very expensive”*. Similarly, FG2 expressed that their teachers only used ICT devices, students were not allowed to use those tools at school. They only watched their teachers integrating ICT in teaching. They could not get opportunity to practice at school. They said that the government should give ICT tools to all the government schools so that they could practice and they could do better if they would have got to do it on the computer or tab. They stated, *“... here only teachers are using ICT and we are only learning. But we are not getting to use so the government should specially provide more ICT technology to government schools. We can also learn to use”* (Transcribed). Moreover, they said they could do better than their teachers if they were allowed to use the computer or tab:

*If students have ICT tools with them, they would practice more that make them smarter ...what sir and madam do using the SMART board that could be better if we would have got to do it on the computer or tab.*

FG3 expressed that the students who could not afford ICT availability at home, they could not develop skills in comparison to the students who had the access. This gap in the class brought different levels among the students. Further, they said that all the students should be given equal learning opportunities in which the role of government and the school could be vital. They reflected, *“... the ICT gap makes*

*different levels of the students in the class ... school and government together should play a role to provide equal learning opportunity to all students ...*” (Transcribed).

Additionally, FG4 pointed out that the students, who did not have ICT availability at home, went to cyber to do the project work. However, their parents worried of misusing the Internet as some students misused the internet playing game more than doing assignments. They mentioned, *“Some students misuse the Internet if they’re allowed to go to cyber. Play games more than using the Internet for doing assignments”*. Similarly, FG5 expressed that some students had ICT access at their home to do assignments. Those who did not have, they went to cyber. Moreover, their school also sometimes allowed them to do the project work in the computer lab and they also used their parent’s mobile phone at home to do the assignments. They reflected:

*Some students have their own computer, Wi-Fi at home. They do at home.*

*Those who don’t have, go to cyber and our school also sometimes allow us to do project work in the computer lab. We also use our parents’ phone at home.*

FG6 stated that they used either their parents’ mobile, go to cyber or sometimes their school also allowed them to do project work in the ICT lab. They said, *“Either parents’ mobile, cyber or sometimes school also allows them to do project work using ICT lab at school”*. In the similar vein, FG7 expressed that only a few students had ICT availability at home but maximum students did not have so they went to cyber to do assignments, *“Because all know that the students at government school come due to bad financial situation so that they don’t give that, all have problems at home ....* Moreover, they did not get many assignments. They added that at government school, it was well understood that the students belonged to the financially weak family background so the assignments were not given. They

reflected, *“A few have but maximum don’t have, they go to cyber to do assignments ... we don’t get many assignments”*.

### **Lack of ICT Technical Support**

It is crucial that in order to have technology mediated teaching each and every school should have a separate IT department with an IT expert. Because in case of any technical problem at the time of technology integrated instruction, teachers need to get the problem/is fixed, otherwise, it is simply a waste of time and effort. In this regard, In the review of international articles on barriers to integrate ICT into teaching, Khan et al. (2012) found some external barriers such as lack of technical support, lack of equipment, unreliability of equipment, and other resource related issues that impeded ICT integration into instruction. Similarly, some factors that influenced teachers’ ICT use were technical assistance from technicians and administrators, provision of technical resources, and professional learning (Nyambane & Nzuki, 2014).

As stated above, the participants faced some technical problems during the ICT integrated instructions. The technical problems could not be managed by them and caused wastage of time. Therefore, it was quite challenging for them to fix the technical problems in the lack of an IT technician at school. One of the participants, Sushila said, *“... the manpower who can handle the ICT lab, the responsible manpower is highly needed that then every government school or public school lacks ...”*

The similar view was expressed by Nilu that her school did not have an ICT technician, so that she tried to get helped from her colleagues, computer teacher and administration team. She mentioned, *“To solve the problems, the computer teacher is there and some other administrative team helps”*. Ganesh stated that some problems

occurred in the computers that created disturbance in classes. He pointed out, “... *sometimes problems occur in computers and sometimes we’ve to face these challenges and some classes may be disturbed*”. Likewise, Bishanu faced technical problems during ICT integrated classroom instruction in the lack of technical support and skill at the school. He stated, “... *we’ve been facing some of the challenges because of ... lack of technical support and skill*”.

All the public secondary schools where the participants were engaged in their profession lacked an ICT technician that was taken as one of the challenges to ICT integrated instructional practices. Thus, the participants reported that they used to fix the technical problems themselves along with their colleagues and with help of the computer teacher.

### **Lack of Access to Specific Websites**

Specific software stands for the software essentially designed to teach the contents of a particular curriculum with help of it. In this regard, Andoh (2012) found lack of suitable educational software along with limited access to ICT, rigid structure of traditional education systems, restrictive curricula etc. created challenges for teachers to integrate ICT into their instruction. Likewise, it was prominently reflected by Akriti and Dinesh that they faced problems in terms of getting access to some specific software and websites that could facilitate their instruction.

Akriti and Dinesh mentioned that they did not have the access to any authentic websites and EFL software. They meant to say that they were unable to log in to some specific websites and EFL software in absence of private email ID that should be provided by their school. Thus, problems in terms of availability of suitable materials created some barriers to technology mediated instruction. Akriti reflected, “*But the main problem we're facing here is availability of suitable materials ... don't have that*

*kind of software...". Likewise, Dinesh said that the access to some appropriate websites and software would facilitate his teaching better than simply searching suitable material from here and there on the Internet. He stated, "I don't have access to that specific websites and course related software so I simply search from here and there from the Internet that allows free access to materials".*

### **System Level Challenges**

Some challenges to ICT integrated instruction were also found to have been related to the system level. They include; Lack of Professional Development Opportunities to Teachers, Traditional Curriculum, Lack of Institutional Support, and Inadequate implementation of Policies to Integrate ICT. These challenges are interpreted and discussed below.

#### **Lack of Professional Development Opportunities**

It is pertinent for teachers to have sound knowledge and skills of technology for effective integration in subject teaching. In this regard, a framework of TPACK was developed by Mishra and Koehler (2006) with the view that it would guide teachers for technology supported pedagogical practices. On the contrary, in absence of such knowledge and skills, the teachers are bound to face challenges. Similar to this, Andoh (2012) and Khan et al. (2012) found some barriers through literature review that lack of teacher technological skills, lack of teacher confidence, and lack of pedagogical teacher training hindered teachers from effective integration of technology into teaching. In addition, Goktas et al. (2009) found lack of in-service training as one of the major barriers to ICT integration. Keeping these previous outcomes of the research studies in mind, all the participants were asked about the challenges related to lack of professional development training for technology mediated instruction. They revealed that they were integrating it into their



instructional practices on the basis of the formal/informal basic computer training. Further, they mentioned that the basic computer training was not sufficient for technology mediated teaching.

One of the participants, Ganesh stated that the subject teachers were not trained professionally but they could integrate ICT into their instructional practices. Moreover, a 1- or 2-day training was not sufficient given by some government organizations as he shared, “... *subject teachers, we aren't well trained but have good practice ... sometimes the government organizes one day or two days programs and generally so 3/4 times in a year*”. Additionally, he commented that the short term ICT training mainly educates them regarding some programs like editing audio/video materials including film, collecting materials from websites and collaborating for learning. To quote him, “... *the programs on how to edit videos and how to edit sound and film editing and how to collect materials and what're the websites, learn in collaboration*”. These programs required basic knowledge and skills of ICT. Thus, for him the main constraint of those training was that as they were short term training, they could not train them for various usages of ICT tools and technologies in terms of pedagogical activities for English.

Another participant, Nilu expressed that she faced some challenges related to the lack of advanced ICT training. She managed to integrate technology into her instructional practices on the basis of the basic computer training that was not sufficient for teaching. “*I've basic training only so advanced training should be there ... technological knowledge isn't sufficient. Some more training is required*” she said. Similarly, Sampada mentioned that even if she lacked professional ICT training from the government, she could search materials from the Internet and manage to teach. She reflected, “... *even though we don't take any kind of training from the*

*government ... we could get lots of ideas from the Internet ...*". In addition, Bishanu stated that it was challenging for the subject teachers to integrate ICT into their instructional practices in the lack of professional training. He expressed, "*... using ICT or computers in the teaching field for the subject teachers, it is challenging because of lack of technical knowledge and skill ... they've been facing some problems or challenges*". A participant who was not well trained to integrate ICT into his EFL instructional practices, faced barriers in terms of his professional ICT competency that he pointed out, "*... subject teacher isn't well competent, not only in my case, I myself isn't competent & we must have more trainings ... subject itself isn't a problem here, it depends on the teacher because teachers can create*". In the similar vein, Anil stated that teachers were not well trained for ICT integrated instruction that was a big challenge. He said:

*... yes all the teachers aren't able to get access with Internet facility and the same way they're not able to means they don't have any information about changing software systems ... lack of training ... Almost all teachers are qualified, they're confident almost all teachers qualified and to some extent they're trained.*(Interview Audio Record no. 11)

Though English teachers were qualified, had confidence, they lacked ICT training especially for instructional purposes and also were not updated. However, the view expressed by Akriti, added a new thing i.e. "*... because if the teacher isn't computer literate or if the teacher doesn't want or not interested in using such materials that time teacher also is an obstacle*". She meant disinterest of teachers along with lack of ICT knowledge and skills hindered ICT integrated instruction. Further, she mentioned that teachers were required to have will power and confidence for ICT integrated instructional practices. She remarked:

*... teachers should have the willpower to do that but if the teachers say yes, every day we do that & that's okay for us if we don't use the ICT materials & ICT tools who will do what for us, if the teachers think in that way then nothing is going to happen.* (Interview Audio Record no. 35)

The view Sushila expressed was similar to Akriti. She mentioned that ICT trained teachers were uninterested to conduct ICT integrated instruction. On the contrary untrained teachers were unable to use ICT tools. Moreover, it was a striking point that trained teachers were not ready for ICT integrated instruction. “... *those teachers who got training, they're not ready, they even aren't ready to conduct ICT class, one of the challenges ... the other , those who don't have training still ... they don't have the ability to run*” She opined. This contradiction existed among teachers at public secondary schools. This finding directs toward the teachers' perception, attitude and belief of technology integrated teaching. However, this also reveals that the subjective and multiple reality of a certain phenomenon are valued in qualitative research.

### **Traditional Curriculum**

The inflexibility of curriculum and textbooks created some challenges from integrating ICT into the EFL contents (Park & Son, 2009; Yildiz, 2007). The participant, Sampada stated that there were lots of topics/contents of the EFL curriculum that did not require ICT integration because the courses were still very traditional. She reflected, “... *lots of the topics are there that we don't have to or we can't use that ICT because that type of subject or course is designed like traditional type ... for the subject matter that one is difficult*”. Additionally, Bishanu mentioned that the curriculum should be according to time so that ICT could be integrated. He said “*yes, in course of time... we've to design the course so that we can integrate ICT*”

*in teaching English language*". It was difficult for Akriti to find the sufficient authentic materials for the course from Google. However, she used to collect the required materials from different sources like web/internet, print materials, TV etc. thus, in a way, she pointed out that the current EFL course should be modified for the ICT integrated instructional practices. She stated:

*... we can collect or I have collected materials from that web/internet and from various ways like broadcasting from Television and some print materials... what we found on the Internet is we found materials but not sufficient and maybe I don't have access to authentic materials. There in the Google source but I tried ...* (Interview Audio Record no. 35)

Additionally, Dinesh mentioned that the subject itself was not a problem because a well-trained teacher could create the context for the ICT integrated EFL instruction. He reflected, "*... the subject itself is not a problem here. It depends on the teacher because teachers can create...*". Moreover, according to Anil, "*the EFL course of grades 9 and 10 need overall change because only slight modifications in these courses can't be sufficient. They're still a very traditional type, focused on examination or result oriented instead of knowledge oriented*". Apparently, the participants found the EFL curricular of 9 and 10 grades required some modifications to do technology mediated teaching and learning.

### **Lack of Institutional support**

Lack of administrative support from the school or the government impeded ICT integrated instruction (Groff & Mouza, 2008; Park & Son, 2009). In this sense, Yildiz (2007) assured that the additional support encouraged teachers for effective integration of ICT in classroom instructions. Similarly, the participants reported that they lacked sufficient support for ICT integrated instruction from the related

authorities such as DEO, NCED, and other agencies like NGOs and INGOs. These organizations/stakeholders provided some professional training to integrate technology into the instructional practices but a very few teachers got that chance to participate. Those participants, who got the chance to participate in the training, commented that those trainings were used to be very short and in addition, they were used to be confined to the basic usage of computers. Thus, it was quite challenging for the teachers to do ICT integrated instruction in the lack of the required knowledge and skills.

Dinesh reflected that one of the teachers got the chance to participate in a training conducted by the DEO. Moreover, the teachers got such chances in rare cases. He mentioned, “... *I think one of the teachers has got training this year from our school, very rarely teachers get such training. I think this was conducted by DEO ...*”.

Akriti did not get any kind of training or materials from DEO or any other organizations. As she stated, “*From that DEO or some other organization, we’ve not received any kind of training or materials (tools) till now*”. Similarly, Neither, Nilu, Ganesh, nor Anil got any training from any of these institutions and agencies yet. Nilu said, “*Right now I’ve not participated in any training from these organizations, not at all till now. Maybe they will be providing in future*”. Anil expressed that nobody received any training from his school conducted by DEO and NCED or any other organizations. He viewed, “*From my school, DEO & NCED, we’ve not received any training*”. Moreover, Ganesh stated’ “*We don’t have support from such NGOs or INGOs*”.

### **Inadequate Implementation of ICT Policies**

Policies to integrate ICT i.e. 'ICT in Education 2010' into instructional practices have already been designed, however, the implementation of those policies into practices had been marked as fragile or ineffectively executed. In this regard, Giri (2010) stated "the average English language teachers face a number of issues and concerns on the daily basis" (p. 67) and that was found to be experienced by my research participants.

