# A study on the readiness and attitudes of Sri Lankan Tamil medium teachers towards the use of ICT in teaching and learning

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ABSTRACT

Information and communication technology (ICT) in education refers to the utilization of information and communications technology to support, enhance, and optimize the delivery of information within the educational field. As the global landscape continues to expand, the significance of incorporating ICT in education has grown exponentially. It is crucial for teachers to possess the ability to employ ICT effectively in order to integrate their students' learning experiences and adequately prepare them for the challenges they will face in the future. While the integration of ICT in education offers benefits such as the creation of effective lessons, classroom management, and improved stakeholder communication, its successful implementation hinges upon teachers' possession of the requisite skills, knowledge, and willingness. The objective of this study is to evaluate the attitudes and preparedness of Tamil medium teachers in Sri Lanka with regard to their utilization of ICT in teaching and learning. Various previous studies have examined the use of ICT in education, encompassing investigations into teachers' attitudes and integration of ICT, training in International Computer Driving License (ICDL), and factors that influence teachers' adoption of ICT. However, this study focuses specifically on the readiness of Tamil medium teachers in Sri Lanka, an area that has yet to be thoroughly explored in previous research. A survey was conducted among 400 teachers, revealing that the majority exhibited a positive outlook toward the adoption of ICT and displayed a willingness to incorporate it into their teaching and learning processes. Nevertheless, teachers encountered difficulties when attempting to integrate ICT due to the economic crisis prevailing in the country. Consequently, it is imperative for the government and pertinent authorities to ensure the accessibility of affordable ICT equipment for both teachers and students. This study emphasizes the significance of assessing teachers' readiness and attitudes toward the implementation of ICT in their teaching and learning practices in order to ensure its successful integration.

## 1. Introduction

With the progression of society, the significance of incorporating information communication technology (ICT) in education continues to grow. It is imperative for teachers to possess the ability to utilize ICT in order to support their students' learning and adequately prepare them for the future

(Haleem et al., 2022). ICT has the potential to assist teachers in engaging with their students in a meaningful manner. However, the effective utilization of ICT in education necessitates teachers to possess the appropriate skills and knowledge. Teachers who possess only content knowledge may not necessarily be proficient facilitators. Hence, it is crucial for teachers to possess comprehensive expertise encompassing content knowledge, pedagogical knowledge, and technological proficiency. Furthermore, in the current digital era, teachers require the skills to effectively integrate these three dimensions of knowledge into their teaching and learning processes (König et al., 2022). ICT skills serve as a facilitator for teachers to

seamlessly connect and leverage all dimensions of knowledge in their instructional practices. The rapid expansion of ICT in today's world is influencing various sectors and creating new opportunities. Education, particularly the teaching-learning process, is significantly impacted by this technological advancement. Consequently, there is a need to prioritize modern teaching-learning modalities that incorporate ICT devices, rather than persisting with non-technological approaches. Traditional methods of imparting information to students are gradually being replaced by information-based techniques (Ambikapathy et al., 2020). There has been plenty of evidence that teaching with ICT devices ensured the continuation of general education in many countries during the recent COVID-19 pandemic. It has created a need to focus on modern teaching-learning modalities with ICT devices instead of continuing with non-technological modalities. Norman et al. (2022) described information and communication technology (ICT), which includes computers, smartphones, and the Internet. However, Lawrence and Tar (2018) detailed that ICT encompasses all technologies used for information handling and communication and their application in education. Desktops, mobile telephony, projection technology, digital recording equipment, software applications, multimedia resources, information systems, Intranet, Internet, tablet, PCs, e-readers, and laptops, provide numerous opportunities and challenges in the teaching and learning process. Realizing the importance of ICT skills to the education sector and similar to some countries, the Sri Lankan government provided various training to teachers in Sri Lanka to develop their ICT skills. The Sri Lankan government made a National Policy on Information Technology (IT) in school education in 2001 to promote the use of IT in school education and establish a school management system along with developing IT infrastructure in the schools. A few foreign-funded projects were also implemented to enhance IT facilities in the school system. Furthermore, ICT-related subjects were also introduced to the country's senior secondary and collegiate levels of education (Suraweera et al., 2017). Furthermore, the Ministry of Education (MoE) in Sri Lanka encouraged all teachers to obtain International Computer Driving License (ICDL) training and to integrate ICT skills into their teaching. ICDL training is considered an effective in-service training approach that aims to improve teachers' ICT skills on three levels: ICT skills, pedagogical skills, and curriculum training. It must be further noted that free education is provided to all children in Sri Lanka regardless of their religion, ethnicity, and language.

