

# USING ICTS IN TEACHING PRACTICES A STUDY OF NEPALESE TEACHERS' EXPERIENCES

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## ABSTRACT

*The COVID 19 pandemic has brought about a paradigm shift in the education sector, with ICT emerging as an indispensable tool for teaching and learning. In Nepal, the education system has undergone a significant transformation, moving away from traditional learning methods and embracing digital technology. Despite being a pressing issue worldwide, there has been limited research on the changing role of teachers in the use of ICT in Nepal. To fill this gap, this paper investigates the experiences of two teachers in using ICTs in teaching, gathering their views, opinions, and challenges. The information collected from the participants were analyzed and interpreted descriptively. The findings reveal that both teachers encountered obstacles and challenges in implementing ICTs in their teaching strategies, and their experiences highlight the potential of ICT in transforming teaching methods. The paper provides valuable insights into the changing role of teachers in the age of ICT and underscores the importance of addressing the challenges in effective use of technology in education.*

**Keywords:** *Teaching Online, Class in COVID-19, Effectiveness of Technology, challenges*

## Introduction

The rapid growth in Information and Technologies (ICT) has revolutionized our lives, impacting both our society and educational systems. With ICT increasingly becoming a part of our daily lives, its integration into education has become vital. Utilizing ICT in the classroom has been shown to motivate learners and improve learning outcomes (Wekke and Hamid, 2013). However, the Covid-19 pandemic has created unprecedented disruptions to education systems worldwide, with many countries imposing lockdowns and schools being forced to close. In Nepal, a nationwide lockdown was announced on March 24, leading to the suspension of academic activities and examinations as traditional teaching and learning within physical classrooms posed a high risk of virus transmission. To meet the present-day needs of learners, ICT in education has emerged as an innovative and effective means of teaching and learning.

Upon reflecting on my learning with teaching methods, I have observed a significant different between past and present approach. . Prior to the pandemic, the teaching style I encountered in schools and universities followed a teacher-

centered approach. We simply followed the course materials that the teacher presented or restricted ourselves to the textbooks. However, upon enrolling in the MPhil program at Kathmandu University(KU), I encountered an entirely different learning approach. Professors at KU used PowerPoint presentations to teach in class, shared reading materials and assignments via email, and employed Moodle, which was new to me.

With the onset of the pandemic, educational institutions were forced to transition from traditional classroom teaching to online teaching to comply with safety measures. KU's School of Education quickly adopted virtual classrooms and distributed guidelines to students. As an MPhil learner, I had the opportunity to experience distance learning through innovative technologies such as Google Meet. At first, we encountered with difficulties in adapting to these new tools, but with the hard work of our professors, we gradually became accustomed to Zoom, Google Meet, and Moodle, which became the primary platforms for our online classes, assignments, and course plans. Despite the initial struggles, our professors made every effort to engage us with the tools and provide us with a conducive learning environment.

Similarly, teachers have the responsibility of shaping the new generation, but they must keep pace with the changing world. In the past, teachers were only source of information in the classroom, and their knowledge was limited to books. However, nowadays, teachers have more responsibilities compared to those in the past. An instance, teachers not only teach but also assign homework's, grade assignments, and act as mentors. Therefore, it can be inferred that the responsibilities of teachers have changed over time. The aim of this study is to investigate the experiences of both novice and experienced English teachers in using ICT in education. Gorder (2008) reported that teacher experience significantly correlated with the actual use of technology.

This study specifically focuses on the lived experiences of teachers who are less ready to integrate ICT into their teaching. While conducting research in ICT teaching in Nepal, I found that this area I under-researched. Thus, the study seeks to address this gap by answering the research question, "What are the experiences of novice and experienced teachers in using ICT? The article will briefly analyze the experiences of two and 18 years of teaching experience, respectively, regarding the teaching of ICT. We will explore the changes they faced and how they coped with them.