Thus, the experience of Akriti was found saddening as she viewed that only making policies were not enough. Their genuine implementation was highly important. She indicated, "*... only making policy isn't enough ... from the practical level, they should do something only then teachers can be encouraged to do that ...*". Additionally, she remarked that if those policies were implemented, teachers could be encouraged to do instructional practices accordingly. Moreover, Sampada mentioned that in absence of effective implementation of rules and policies, nothing could work well. She reflected, "*... the government just makes rules, regulations and policies ...*". The experience Sushila shared was in fact, revealed the total failure of the entire school education system. She strongly stated that some teachers who were trained, and had some ideas and knowledge were not ready to integrate ICT because the system paralyzed them. She reflected, "*... some of the teachers who have got ideas or knowledge, they're not ready. The system paralyzed them...*". She meant to say that the school education system i.e. the rules/policies that were made to regulate schools, administration and teachers through execution of those rules/policies were totally ineffective. As a result, even the trained teachers who had some knowledge and skills of ICT, were not ready to take an initiative step for ICT integrated instruction. Though

it is mandatory to integrate ICT in pedagogical practices (MOE, 2013), the aspect of implementation is neglected.

### **Teacher Level Challenges**

This section of the chapter deals with the intrinsic challenges that primarily relate with the challenges that occurred at the teacher level. The only intrinsic challenge ‘Lack of ICT Knowledge and Skills’ of the participants was found to have happened as the teacher level challenge. It is interpreted herewith.

#### **Lack of ICT Knowledge and Skills**

It has already been interpreted in the preceding chapter (Chapter IV) under the sub-heading ‘Strategies of Infusing Technology’ on the basis of the main information obtained from the semi-structured interviews and the additional information obtained from their class observations and focus group discussions (FGDs). The participants were found to have confined to their basic or low knowledge and skills of ICT for their pedagogical practices. In fact, they did not know how to integrate technology into their instruction as they lacked that sort of formal knowledge and skills. All of them were unaware of specifically designed frameworks for pedagogical integration of technology. In this sense, Park and Son (2009) assert that teacher level challenges occur due to internal/intrinsic factors such as lack of confidence, limited computer skills and knowledge about Computer-Assisted-Language-Learning (CALL) and their perceptions and attitude towards technology. Evidently, the previous sections shed light on each participant’s experiences of challenges that were cross-checked through each participant’s class observation and FGDs.

The FGs also equally expressed that their teachers’ knowledge and skills of ICT in terms of instructional practices were confined to the basic usage. Their

teachers' limited knowledge and skills affected their learning that the FGs reflected during the discussion.

FG1 stated that our teachers lacked sound knowledge of ICT and they were required to get perfection. If the teachers practiced well, their ICT knowledge would be better that would make their students get better teaching. Further, they added that their teacher should take training to teach in the best way because ICT meant it was complicated and had many devices. They reflected *“we could get better teaching if our teachers practiced well integrating ICT into their instruction. They lack the required knowledge therefore they should take training for the best practice because ICT is complicated and has many devices”* (Transcribed).

FG2 mentioned that the knowledge and skills of ICT that their teachers had, were not sufficient for teaching English. They did not know much so the students also got to see and learn limited. They needed more training. The public school teachers were required to have the knowledge of ICT like the private school teachers. They expressed, *“Teachers don't know much. They've limited knowledge that's why the students also get to see and learn in limited amounts. The teachers could have done better than that, more attractive than that ... need more training”* (Transcribed).

Further, the students from the same group commented that it was not necessary for the teachers at public schools to have ICT knowledge like the teachers at private schools. Though it is not the reality as to what concept they developed regarding their school and teachers, it essentially reflects that their teachers lacked the knowledge and skills of ICT to integrate into their pedagogical practices. They remarked:

*... at government schools, teachers aren't required to have ICT knowledge like the private school teachers. If the government school teachers were also*



*required to have knowledge of ICT for getting the job, they could have made us understand well. (Transcribed)*

Similarly, FG3 expressed that their head teacher encouraged teachers to integrate ICT but they did not do so because they did not have sufficient knowledge and skills of it to integrate into their instructional practices. They only used to search/download suitable audio/visual materials from YouTube and Google that they displayed in the audio-visual lab. Moreover, their teachers did not use any specific ESL/EFL software in teaching English. They reflected, *“Their skills and knowledge aren’t sufficient ... our teachers search suitable materials/visuals from YouTube/Google and display in the audio-visual lab ... EFL teachers don’t use any specific EFL software designed to teach English...”*. In addition, FG5 mentioned that their teachers required to be updated to use technology in teaching English. They pointed out, *“Teachers need advanced ICT training so that they could integrate technology better. Technology keeps changing so they need to be updated”*. Likewise, FG6 said that they would get benefitted if their teachers had much knowledge, *“If teachers had much knowledge, we would be benefitted. It would be easy to understand what the teachers taught”*. They did not know how to use technology, as they said, *“They don’t know how to use technology”*. Moreover, FG7 expressed that their teachers recently started to integrate ICT into teaching so they were not well experienced. They viewed, *“... we need to keep helping them. They didn’t get training so they need training ... training is required to EFL teachers”*. What FG7 experienced in the course of ICT integrated instruction from their teachers shows that the generational gap between the teachers and the students exists in terms of digital immigrants and digital natives (Prensky, 2012).

In addition to the above mentioned three broad types of challenges; school, system and teacher levels, one more type of challenge emerged from the FGs i.e. Parents' Restriction from Using the Internet (Parents' Fear, Misuse of the Internet).

### **Parents' Restriction from Using the Internet/Parents' Fear**

This is one of the themes that emerged specifically from the data analysis of the data obtained from focus group discussion (FGD). Some of the FGs expressed that their parents restricted them from going to cyber to do school assignments that required the use of ICT. Especially the students who did not have the ICT availability at home and also their school did not allow them to use the ICT lab at school; they were required to go to cyber to do the assignments/project work given by their EFL teacher. In doing so, their parents were afraid of allowing their children go to cyber for doing the assigned project work. Those parents had the common concept that their children would misuse the internet instead of using it for their home assignment. While the FGs were asked whether the Internet surfing deviated their mind from being focused on their assignments, FG2 mentioned that they were required to go to cyber to do the project work but their parents did not believe them and they were worried too. Because their parents were of conventional mindset, they could not understand the new ways of teaching/learning so that it became difficult for the students to do their project work going to cyber in the lack of ICT availability at home. They reflected:

*Obviously, we don't have ICT availability at home so we need to go to cyber to do the project work. Parents don't believe that's why it becomes difficult for us to do the project work given by teachers... Parents are of old time/age. They don't understand/believe because they get worried that cyber will spoil their kids. (Transcribed)*

Similarly, FG4 mentioned that though their parents allowed them to go to cyber to do the project works using ICT, they were worried about it. Further, they added that their parents were afraid of misusing the Internet and it was true that many students went to cyber to play games more than doing assignments. They expressed, *“Some students misuse the Internet if they’re allowed to go to cyber, play games more than using the Internet for doing assignments”*. FG5 stated that they were not allowed to use mobile phones because of the concept that students misused it. Hence, they reflected, *“Everything has good and bad aspects. It depends on students how they use the mobile. Sometimes bad events occur due to misuse of social sites or the Internet. We should do positive use of technology”*. Likewise, FG1 expressed, *“Everything has two aspects: cons and pros. everybody can have addiction that can’t be avoided however, these sites can be controlled or banned so that young minds can’t get deviated”*. In similar line, FG6 expressed that their parents did not allow their mobile phones to be used more often for searching vocabulary or doing some assignments. Eventually, many students did not have ICT tools at home so those students could not practice.

Moreover, FG3 stated that their teachers were afraid of them misusing social sites if they might see the students’ ID on the social sites. The students were restricted to use social networking sites (SNSs) though they knew about misuse of those sites. They stated, *“If they see our ID in social media, they’ll scold us the next day. I’m sure because the person or student using social media is like not concentrating more ...”*.

Similarly, FG7 expressed that it was true that their parents normally did not allow them to go to cyber to do assignments because they were worried about misusing the Internet. Therefore, their EFL teachers informed their parents to assure

them about the given assignment that needed ICT/Cyber. Further, they added that they did not get such assignments more often that required ICT or cyber. They mentioned:

*Well, if teachers give any assignments to us that require the use of ICT or cyber, they inform our parents through the written message so that we're allowed to go to cyber or use the internet. Normally, our parents don't believe but the teachers' written information assures them or they even make a phone call to the teacher to be assured of it and let us go to cyber. (Transcribed)*

It was experienced by the students as one of the barriers/challenges to ICT integrated EFL instructional practices. Though it was the finding from the analysis of the additional data, the subjective experiences of the individual research participants are valued in the IPA framework under the qualitative research approach (Smith et al., 2009). Additionally, this finding confirmed that English teachers were bound to not to give their students such assignment frequently which required using the Internet/ICT.

### **Chapter Summary**

In this chapter, I interpreted and discussed the themes related to my second research question i.e. challenges to ICT integrated instructional practices. Those themes were generated from the analysis of the main and additional data. Since the second research question was primarily focused on teachers' lived experiences of challenges to ICT integrated instructional practices, the focus groups of students were also asked the same question with a slight modification linked to their perception of the possible challenges to ICT integrated teaching and learning. The challenges which were experienced by the participants were primarily grouped into two: Extrinsic and Intrinsic and were further categorized under three sub-levels levels (Figure 3.2): teacher, school and system. Furthermore, one of the themes of teacher level barriers correlated with a theme of focus group discussion. They also experienced that 'Low

ICT Knowledge and Skills of Teachers' was one of the causes of ineffective integration of it. Similarly, some themes of school level barriers matched with 'Insufficient ICT Infrastructure at School and Low Frequency of ICT Integrated Instruction, and Digital Divide among Students. Likewise, one of the system level barriers matched with 'Use of ICT in Traditional Curriculum by Highly Loaded Teachers'. In addition, one new theme emerged from the focus group discussion i.e. 'Parents' Restriction from Using the Internet (Parents' Fear, Misuse of the Internet)'.

## CHAPTER VI

### SUGGESTIONS FOR CONQUERING CHALLENGES TO ICT

#### INTEGRATED INSTRUCTION

This chapter presents the research inquiry related to the third research question that was framed to explore the participants' possible suggestions in terms of conquering the challenges to ICT integrated instructional practices. The main data obtained from semi-structured interviews of the eight research participants were analyzed manually to search for codes with the conceptual clarity based on the literature review done for this study. In addition, this chapter also presents the interpretation of the themes manually generated from the additional data obtained from the seven focus groups of students that addressed the same from their perspectives. Essentially, the reason to incorporate the students' perspectives was to confirm the teachers' perspectives for effective integration of ICT into their instructional practices.

Moreover, the theoretical and philosophical ground of social constructivism and the methodological stance of interpretive phenomenological analysis (IPA) together were taken into consideration for the process of knowledge construction. The former advocates that knowledge is constructed socially and the latter claims that the subjective interpretation of the phenomenon constitutes the lived experience of the same. Thus, every individual is a scientist who constructs knowledge of the world around him/her implying personal strategies such as experiences, goals, curiosities and beliefs (Cole, 1992; Solomon, 1994). Through this lens, the lived experiences of the eight English teachers were interpreted being triangulated with the information

obtained from their class observation and the FGs constituted the knowledge that the suggestions they provided are crucial to be addressed for improved practice of ICT integrated instruction at public schools.

The thematic sections consist of the suggestions emerged from the semi-structured interview of the eight participants are put under the following three thematic sections: school level, system level and teacher level such as Availability of Adequate ICT Infrastructure at School, Role of Related Authorities, Teachers' Capacity Building and Expert Guidance Online. Moreover, some additional suggestions were also explored from the discussions with the seven FGs such as Bridge up the Digital Divide and Control System to Stop Misuse of the Internet. The themes are interpreted below:

#### **Availability of Adequate ICT Infrastructure at School**

Insufficient ICT infrastructure at school was found as one of the challenges to the ICT integrated instruction. The schools where the participants were in practice had a separate room called ICT lab. Having one ICT lab with many sections of each class made the teachers wait for their turn to use the lab. Even in the lab, there were not sufficient ICT devices so that it was confined to be used by the subject teachers for instructional practices that were once a week, fortnight or month. Thus, the insufficient infrastructure caused low frequency of technology mediated teaching. Thus, almost all the participants suggested that the availability of sufficient ICT infrastructure at school would promote teachers for frequent integration of ICT tools into their instructional practices.

One of the participants, Sampada expressed that every classroom should be ICT equipped so that extra time was not required for preparation and any time the teacher could switch on the ICT tools and made students participate. She said, "... *for*

*this ICT integration that I personally demand should be set in every classroom.*

*There's an ICT equipped classroom that whenever, we want to do some activities integrating technology, let's start".* Further, she suggested that the government should equip all the public schools with adequate ICT infrastructure for the technology mediated instructional practices that will certainly facilitate teachers. She reflected, *"... I can take the students to the ICT lab ... that's why the government should just give all the schools ICT equipped classrooms..."*

Similarly, Nilu suggested that sufficient ICT infrastructure or multiple labs were required to meet the number of students at school. She stated *"Regarding the government schools, the tools that are insufficient ... to provide such things ... even a single room is insufficient ... there are many students so multiple rooms should be there, multiple labs should be there, materials, tools everything ..."*. Moreover, Dinesh suggested, *"... the government must spend some money on ICT devices etc."* He meant to say that the government must provide schools with sufficient ICT devices. Likewise, Sushila suggested that an adequate ICT equipped lab was required at school. She pointed out, *"... the schools aren't getting the adequate ICT lab..."*.