There are about 10,155 schools in Sri Lanka; among them, about 3,042 schools are Tamil medium, and where a majority of the Tamil medium teachers are engaged (MOE, 2020). A few Sinhala medium teachers serve in Tamil schools to teach Mathematics and English. Tamil medium teachers also obtained ICT-related training from the Ministry of Education and other government agencies. In this context, it is crucial to find out their attitudes towards ICT and readiness to integrate information and communication technologies in their teaching-learning process. Therefore, the study focused on the attitudes and readiness among Tamil medium teachers regarding the use of ICT in their teaching-learning process. The study employed the Technology Acceptance Model (TAM) to research teachers' attitudes and readiness toward using ICT in teaching-learning. The Technology Acceptance Model (TAM) of Davis (1989) is a theoretical framework that explains why people adopt or reject new technologies and is widely used for understanding why some people adopt new technologies and others do not. According to the TAM, perceived usefulness and ease of use are the two primary factors influencing an individual's willingness to use new technology (Charness and Boot, 2016). The TAM is based on perceived usefulness, which is how well a person believes technology will help them achieve their goals, and perceived ease of use, which is how easy or difficult a person believes it will be to use the technology (Lawrence and Tar, 2018). Both factors influence a person's attitude toward technology, influencing their decision to use it. Therefore, the TAM can be used to predict a person's likelihood of using technology and know the factors influencing their decision to use it. Furthermore, TAM is used to investigate why teachers accept or reject ICT and how technological attributes influence teachers' perceptions and attitudes toward ICT. According to TAM, teacher awareness, beliefs, attitudes, interests, and intentions play a significant role in adopting ICT in Teaching-learning. Hence, this study employed TAM to assess teacher readiness and attitudes toward using ICT in their teaching-learning process. Moreover, the study also aims to determine the readiness and attitudes of Sri Lankan Tamil medium teachers toward using ICT in their teaching and learning. Therefore, the following research questions (RQ) were formulated to achieve the aim of the study:

RQ1: What are the teachers' attitudes toward using ICT in teaching and learning?
RQ2. To what extent are teachers ready to use ICT in teaching and learning?
RQ3. What are the challenges for teachers in using ICT in teaching and learning?

## 2. Literature review

Suraweera et al. (2017) researched teachers' attitudes and ICT integration in Sri Lankan classrooms. They found that the teachers' attitudes towards the use of ICT were a crucial factor in the adoption of ICT usage in their teaching. Other factors relating to skills and institutional infrastructure played significant roles in the use of ICT by teachers. Careemdeen and Nonis (2015) in their study, which

