



## **CHALLENGES FACED BY TEACHERS IN USING INFORMATION COMMUNICATION TECHNOLOGY IN TEACHING: A STUDY BASED ON THE RATHNAPURA EDUCATION ZONE 1C TAMIL SCHOOLS**

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Today, information communication technology (ICT) dominates all academics fields. To provide Sri Lanka with the most prosperous future, citizens participate in the nation's economy through the education system by the incorporation of ICT as a subject in the curriculum. This study aimed to investigate the difficulties faced by teachers in using ICT in the classroom teaching and learning process. This study was based on the Rathnapura Education Zone 1C Tamil schools. This research adopted quantitative approaches. A questionnaire was used to collect the primary data. Sixty teachers from three schools were selected through the purposive sampling method for the study. Among the selected teachers who participated in the study, 85% were female and 15% were male. The quantitative data was subjected to descriptive analysis using the Statistical Package for Social Science (SPSS) version 22 software, and tables and graphs are used to describe the data. Results indicate that 54% of teachers possess some ICT knowledge, 23% have proficient ICT knowledge, and 23% lack ICT knowledge entirely. The major barriers identified include insufficient training, limited time, poor administrative support, and inadequate learning tools. Recommendations are provided to address these issues and enhance ICT integration in education. Based on the findings enhanced training programs Technical support and infrastructure improvement, time management strategies, institutional support and collaboration, addressing altitudinal barriers. The recommendations of the study should be taken in to consideration by policy makers, academicians, and other state stakeholders.

**Keywords:** Information and Communication Technology, Teachers, Challenges, Classroom Teaching

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## **INTRODUCTION**

The integration of Information Communication Technology (ICT) in education has revolutionised the way teachers deliver instruction and engage students in the learning process. However, despite the potential benefits that ICT offers, teachers encounter various challenges when incorporating technology into their classroom teaching. According to Ertmer et al (2012), teachers face several obstacles when using ICT in classroom teaching, including technical issues, a lack of training, and resistance from both students and educators. These challenges can hinder the effective use of ICT tools, and impact student learning outcomes. Understanding and addressing these challenges is essential to harness the full potential of technology integration in educational settings.

One of the primary challenges faced by teachers when using ICT in classroom teaching is technical issues (Leach, 2008). The rapid advancement of technology means that teachers must constantly adapt to new software, hardware, and digital tools. This can be overwhelming, particularly for educators who may not have a strong background in technology. Additionally, technical problems such as malfunctioning equipment or unreliable internet connectivity can disrupt the flow of a lesson and impede the effective use of ICT in the classroom.

The lack of adequate training and professional development in ICT is a significant challenge for teachers as they may not have received formal training on how to effectively integrate technology into their teaching practices. This can lead to difficulties in navigating digital resources, implementing interactive learning platforms, and using educational software effectively. Additionally, resistance from both students and educators is a significant obstacle to successful ICT integration in classroom teaching as some students may be accustomed to traditional methods and others may be hesitant due to concerns about its impact on pedagogy, classroom management, or potential technology replacement.

The study aimed at exploring the challenges faced by teachers when using ICT in classroom teaching within the Ratnapura Education Zone 1C Tamil Schools. By investigating the obstacles encountered by teachers in integrating ICT into their teaching practices, this study sought to provide insights into ways in which these challenges would be overcome, and enhance teaching effectiveness and student learning outcomes would be enhanced.



## METHODOLOGY

The quantitative aspect of this study involved the collection and analysis of data through structured questionnaires that were administered to sixty teachers from three schools in the Rathnapura Education Zone 1C Tamil schools. Purposive sampling was used to ensure a diverse representation of teachers with varying levels of ICT knowledge and experience. The questionnaire was designed to capture demographic information, levels of ICT proficiency, and the specific barriers teachers face when integrating ICT into their classroom teaching. The data collected was then subjected to descriptive statistical analysis using the Statistical Package for Social Science (SPSS) Version 22 software. This analysis provided a comprehensive overview of the prevalence and nature of the challenges, enabling the identification of key patterns and trends that inform the study’s conclusions and recommendations

### Distribution of Respondents

In the study, the gender distribution of the participating teachers was recorded, revealing a significant disparity. Out of the total participants, 15% were male and 85% were female. This gender distribution is depicted in the following chart to provide a clear visual representation of the proportion of male and female teachers