Similarly, all the FGs suggested that it was highly required to have adequate infrastructure for the frequent ICT integrated instructions. They added that one ICT lab at school was used rotation wise or schedule wise by the teachers that made the students wait for it. Moreover, the lab was only used by the teachers and the students being there to watch the course related visuals through the SMART board/multimedia. Though they participated during the instruction, they did not get the ICT access at the lab for doing the classwork.

FG1 stated that having ICT integrated instruction once a week was not sufficient for them. They wanted it either frequently or at least twice a week. They



suggested, *“It should be more frequent than once a week. We've an ICT lab but it's not properly utilized because it depends upon teachers' perception and what they think about ICT”* (Transcribed). They also remarked that they could not practice in the ICT lab but *“we should be allowed to practice there to get perfection”*. Similarly, FG2 expressed that the government should give sufficient ICT infrastructure especially at public schools so that they could learn to use ICT. Likewise, FG6 stated that they needed frequent ICT integrated teaching. They suggested, *“Need frequent ICT integrated teaching”*. In addition, FG7 suggested that the frequency of ICT needed to be increased. They stated, *“Frequency of ICT needs to be increased”*.

### **Role of School Stakeholders**

The participants suggested that the role of school stakeholders was very important. They should pay attention to run school education along with time. Akriti suggested that stakeholders or authorities should do something. She stated, *“... any stakeholder related to that education field, like the most responsible our government related organization just NCED, DEO, they should do something there ...”*. Bishanu suggested that the stakeholders should think over major issues like training to in-service teachers, discussions, interaction among teachers, teachers and students, teachers and management etc. Similarly, parents should also show concern in the academic performance of the school from time to time. He mentioned:

*First of all the in-service teachers need to be trained ... in-service training ... regular basis training, and discussions, interactions in the school among the teachers and students & teachers, & teachers & management, administrative body of the school & the teachers so all these stakeholders, maybe parents also ... such types of meetings will be conducted time to time.* (Interview Audio Record no. 02)

### Teachers' Capacity Building

The participants suggested that teachers at public secondary schools should be given professional training in order to update their knowledge and skills. They are required to be trained to integrate ICT into their instructional practices that should be taken into serious consideration by the authorities. Additionally, the teachers required expert guidance online so that they did not need to waste lots of their time searching the course related materials on the Internet.

Bishanu suggested that the related authorities needed to be serious for building technological capacity of teachers for ICT integrated teaching. Further, he added that a professional ICT training program should be conducted time to time. He mentioned, *"we've those materials but we don't have technical knowledge of how to use it that's why we want to be trained so training programs should be conducted from time to time..."*. Additionally, Dinesh suggested that teachers should be professionally guided by the experts through online like email, to run subject specific software and some already designed course specific instructional software should be provided to the teachers as they lacked time to design the materials. He reflected: *"... there're lots of staff or experts in our country these days so that some programs can be sent through emails also so that we could run such a software program"*. Further, he added that the government should spend some money in developing some software to be used in teaching EFL, *"... government spends some money in developing some software ..."*. Moreover, Sampada stated that teachers' voice should be given prime importance to bring change in the teaching profession and they should be compelled to policies, *"... training should be compulsory to all the teachers ... if teachers don't want to do anything else that policy is totally useless ... all teachers should be encouraged ... motivated"*. Similarly, their effort to integrate ICT into their

instructional practices should be praised for bringing up change being updated. Further, she added that they should abide by the rules and values so that those teachers would feel encouraged. She suggested:

*I just want that all these suggestions should be implemented ... I gave lots of interviews and I just answered, responded ... it would be totally worthless if this one isn't implemented ... into actions ... I would like to strongly ... strongly talk about this part ... it should be in reality ... should start from schools and from the teachers. (Interview Audio Record no.37)*

In addition, she reacted strongly that she gave lots of interviews before but those were not addressed. This brought her the feeling that such interviews were worthless; however, she hoped to get the teachers' voice implemented in reality. Further, she thought that the initiative steps should be taken from school and from teachers.

Likewise, all the FGs suggested that their teachers required knowledge and skills of ICT for instructional practices. The knowledge and skills of ICT which they had were not sufficient for instructional practices. As FG1 stated that training was required as a part of education and their teachers required it for the subject integration, *"training is part of education so that training should be given to them. They need training for subject integration"* (Transcribed). Some suggested if teachers were not capable of using ICT tools, they needed training. As they pointed out, *"when teachers aren't capable of using ICT tools, they need somehow training"*. FG2 and FG3 mentioned that technology kept changing with time so the teachers also should be updated along with time. They suggested, *"the government should manage training for teachers... teachers need to adopt that and this should be changing with the time"*. Moreover, all the FGs suggested that their teachers' skills and knowledge

were not sufficient. They were in need of some advanced ICT training so that they could integrate technology better. Therefore, “... *they also need to be trained and skilled over the time period so that they can make the students clear about what they're teaching and they can broaden their concepts*” (FG3 Discussion). Moreover, technology keeps changing so they need to be up-to-date. As FG7 viewed, “*teachers didn't have training. That's why they are in the need of training.*” (Transcribed).

### **Bridge up the Digital Divide**

There are various forms of digital divide such as access to computers and the internet, quality of its access and use, gender, location, skill, income and socio-economic differences between developed and developing countries (Abu-Shanab, & Al-Jamal, 2015). Among them, the concept of digital divide used in my research refers to the unequal access to ICT to the students of public schools in Nepal. Thus, here, digital divide refers to the gap between the students who have access to ICT and who do not have that implies adequate access to ICT such as computers and mobiles, and the internet. Essentially, the uneven access to ICT among the students would end up producing two uneven types of human resources; skilled and unskilled that will be injustice with the students who belong to low family income in Nepal.

Being situated in the above scenario, all the FGs shared their experience that the students who lacked ICT availability at home, could not do the assignments/project work given by their teachers. If they went to cyber for doing the assignments, their parents would worry about misusing the Internet. Therefore, the FGs were asked to suggest some of their views to bridge up the digital divide. Some of them suggested that the government should provide some more ICT facilities especially to each and every public school that would make the students learn to use technology.

Most of them suggested that the school must be responsible to provide students with the knowledge and skills of ICT by allowing them to use those tools and technology at school. Additionally, they said that the school should manage extra time for them after the regular classes or no school holidays. FG4 suggested, *“Schools should provide ICT tools after 4 pm for one hour to those students who don’t have availability at home. Or on holidays, those students should come to school to practice using ICT tools to develop their skill”* (Transcribed). Likewise, all of them presented quite similar views, as FG3 said, *“... school must be responsible ... school should provide ICT facility to those students who don’t have ICT availability at home”* (Transcribed). Mostly at public schools, the majority of students belonged to families with low economic backgrounds; they could not afford the cost of using cyber. In this regard, FG5 commented, *“our school should provide ICT tools to those students who don’t have these tools at home or can’t afford to go to cyber”*. Therefore, *“... need to allow them to practice at school ICT lab”*, FG7 remarked.

Thus, the existing digital divide, as experienced by the seven focus group (FGs) students, basically shows the inadequate availability of ICT infrastructure at their respective schools. This sort of challenge has also been experienced by my eight research participants of those schools. They also have suggested that the existing digital divide among the students should be narrowed down by providing sufficient ICT infrastructure to public schools.

### **Control System to Stop Misuse of the Internet**

During the focus group discussion, the groups shared the experience of their parents’ worrying about the misuse of the Internet while doing assignments/project work. The misuse of the internet by the students against academic purposes would happen in terms of watching adult movies (pornography), cyber bullying, playing

games online, involving in cyber-sex field, tracking cyber-prone materials, and online gambling (Alpaslan, 2015). Thus, the students who lacked ICT availability at home were also normally not allowed to go to cyber for doing assignments. Due to the restriction, their teachers did not give them such assignments that required ICT tools and technology. However, the FGs suggested that the misuse of the Internet could be controlled by banning and controlling the sites which might affect the young minds. The view of FG1 shows how smart they are, as they said, “... *everybody can have addiction that can't be avoided however, these sites can be controlled or banned so that young minds can't get deviated*”. It reflects that the fear of parents can be tackled by the school and the teachers. In the similar line, FG2 suggested that if their school allowed them to do their English assignments using the ICT lab there under the teachers' guidance, the fear of their parents would certainly be overcome. To quote them, “*parent's fear of misusing ICT can be overcome if our school allows us to do the assignment at the school ICT lab under the teachers' guidance*”. Moreover, FG1 and FG3 were quite similar in their suggestion as they wanted their use of the Internet should be controlled by their teachers by peeping down into their walls. As FG3 reflected, “... *teachers also can peep out into our walls and they can be assured that students are using these for their purposes...*”. Though it is quite natural for the parents of the teen aged children to be conscious of their activities while using the Internet, their careful attention along with the support of the school and the teachers, as stated by the FGs, could stop their misuse of it. In addition, FG5 suggested, “... *we should do positive use of technology*”. These students belong to the age where technology has become one of the basic requirements of human life (Prensky, 2012). Thus, putting restrictions on them may hinder their knowledge and skills of innovative technology.

## Chapter Summary

In this chapter, I interpreted the suggestions obtained from the participants in terms of integrating ICT into instructional practices. This exploration was related to the third research question. So far the suggestions emerged from the semi-structured interviews are; availability of adequate ICT infrastructure at school, role of stakeholders, and teachers' capacity building. Additionally, the suggestions emerged from seven focus groups of students are; need of adequate ICT infrastructure and frequency in instruction, professional development training for ICT integrated instruction required to teachers, bridge up digital divide, and control system to stop misuse of the Internet. The cross checking of the two sets of themes ensured the validity of the collected data. Very interestingly, the both sets of suggestions were found highly corresponding to each other. All of them equally and prominently suggested providing public secondary schools with sufficient ICT infrastructure and empowering teachers through professional development opportunities for ICT integrated teaching. For their instant support, they want expert guidance online. Additionally, they suggested that the role of related stakeholders of school education is pertinent to execute educational policies as the participants suggested that ICT integrated instruction should be made obligatory to all teachers.

On the other hand, the suggestions provided by the seven focus groups of students go parallel to the suggestions suggested by the eight participants. However, some additional suggestions such as need to; increase the frequency of ICT integrated instruction by providing sufficient ICT infrastructure to schools, bridge up the digital divide among students, and develop a control system to stop misuse of the Internet by students.

## CHAPTER VII

### FINDINGS AND DISCUSSIONS

This chapter has been primarily designed to present and discuss the findings based on the analysis and interpretation of the accumulated data being grounded under the three research questions in accordance with my research agenda viz. “English teachers’ lived phenomenal experiences of ICT integrated instructional practices”, “challenges to ICT integrated instruction”, and “possible ways of overcoming the challenges”. The discussions over the findings from my interpretation are presented in connection with the reviewed theoretical, thematic and empirical literature (Pietkiewicz & Smith, 2014).

#### **Findings**

The findings of my research are put under three headings and sub-headings below in terms of English Teachers’ Overall Phenomenal Experiences of Integrating Technology, Challenges to ICT Integrated Instructional Practices and Possible Ways of Overcoming those Challenges. The details of each of the findings are given below.

#### **English Teachers’ Overall Phenomenal Experiences of Integrating Technology**

This sub-section presents the research findings obtained from the research participants’ overall lived experiences of integrating ICT into their instructional practices in association with the first research question. They practiced ICT integrated instruction for some years (Table 2). However, it is important to note that they all were well experienced but not well practiced as they lacked pedagogical strategies that specifically are required for effective integration of technology. Similarly, they



were well experienced about the benefits of ICT integrated instruction that helped them hook up the students' attention and interest in learning the contents. They practiced social constructivist learning theory into their pedagogy that promoted student-centered teaching/learning (Merriam & Bierema, 2014). It does not mean that their ICT integrated instruction is effective and student-centric as their use of it in teaching merely reflects their basic knowledge of computer and the Internet. However, their experiences of having ICT integrated instructional practices were very impressive in the sense that they were highly positive and enthusiastic. Additionally, the sub-headings of this finding are Strategies of Integrating ICT, Impact of ICT Integrated Instruction on Students, and Teachers' Experiences of Institutional Support.

### **Strategies of Integrating ICT**

My observation of the research participants' strategies of integrating ICT revealed that they used some applications of ICT tools into their instruction. Evidently, the findings revealed that they used the general applications of ICT i.e. word office software and PowerPoint. Additionally, they used electronic dictionary; answer.com website, vocab app, YouTube, and Google search for downloading the required audio/video materials that they used to display in the SMART class either using multimedia/projector or SMART board. However, they interpreted that they did not have used any specific strategies and software for ICT integrated instructional practices. The strategies that they followed were to display the downloaded content materials (textual, audio & video) related to the course searching from the Internet and YouTube. Similarly, they shared their stories to have incorporated the course related audios/videos into their PowerPoint presentation slides. Additionally, some teachers used the EFL content materials specially designed and uploaded on YouTube

by CDC/NCED based on Activity Theory. Moreover, some of the utilized social networking sites (SNSs) such as Facebook, and WhatsApp to get connected with their students that helped them facilitate their EFL instruction beyond the classroom space and time.

Though there are different models/frameworks for integrating ICT into instructional practices as reviewed in chapter two: The TPACK model (Mishra and Koehler, 2006), The Pedagogy Wheel model (Carrington, 2012) and Puentedura's model (2012), none of the participants were aware of any of the above models/strategies of integrating technology into their pedagogical practices. However, their strategies to integrate ICT tools into instruction unknowingly followed the four phased Puentedura's model (2012) (Figure 1). According to the model, their experience of integrating ICT instruction was at the Substitution Phase. Moreover, this major finding is in alignment with the phenomenological research conducted by Strother (2013). She reported that most of the participants were either at the Substitution phase or at the Modification phase.