focused on ICDL training for teachers, found that nearly half of the teachers stated that they were applying ICT skills obtained from the ICDL in their teaching-learning. However, they concluded that the ICDL could have more remarkably influenced teachers' use of ICT in their classrooms. Thannimalai et al. (2022a) evaluated teachers' attitudes and acceptance of ICT among urban and rural teachers in Teaching and Facilitation. They employed TAM for their study and gathered information from 260 Tamil medium teachers in Selangor, Malaysia. They found a significant relationship between teachers in urban and rural areas who use Information and Communication Technology (ICT) in teaching and facilitation. Another similar study by Thannimalai et al. (2022b) was conducted to find out the attitudes and skills of Tamil teachers relating to the use of Information and Communication Technology in Teaching and Facilitation. The authors attempted to find the relationship between teachers' attitudes and other factors such as perception of usefulness, level of ICT competency, utilization of ICT, ease of use of the ICT, level of preparation, and frequency of use of ICT in their teaching and facilitation. They found that these factors had a relationship and influenced teachers' attitudes toward adopting ICT in their teaching. Shanmugam and Balakrishnan (2020) studied the Teaching and Facilitation of Science subjects using ICT in Malaysia. They employed a qualitative approach and gathered information using classroom observation and semi-structured interviews. They found that most teachers benefited from using PowerPoint presentations in teaching science, which were very effective and user-friendly in their classrooms. However, many studies have revealed a number of barriers when teachers use ICT in the classroom. Teachers could not use ICT in their classrooms due to a lack of training, knowledge, skills, facilities, time, and self-efficacy (Mirzajani et al., 2015; 2016). Lawrence and Tar (2018) also aimed to determine the key factors influencing teachers' adoption and integration of ICT in the teaching-learning process. According to them, teachers' attitudes towards the use of ICT, competency, and experience with ICT, all influence teachers' use of ICT in their teaching process. In addition, they found that lack of ICT knowledge, training, adequate professional development time, teachers' resistance to change, and lack of infrastructure and technical support hinder ICT's effective use in the teaching-learning process. Similarly, Vesudevan (2021) investigated Malaysian secondary school teachers' perceptions of the factors influencing ICT integration in teaching and student's interest in their learning process. Vesudevan (2021) discovered a correlation between teachers' ICT integration in teaching and students' ICT integration in learning. In addition, Letchmanan and Saad (2021) exposed that many factors can influence teachers' use of ICT, including limited ICT skills and knowledge, the availability of ICT equipment in schools, and extended teaching periods. Another study found that ICT integration challenges are caused by a lack of ICT efficiency and capacity-building support (Amuko et al., 2015). However, according to Ojo and Adu (2018), despite having adequate facilities, teachers do not use ICT in their classrooms due to a lack of knowledge and skills.

## 3. Methodology

The study aimed to determine the readiness and attitudes of Sri Lankan Tamil Medium teachers toward using ICT in their teaching and learning process. This study employed a survey research design. The data was collected using an online questionnaire that adopted an instrument used by Thannimalai et al. (2022a) as they developed it based on the Technology Acceptance Model. The questionnaire consisted of two parts; A and B. In part A of the instrument, 16 items were included to collect teachers' demographic information, facilities, training available to them, and the type of ICT tools used in their learning-teaching. In part B of the instrument, 43 items were included, among them inquiring about their attitudes (9 items), teacher competency-related ICT (4 Items), use of teaching aids (3 items), ease of use (6 items), readiness (5 items), usefulness (5 items), teacher interests (4 Items) and teacher behavior with ICT (6 items). The adapted questionnaire was translated into Tamil and its validity was ensured with back translation, which was also checked with an expert panel. A pilot study was conducted, and Cronbach Alpha calculated for each category of the tool: Attitudes (.903), Teacher competency related ICT (.796), Use of teaching aids (.755), Ease of use (.850), Readiness (.827), Usefulness (.826), Teacher interests (.858) and Teacher behavior with ICT (.889). Four hundred Tamil medium teachers participated in this study. Though eight categories were included in the survey, researchers only focused on teachers' attitudes (9 items) and readiness (5 items) in this paper. The participants were selected randomly from 3002 teachers who were following postgraduate studies in education at the Open University and the National Institute of Education. The participants represented all twenty-five districts of the country.

## 4. Demographic profile of the participants

A total of four hundred (400) Tamil medium teachers participated in this research. Among them, 146 (36.5%) were male teachers, and 254 (63.5%) were female teachers. In Sri Lanka, more female teachers are employed in the teaching profession than male teachers. There were more female teachers participating in this study as well. Table 1 shows the gender and age distribution of the teachers participating in this research. According to Table 1, most teachers (74.25%) were in the age group of 30-39 years; among them, 46.5% were female teachers. Only 2% of teachers who participated, were above the age of 50.

Table 2 shows the distribution of teachers who participated in this study according to their service

experience and the location of schools. Based on Table 2, the majority of teachers who participated in the research (51.8%) had 1-5 years of service experience. Similarly, teachers with ten years of service experience were 25% of the sample, and 21.3% of teachers had more than ten years of service

experience. In addition, schools were categorized according to their location as urban, rural, and estate schools in Sri Lanka. Accordingly, teachers from urban (29%), rural (56%), and estate schools (13%) were represented in this study.