### **ICT tools and its use**

In today's rapidly evolving world, information and Communication Technology(ICT) has emerged as a powerful tool for enhancing quality of life, and

its utilization has witnessed significant growth in recent years. Educational institutions worldwide have recognized the immense value of ICT in the teaching and learning process. Gillespie (2006) highlights that new technologies can empower students to access information, engage with diverse resources such as images and videos, and foster effective communication and collaboration. Similarly, in Nepal, the adoption of ICT in the educational sphere has experienced a remarkable surge, particularly, following the outbreak of the pandemic. Undeniably, ICT plays an indispensable role in facilitating communication, establishing connections, and efficiently managing information. ICT has emerged as a powerful tool for global education, particularly for individuals who face limitations in mobility or are confined by personal or worldly circumstances, as exemplified by the current pandemic. The integration of ICT makes it possible to enhance education by overcoming physical barriers. A wide range of ICT tools can be employed in various educational domains, including computers, laptops, tablets, and mobile phones with internet connectivity, in both synchronous and asynchronous learning environments. These tools facilitate flexible and accessible learning opportunities for individuals across the globe.

### **ICT in Education**

The use of Information and Communication Technology (ICT) has become an integral part of education in recent times. Several studies have highlighted the impact of ICT on teaching, learning, and research in higher education institutions. For instance, in a study conducted by Al-Zoubi and AbuShanab (2019), it was found that the use of ICT tools such as e-learning platforms, social media, and multimedia resources positively impacted students' academic performance. Similarly, another study by Abowd et al. (2016) highlighted the potential of ICT in improving research productivity and facilitating collaboration among researchers. The use of information and Communication Technology (ICT) in education has gained significant attention in recent years due to its potential to enhance teaching and learning experiences. Numerous studies have explored the impact of ICT in various educational settings, highlighting its ability to promote student engagement, facilitate personalized learning, and foster collaboration among learners. For instance, a study by Lim and Hang (2019) demonstrated that integrating ICT tools, such as interactive whiteboards and educational software, led to improved student motivation and academic performance. Similarly, the research conducted by Selwyn (2021) emphasized the importance of teacher training and support in utilizing ICT effectively in the classroom. These findings underscore the significance of ICT integration in education and suggest that a well-planned implementation strategy and supportive environment are crucial for maximizing its potential.

However, the outbreak of the COVID-19 pandemic has brought unprecedented challenges to the academic community, which has forced them to rely heavily on ICT tools for academic activities. Several studies have highlighted the critical role of ICT in enabling remote teaching and learning during pandemic (Chen et al., 2020; Delello & McWhorter, 2020). The widespread adoption of online learning platforms, video conferences tools, and digital resources has allowed academic institutions to continue their activities despite the disruption caused by the pandemic.

Overall, the literature suggests that ICT has the potential to revolutionize academic activities, improving teaching, learning, and research outcomes. The COVID-19 pandemic has further highlighted the critical role of ICT in academic activities, making it an essential part of the educational system.

### **Teacher Competence and Confidence in ICT**

Competence refers to the ability to effectively utilize a range of ICT applications for various purposes. Similarly, ICT competencies encompass the aptitude to proficiency handle diverse technologies to achieve different objectives. Prestride (2012) highlights that teaching with ICT is an essential skill for educators, yet it remains lacking among due to its limited inclusion in their training programs. The author identifies key ICT packages that secondary school teachers should possess, including data processing, internet usage, presentation software like PowerPoint, and email proficiency. These ICT packages are invaluable to teachers as they aid in creating lesson plans, analyzing and evaluating student's assessments, acquiring new knowledge, and delivering lessons in a clear and engaging manner. Previous studies have explored the reasons behind teachers' lack of confidence in using ICT. According to Beggs (2000), a fear of failure hinders teachers' confidence in embracing ICT, especially, those who have limited or occasional exposure to it. However, the covid-19 pandemic has made ICT adoption a necessity, compelling teachers to develop both competence and confidence in utilizing these tools effectively.

The literature reviews reveal that the utilization of ICT in teaching has been extensively explored in various countries, including Africa and beyond. However, the majority of these studies primarily examined the effectiveness if ICT implementation in teaching. There is a notable scarcity of research focused in investigating teacher' firsthand experiences with ICT, particularly, in the context of the pandemic and how they have adapted to teaching with technology. Consequently, this study aims to address this significant knowledge gap, Specifically, the research paper aims to shed light on the diverse experiences, perspectives, and attitudes of secondary language teachers towards incorporating ICT in their classrooms. By doing so, the present study endeavors to offer valuable

insights into the perceptions of both novice and experienced teachers regarding ICT integration in teaching.