### **Impact of ICT Integrated Instruction on Students**

The findings on the impact of ICT integrated instruction on the students brought the fact that the participants experienced some differences in the students' motivation after being given ICT integrated instruction. They got their students' attention hooked up in learning and were very enthusiastic (Cagiltay, Ozcelik & Ozcelik 2015; Hwang & Chen 2016; Kılıçkaya, 2015; Grzeszczyk, 2016; Lai, Yeung & Hu, 2016; Wong & Yang, 2017) that saved teachers' time and facilitated instruction and enhanced their achievements (Tuzun et al., 2009).

Moreover, they interpreted that the ICT integrated instruction basically made the class student-centered in which students' enthusiasm and curiosity facilitated their

learning. Additionally, they got their students' achievement comparatively increased after it. It essentially reflects that digital native students are much adaptive and adoptive towards technology (Prensky, 2012). Some participants observed some exceptional progress in their students along with additional energy, excitement, interest while they were taught through visualization in the ICT lab/class. Thus, this confirms the finding of Shapley et al., (2010) that ICT integrated instruction increases learners' creativity and autonomous learning. One of the English teachers, Dinesh interpreted that his students were far superior to teachers in technology knowledge and skills and even they assisted to manage technology during the classroom instruction. It reflects that comparatively digital immigrant teachers are not raised in the same environment as the digital natives (Prensky, 2012; Ashrafzadeh & Sayadian, 2015). Additionally, this paradigm shift in the role of teachers' i.e. "the decentralization of the teachers" (Lam & Lawrence, 2002, p. 311) will promote the students to construct their own knowledge in collaboration in which the role of teachers will be 'guide by the side' instead of 'sage on stage'. The theoretical perspectives of social constructivism put emphasis on technology/ICT as a mediational tool that facilitates student-centered learning. Similarly, the students' attempts for the construction of knowledge in collaboration will certainly lead them towards autonomous learning in which the concepts of Vygotsky as the more knowledgeable other (MKO) and zone of proximal development (ZPD) play a vital role.

The teachers who are constructivist pedagogues utilize maximum technology penetration to promote student-centered approaches (Tam, 2000). Thus, teachers require expertise in terms of having knowledge and skills of integrating ICT into their instructional practice that priorities the role of EFL teachers (Ahmed et al., 2020;

BECTA, 2004; Mishra & Koehler, 2006; Groff & Mouza, 2008; Hew & Brush, 2007; Keengwe, 2007; Ertmer et al., 2012; Ozer, 2018; Wanjala Martin, 2016). In the similar vein, the study found that the teachers' knowledge and skills of ICT integrated instruction is very important. However, the participants described that their knowledge and skills of integrating ICT into their instructional practices were limited to the low or basic usage of ICT i.e. word processor, PowerPoint, Google, search, YouTube, dictionary app, vocab.com that they used in teaching EFL contents. Mainly, they searched the required EFL materials from the Internet that were uploaded by some ELT practitioners or CDC/NCED. Moreover, their experience to integrate ICT was based on the basic computer training which they learnt formally or informally by practicing it. Therefore, their expertise in terms of integrating ICT was not seen on the spot (class observation/focus group discussion) that they also accepted as they stated that they were enthusiastic for teaching through integrating ICT but lacked the professional knowledge and skills of it. Similarly, all the seven focus groups of the students expressed equally that their teachers demonstrated the basic skills of ICT and they never used any specific EFL software available on the Internet. Additionally, their integration of ICT into their instruction was at the Substitution Phase according to the Puentedura's four phased model (2012) for technological integration (figure 1). The teachers are at the lower tier of Puentedura's model from which they need to move towards the higher tiers. Similarly, the English teachers are unaware of technology integration models/frameworks of any type as there are many specially designed well-known models for technology integrated instructional practices.

### **Teachers' Experiences of Institutional Support**

The finding in terms of institutional support is very discouraging. A very few teachers luckily got a chance to participate in the short-termed workshops/training

programs that were confined to make the teachers familiar with basic usage of computers instead of providing some long term professional ICT integration training to in-service teachers in general. During the semi-structured interviews, the participants expressed their stories of conflicting experiences in regard to the support provided by their school administration. Some of them said that their school administration supported them provided with the required ICT infrastructures whereas, on the contrary, some of the participants interpreted their bitter experience as their school administration did not support them by encouraging them for ICT integrated instruction as it still prioritized the traditional mode of teaching and had the concept that the ICT integrated classroom instruction turned to be noisy/uncontrolled (Sampada, Interview Record).

### **Challenges to ICT Integrated Instructional Practices**

The findings on the English teachers' experiences of challenges to ICT integrated instructional practices in association with the second research question revealed that they voluntarily had ICT integrated instructional practices though it is mandatory (MOE, 2013). The challenges to ICT integrated instructional practices are interpreted under three levels; teacher, school and system. The teacher level challenges are intrinsic to teachers such as teachers' knowledge and pedagogical beliefs, lack of confidence, resistance to change and negative attitudes, no perceptions of benefits, lack of personal access to resources, cultural habits, and self-efficacy and anxiety, (Andoh, 2012; Ashrafzadeh & Sayadian, 2015; BECTA, 2004; Ertmer & Ottenbreit-Leftwich, 2010; Moran, Hawkes, & El Gayar, 2010; Nyambane & Nzuki, 2014; Poudel, 2020; Rana & Rana, 2020; Young, 2012). None of these challenges were found in the data analysis; however, the challenge in terms of lack of teachers' professional knowledge and skills of ICT has been interpreted under teacher level.

Moreover, as the participants are in-service teachers, they should get professional development opportunities to update their expertise for the same. Thus, the challenges in terms of lack of professional development opportunities for technology mediated teaching, and fragile implementation of policies are interpreted under system level challenges whereas demotivation from colleagues, time constraint and workload, inadequate ICT infrastructure at school, lack of incentives, disinterest of school administration, traditional classroom setting and curriculum, lack of technician, and digital divide among students are interpreted under school level challenges.

### **Lack of Professional Development Opportunities**

The participants in particular shared their experience that they lacked professional development opportunities to integrate ICT effectively into their instructional practices. In the absence of such professional trainings, they are bound to be confined to the low level or basic usage of ICT knowledge and skills for teaching English. They simply download EFL content- related audio/video materials from the Internet, YouTube that they visualize in the SMART/audio-video class. Additionally, they frequently use dictionary App, vocab.com, some social networking sites (SSNs) such as Facebook and WhatsApp in order to facilitate their students regarding the course and school activities. Thus, their efforts are remarkable that they voluntarily put into practice the ICT integrated instruction but it discloses the ground reality of the disinterest of school administration from implementing the policy. In addition, it reflects the executive weakness of the 'ICT policy in Education' which itself lacks the guidelines on 'ICT integration in Education' (Laudari, 2019; Laudari, & Maher, 2019). It contradicts with the policy that advocates ICT competency as a core competency of school teacher (MOE, 2016).

### **Demotivation from Colleagues**

Some of the participants interpreted their experience of colleagues' demotivation that discouraged the fellow colleagues from integrating ICT into the pedagogical practices. In this regard, Groff and Mouza (2008) assure that among four categories of influential factors to ICT integration, the context (school) is one. Thus, the context of the school where the teachers teach plays a vital role in terms of the colleagues'/peers' support available there for ICT integrated classroom instruction. On the contrary, some of the participants face their colleagues' discouraging comments instead of boosting up them for their endeavors to integrate ICT into the instruction.

### **Time Constraint and Workload**

There is a lack of time for ICT integrated instruction. In fact, ICT integrated instruction requires sufficient time in advance to prepare for conducting classes. Lack of time hinders teachers to integrate technology into their practices (Digedu, 2014); Mumtaz, 2000; Ocak, 2011). In addition, the teachers may be reluctant to adopt ICT integrated instruction if the institution does not allow sufficient time and support to them to be skilled users of ICT (Mumtaz, 2000). Moreover, the English teachers are supposed to be very busy as it is my own experience that I had to wait long to get some spare time from them for the semi-structured interviews.

### **Inadequate ICT Infrastructure**

The participants encountered lack of resources or infrastructure at school that includes the lack of "technology, access, time... and technical support" (Hew & Brush, 2007, p. 226). Furthermore, "a lack of access to resources" (BECTA, 2004, p. 12) refers to lack of hardware, poor organization of resources, poor quality of

hardware, inappropriate software and lack of teachers' personal access to ICT. Similar to this, the public secondary schools in Nepal were reported to be under resourced.

### **Lack of Incentives**

The participants interpreted the lack of incentives as one of the challenges to ICT integrated instruction at public secondary schools in Nepal. Similar to this, some previous research studies (Young, 2012; Jaschik & Lederman, 2013; Overbay, et al., 2010) found that the lack of incentives in the form of professional training, compensation, reward with tenure or promotions etc. impeded technology incorporation in teaching by teachers. In this sense, the teachers who are quite enthusiastic for bringing change in the mode of instruction through ICT integration, need to be encouraged so that others would get inspiration for the same.

### **Disinterest of the School Administration**

It was found that the disinterest of the school towards ICT integrated instruction was reported as one of the major challenges for the teachers to integrate ICT into their classroom teaching. This finding goes parallel to the finding of Park and Son (2009). Their study found many external challenges including lack of administrative support from the school or the government, and pressure from the society hinder English teachers' technology integrated classroom instruction.

### **Digital Divide among Students**

Along with many other challenges, Groff and Mouza (2008) found some challenges in terms of operators (students) that included lack of ICT experience and skills, negative attitudes and beliefs of ICT. On the contrary, the participants reported that their students were highly positive and enthusiastic to be taught and learnt English integrating ICT. Thus, this finding goes against what Groff and Mouza (2008)



found regarding attitude of students. However, the digital divide existed among students impeded their learning in ICT integrated instruction. All of the participants equally confirm that lack of access to ICT devices at school and at home made them not to assign any task to the students that required an access to ICT.

### **Lack of Technicians**

In my observation, I did not find a single secondary school, out of all the seven purposively selected public schools, which had an ICT technician for fixing instant ICT problems. The similar experience was expressed by all the participants that in case of problems in the ICT devices, they cannot get the problems fixed instantly due to lack of ICT technician at school. Moreover, as the participants are not well trained professionally, they are bound to spend much time out of 45 minutes fixing technology problems with the support of colleagues. Thus, lack of ICT technicians at school hinders the teachers from integration of ICT into their instruction and in a way it may also have influenced the frequency of it. Similarly, Khan et al. (2012), and Nyambane and Nzuki (2014) found that lack of provision of technical resources, technical assistance from technicians including some other factors impeded teachers from integration of ICT into their instruction.

### **Lack Access to Suitable Educational Software**

Some of the participants (Sampada, Dinesh & Akriti) were found to be aware of specific websites and software but they lacked access to those apps. Thus, they were confined to searching and downloading the required EFL content materials i.e. audio/video from the Internet and YouTube which were also uploaded by NCED. It discourages teachers from integrating ICT into their instruction (Andoh, 2012). Additionally, some of the participants were unaware of those apps and sites. There are

several specific websites specially designed to teach English provided with authentic audio-video materials.

### **Traditional Setting and Restrictive Curriculum**

Rigid structure of traditional education systems, restrictive curricular etc. (Andoh, 2012) are challenges to ICT integrated instruction. The teachers at the public secondary schools in the Kathmandu valley are bound to struggle for effective integration of ICT due to the traditional curriculum. They shared their experiences that the English curriculum/courses require substantial change for integrating ICT into teaching. Though the 'ICT policy 2010' brought several policies to update the mode of instruction, it did not suggest for the complete revision of the English courses of the secondary level that could facilitate the teachers to integrate ICT. This lack of revision in the traditional curriculum/course has created challenges to them.

### **Lack of Institutional Support**

The teachers lack institutional support from DEO, NCED, and NGOs/INGOs in order to do ICT integrated instructional practices at public secondary schools under the study. It reflects the findings that the lack of administrative support from the school or the government creates challenges to ICT integrated instruction (Park and Son, 2009; Groff & Mouza, 2008). Instead of it, teachers provided with the additional support feel encouraged for effective integration of ICT in classroom instructions (Yildiz, 2007). Further, DEO, NCED, and NGOs/INGOs could play a pivotal role in terms of empowering the teachers by supporting and encouraging them.

### **Fragile Implementation of Policies to Integrate ICT**

One of the participants, Sushila, remarked that *the system paralyzed them (teachers)* ...because the integration of ICT into instruction is not compulsory. Some

of the teachers do it voluntarily whereas the teachers who got the chance to participate in the training or workshop on ICT integration conducted by DEO or others are not willing to bring change into their profession. Similarly, Sampada expressed that ... *the government just makes rules, regulations and policies*. She means to say that the implementation or execution of those rules, regulations and policies is not given prime focus into practice.

### **Possible Suggestions of Overcoming the Challenges**

The participants described some possible suggestions of overcoming challenges in terms of availability of adequate ICT infrastructure at school, institutional support and teachers' capacity building. These three findings are in compact form as availability of sufficient ICT infrastructure could help increase the frequency of technology mediated teaching and learning, and bridge up digital divide to some extent. Similarly, provided with institutional support could check and balance the overall requisites of it including teachers' capacity building and effective implementation of educational policies.

#### **Availability of Sufficient ICT Infrastructure**

The related literature shows that the ICT infrastructure has been provided stepwise to the public secondary schools (MOE, 2013) by the related stakeholders such as DEO, NGOs/INGOs and others are not sufficient in comparison to the total number of class and students at each school. The participants interpreted this as one of the challenges to ICT integrated instructional practices stated. Thus, improved ICT resources at schools and access to these resources can function as a driving force for technology integrated instruction (Makki et al., 2018) and also can contribute to teachers' knowledge and skills of technology (Vitanova et al., 2015). In this regard,

they suggested providing their school with adequate ICT infrastructure that would also bridge up the existing gap of digital divide.