**Table 1:** Participants according to gender and age

| Gender | Age | | | | | | | | Total | Total % |
|---|---|---|---|---|---|---|---|---|---|---|
| | 20-29 | % | 30-39 | % | 40-49 | % | ≥ 50 | % | | |
| Male | 5 | 1.25 | 111 | 27.75 | 27 | 6.75 | 3 | 0.75 | 146 | 36.5 |
| Female | 32 | 8 | 186 | 46.5 | 31 | 7.75 | 5 | 1.25 | 254 | 63.5 |
| | 37 | 9.25 | 297 | 74.25 | 58 | 14.5 | 8 | 2 | 400 | 100 |

**Table 2:** Distribution of teachers based on experience and location of the school

| Experience of teachers | School location | | | | | | Total | % |
|---|---|---|---|---|---|---|---|---|
| | Urban | % | Rural | % | Estate | % | | |
| ≤1 year | 3 | 0.75 | 2 | 0.5 | 0 | 0 | 5 | 1.25 |
| 1-5 | 47 | 11.75 | 134 | 33.5 | 26 | 6.5 | 207 | 51.75 |
| 6-10 | 35 | 8.75 | 58 | 14.5 | 10 | 2.5 | 103 | 25.75 |
| ≥10 Years | 33 | 8.25 | 33 | 8.25 | 19 | 4.75 | 85 | 21.25 |
| | 118 | 29.5 | 227 | 56.75 | 55 | 13.75 | 400 | 100 |

Schools are officially categorized as National, 1AB, IC, Type 2, and Type 3 schools in the country. National Schools have been administered under the Central Government, while the remaining schools are administered under the provincial councils. 1AB - Schools consist of classes up to collegiate level offering Science (Bio Science and Physical Science), Arts Commerce, and technology streams, whilst 1C schools consist of Advanced Level classes excepting the Science Stream. In contrast, schools with classes up to Grade 11 (Grade 1-11 or 6-11) are categorized as Type 2 Schools. Schools with classes from grades 1-5 or grades 1-8 are categorized as Type 3 (MOE, 2020). Table 3 shows the participants based on their type of schools. A percentage of 15.8% of national school teachers, 18.5% of teachers from 1AB schools, and 41.3% of 1C schools participated in this study. A percentage of 24.5% of the teachers belonged to Type 2 schools.

**Table 3:** Participants according to the type of school

| School type | Frequency | Percent |
|---|---|---|
| National | 63 | 15.8 |
| 1AB | 74 | 18.5 |
| 1C | 165 | 41.3 |
| Type 2 | 98 | 24.5 |
| Total | 400 | 100.0 |

### 4.1. Training and facilities related to ICT

Participants in this study were asked to mention their training to determine whether they had received training related to ICT. Most teachers (76%) had received particular ICT-related training. However, about 24% of teachers said they had not received any ICT-related training. Table 4 illustrates the training teachers had related to ICT.

Teachers were asked to select digital devices that they used in their teaching. The majority (about 32%) said they use smartphones in their teaching-learning process. On the other hand, about 14% of teachers responded that they use only laptops, but around 16.5% of teachers used both laptops and

smartphones in their teaching. Fig. 1 illustrates the various digital devices that teachers use for learning-learning activities. Similarly, teachers were asked to indicate which internet service they use. As shown in Table 5, most teachers use pre-paid internet services.

**Table 4:** Participants' ICT-related training

| Type of ICT training | Frequency | Percent |
|---|---|---|
| Certificate level | 166 | 41.5 |
| Diploma | 76 | 19.0 |
| ICDL | 33 | 8.3 |
| Degree in ICT | 30 | 7.5 |
| No training | 95 | 23.8 |
| Total | 400 | 100.0 |

**Table 5:** Mode of Internet used by teachers

| | Frequency | Percent |
|---|---|---|
| Prepaid | 262 | 65.5 |
| Postpaid | 138 | 34.5 |
| Total | 400 | 100.0 |

### 4.2. Level of ICT usage in teaching and learning

The teachers who participated in this research were asked whether they are engaged with modern teaching using ICT in their teaching. At the same time, about 80% of teachers said they engaged in modern Teaching with ICT, which is worth noting here (Table 6). Table 6 displays teaching methods used by Tamil medium teachers according to the location of their schools. Around 49 (12.25%) teachers from rural schools said they practiced traditional teaching methods, while 178 teachers (44.5%) said they used ICT tools in their teaching-learning process. Notably, 40 teachers out of 55 from the plantation areas also indicated that they were practicing modern teaching using ICT tools in their teaching-learning.