### **Methodological Stance**

This study is a qualitative exploration of teachers' experiences with using ICT in their teaching. The research is grounded in the interpretative paradigm and employs the Narrative method, which allows for the perspectives and interpretations of participants to be included. The study involved conducting interviews schedules with four research participants to gather qualitative data. This technique is considered open-minded as it directly elicits information from the respondents. As Ary et al. (2010) explain, interviews are useful for gathering data on subjects' opinions, beliefs, and feelings about a situation in their own words. Throughout the study, ethical principles and legal requirements were followed to ensure that the participants' privacy was respected and they were not harmed in anyway. The collected information was analyzed under four different thematic headings that incorporated major ideas drawn from the participants and supporting literature. Finally, a conclusion was made based on the literature and the views of the participants.

The study aimed to investigate how teachers use ICT in their teaching and the challenges they face while adapting to it. However, some limitations must be acknowledged. Firstly, the study relied solely on data from teachers who currently use ICT in their teaching practice. Secondly, although participation was encouraged, it was voluntary. The study focused on two English teachers from Secondary level English teachers identified as 'Mr. Novice' and 'Mrs. Experienced (pseudo names) with 2 and 18 years of teaching experience, respectively. The information obtained in Nepali language from the participants was first transcribed coded them and then finding were drawn under four themes.

### **Experiences with ICT in teaching**

When examining teaching experiences and their perceptions and challenges of ICT, the results show that there is almost no significant difference between them. This finding is consistent with previous research conducted by Niederhauser and Stoddart (2001), who also found no differences based on length of teaching experience. However, when comparing the data from two individual teachers- one with four years of experience and the other with eighteen years of experience- we can observe a difference in their perceptions towards using ICT in the classroom.

Upon analyzing the provided data, it is evident that both teachers have varying experiences when it comes to utilizing technology in their teaching. The novice teacher shared their perspective, stating;

*I often use laptop for my personal and official work. I started with traditional method, but due to the pandemic, we have now transitioned to online methods, which are quite easier for me. I have become more accustomed to using technology, and I can now learn and teach through it, which makes me happy.*

The novice teacher revealed his integration of technology into his daily workflow, relying on familiar tools such as Gmail, YouTube, and various updated applications. The pandemic had compelled him to transform his teaching strategy from the traditional approach to a digital one. Similarly, the experienced teacher shared that she has encountered numerous changes such as in the past teaching and learning were confined to textbooks and the experienced of educators. However, with the advent of the pandemic, teaching methods have migrated to the digital realm. Further he added “*Though my interaction with technology was previously minimal, I am striving to become more proficient with ICT and adapt to the new teaching landscape.*” So the experienced teacher shared that she had limited exposure to technology. She was accustomed to traditional teaching practices, relying solely on conventional methods. As she recounted, 18 years ago, technology had not yet become prevalent, and basic mobile phones were just beginning to gain popularity. During that time, teaching primarily relied on traditional approaches, primarily centered around textbooks. However, she now finds herself confronted with numerous changes brought about by the integration of Information and Communication Technology (ICT) in the educational sector.

Furthermore, although they have different levels of experience with ICT, both teachers are now becoming increasingly compatible with it. According to Dudzinski et al. (2000), teaching experience develops over time, and teachers who have been in profession for a longer duration possess a wealth of knowledge regarding teaching issues. This is because they are perceived to have the ability to relate prior knowledge to new experiences. When examining the factor of teacher experience, Clotfelter et al. (2006) discovered that teachers with more experience tend to be more effective than their less experienced counterparts. However, when it comes to ICT, novice teachers often have more exposure to and familiarity with its use compared to their more experienced peers. Such differences give rise to essential discussions on how ICT is experienced by both type of teachers.