### **Institutional Support**

The participants interpreted that the role of all the stakeholders of school education is equally important to work in tune together in regard to executing all the policies and plans of education or 'ICT in Education 2010' (MOE, 2013). They are required to update all the fundamental components of school education: school, teachers, curriculum, students etc. in terms of integrating ICT (Chang, 2012) for effective instruction practices along with time. All the participants were in the same opinion that all the stakeholders of school education including parents should do something i.e. think over major issues like training to in-service teachers, discussions, interaction among teachers, teachers and students, teachers and management, administrative body etc. Thus, they suggested to provide them in-service training along with conducting interactive meetings between and among different bodies of school organization.

### **Teachers' Capacity Building**

In general, all the participants interpreted their suggestions for giving them capacity building professional trainings to integrate ICT into their instructional practices. It is now more than a decade of the program 'ICT in Education 2010' (MOE, 2013) being launched but still it is found to be at its crawling stage in practice.

### **Discussions**

The research findings presented in the preceding sections are discussed here in connection with the literature reviewed and its alignment with the theoretical and philosophical perspectives of social constructivism. Additionally, a separate sub-

section with the title ‘Theorizing my Claims’ has been developed to theorize my claims for the construction of new knowledge. Moreover, as the research questions are the main crux of any qualitative study (Creswell, 2018; Denzin & Lincoln, 2018) to answer and claim for the knowledge co-constructed together with the research participants (Smith et al., 2009), the following different sections in regard to the three research questions are presented to maintain the clarity and explicitness of the discussion.

### **First Research Question**

Since the first research question is concerned with English teachers’ lived experiences of their ICT integrated instructional practices, the information obtained from them gives the clear picture. Their experiences include in terms of ICT integrated teaching, strategies of integrating, impact of ICT integrated instruction on students, and their experiences of institutional support. Thus, the information obtained from them during their semi structured interview was also cross checked to verify through two different ways i.e. class observation and focus group discussion. Very interestingly, all the three types of information revealed the similar finding that the teachers were well experienced in having technology mediated instruction. However, it was found that their practice was at the initial stage due to some interrelated factors such as ICT infrastructure at school, traditional curriculum and classroom setting, low frequency of ICT integrated instruction, teachers’ basic knowledge and skills of it, students’ lacking its availability at home, time constraint and workload of teachers.

Similarly, it brought me the knowledge that the low frequency of ICT integrated instructional practices disclosed the fact that it was not fully integrated at Nepalese public secondary school. Though this finding is in a way similar to Western countries (Groff & Mouza, 2008), the English teachers’ voluntary integration of ICT

into their practices reveals that there exists some gap between the ICT integration policies in School Education and teachers' instructional practices ((Dhakal & Pant, 2016; Laudari, 2019; Maski Rana , 2018). One of the teachers (Sampada) has very agitatedly demanded to make it compulsory for each and every teacher to integrate technology into their instructional practices.

The teachers' strategies of integrating technology into their classroom instruction were found to be confined to the basic usage of technological tools (computer, laptop, mobile, SMART board, tab, Bluetooth) and the Internet. Though there are different models/frameworks for integrating ICT into instructional practices as reviewed in chapter two: The TPACK model (Mishra and Koehler, 2006), The Pedagogy Wheel model (Carrington, 2012) and Puentedura's model (2012), none of the teachers were found to be aware of any of the above models. However, very interestingly, their strategies to integrate ICT tools into the instruction revealed that they unknowingly followed the four phased Puentedura's model (2012) (Figure 1). According to the model, they were found to be at the Substitution Phase. Moreover, this finding is in alignment with the phenomenological research conducted by Strother (2013). She reported that most of the participants were either at the Substitution phase or at the Modification phase.

Thus, teachers require expertise in terms of having knowledge and skills of integrating ICT into their instructional practice that priorities the role of English teachers (BECTA, 2004; Mishra & Koehler, 2006; Groff & Mouza, 2008; Hew & Brush, 2007; Keengwe, 2007; Ertmer et al., 2012;). In the similar vein, the study found that the teachers' knowledge and skills of ICT integrated instruction is very important. However, it was also found that the teachers' knowledge and skills of integrating ICT into their instructional practices were limited to the low or basic usage

of ICT i.e. word processor, PowerPoint, Google, search, YouTube, dictionary app, vocab.com that they used in teaching EFL contents. Mainly, they searched the required EFL materials from the Internet that were uploaded by some ELT practitioners or CDC/NCED. Moreover, they were bound to integrate ICT based on the basic computer training which they got formally or informally learnt by practicing it. Therefore, their expertise in terms of integrating ICT was not seen on the spot (class observation/focus group discussion) that they also accepted as they stated that they were enthusiastic for teaching through integrating ICT but lacked the professional knowledge and skills of it. All the seven focus groups of the students expressed equally that their teachers demonstrated the basic skills of ICT and they never used any specific EFL software available on the Internet. The reason is that the teachers are unaware of technology integration models/frameworks of any type.

This truly reminds that there is a big absence of private guidelines on the use of ICT. Consequently, its integration in pedagogical practices remains ineffective. This lack is prominently visible in two folds; first, teachers lack ICT integration skills and second, school administration lacks a framework for ICT integration (Lee & Spark, 2013). In addition, the factors related to ICT policies, training for teacher educators and resources impeded the integration of ICT in teaching and learning (Laudari, & Maher, 2019).

The English teachers' ineffective integration of ICT in pedagogical practices also reminds the gap that exists in the curriculum of pre-service teacher education program run by the Nepalese universities (Dhakal & Pant, 2016; Laudari, 2019; Maski Rana, 2018). Similarly, lack of adequate ICT integration policy, teacher educators' technological incompetency, lack of adequate framework for ICT integration, lack of technical support and technological resources are the factors that

influence pre-service teachers' skill and knowledge of ICT for their future practices (Dhakal & Pant, 2016; Laudari, 2019; Laudari & Prior, 2020; Maski Rana, 2018; Shrestha, 2017).

The finding on the impact of technology integrated instruction on students is highly positive as all of the participants had similar experiences of their students' demand of such teaching. This is similar to Shapley et al., (2010)'s finding that ICT integrated instruction increases learners' creativity and autonomous learning. One of the English teachers, Dinesh found his students far superior to teachers in technology knowledge and skills and they assisted to manage technology during the classroom instruction. It reflects that comparatively digital immigrant teachers are not raised in the same environment as the digital natives (Prensky, 2012; Ashrafzadeh & Sayadian, 2015). Additionally, this paradigm shift in the role of teachers' i.e. "the decentralization of the teachers" (Lam & Lawrence, 2002, p. 311) will promote the students to construct their own knowledge in collaboration in which the role of teachers will be 'guide by the side' instead of 'sage on stage'. Moreover, the theoretical perspective of social constructivism puts emphasis on technology/ICT as a mediational tool that facilitates student-centered learning. Similarly, the students' attempts for the construction of knowledge in collaboration will certainly lead them towards autonomous learning in which the concepts of Vygotsky (1978) as the more knowledgeable other (MKO) and zone of proximal development (ZPD) play a vital role.

Though the role of teachers is highly crucial for ICT integrated instruction, the role of support providers/stakeholders such as school administration, DEO, CDC/NCED, and other organizations like NGOs/INGOs are essentially required to promote it. The teachers alone could not bring change in the mode of teaching



through ICT integration. The government of Nepal through the Ministry of Education (MOE) and other departments has already implemented the 'ICT policy 2010' in school education (MOE, 2013) but practically the policy was not effectively implemented. Moreover, the first policy on 'ICT in Education 2010' has several versions of revised policies (SSRP, 2009-2015; ICTMP, 2013; SSDP, 2016-2023) that clearly emphasize the integration of ICT in school education to transfer the mode of instruction, however, due to the lack of sufficient budget, the policies cannot achieve their goals (MOE, 2016). Additionally, the government also lacks specific strategies to support schools providing budget, ICT infrastructure, and professional development opportunities to teachers for ICT integrated pedagogical practices (Rana, 2018; Rana & Rana, 2020).

Thus, government aided public schools basically get support from DEO, CDC/NCED, NGOs/INGOs and others in Nepal in order to update teachers and their instructional practices. Moreover, some schools are well benefitted from NGOs/INGOs in the Kathmandu valley whereas some schools do not allow NGOs/INGOs for any type of contribution and want to stand on their own. These schools are fewer in number that can afford to provide in service professional training to update their teachers and meet the required sufficient infrastructures at school. Furthermore, the support provided by DEO through MOE either in terms of budget or in-service training is not sufficient for all the schools and all the teachers. Likewise, CDC/NCED together provides support by designing the required teaching materials that it uploads on YouTube as the participants expressed that they downloaded the audio/video EFL materials from YouTube which were especially designed and uploaded by NCED, however, the quality standard of these audio/video EFL materials needs to be maintained.

## Second Research Question

The second research question is primarily concerned with the challenges to ICT integrated instructional practices. These challenges include inadequate technology infrastructure at school, lack of professional training, demotivation from colleagues, time constraint and workload, traditional classroom setting and curriculum, and digital divide among students.

Some previous studies (Andoh, 2012; BECTA, 2004; Ertmer et al., 1999; Goktas et al., 2009; Groff & Mouza, 2008; Hew & Brush, 2007; Khan et al., 2012; Nyambane & Nzuki, 2014) found that the role of teachers was very crucial for the effective integration of ICT into instructional practices. Further, they declared that the teachers' understanding of the benefits of ICT integrated classroom instruction, and their knowledge and skills of ICT integrated instruction had a big influence on the integration of ICT for their professional practices.

The trainings given by DEO and NGOs/INGOs which some of the teachers took were also oriented towards giving computer literacy to them as Giri (2010) rightly quotes "the training does not reflect the existing ELT situation, nor does it serve the practical needs of an average teacher" (MOE, 2009, in Giri, 2010, p.67) . Consequently "a lack of teacher competence" due to "a lack of skill training, self-training and pedagogical training" (BECTA, 2004, p. 21) creates challenges to ICT integration into instruction. As the participants equally reflected, the in-service training mainly provided for ICT integrated instruction were not sufficient to enhance the quality and quantity of technology integrated instruction. Thus, it is crucial for NCED and the Department of Education (DEO) to revise the professional training courses to update teachers. These training courses need to incorporate different models of technology integrated instruction such as TPACK, SAMR etc.

Additionally, these trainings should enable teachers to integrate ICT into their specific subjects being focused on student-centered approaches of instruction (An, 2018). In a way, this is also a policy related issue as Laudari (2019) argues that the Nepalese national policy on ICT in education is itself a barrier because MOE does not have designed any policies about ICT integration in teacher education program provided with ICT competency as a core competency of school teacher (MOE, 2016). Further, he states that MOE does not provide any guidelines to teacher education institutions (TEIs) for the expected outcomes from pre-service teacher education program.

The finding in terms of demotivation from colleagues reveals that there are two conflicting groups of teachers i.e. some are in favor of and some are against ICT integrated instruction at public secondary school. The main reason is that it is voluntary for teachers in general and English teachers in particular to have ICT integrated instructional practices. Furthermore, it shows that some weakness lies in terms of implementing ICT policies in school education. In a way, it reflects that it is not mandatory for all the teachers to teach through integrating ICT, however, it is one of the policies that ‘‘ICT will be integrated in all aspects of education’’ (MOE, 2013, p. 12). In short, it is our conventional system that does not go parallel to practice.

Time constraint and workload of teachers hindered the teachers from having technology mediated teaching. Generally they take 6/7 periods a day (Nilu, Interview Record) that certainly make them avoid ICT usage into their instruction. In addition, the classroom instruction time is 45 minutes at school in Nepal in general and the students are taken to the ICT lab/hall from their regular classroom for ICT integrated instruction. It normally takes 10/15 minutes to manage students at the ICT lab. In the remaining 30/35 minutes, the teacher has to pack up the class doing all the activities.

Thus, working under time pressure or constraint of time hinders them from integrating ICT into their practices.

Though they have been given some support from DEO/MOE and NGOS/INGOs (participants' view) according to 'ICT in Education 2010' (MOE, 2013) that is not sufficient as there are many sections of each class and have only one ICT lab/hall away from classrooms. In addition, the available ICT devices are only used by the teachers. Students do not get a chance to practice using those devices because they are insufficient in comparison to the total number of students at school. This consequence has caused low frequency of ICT integrated instruction as the teachers expressed that they integrated ICT once or twice a week turn wise because the school has one ICT lab and many classes.

Lack of incentives and disinterest of school administration caused challenges for the teachers. Incentives do not always stand for monetary and high formalities (Sampada, Interview Record). As she reflected, a simple word of praise from the head teacher or others can be sufficient to encourage and influence teachers. Thus, the role of the school administration is very crucial in order to promote teachers for effective teaching and learning. But, on the contrary, if it shows disinterest or unconcern towards updating and empowering teachers by providing them the required support, they will certainly feel discouraged.

The presence of digital divide among students was found as one of the major challenges. A majority number of students lacked ICT availability at their home. Those students who have ICT at their home, could do home assignments/project work using ICT that helps them develop their technology skills along with proficiency in English. But those students who lack home access to ICT, neither could do the project work that requires ICT integration nor could be proficient users of the English

language. This digital gap among the students of public secondary schools has created a digital divide that hinders the teachers from giving the students project work/home assignments that need ICT integration. Consequently, its impact will be seen in future in two types of human resources i.e. technologically skilled and unskilled.

Lack of technician, lack access to specific websites and software, tradition setting and restrictive curriculum, lack of institutional support and fragile implementation of policies are seen as additional external challenges to technology mediated teaching.