In addition, Table 7 shows the level of ICT use by teachers in teaching-learning based on the school's location. A total of 275 (68%) teachers mentioned that their level of ICT usage was moderate. Likewise, about 19% of participants in the study said their

usage level in the teaching-learning process is high. Most teachers from rural schools stated that they were at a moderate level, while around 10% of teachers from the rural school said they were using ICT at a higher level in their teaching-learning.

Similarly, the majority of urban school teachers (20.25%) also said they were using ICT at a moderate level, while only 7% of urban teachers were found to have a high level of ICT use in teaching-learning.
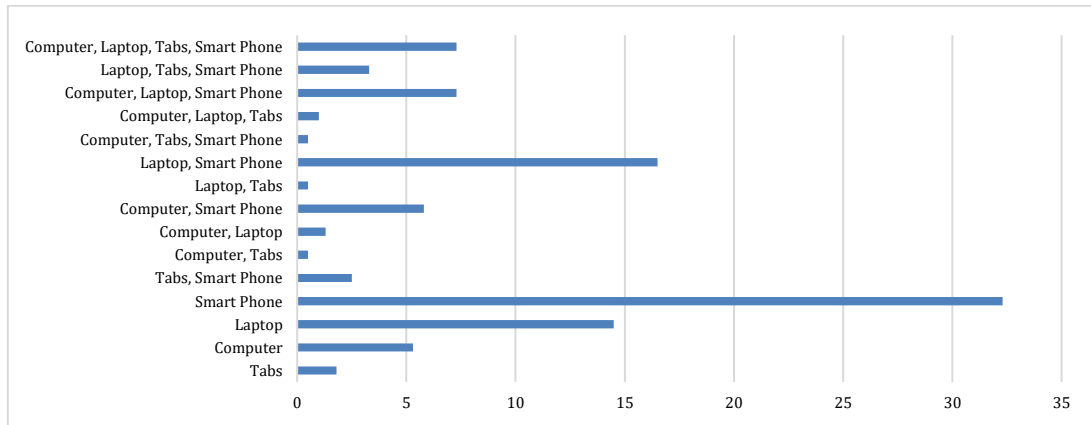


**Fig. 1:** Digital devices used by teachers

**Table 6:** Teaching with ICT tools based on the location of the school

| Location of school | Teaching method | | | | Total | Total % |
| | Traditional method | | Modern teaching using ICT | | | |
| | f | % | f | (%) | | |
| Urban | 14 | 3.5 | 104 | 26 | 118 | 29.5 |
| Rural | 49 | 12.25 | 178 | 44.5 | 227 | 56.75 |
| Plantation | 15 | 3.75 | 40 | 10 | 55 | 13.75 |
| Total | 78 | 19.5 | 322 | 80.5 | 400 | 100 |

**Table 7:** Level of use of ICT in teaching-learning

| Location of School | Usage level of ICT | | | | | | Total | % |
| | Poor | | Moderate | | High | | | |
| | f | % | f | % | f | % | | |
| Urban | 9 | 2.25 | 81 | 20.25 | 28 | 7 | 118 | 29.5 |
| Rural | 31 | 7.75 | 154 | 38.5 | 42 | 10.5 | 227 | 56.75 |
| Plantation | 8 | 2 | 40 | 10 | 7 | 1.75 | 55 | 13.75 |
| | 48 | 12 | 275 | 68.75 | 77 | 19.25 | 400 | 100 |

## 4.3. Using ICT apps, software, and other multimedia

Teachers must use various apps, software, and multimedia to integrate ICT into their teaching and learning process. In particular, the restrictions imposed by COVID-19 meant that the teachers had to use these apps for teaching. Therefore, the research asked teachers to specify which apps and software they use for teaching and learning. The results obtained are shown in Fig. 2. According to Fig. 2, more than 80% of teachers mentioned using the Zoom app and WhatsApp in their Teaching. It was discovered that more than 70% of teachers use videos and YouTube for their teaching and learning. Meanwhile, 68% of the teachers use PowerPoint presentations, and 55% use E-Taksalava, the educational website maintained by the Ministry of Education. The use of other apps and software is minimal. However, during the COVID-19 period, teachers started using the Zoom app more often when schools were closed. WhatsApp ranks first in this category because of the high use of WhatsApp for sharing information and learning resources, together with Zoom teaching. The usage of videos and PowerPoint presentations also were high as they

can easily combine various videos and PowerPoint presentations when teaching via Zoom. On the other hand, the use of television and radio educational programs launched by the Ministry of Education to address school education in the context of COVID-19 is notable here. Even after the COVID-19 period, TV and radio educational programs continue to be aired, and the lack of its use is questionable.