### **Alternative method of teaching and during pandemic**

The Government of Nepal has taken the necessary step of indefinitely closing educational institutions in order to combat the spread of the Covid-19 pandemic. In this challenging situation, alternative teaching methods have become the only viable option to ensure the continuity of students’ education. Since, students possess diverse learning styles, it is crucial for teachers to stay updated with a range

of methods, strategies, and techniques. The effectiveness of distance education in enabling student learning largely depends on the support provided by both parents and teachers. Consequently, it becomes imperative to equip teachers with the necessary skills in alternative pedagogies. The lack of access to technology and insufficient training for teachers have emerged as major obstacles in this endeavor. Therefore, it is essential to provide training to teachers, enabling them to adapt their knowledge and skills by utilizing ICT tools and learning portals, thereby facilitating the implementation of various teaching modes.

During a discussion on ICT teaching practices amidst the Covid-19 pandemic, Mr. Novice teacher shared his insights on the subject that the Covid-19 pandemic has had a significant impact on the way teaching and learning take place. As a result, we have had to adapt to alternative methods of delivering education to our students. He further shared *“While initially challenging for many teachers who were not familiar with these methods, it has enabled us to provide education even in the most difficult circumstances.”* Despite the situation improving, online teaching has continued and proven to be as effective as physical instruction. Similarly, the novice teacher enthusiastically expressed their continued utilization of alternative teaching methods even after the pandemic, highlighting their satisfaction with its effectiveness. The positive feedback received from their students further affirms the viability of digital platform for education. Initially perceived as a temporary solution and alternative approach, technology has now emerged as a valuable asset, marking a significant milestone in the educational landscape of Nepal. Moreover, experienced teachers also endorse the benefits of integrating technology into their teaching practices, further emphasizing its transformative impact. She shared that He further said *“as a teacher I have personally embraced this new method of instruction and have found it to be highly effective and it has opened up a world of possibilities for me and enhanced the learning experience for all involved.”* Here, the experienced teachers are embracing the new teaching methods and find them highly effective, despite their initial reservations about reduced reliance on technology. The overwhelmingly positive response from both educators highlights the success of incorporating technology in the classroom.

To further enhance the integration of information and communication technology (ICT) into the teaching and learning process, it is important to prioritize teacher training. However, it is crucial that this training is made accessible to all educators, particularly those at the secondary level. Simultaneously, teacher should be equipped with free and unrestricted internet access, as well as the necessary technological resources, to ensure their seamless adaption to this innovation mode of instruction. By providing inclusive teacher training programs, educators will gain the skills and knowledge necessary to effectively incorporate ICT tools and methodologies into their teaching practices. This will empower them to create

dynamic and interactive learning environments. Equipping teachers with the necessary technological resources will further support their seamless adaption to this innovative mode of instruction, fostering a positive and productive learning experience for students.

### **Obstacles and Challenges to Using ICT in Teaching**

The findings consolidate the problems or obstacles encountered by the novice and experienced teacher in using ICT. This theme analyzes the barrier that hinders the use of ICT to facilitate teaching process. Relating to this, Schoepp (2015) defines barriers as any condition that makes it difficult to make progress or to achieve an objective. The common barrier that hinders the use of ICT to facilitate teaching here under the researcher have identified the most listed barrier which includes inaccessibility and unavailability of ICT resources, lack of training on the use of ICT hinders its effective use in teaching.

Regarding this issues, Mr. Novice Teacher expresses his views on barrier on using ICT in teaching. He highlights the limited access to technology, financial constraints, insufficient technology infrastructure within the school. He added that *“the absence of internet access as significant barriers that prevent him from effectively using ICT in his teaching practices.”* Despite the integration of technology in schools, teachers still encounter various difficulties. One of the challenges they face is the limited availability of computers. Even during the ongoing pandemic, teachers have had to rely on their personal devices and network connections, as they often did not receive adequate support from the schools. In a recent discussion among educators, Mrs., Experienced teacher highlighted several obstacles. These included a lack of confidence among teachers when it comes to using technology effectively, limited access to necessary resources, insufficient time, inadequate training to address technical issues, and personal access barriers during lessons.