The root cause of success or failure of any plan or program is situated into its execution i.e. how it is delivered into practice. The ELT spectrum of Nepal is very sensitive and critical. It is rightly stated “The average English language teachers face a number of issues and concerns on the daily basis” (Giri, 2010, p. 67) and that was found to be experienced by all of the participants. The design of policies to integrate ICT into instructional practice i.e. ‘ICT in Education 2010’ undoubtedly is a pioneering step that could have excelled the mode of instruction in about a decade of time that already passed. However, its implementation is proven to be very fragile that is the bitter experience of the reality of the project ‘ICT in Education 2010’ of all the participants. Similarly, the revised policies (SSRP, 2009-2015; ICTMP, 2013; SSDP, 2016-2023) emphasize the integration of ICT in school education to transfer the mode of instruction, however, due to the lack of sufficient budget, the policies cannot achieve their goals (MOE, 2016). Additionally, the government also lacks specific strategies to support schools providing budget, ICT infrastructure, and professional development opportunities to teachers for ICT integrated pedagogical practices. Thus, the government has allowed several NGOs and INGOs to support schools for ICT

infrastructure and professional development opportunities to teachers (Rana & Rana, 2020).

### **Third Research Question**

In regard of the third research question, the information obtained from all the participants essentially brought three findings. There should be availability of adequate ICT infrastructure at school, institutional support, and teachers' capacity building to update them. Thus, this section has been developed to discuss the findings on possible ways of overcoming the challenges.

During the semi-structured interviews, all the participants interpreted their experience that they could not give their students frequent ICT integrated classroom instruction and home assignments even though they were highly enthusiastic for it. This is because their schools lack adequate ICT infrastructure and on the other hand, the majority of students at public secondary schools belong to low family economy backgrounds that cannot afford ICT availability at home. Thus, the students are bound to go to cyber if they will be given home assignments that require ICT access. It makes their parents much worried about whether their kids misuse the cyber/Internet. In order to neutralize their anxiety, the teachers used to give their students a slip that informed their parents to let him /her go to cyber to do home assignments. Further, some of the participants expressed that their school allowed the students to practice at the school ICT lab but the inadequate availability of ICT devices there hindered them from practicing at a time together. Therefore, the participants suggested that they are to be provided with adequate ICT infrastructure at each and every public secondary school for effective integration of ICT into the English instructional practices in particular. In doing so, the students who are deprived of technology availability at home, can practice and do their home assignments at the school ICT lab. This will

narrow down the existing digital divide and consequently all the students can get the equal chance to develop their technological knowledge and skills.

Adequate institutional support is one of the suggestions from the participants in terms of technology mediated teaching activities. As school is a platform where the policies and planning of education are concretized or are seen in practice. In this sense, the role of all the stakeholders of school education is equally important to pay attention at updating all the requirements according to time.

### **Theorizing my Claims**

As mentioned above, my research findings have been discussed in association with theoretical and philosophical underpinning of social constructivism, epistemology, ontology and axiology based on the Chapter III. The theoretical perspective of social constructivism/constructivism is based on the assumption that there exists “a relativist ontology (there are multiple realities)” and “a subjectivist epistemology (knower and respondent co-create understandings)” (Denzin & Lincoln, 2018, p. 57). In this process of theorizing my claims and counter claims additionally being grounded under the double hermeneutic method of two interpretations under the IPA paradigm: the research participants’ interpretations of their own experience, and the researcher’s interpretation of the participants’ interpretations (Smith et al, 2009), my study has constructed some pertinent realities of ‘person-in-context’. Moreover, the framework of IPA goes in parallel with the theoretical assumption of social constructivism that essentially signifies the impact of interaction for the construction of knowledge (Vygotsky, 1978).

Ontologically, IPA paradigm of reality is relative and multiple as experienced by the individual participant of the research study. Epistemologically, the nature of these realities is subjective because these realities are “... created through the

interaction of researchers and their participants” (Lincoln & Guba, as cited in Mackey & Gass, 2012, p. 182) are contextual. As the realities are the outcomes of interaction among the participants in the socio-cultural setting of the public schools of the Kathmandu valley, they justify my argument that knowledge is human product that is co-constructed socially and culturally (Vygotsky, 1978). Similarly, they do not seek for universality as they are subjective and relative, and make up persistent, creative activities that are renewed over time (Cohen et al., 2018; Creswell & Creswell, 2018; Denzin & Lincoln, 2018). In this sense, my research participants are well experienced of having ICT integrated instructional practices. Their engagement with such instructional practices at public schools informs that realities are constructed through human activities that do not exist in advanced or cannot be discovered (Leeds-Hurwitz, 2009) because individuality of particular experiences constructs different realities even when provided with very similar learning experiences (Williams & Burden, 1997, Lincoln et al., 2011). Thus, their experiences rationalize some further realities that their strategies of integrating ICT into their instructional practices are confined to the basic usage of ICT devices such as SMART board, laptop, projector, mobile, and incorporating downloaded course related materials (from YouTube and other websites) in slides to display in the class. This simply reflects the fact that they lack the knowledge and skills of pedagogical integration of ICT that is one of the challenges. Similarly, though they have better understanding of the benefits of ICT integrated instruction in terms of students’ positive response, motivation, and performance, majority of their students could not integrated ICT into their learning due to lack of access to technological devices and the internet at school and home, too. Such digital divide will certainly create two distinct categories of future human resources: technologically skilled and unskilled. Moreover, lack of adequate ICT



infrastructure causes two interlinked challenges in terms of limited frequency of ICT integrated instruction and digital divide. Another major findings as the realities of the phenomenon relate with teacher, school and system. As mentioned above, English teachers are confined to their basic knowledge and skills of ICT, confined to have limited ICT integrated instructional practices, demotivation from colleagues, and disinterest of school administration and stakeholders of school education. Act of demotivation from colleagues is one of the highly striking factors in terms of leg pulling or backbiting for being smart or taking initiation of introducing new thing in teaching and learning. Such act from the colleagues at public schools truly demotivates the teachers who want to update their professional practices. This knowledge has been created in the interaction among the participants in the socio-cultural setting of the public school environment reflects what Lincoln et al. (2011) argue that each individual have uniqueness and multidimensional understanding in the way they construct the knowledge with critical subjectivity and holistically.

This also reflects the gap existed between school and system. Here, I mean to say that though it is mandatory for all teachers to integrate ICT into their instructional practices (MOE, 2013), it was found to have been used voluntarily by some teachers. This also reflects the weak execution of 'ICT in Education' policy that directly associates with the role of school stakeholders and school administration. This is one of the prominent realities that reveals their conventional mind set of being stick to old things with the belief 'old is gold'. Certainly, 'old is gold' but it needs to be modified along with time. The CODIV-19 pandemic 2020 has made the entire world change their lifestyles accepting ICT as one of the fundamental prerequisites of daily life. In this scenario, ICT integrated instruction is now as usual as traditional 'chalk and talk' used to be in previous days. One of my research participants said that it is the system

that has paralyzed the teachers. This one statement truly reveals the fact that the system level challenges ultimately influence the teacher level and the school level challenges.

Moreover, the realities in terms of challenges such as teachers' workload and time constraint, traditional classroom setting and curriculum, examination or result oriented education system instead of knowledge focused, students belong to vulnerable families, and negative perception of parents towards ICT construct the knowledge that for the better practices of ICT integrated instruction, the above discussed issues need to be addressed in time. In doing so, first of all as English teachers of public schools primarily put their effort on ICT integrated instruction on the basis of self-taught knowledge and skills of ICT, they require opportunities for their professional development based on different models of pedagogical integration of ICT such as TAPCK, SAMR, WHEEL MODEL and so on. Second, the availability of adequate ICT infrastructure, revision in curriculum and teachers' workload, and overall execution of 'ICT in Education Policy' will certainly bridge up the gaps for expected outcomes. Thirdly, there is a great need of the government policy on 'ICT Integration in Education' and its proper implementation at academic institutions that will certainly overcome the challenges related to pedagogical integration of ICT (Dhakal & Pant, 2016; Laudari, 2019; Laudari & Prior, 2020; Maski Rana , 2018; Shrestha, 2017). Finally, the policy can achieve its goals if sufficient budget will be provided (MOE, 2016) along with some specific strategies to support schools providing budget, adequate ICT infrastructure and professional development opportunities to teachers, and private directives for effective integration of ICT in pedagogy.

## Chapter Summary

The findings are discussed in connection with the research objectives and questions that are the main crux of my research to answer and claim for the knowledge co-constructed together with the research participants. In doing so, typically, an IPA research paper requires to make connections between the themes and the reviewed literature. Thus, the discussions over the findings from my interpretation are presented in connection with the reviewed theoretical, thematic and empirical literature. Additionally, I theorized and discussed the claims/findings of my research under the philosophical and theoretical underpinning of ontology, epistemology, axiology and social constructivism respectively.

All the participants of this research study were well experienced with the existing phenomenon of the ICT integrated instruction at public secondary schools under the study. They were equally found to be awaited for capacity building professional training to integrate ICT. Additionally, teachers' capacity building through in-service professional training (MOE, 2013) is required to update their knowledge and skills according to time. Moreover, their present professional usage of ICT is confined to the basic knowledge and skills of it which they managed on their own and on some short formal training of ICT given by DEO, NCED, NGOs, and INGOs. Thus, this is another prerequisite and suggestion from all the participants to update their professional knowledge and skills through well designed trainings, workshops and seminars.

## CHAPTER VIII

### CONCLUSIONS AND IMPLICATIONS

This chapter presents conclusions, implications of this study and reflections upon my Ph.D. journey. Additionally, it also presents some recommendations for the future research.

#### Conclusions

Deriving conclusion is a prominent part of any research. Though it is very tough to conclude such a research project, it brings a compact form of the knowledge that my study has claimed for in Chapter VII. Additionally, this section is developed to bring a clear picture of my untiring endeavors in regard to establishing a new knowledge into the existing literature that would essentially be helpful for the readers to explicitly draw the core aspects of my research.

It is now a global requirement that has been essentially experienced during the COVID-19 pandemic to go with the alternative mode of instruction integrating ICT. Thus, ICT integrated pedagogy either in physical or virtual environment is now greatly required in the context of Nepal, too. In this scenario, this study brings some in-depth understanding of the ground reality of the English teachers' lived experiences of ICT integrated instructional practices based on the double hermeneutic interpretation of IPA that has the trajectory of methods; descriptive and interpretative (Pietkiewicz & Smith, 2014, p. 8). When it is mandatory for the teachers to integrate ICT in education (MOE, 2013), it is equally crucial to build up technological knowledge and skills of the teachers, and capacity of the public schools provided with

adequate infrastructure for its effective integration into pedagogy. In addition, the traditional curriculum of secondary education needs further revision to fit it in the changed mode of instruction. With the varied years of ICT integrated instructional practices, the teachers are confined to have its limited frequency through the basic usage of it. Though they highly acknowledge the educative value of ICT integrated instruction that they have experienced in terms of exceptional performance of their students being highly motivated and hooked up in the class, their knowledge and skills are confined to the basic usage of ICT in the lack of professional development opportunities. Consequently, their strategies of integrating it are limited to downloading the content related materials (audio/video) from the Internet and YouTube that have been in many cases prepared and uploaded by NCED (from 2020 NCED has been merged into Center for Education and Human Resource Development/CEHRD) that they incorporate into their PowerPoint slides or directly get displayed through the SMART board.

Moreover, the mode of ICT integrated instruction in physical class requires some specific technological and pedagogical knowledge along with content knowledge. There are various technological frameworks that are specifically designed for pedagogical purposes such as SAMR, TPACK, and the Pedagogy Wheel model based on the New Bloom's Taxonomy. Instead of practicing any one of them, ICT integrated instruction is meant to be either downloading audio/video materials related to the course from the Internet/YouTube and incorporate these into the slides prepared for PowerPoint presentation or directly get connected to the Internet through the SMART board available in the ICT lab to visualize the contents along with the audio effect. The reason behind following such strategies is evidently the lack of the skills of ICT integrated instruction which is one of the internal/intrinsic challenges that has

happened with the teachers. Though it is also mandatory to prepare and develop teachers' professionalism for the use of ICT in their classroom (MOE, 2013), the contents of trainings and professional development programs that were provided to some of the English teachers, are simply oriented towards facilitating them for the basic usage of technological tools instead of making them able to use some specific frameworks that have been essentially designed for pedagogical integration of ICT. This lack essentially reminds the gap that existed at the policy level as there is no such policy like 'ICT Integration in Education'. Hence, their voluntary use of technology into their instruction and their inadequate preparedness are linked together with the fragile execution of the existing policy 'ICT in Education 2010' along with its revised versions. Similarly, the voluntary use of ICT in pedagogy by some of the teachers has created some additional challenges to them like the acts of demotivation (leg pulling/back biting) from the colleagues for being initiators of the changed mode of pedagogy. Moreover, the institutional readiness and preparedness of public schools are other important features of ICT integrated instruction. In addition, interest and leadership of school administration is certainly required to encourage the teachers for their initiation through incentives like expressing some words of appraisal/approval, recognition, promotion, a gentle tap of well done and so on.

Of course, in the age of innovative technology where young generations are 'digital natives' or 'NetGens', their interest of technology based teaching and learning is high. Thus, it is challenging for the teachers to hook up their attention with little knowledge and skills of ICT together with inadequate infrastructure at public schools. Moreover, the benefits of ICT are witnessed in the preparation of human resources that could fit in the frame of globalization through their capacity of communication, critical thinking, creativity, and collaboration along with technological expertise.

Therefore, even to develop those sorts of skills in the students from the very beginning, it is necessary to localize the realities of global standard by empowering the teachers and strengthening the public schools in Nepal. Thus, ICT is now a global phenomenon due to its wide spread use and consequently it has been a dire need for teachers to adapt it in the global perspective.

### **Implications of the Study**

This IPA phenomenological study was aimed at exploring the English teachers' lived experiences of ICT integrated instructional practices. The knowledge constructed through the lived experiences of the teachers is subjective, multiple and context specific (Christensen, Johnson and Tuner, 2010; Martinez, 2007) that gives meaning to their practice of a particular phenomenon (Giorgi, 2005) i.e. ICT integrated instruction at the public secondary schools in the Kathmandu valley. Thus, the in-depth exploration of their lived experiences has essentially unfolded the status of ICT integrated instructional practices and the challenges to it. Therefore, the conclusions drawn on the basis of the findings of the overarching research question along with three sub-questions suggest some prominent implications of the study for action.