## 5. Findings and discussions

### 5.1. RQ1: What are the teachers' attitudes towards using ICT in teaching and learning?

Table 8 shows teachers' attitudes toward using ICT in Teaching and learning. The questionnaire administered to the teachers consisted of nine items that measure their attitudes towards using ICT in the teaching-learning. All items relating to the teacher's attitudes were answered positively. It can be seen that the majority of the teachers have positive attitudes towards using ICT in their teaching-learning. The results could be considered noteworthy even though Sri Lanka is a low-income country.
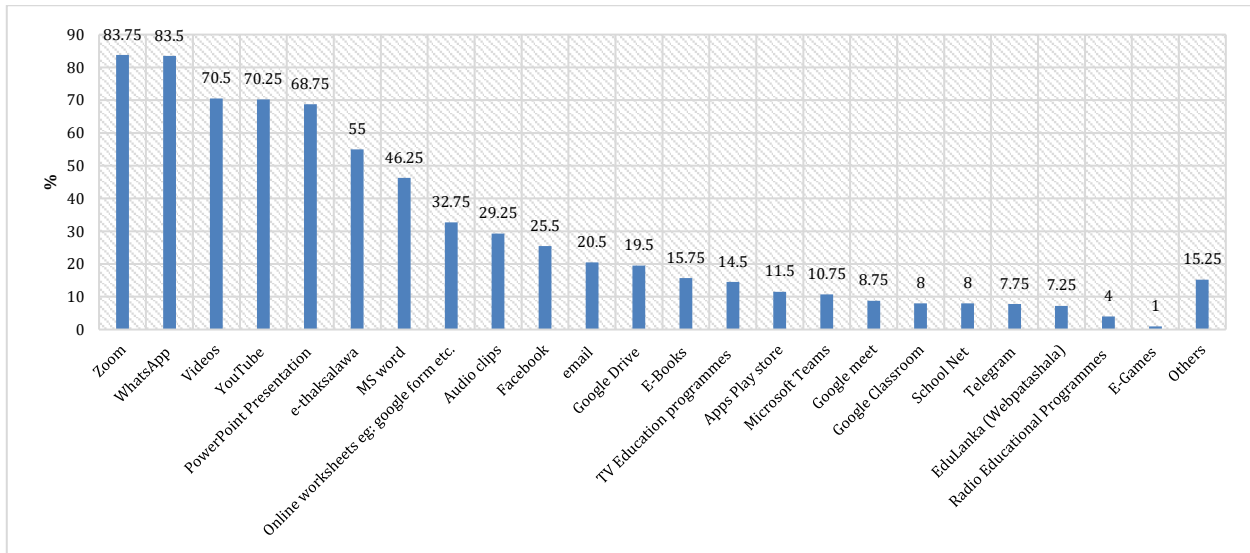
**Fig. 2:** ICT apps, software, and other multimedia used for teaching and learning

The majority of participants (88.5%) believed that the use of ICT enhanced their teaching-learning. Around 92% of the respondents stated that ICT helped them accomplish their tasks faster and helped in important work matters (94.2%). Likewise, more than 90% of respondents answered that usage of ICT enhanced their professional performance (92%), helped them complete their work faster (91.5%), increased efficiency in their teaching activities (92.4%), and helped them to perform their teaching efficiently (92%). In addition, around 85% of the respondents agreed that using ICT increases their productivity (87.7%) and makes teaching tasks effective (86.9). When it comes to using ICT in their teaching, teachers' attitudes can vary greatly. Some may feel comfortable using ICT in their classrooms, while others may feel apprehensive or resistant. However, the use of ICT in education is becoming increasingly commonplace, and teachers need to be prepared to use these tools in their classrooms. There is no one-size-fits-all approach to using ICT in education, and teachers must find an approach that works best for them and their students. However, some general tips can help teachers start using ICT in their classrooms. First, it