Furthermore, it is evident that the obstacles they encounter are remarkably alike, as they grapple with numerous difficulties and challenges when it comes to integrating ICT into their teaching practices. The research findings shed light on the significant transformation in teaching methodologies, particularly, in the post-pandemic era. Both educators face a multitude of hurdles and obstacles when attempting to leverage ICT in various ways. Furthermore, the study identifies several barriers that impede teachers from effectively utilizing ICT to enhance teaching in secondary schools. These barriers include teachers' attitudes, confidence, and competence, limited access to ICT resources and facilities, inadequate ICT infrastructure, a lack of technical support, and insufficient training opportunities. Among the plethora of barriers hindering the effective use, if ICT in teaching, two prominent ones have emerged: the inaccessibility and unavailability of ICT resources, and the lack of comprehensive training on ICT utilization, which

poses a significant hindrance to its efficient application in diverse teaching methodologies. It is an essential to address these barriers in order to unlock the full potential of ICT in the realm of education. By doing so, we can equip educators with the necessary tools and knowledge to overcome these challenges and leverage ICT's transformative power in enhancing the teaching and learning experience.

### **The benefits of using technology in the teaching**

I wanted to explore the ways in which teachers are benefiting from the integration of technology in the classroom, and both teachers expressed positive views on the matter. According to Soska (1994), the utilization of information and communication technology (ICT) in teaching offers numerous advantages such as facilitating instructional testing and assessment, fostering cultural education, aiding students in grasping academic content and promoting the development of critical thinking skills.

Additionally, Mr. Novice teacher emphasized that the incorporation of multimedia in the classroom serves as an incredible support for learners, as it enables them to engage directly with the subject matter through live presentations. This not only provides learners with supplementary ideas, but also proves particularly valuable during the ongoing pandemic, as ICT contributes to both teaching and learning in a beneficial manner. Mr. Novice teacher noted that ICT greatly enhances the teaching process by catering to the diverse learning styles of students, as some individuals learn better through visual or audio means that are made readily available through technology. He further said *"the convenience and versatility of using ICT tools like PowerPoint not only improves our teaching but also simplifies the preparation of materials, allowing for easy reuse of content."* The integration of technology in education has revolutionized traditional teaching and learning practices. Novice teachers have expressed that technology has made their job easier and has provided them with additional knowledge that is already being utilized in developed countries. The use of advanced technology has various forms and has greatly aided teachers in adopting new teaching and learning methods. Likewise, Experienced teachers have emphasized that ICT has expanded access to education. She further stressed that *"Through the use of technology, the quality of education has improved by introducing new interactive approaches, making the teaching-learning process more engaging and dynamic."* Moreover, she also mentioned that technology has provided equal opportunities for a large number of learners to access education and information, thereby promoting inclusivity in education. ICT has brought various advantages, one of which is its contribution to education by enhancing its quality.

The research findings reveal a predominantly positive attitude towards ICT rather than a negative one. Such a positive disposition towards ICT naturally translates

into a willingness to incorporate it into classroom teaching. In support of this, (Patel, 2013) emphasizes the benefits of multimedia teaching, stating that it injects life and interest into classes due to its inherent features such as visibility and liveliness. This sentiment is echoed by instructors who have experienced the impact of ICT firsthand. A novice teacher shared their enthusiasm, describing how their class becomes lively and captivating, ensuring that learners remain engaged and never get bored while learning. Additionally, a significant number of participants expressed that employing technology in teaching helps them establish excellent communication with students, leading to remarkable learning outcomes.

## **Conclusion**

This paper highlights the critical role of information and communication technology (ICT) in teaching within a developing nation like Nepal. However, the effective utilization of ICT faces obstacles due to the scarcity of resources, including a limited number of computers, laptops and inadequate internet services. The findings from both novice and experienced teachers indicate varying perspectives on the use of ICT, yet they face similar challenges. These challenges shed light on the limited knowledge and understanding of ICT among teachers, while also revealing their optimistic outlook on the future of ICT in teaching, provided that appropriate solutions are implemented to address the existing limitations.

To enhance the understanding of this topic, it is essential to conduct further investigation to validate the conclusions drawn in this study. Therefore, I strongly encourage future research in this area. Additionally, aligning the perceptions and challenges faced by teachers with their actual classroom practices would add a deeper and more comprehensive understanding of the subject matter, adding richness to future study. By addressing these areas of inquiry, the educational community can strive towards overcoming the obstacles faced in effectively integrating ICT in teaching and improving educational outcomes.

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