### **Implications for Execution of Policies**

It is highly required to execute the existing policies that have been designed to update public school, teachers, curriculum/course and students. Though it is compulsory to integrate ICT into instructional practices (MOE, 2013), in reality, it is voluntarily done by some of the teachers. Thus, it shows that there is a gap between the policies and their execution. Moreover, it is the lived experience of the participants that they expressed during their interviews. It is also equally important for

all the stakeholders of the public secondary schools including DEO, NCED/CEHRD, school administration, NGOs and INGOs to play their vital roles to make school education well organized and updated. Additionally, the role of school head teacher and administration should be highly cooperative for technology mediated instruction. They should put their effort together to make the teachers feel encouraged, motivated and supported in their endeavors.

### **Implications for School Administration**

Basically, it is crucial to provide adequate ICT infrastructure to public secondary schools. The only ICT lab available at school makes teachers wait for their turn that takes one or two weeks' time. Additionally, students cannot use ICT devices while being taught in the ICT lab. They are bound to practice using pen and paper during the ICT integrated instruction due to lack of sufficient devices that are only used by the teacher. Moreover, the digital divide that exists among the students of is also attached to the availability of ICT infrastructure. Therefore, the schools should be provided with the sufficient resources such as budget, infrastructure and skilled workforce along with well-equipped classrooms that would be comfortable for the teachers to integrate ICT into their instruction practices any time they require. It would also reduce the barrier of time constraint.

### **Implications for Professional Development**

The teachers are well determined to bring change into their instructional practices through the integration of ICT. So far they have put their effort into it using the basic knowledge and skills of ICT, they learnt personally by practicing with it or supported by some friends. Nevertheless, they require some expertise in terms of



integrating ICT for instructional practices. They are primarily in the great need of ongoing professional development opportunities.

The modules of teacher trainings should essentially incorporate some well-designed frameworks/models such the TPACK model (Mishra & Koehler, 2006), the SAMR model (Puentedura, 2012), the Pedagogy Wheel model (Allan Carrington, 2012) and so on. These frameworks especially guide teachers for technological knowledge and skills in terms of pedagogy. Additionally, the TPACK model proposed by Mishra and Koehler (2006) is crucially required to every teacher. Because their pedagogical content knowledge (PCK) alone does not help them for technology integrated instruction (Mishra & Koehler, 2006). “Empowering teachers for effective technology integration does not mean that they need to know the TPACK framework as such, but implies that teachers need to understand how to shape instructional practices in which technological, content and pedagogical knowledge are embedded” (Voogt & McKenney, 2017, p. 70). Therefore, it is necessary to empower the teachers by strengthening and supporting them professionally.

### **Implications for Providing Incentives**

It is one of the findings that in the lack of incentives for the teachers who are integrating ICT feel discouraged. Their colleagues, mainly those who are not in favor of technology mediated instructional practices are jealous of them. Consequently, they do the act of demotivation instead of supporting and promoting them. This is an exceptional finding of my research study as there is not a single research study carried out yet, so far I reviewed the related literature on discouragement from peers. It reminds the gap at the policy level. This gap along with the socio-cultural context where the teachers belong to get reflected in terms of back biting or leg pulling of the teachers who want frequent ICT integrated instructional practices. Therefore, it is

highly required to provide incentives either in the form of praising, rewarding, honoring or promoting those teachers that will certainly bring a positive impact on their colleagues.

### **Further Research**

The study derives some recommendations for the further research on the basis of the findings, limitations and the review of the related literature.

First, further research should explore the contents of professional development programs that have been mainly designed to integrate ICT into instruction. This would bring insights regarding effectiveness of professional development programs based on ICT integration and the frameworks or models they incorporate. So far some teachers participated in the professional trainings; found those trainings insufficient and lacked the contents/frameworks required for ICT integrated instructional practice.

Second, though this study is inclusive in terms of gender, however, due to the limitation of time, it did not explore the demographic differences such as gender, age, experience, socio-cultural perspectives and gaps in male and female knowledge and skills, perceptions, attitudes and beliefs of ICT integrated instruction. Thus, further research in this area may inform about the influence of demographic differences in integrating ICT into instruction.

Third, the role of school administration is crucial in promoting ICT integrated instructional practices. At school the role of head teachers /principals is very important for technology mediated instruction. Their technological leadership not only encourages teachers to integrate technology but also enhances their digital knowledge and skills (Chang, 2012). However, I did not find any prior studies related to the perceptions, attitudes and beliefs of school head teachers in terms of ICT integrated instruction. Their support is vital for the teachers; therefore, further

research studies are required for examining the influence of head teachers' perceptions, attitudes and beliefs of ICT integrated instruction.

Fourth, revision of teachers' workload, school calendar, curriculum/ EFL course contents, and traditional setting of classrooms for ICT integrated instruction can be an area of further research. ICT integrated instruction not only requires teachers to be updated but also the overall components of school education require to be updated for the effective integration of it.

Finally, the study confirms that there exists a digital divide among students of public schools. As a result, those students who have ICT availability at home could practice and become smart users of technology whereas those who do not have such access to it could not get competency in it. The impact of digital divide may be seen in future in terms of skilled and unskilled human resources. Thus, it could be an area of further research. Additionally, the teachers use audio/video resource materials that have been prepared and uploaded on YouTube by NCED. It is highly required to explore the quality and effectiveness of the language contents used in those resource materials, Similarly, the effectiveness of different technology integration models such as TPACK model (Mishra & Koehler, 2006), Puentedura's (2012) SAMR Model, and Allan Carrington's (2012) the Pedagogy Wheel model could be the areas of further extensive research in the context of teaching English in Nepal. Such research studies would ultimately provide research prospective to strengthen ICT integrated instructional practices at the public secondary schools.

### **Reflection upon My Ph.D. Journey**

This section of the chapter sheds light on my experiences and feelings of passing through a long journey of my Ph.D. research project. It is a well-known fact that suits my endeavor here is 'no pain no gain'. In this sense, I reflect upon my

endeavors of accomplishing this task. Undoubtedly, there are some stories; the stories of ups and downs behind every success. Likewise, my stories commence from germination of doing Ph.D. to being awarded with it. Additionally, it gives the overall reflections upon my research study in a compact form.

There was a big impetus in me to get a doctoral degree being in the profession of teaching and learning. After completing my 'Master in English Education (M. Ed.)' from Tribhuvan University in 1998, I collected experiences of teaching English at various public and private campuses. In the year 2000, I got appointed on contract basis as an assistant lecturer at Thakur Ram Multiple Campus, Birgunj, one of the 'A' level constituent campuses of TU. This platform brought me the opportunity of being selected as one of the Ph.D. scholars among six under QUANTICT NORHED PROJECT in 2014. Before that I was essentially in search of getting enrolled at least at one of the well renowned universities of India because I was highly passionate to earn the degree but due to some unfavorable circumstances such as bringing up two small kids (Anuradha & Aryan) being in the job on the one hand and the male dominated mentality that a woman should not go ahead of a man on the other brought the feeling of desperate in me. However, my strong belief in the god made me feel like I am a blessed one to have the opportunity from the project that wanted to select candidates being as inclusive as possible in terms of gender and geography.

After the first phase of candidate recruitment, it was much delayed for being enrolled for Ph.D. at TU because it was about to launch the course based Ph.D. program and also because it was time of frequent earthquakes and after shakings that had put life on different mode. Nearly after a year, in 2015, I got enrolled in Ph.D. that made me get the study leave. Thereafter, I became focused on my study. However before the enrollment and afterwards, the project conducted various

workshops related to ICT literacy and its pedagogical implications, research methodology, academic writing, indigenous knowledge etc. that truly helped me broaden the horizon my knowledge. Thus, I got maximum exposures to update my knowledge and skills of technology.

It was obligatory for all Ph.D. candidates under the project to take some Ph.D. courses in Norway during two study stays there. This brought me an opportunity to accumulate some more knowledge being in Norway together with challenge, in the sense that being a mother of two school going kids; I was bound to shift them from Birgunj to Kathmandu where they were boarded at a boarding school against their will and interest. During that time I was under the feeling of dilemma and guilt. The dilemma of dropping in the middle for the sake of my children or pursuing the course for my professional growth was before me to choose. However, the comment ‘A mother so selfish ...’ could not shake my determination of moving forward.

During my two study stays of six months each; in the years 2016 and 2018, I took some Ph.D. courses at the University College of Applied Sciences (HiOA/OsloMet [Oslo Metropolitan University]), and University of Oslo (UiO) Norway. Those courses together with the workshops were highly relevant for my project. The rigor of those Ph.D. courses and workshops at three renowned universities home and abroad (TU, OsloMet & UiO) brought me the depth of relevant knowledge. Moreover, I am indebted to my three Norwegian professors Ellen Calm, Leikny Orgim, and Monica Johnassen who were there to provide me the required strength and support. Their engaging interactions during the visits at the university were highly productive in order to frame my research. Additionally, the latest relevant exposures from renowned professors from the UK and the USA through the different courses such as action research, qualitative and quantitative research, literature

review, academic writing and so on certainly widened the horizon of my knowledge. Likewise, the collaborative mode of knowledge construction with Ph.D. colleagues at those universities was truly interactive and inspirational.

Moreover, the first research proposal that I submitted to the Faculty of Education, TU entitled “English Teachers’ Perceptions of ICT Integrated Instruction” was changed into “Gender Inclusion in ICT Integrated Teaching English at Secondary Level” on the basis of the comments provided during the proposal defense. However, my curiosity of carrying out this research study has emerged from my rigorous literature review that was available globally. The literature review brought me some insights in relation to ICT integrated pedagogical practices and challenges to them. While pondering over the globally available related literature, some questions raised in my mind like whether English teachers at public secondary schools in Nepal are integrating ICT into their instructional practices or not. If yes, then, how are they doing and in what ways do they interpret their lived experiences of it? Additionally, I found a very few Ph.D. research studies were conducted in terms of integrating ICT in teaching English at public secondary schools in Nepal. Obviously, my curiosity got an intensive response from the literature review. Consequently, I retitled my study as ‘Integration of Information and Communication Technology in Teaching English’ that was explored through a single overarching research question ‘What are the lived experiences of English teachers teaching at public schools?’ Additionally, the question consisted of three pertinent issues corresponding to the research objectives; lived phenomenal experiences of ICT integrated instructional practices, challenges and suggestions of overcoming the challenges. Thus, the main information obtained through semi-structured interviews was cross-checked with the additional information obtained from class observation and the focus group discussion to ensure credibility

and validity of the obtained information. Similarly, in order to consolidate the theoretical foundation of my study I found the learning theory of social constructivism best suited as it promotes technology mediated instructional practices (Keengwe & Onchwari, 2011) and puts individual learners into the center of learning that empowers them for decision making for knowledge construction and application (Merriam & Bierema, 2014). Additionally, TPACK provides a framework for effective integration of technology in practice (Mishra & Kohler, 2006) that guides teachers how to integrate ICT into their classroom instruction. Therefore, the findings of my study have been discussed in the light of the theoretical and philosophical perspectives of social constructivism along with the framework of TPACK into which the research is basically grounded. Likewise, I chose to conduct my study on the methodological ground of Interpretive Phenomenological Analysis (IPA). Moreover, it is essential for researchers to select IPA on the basis of the epistemological nature of their research questions that are open and exploratory and essentially oriented towards how participants make sense of their particular experiences (Smith et al., 2009; Larkin & Thompson, 2011). In this sense, the eight purposively selected teachers were requested to participate in this study including the seven focus groups of students. Since they had the subjective experiences of the phenomenon, their stories reflected the reality that gave the emic (insider) perspectives to the research study. The emic perspectives in combination with my etic (outsider) perspectives laid the foundation of IPA data analysis because IPA researchers bring a double interpretation/hermeneutic approach by attempting to make sense of participants making sense of their experiences (Smith et al., 2009). As IPA is more concerned with individual perspectives of a given phenomenon than emphasizing the essence of it for a group of people (Pietkiewicz & Smith, 2014; Smith et al., 2009), eight English

teachers' individual experiences of ICT integrated instructional practices at Nepalese public schools of the Kathmandu valley have revealed that their basic knowledge and skills along with voluntary integration of ICT in teaching needs substantial attention and revision from the concerned authorities.

Finally, the sorts of reality and knowledge that were explored from my study based on the framework of IPA are in correspondence with social constructivism. As Vygotsky (1978) argues that reality is constructed in social interaction and that is subjective and multiple, my study has constructed subjective and multiple realities of the phenomenon of the English teachers' lived experiences of ICT integrated instructional practices at public secondary schools of the Kathmandu valley. In this sense, my epistemological and ontological stands of knowledge construction cannot be claimed as universal and generalized because these realities and knowledge are contextual that have been created in interaction with the participants having uniqueness and multidimensional understanding in the way they construct the knowledge with critical subjectivity and holistically (Denzin & Lincoln, 2018; Lincoln, Lynham & Guba, 2011). In doing so, the methodological framework of IPA has been the best selection as Smith et al. (2009) assert that IPA is based on the central theoretical underpinnings of phenomenology (the study of human experience and consciousness), hermeneutics (interpretation) and idiography (the study of the particular). However, the realities and knowledge constructed through my study are contextual that cannot be generalized, in this sense, it would have been better had I studied the phenomenon under the mix-method approach. This research approach allows for maximum number of research participants from different places for wider understanding on how teachers are integrating ICT into their instructional practices in the context where this is at its elementary stage.



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## ANNEXES

### Annex A

#### ICT development in Nepal

Neupane (2010) has mentioned the following stages of ICT development in Nepal;

1971 Introduction of computer in the country for census- (IBM 1401)

1974 Establishment of the Electronic Data processing Center

1982 First private overseas Investment in Software development by establishing company for export, Data System International (P) Ltd.