is essential to understand that ICT can be used in various ways. It can be used to support teaching and learning activities and manage and store colossal amounts of information. Additionally, ICT can connect teachers and students with resources outside the classroom. Secondly, when using ICT in the classroom, it is essential to consider the needs of the students. Some students may need more support than others when using ICT, so it is essential to tailor the approach accordingly. Moreover, teachers should ensure that the ICT resources are accessible to all students. Thirdly, teachers should also consider ICT's impact on the learning environment. ICT can be used to create a more interactive and engaging learning environment, but it can also be disruptive if not used properly. Therefore, it is essential to strike a balance between using ICT to support teaching and learning and using it in a way that does not interfere unnecessarily with the learning process. It is vital to remember that ICT is constantly changing, and new tools and technologies are continuously being developed. As a result, staying up-to-date on the latest developments in ICT is vital so that teachers can be sure to use the most up-to-date tools in their classrooms.

**Table 8:** Teachers' attitudes towards using ICT in teaching and learning

|  | Teachers' attitudes | Totally disagree | Disagree | Neutral | Agree | Totally agree |
|---|---|---|---|---|---|---|
| TA1 | The use of ICT enhances my teaching work | 1 | 0.8 | 9.8 | 40.1 | 48.4 |
| TA2 | The use of ICT helps me accomplish my tasks faster | 0.3 | 0.5 | 7.3 | 29.6 | 62.4 |
| TA3 | The use of ICT helps in my important work matters | 03 | 0.3 | 5.3 | 30.3 | 63.9 |
| TA4 | The use of ICT increases my productivity | 1 | 1 | 10.3 | 36.8 | 50.9 |
| TA5 | The use of ICT enhances my professional performance | 0.3 | 0.5 | 6.3 | 31.8 | 61.2 |
| TA6 | The use of ICT helps me to complete more of my work faster | 00 | 1.5 | 7 | 27.8 | 63.7 |
| TA7 | The use of ICT helps to increase efficiency in my teaching work | 0.3 | 0.3 | 7 | 33.3 | 59.1 |
| TA8 | The use of ICT helps me to complete my teaching work easily | 0.5 | 1.3 | 6.3 | 36.1 | 55.9 |
| TA9 | Overall, ICT makes my teaching tasks more effective | 0.3 | 2.5 | 12.3 | 31.3 | 53.6 |

## 5.2. RQ2: To what extent are teachers ready to use ICT in teaching and learning?

Teacher readiness is a significant factor in using ICT in the Teaching-Learning process. Therefore, ICT usage can only be expected if teachers are willing to adopt it. Therefore, questions about Teachers'

Readiness were given in the questionnaire to determine the readiness level among Tamil language teachers who have used ICT in their teaching activities. Table 9 shows respondents' readiness to use ICT in their classrooms. Almost all the teachers answered readiness-related questions very positively. More than 80% of participants responded

positively to the questions like: 'Learning and Teaching in Tamil'; 'I am willing to undertake through ICT'; 'The use of ICT will make learning and Teaching in Tamil more effective'; 'ICT helps in making learning teaching aids in the Tamil language, and 'I am willing to use ICT for all my teaching activities.

**Table 9:** Teachers' readiness towards using ICT in teaching and learning

| | Teachers' readiness | Totally disagree | Disagree | Neutral | Agree | Totally agree |
|---|---|---|---|---|---|---|
| TR1 | I am willing to undertake ICT in the teaching-learning in Tamil | 0.5 | 1.8 | 14.5 | 38.3 | 44.9 |
| TR2 | The use of ICT will make learning and Teaching in Tamil more effective | 0.3 | 2.8 | 11.3 | 36.1 | 49.6 |
| TR3 | ICT helps in making learning teaching aids in the Tamil language | 0 | 2 | 13 | 41.6 | 43.4 |
| TR4 | I am willing to use ICT for all my teaching activities | 0.8 | 3.3 | 14 | 34.6 | 47.4 |
| TR5 | I am working hard to increase my interest in using ICT in Tamil language learning and teaching | 2 | 5 | 21.3 | 38.8 | 32.8 |

However, around 71% of participants responded that they were working hard to increase their interest in using ICT in Tamil language learning and teaching. The development of ICT has revolutionized the way we live, work and communicate. It has also profoundly impacted education, with teachers now able to access a wealth of resources and information online. However, as with any new technology, there is a learning curve involved in using ICT effectively in the classroom. Therefore, it is so vital for teachers to be ready to use ICT in their teaching. When teachers are ready to use ICT, they can maximize the full advantage of its benefits. They can use ICT to create engaging and interactive lesson plans, access educational resources, and communicate collaboratively with other teachers and education professionals. In short, ICT can help teachers to improve the quality of education they provide to their students. Therefore, teachers must be ready to use ICT in their teaching.