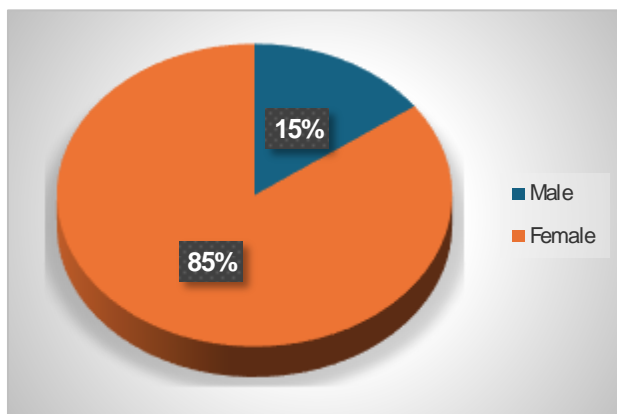


Figure 1.1 The gender status of the teachers who participated in the study

## RESULTS AND DISCUSSION

### 2. ICT facilities available in the selected school

ICT Equipment's	Selected schools		
	A	B	C
Computers	13	20	18
Computer Lab	1	1	1



Multimedia projector	2	1	1
Printer	2	1	1
Scanner	-	-	1
OHP (Over Head Projector)	1	-	-
Laptop	4	3	2
Interactive whiteboard	-	1	2
Photocopy	2	1	1
Television	1	2	2
Smart Board	1	-	1

Table 1.2 Overall status of ICT equipment at the three schools

Table 1.2 shows the overall status of communication technology equipment in the three schools. Accordingly, computers and computer lab facilities were available at all the schools. Due to the inability of students to use digital computers, and the lack of scanners, OHP, interactive whiteboard devices, and Smartboards, teachers face a huge challenge in integrating ICT in teaching and learning.

There is a lack of adequate infrastructure, such as insufficient computer labs and ICT facilities, particularly in rural schools. This infrastructure deficit hampers effective ICT integration in the teaching-learning process (Thannimalai et al 2022).

### 3. Level of self-reported ICT knowledge among teachers

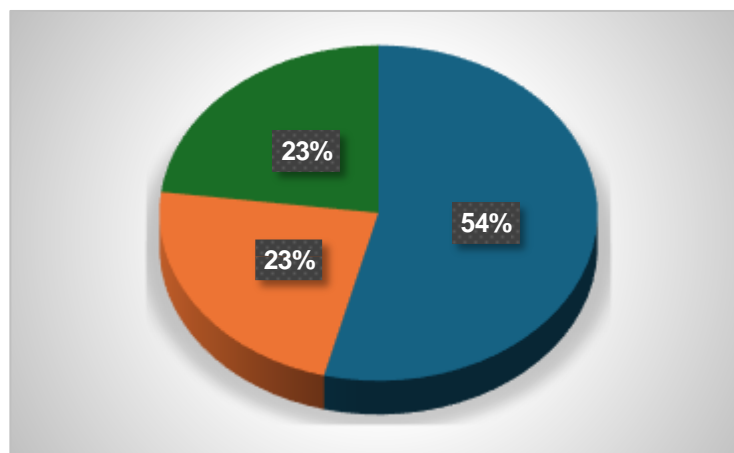


Figure: 1.3 Teachers' self -reported level of ICT knowledge

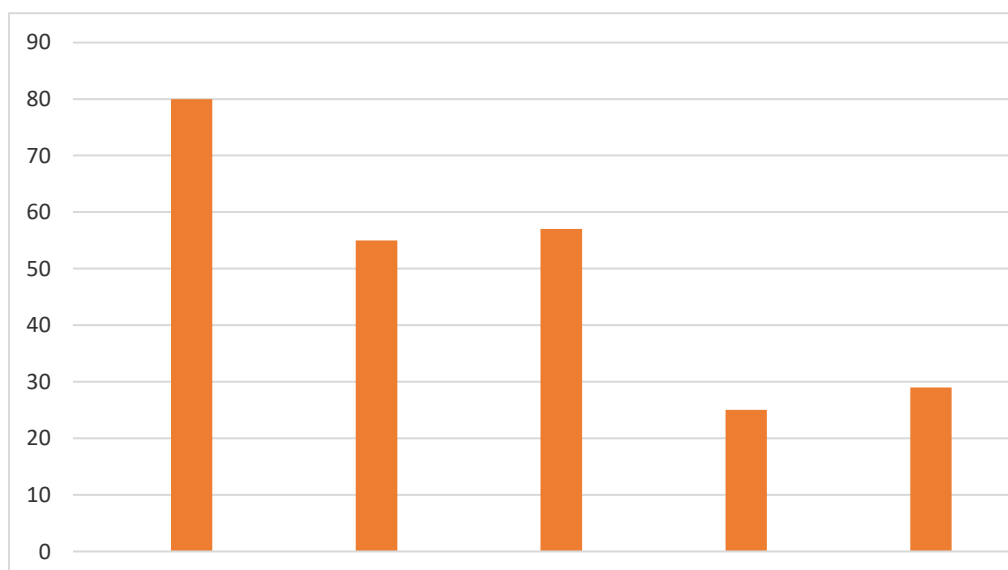
Figure 1.3 highlights the varying levels of technical knowledge among teachers in utilising ICT



for teaching and learning. It is evident that 23% of teachers possess advanced technical skills, while 23% lack proficiency in this area. Additionally, 54% of teachers have some level of technical knowledge. Therefore, it is apparent that a notable percentage (23%) of teachers may benefit from further training and support to enhance their competence in integrating technology into educational practices.