1985 Distribution of Personal Computers in Nepal

1990 Liberalization on imports of equipment

1992 Establishment of Computer Association of Nepal

1996 Establishment of Ministry of Science & Technology

1998 Telecommunication Act 1997 and Regulation

1998 Establishment of Nepal Telecom Authority (NTA)

2000 Announcement of the first IT Policy 'IT policy 2000'

2001 Establishment of the National Information Technology Center (NITC) as ICT Implementation Body

2003 Establishment of the High Level Commission for Information Technology

2004 Telecommunication Policy 2004

2004 Electronic Transaction Ordinance 2004

2006 Electronic Transaction Act Oct, 2006



## 2010 Announcement of IT Policy 2067

The revised IT policy 2067 has the following objectives and action plan in brief

Objectives;

- To make information technology accessible to the general public and increase employment through this means,
- To build a knowledge based society and
- To establish knowledge based industries
- To achieve the afore-set objectives the following action plan shall be adopted
- Participation of private sectors in infrastructure development
- Infrastructure development
- Human Resources Development
- Dissemination of Information Technology
- Promotion of E-Commerce etc
- Facilities

## Annex B

### Research Questions along with Probing Questions

#### Sub-questions

1. In what ways do English teachers make sense of their lived experiences of ICT integrated instructional practices of the physical classroom?
  - i. How are the English teachers' lived experiences of ICT integrated instruction?
  - ii. How are they implementing their knowledge and skills of technology into their instructional practices?
  - iii. Which ICT tools are they using into their teaching and how?
  - iv. How are their students using ICT tools at school and back home?
  - v. How do ICT integrated teaching promote students' performance in class?
  - vi. How does ICT support their professional development?
2. How do English teachers interpret the challenges they are facing for ICT integrated instruction in the physical classroom?
  - i. What are the challenges related to teachers' knowledge and skills of ICT integrated instruction?
  - ii. What are the challenges related to school and others?
3. What suggestions do English teachers provide for overcoming the challenges?
  - i. What are the suggestions from the English teachers to overcome the challenges of ICT integrated instruction?
  - ii. What are the suggestions from students to overcome the challenges of ICT integrated instruction?

## Annex C

### Consent Letter

#### INFORMED CONSENT

#### ICT Integration in Teaching English

Research Title: **Integration of Information and Communication Technology in Teaching English**

Research Investigator: **Renu Singh**

Department Address: **Faculty of Education, Dean Office, T.U. Kirtipur**

Phone No: **9845062395**

Email ID: **singhrtrmc@gmail.com**

Research Participant's Name:

Phone No:

Email ID:

#### Background

You are being invited to take part in the research study. Before you decide to participate in this study, it is important that you should understand why the research is being done and what it will involve. Please take the time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need information.

The purpose of the study:

To explore and analyze English teachers ICT/technology integrated instructional practices.

Study Procedure:

Your expected time commitment for this study is: 45 to 60 minutes. Your participation in this study is voluntary. I do not anticipate that there are any risks associated with your participation, but you have the right to withdraw from the research at any time. There is no monetary compensation to you for your participation in this study.

For the purpose of this research project your responses will not be anonymous unless you request that they be. Every effort will be made by the researcher to preserve your confidentiality including the following;

- Assigning the code names (pseudonym)/numbers for participants that will be used on the researcher's notes and documents.
- Notes, interview transcriptions, transcribed notes and any other identifying participation information will be kept in a locked file cabinet in the personal possession of the researcher. When no longer necessary for research, all materials will be destroyed.
- The researcher and the members of the research committee will review the researcher's collected data. Information from this research will be used solely for the purpose of the study. All the participants involved in this study will not be identified and their anonymity will be maintained.
- Each participant has the opportunity to obtain a transcribed copy of their interview. Participants should tell the researcher if a copy of the interview is desired.
- Participants' data will be kept confidential except in cases where the researcher is legally obligated to report specific incidents.

By signing this consent form, I confirm that I have read and understood the information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understood that I will be given a copy of this consent form. Further, I voluntarily agree to take part in this study.

Signature

Date:

## Annex D

### Semi-Structured Interview

**Name:**

**Age:**

**Date:**

**Sex:**

**School:**

This study is carried out in order to get an in-depth understanding of the ICT integrated teaching English at school. Thus, being focused on the ICT integrated practices and experiences of the English teachers, a semi-structured interview is conducted with them individually to dig up his/her lived experiences and practices of ICT integration into their classroom teaching. The interview is framed around the following research questions;

#### Research Questions for Semi-Structured Interview

Broken into 3 parts; ICT Practices, Experiences & Challenges

1. Would you please tell me how you were introduced to Information and Communication Technology (ICT) for the first time? Or have you used ICT tools for teaching English?



2. How long have you been using educational technology (ICT tools) for teaching English?



3. How often do you use ICT tools for your subject teaching?



4. Which ICT tools are you using? Please name them.



5. Did you get the basic computer course or ICT training from your school or any organization? How long? Could you elaborate it, please?



6. Do you think the ICT training that you have got is adequate for your teaching purposes? Could you please highlight the strengths and weaknesses of the training you obtained?



7. Do you find any differences between teaching English with and without ICT tools? How do they affect your teaching?



8. How does ICT skill and knowledge help your professional development?



9. How motivated are students in the class with technology integration? What is their reaction?



10. What differences did you find in students' achievement after you started teaching English using ICT tools?



11. Do your students have ICT availability at home? If not, how are they doing the assignments?



12. How is the ICT lab at your school?



13. Does the school have Internet Connectivity? Which software are you using to facilitate your teaching?



14. Do you use Computer Assisted Language Learning (CALL), Computer Mediated Communication (CMC) or any other technology supported instructions in your class? How often?



15. How do your students cooperate with you in technology supported teaching EFL?



16. Would you think using ICT tools in your subject teaching is effective? How?



### **Challenges**

17. What challenges do you often face while using technology as teaching aid in your class? What are they?



18. Are the challenges related to the subject teacher, subject, school management support or students?



19. How are you addressing these challenges?



20. What support do you get from your school, District Education Office (DEO), National Center for Education Development (NCED) and other organizations (NGOs/INGOs) regarding the availability of ICT tools and training?



21. Could you suggest to me the possible ways of overcoming the challenges?





## Annex E

### Email Questionnaires

#### Research Questions

Please feel free to answer the following questions which are related to the previous interview so far we conducted on ICT integration in teaching English:

- 1) Which ICT tools do you frequently use in teaching language skills; listening, speaking, reading and writing?

Answer:

- 2) Which ICT tools do you use in teaching language aspects; vocabulary, grammar and other?

Answer:

- 3) How do you use social media (Facebook, WhatsApp, Twitter, Viber, YouTube etc.) to facilitate your teaching in the SMART class?

Answer:

- 4) What are your strategies of using ICT tools/SMART board for teaching language skills and aspects?

Answer:

- 5) Why do you think YouTube is an effective tool for teaching the English language? Explain.

Answer:

- 6) How do different websites on the Internet support your classroom instruction? Which site/sites do you use frequently?

Answer:

- 7) How does power-point presentation facilitate you to teach different skills and aspects of the English language?

Answer:

- 8) Comparatively what changes were taken recently in the syllabus/textbook of the English subject of class 9/10 to support ICT integrated instruction?

Answer:

THANK YOU!!!

## Annex F

### Class Observation

The eight English (male/female) teachers were the research participants, who were requested to allow me to observe his/her class once or twice (if necessary) to be reassured of his/her ICT integrated teaching as he/she would describe during the interview to me. Their class observation was important to examine their ICT integration into their practice that was helpful to explore their lived experiences of their classroom practice with ICT tools. Further, the class observation checklist was used to observe how they were integrating ICT tools for the better understanding of what they are teaching. The following modified class observation checklist (retrieved, 26/12/2017 from <https://carvenc.edu>) was used to observe the participants' technology assimilated classroom instruction.

#### Classroom Observation Checklist

Name: \_\_\_\_\_ Course/Teaching Item:  
 \_\_\_\_\_  
 Class Observed: \_\_\_\_\_  
 Name of School: \_\_\_\_\_  
 Date and Time \_\_\_\_\_

Review Section	Description/Comments
1. <b>SUBJECT MATTER CONTENT</b> (shows good command and knowledge of subject matter; demonstrates breadth and depth of mastery)	
2. <b>ORGANIZATION</b> (organizes subject matter; evidences preparation; is	

<p>thorough; states clear objectives; emphasizes and summarizes main points, meets class at scheduled time, regularly monitors on-line course)</p>	
<p>3.       <b>RAPPORT</b></p> <p>(holds interest of students; is respectful, fair, and impartial; provides feedback, encourages participation; interacts with students, shows enthusiasm)</p>	
<p>4.       <b>TEACHING METHODS</b></p> <p>(uses relevant teaching methods, aids, materials, techniques, and <b>technology</b>; includes variety, balance, imagination, group involvement; uses examples that are simple, clear, precise, and appropriate; stays focused on and meets stated objectives)</p>	
<p>5.       <b>PRESENTATION</b></p> <p>(establishes online course or classroom environment conducive to learning; maintains eye contact; uses a clear voice, strong projection, proper enunciation, and standard English)</p>	
<p>6.       <b>MANAGEMENT</b></p> <p>(uses time wisely; attends to course interaction; demonstrates leadership ability; maintains discipline and control; maintains effective e-platform management)</p>	
<p>7.       <b>SENSITIVITY</b></p> <p>(exhibits sensitivity to students' personal culture, gender differences and disabilities, responds</p>	

appropriately in a non-threatening, pro-active learning environment)	
8. <b>ASSISTANCE TO STUDENTS</b> (assists students with academic problems)	
9. <b>PERSONAL</b> (evidences self-confidence; maintains professional comportment and appearance)	
10. <b>PHYSICAL ASPECTS OF CLASSROOM (optional)</b>  (state location and physical attributes of classroom, number of students in attendance, layout of room, distractions if any; list any observations of how physical aspects affected content delivery)	

**Strengths observed:**

**Suggestions for improvement:**

**Overall impression of teaching effectiveness:**

## **Annex G**

### **Focus Group Discussion**

**School:**

**Date:**

**Class:**

**No of Students:**

Focus group discussion was carried out with the seven groups of students (five in each group) whom my research participants were teaching with ICT integration at their perspective schools. With the prior oral consent of the head teacher and English teachers, the students were requested to participate in the discussion. It helped me explore the students' perspectives on how their English teachers integrate ICT in teaching English and what impact they found in their learning activities. Additionally, the discussion moved around certain themes to cross-check what their teachers narrated during the semi-structured interview. Thus, the group discussion was focused around the following themes;

- How do you think ICT integrated teaching promotes your performance?
- How is ICT integrated teaching different from the traditional way of teaching?
- Which ICT tools are you using at school and back home?
- How is your English teacher using ICT tools in class?

## **Annex H**

### **Themes generated from the obtained data (Semi-Structured Interview)**

The data collected on three issues: part 1, part 2 and part 3 were related with ICT integrated instructional practices, ICT infrastructure/requirements, students' impact of ICT integrated EFL instruction, teachers' knowledge and skills of ICT, challenges and suggestions.

#### **English Teachers' Experiences of ICT Integrated Instruction (Part 1)**

- i. Frequency of ICT integrated EFL instruction
- ii. ICT infrastructure at school
- iii. Students' impact of ICT integrated EFL instructional practices
  - Pros and cons of the Internet
  - Students do assignments using ICT tools
  - Traditional way time consuming
  - Attention draws in traditional mode
  - Grammar teaching effective in traditional mode
- iv. English teachers' knowledge and skills of ICT

#### **Challenges to ICT Integrated English Instruction (Part 2)**

- i. Low frequency of ICT in English instruction
- ii. Insufficient ICT infrastructure at school
- iii. Low ICT knowledge and skills of English teachers
- iv. Digital divide/students lack ICT availability at home
- v. Parents' restriction from using internet/parents' fear
- vi. Use of ICT in traditional curriculum and by highly loaded teachers

**Suggestions to ICT Integrated EFL Instruction (Part 3)**

- i. Need to increase ICT frequency in EFL instruction
- ii. Sufficient ICT infrastructure required at school
- iii. Professional Development trainings on ICT integrated instruction required to teachers
- iv. Bridge up digital divide
- v. Control system to stop misuse of internet



## Annex I

### Codes/Themes generated from the focus groups discussion (2<sup>nd</sup> phase) data

#### Discussion issues Part 1

- Frequency of ICT integrated instruction
- ICT infrastructure at school
- Students' impact of ICT integrated instruction
- Teachers' knowledge and skills of ICT in EFL instruction
- Pros and cons of Internet
- Use of social media
- Do assignment using ICT tools

#### Part 2

- Low frequency of ICT
- Students misuse ICT tools
- Digital divide
- Low ICT skills of teachers
- Teacher-centered teaching
- In sufficient ICT infrastructure at school

#### Part 3

- Increase ICT frequency
- Professional training for ICT integration
- Control system stop misuse of sites
- Curriculum redesigned
- Bridge up digital divide

## **Annex J**

### **Themes generated from the Class Observation Data/2<sup>nd</sup>Phase**

The following themes were generated from the thematic analysis of the collected data:

- i. Teaching/learning of language aspects and skills
- ii. Integration of ICT tools available at school
- iii. EFL teacher preparation of ICT integrated instruction
- iv. Use of EFL teacher's knowledge and skills of ICT into instructional practices
- v. Teaching/learning activities
- vi. Evaluation of the taught lesson

## Annex K

## Work Plan/Schedule for the Research Study

S · N ·	Activities	Required Time in months				Remarks
		1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	
0 1	Material collection and Preliminary study	■				
0 2	Review of related literature and reflection writing		■			
0 3	Developing tools for data collection			■		
0 4	Field study and data collection			■		
0 5	Data generalization and			■		