### 5.3. RQ3: What are the challenges for teachers in using ICT in teaching and learning?

Some open-ended items were also included in the survey. These items focused on the challenges faced by the respondents when using ICT in their teaching-learning. One of the significant challenges faced by the respondents was affordability, which was a primary concern in using ICT, especially during the post-COVID-19 period. Nearly 75% of the respondents stated that they could not afford the expenditure on ICT digital devices as prices have risen due to the economic crisis that followed the COVID-19 pandemic period in the country. The following statements proved that most of the respondents face challenges using ICT in their teaching:

- "due to the economic crisis, integrating ICT devices in my teaching has become a major challenge."
- "The instrument prices are too high or not even available in the market."
- "I am using my smartphone in my teaching. Its screen is broken. They ask for more money to replace it."

In addition, most participants mentioned issues related to the resources available in schools for integrating their teaching with ICT. These issues were voiced through the following statements:

- "I am teaching in a leading school in an urban area. However, my school does not have adequate teaching resources with ICT devices. There are no such facilities or enough support provided in my school."
- "My school does not have enough ICT facilities. Although I was interested in teaching with ICT, the school environment did not allow it."

Similarly, the majority of respondents were concerned about the increased electricity bills, which hindered the usage of ICT in teaching. For example, a respondent said, "Electricity charges are increasing rapidly in the country. Due to this, I am forced to reduce my electricity usage. As a result, I have greatly reduced teaching with ICT." Similar statements were stated by a few more respondents as well.

## 6. Conclusion

As technology continues to advance, it is increasingly crucial for teachers to be prepared for its integration within their classrooms. Although some educators may exhibit resistance to change, there are numerous reasons why incorporating ICT into teaching can yield benefits. Undoubtedly, the integration of ICT into education presents challenges; however, with adequate preparation, it can result in a highly positive experience for both teachers and students.

The role of ICT in the modern classroom is simultaneously simple and complex. It is simple in that ICT can equip teachers with the necessary tools to facilitate their students' success. However, it is complex as the implementation of these tools can be demanding, requiring time, financial resources, and a comprehensive understanding of the challenges associated with technology usage in the classroom. As a result, nations worldwide are providing training to teachers to enable the seamless integration of ICT into teaching and learning. Prior to the onset of the COVID-19 pandemic, various stakeholders consistently provided ICT-related training to teachers in the country.

The objective of this study was to assess the extent to which Tamil language teachers working in Tamil language schools exhibited positive attitudes and readiness toward integrating ICT into the teaching and learning process. The findings of the study revealed that Tamil medium teachers displayed favorable attitudes toward the utilization of ICT in teaching and learning. Similarly, Tamil medium teachers demonstrated readiness to integrate ICT into their instructional practices. However, they encountered several challenges in incorporating ICT due to the economic crisis prevalent in the country. Hence, it is imperative for relevant authorities to promptly address these issues, including the rising costs and limited availability of ICT equipment, which have significantly hindered the implementation of modern teaching methods. Failing to enable teachers to utilize contemporary technologies in school education is detrimental to our younger generation, as they need to be adequately prepared for an ever-changing world.

Consequently, there is an urgent need to integrate information-related technologies into existing teaching and learning environments to ensure students are equipped with the necessary skills for the 21st century. However, despite teachers' willingness to incorporate information communication technologies, their successful implementation remains constrained by the current economic crisis faced by the country. It is noteworthy that this research was conducted using a quantitative approach, and as such, the actual attitudes and readiness of the teachers may not have been fully revealed. Therefore, employing a trait-based or mixed research approach to explore teachers' readiness and attitudes toward integrating ICT into teaching may yield more comprehensive results. Furthermore, conducting research involving teachers from other language mediums in similar studies would contribute to more robust findings in future investigations.

## Compliance with ethical standards

## Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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