#### 4. Challenges faced by teachers in using ICT in classroom teaching

Based on the findings presented in Figure 1.4, it is evident that teachers encounter various challenges when integrating ICT into teaching and learning practices. The data indicates that a significant proportion of teachers (80%) perceive insufficient time as a major obstacle, which suggests that educators are overburdened by their existing workload and find it difficult to set aside time to use ICT tools and resources in their instruction. The participants also reported the lack of cooperation from schools' administration (57%) as a hindering factor. This suggests that there are institutional barriers or resistance to implementing ICT initiatives within the school environment.



**Figure 1.4 Challenges faced by teachers in using ICT in classroom teaching**

Additionally, a considerable number of participants (57%) reported a shortage of technical equipment, which underscores the importance of having access to reliable and up-to-date technology tools to effectively integrate ICT into teaching. Without adequate resources, teachers may struggle to incorporate digital tools and platforms into their lessons, limiting the potential benefits of technology-enhanced learning experiences for students.

Moreover, the study indicated that some teachers feel less competent (27%) and are reluctant to



use ICT (30%), or lack self-confidence (25%) utilising technology, which further emphasise the importance of ongoing professional development and support for educators. Addressing these concerns through targeted training and mentorship programmes can help build teachers' confidence and skills in leveraging ICT effectively in the classroom.

One of the primary challenges faced by teachers when using ICT in classroom teaching is technical issues. The rapid advancement of technology means that teachers must constantly adapt to new software, hardware, and digital tools. This can be overwhelming, particularly for educators who may not have a strong background in technology.

Additionally, technical problems such as malfunctioning equipment or unreliable internet connectivity can disrupt the flow of a lesson and impede the effective use of ICT in the classroom. The lack of adequate training and professional development in ICT is a significant challenge for teachers as they may not have received formal training (Nawastheen et al 2023).

Overall, these findings underscore the need for comprehensive support systems, including adequate resources, professional development opportunities, and institutional support to enable teachers to overcome the challenges associated with the efficient and effective integration of ICT into their teaching practice. By addressing these barriers, schools can create a more conducive environment for ICT integration, and enhance the teaching and learning outcomes for both educators and students.

## CONCLUSIONS/RECOMMENDATIONS

This study was conducted in three type 1C Tamil Schools in the Rathnapura Educational Zone and highlights several key challenges faced by teachers in integrating ICT into their classroom teaching practice. One of the primary issues identified was technical difficulties with many teachers struggling due to malfunctioning equipment and unreliable internet connectivity, which disrupt the flow of lessons. Additionally, a significant gap in ICT training and professional development existed, as evidenced by the fact that 23% of teachers lack proficiency while only 23% possess advanced technical skills. This underscores the need for comprehensive training programmes. Time constraints also pose a major hurdle with 80% of teachers indicating that their existing workload leaves little room for incorporating ICT tools. Furthermore, 57% of teachers perceive a lack of support from school administration, suggesting institutional barriers to ICT implementation. Resource availability is another critical issue with more than half the teachers reporting insufficient technical equipment. Finally, this study reveals that teacher confidence and attitudes towards ICT remain problematic as a notable proportion feel less competent, are reluctant, or lack self-confidence in using technology.

The findings of this study highlight the necessity for targeted interventions, including enhanced training, better resource allocation, and stronger institutional support, to effectively integrate ICT into teaching practices.

The recommendations resulting from this study are as follows:

1. **Enhanced Training Programs:** Develop and implement comprehensive ICT training programmes for teachers, focussing on both basic and advanced technical skills. Regular



workshops, hands-on sessions, and continuous professional development opportunities should be provided to ensure teachers are well-equipped to integrate technology into their teaching practices.

2. **Technical Support and Infrastructure Improvement:** Schools must invest in reliable and up-to-date ICT equipment and ensure consistent technical support. This includes upgrading internet connectivity, maintaining equipment, and providing necessary digital tools to support effective teaching and learning.
3. **Time Management Strategies:** Introduce time management strategies and provide additional support to help teachers integrate ICT into their lesson plans. This could include scheduled time for ICT training, preparation periods specifically allocated for developing ICT-based lesson plans, and administrative support to reduce teachers' non-instructional workload.
4. **Institutional Support and Collaboration:** Encourage school administrations to actively support ICT initiatives by fostering a collaborative environment. This can be achieved through regular communication, involving teachers in decision-making processes related to ICT integration, and providing resources and support to facilitate the use of technology in classrooms.
5. **Addressing Attitudinal Barriers:** Implement mentorship and peer support programs to help teachers overcome reluctance and build confidence in using ICT. Highlighting successful case studies and providing incentives for ICT integration can also motivate teachers to embrace technology in their teaching.

By addressing these recommendations, schools in similar contexts can create a more conducive environment for ICT integration, and thereby enhance teaching effectiveness and improving student learning outcomes.

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