Attitudes and acceptance of information and communication technology (ICT) among urban and rural teachers in teaching and facilitation

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ABSTRACT

The purpose of the study was to find out the attitudes and acceptance of information and communication technology (ICT) among urban and rural teachers in Teaching and Facilitation (TnF). The use of ICT helps in improving the effectiveness of all areas including education. The Technology Acceptance Model (TAM) introduced by Fred Davis was used to identify the relationship between teacher attitudes and differences in ICT acceptance between urban and rural areas teachers' behavior in TnF. This was to determine the actual influencing factors among the Tamil language teachers on the use of information and communication technology in Tamil language TnF. There are several other works carried out in this field including computer teaching and learning, challenges of ICT, teachers' perceptions of ICT, and many more, but the present study is based among urban and rural teachers of Malaysia. Other works done in this field do not focus on students and teachers of Tamil schools. This study is a quantitative study involving a questionnaire. The study involved 96 Tamil schools in the state of Selangor and a total of 260 Tamil language teachers participated in this study. 167 urban schools and 93 rural schools were involved in this study. Data obtained through questionnaires were evaluated using Statistical Package for the Social Sciences (SPSS) software, hence documented in chronology relevant to the objectives of the study. The findings of the study showed that there is a significant relationship between teachers in urban and rural areas in the use of Information and Communication Technology (ICT) in the Tamil language TnF. Through this study, a strong culture of ICT use is applied in the Tamil language TnF process in urban and rural SJK (T) which can be practiced by various stakeholders.

1. Introduction

Information and Communication Technology (ICT) in education is a way to support, enhance, and optimize the delivery of information. Studies around the world show that ICT can lead to improved levels of student learning and better teaching methods.

In measuring the level of utilization of ICT, this study referred to some empirical studies from previous research. Several studies in Malaysia have proven the importance of using ICT, and it can be measured from its pattern and intensity. Teachers' positive attitude towards ICT is a must and an additional advantage in the implementation of related programs in ICT (Gupta and SinGh, 2018). Furthermore, motivation is a major factor influencing the acquisition of ICT by teachers in their teaching (Thannimalai and Baloh, 2021). In short, motivation to use ICT by teachers is considered an example of influencing the use of ICT. Overall, we can see that the use of ICT does help in improving the effectiveness of all areas. Therefore, this study recommends that all schools have achieved this quality mark and be able to demonstrate their effectiveness in the use of ICT that benefits all aspects of school life and students in society. Issues involving the level of mastery of teachers in the use of ICT often receive attention among researchers and the public and are often discussed up to the national level (Wong et al., 2012). For example, in 2019, more

than 300 journals were published by local researchers and this figure shows that the issue of the teachers' mastery level in the use of Multimedia Communication Technology is still receiving high attention among local researchers and various problems have been raised from their study stating that the level of mastery of teachers is still at a worrying level. The following are some studies that have been conducted to examine the level of mastery of teachers in the use of ICT. Among the studies include; Teachers' perceptions of the use of ICT in the context of computer teaching and learning (Darmayanti et al., 2020); Utilization of ICT-based learning media (Wicaksono and Utama, 2020); Teachers' perceptions of the use of ICT (George and Ogunniyi, 2016); Mathematics teaching based on the use of ICT (Santoso et al., 2019); How to improve the ability of teachers in the use of ICT (Rinawati, 2019); The Application of ICT in Improving the Quality of Teaching for Teachers (Irtawaty et al., 2019) and more. Through a detailed study of the above studies, the researchers found that the level of teacher mastery in ICT is still at a moderate level. The following are the causes that have been identified by researchers behind this problem namely, Teachers' acceptance of ICT is very low; Negative attitudes towards ICT; Lack of use of teaching aids, and time constraints due to workload. Rahimipour (2021) has done a study on language teaching in Teacher Training Centres. However, these studies were only conducted within the scope of primary and secondary school teachers, especially in National Schools. It was also found that only a few studies have been published (less than 100 studies) in the scope of Tamil Primary Schools to explore the use of ICT in TnF among Tamil School teachers. Thus, this study can be one of the pioneers in providing an in-depth contribution to efforts to explore the level of mastery of teachers in the use of ICT in the Tamil TnF in the classroom.

The authors of this study have identified 4 studies conducted in Malaysia on Tamil school teachers on the issue of ICT use, namely: Construction of an ICT guidance framework for Science teachers in Tamil Schools (Shanmugam and Balakrishnan, 2020); Teachers' acceptance of the use of Information and Communication Technology (ICT) based on the TAM model (Halili and Suguneswary, 2017); Acceptance of teachers using Information and Communication Technology. The use of Tamil language and ICT in Tamil language education. All the above studies were conducted to determine the level of ICT mastery and acceptance among Tamil school teachers, and they were only conducted in one school and the researchers only focused the study on the teachers. The uniqueness of this study is that this study will be conducted in 96 Tamil schools throughout the state of Selangor and the researcher will collect information by questioning 260 teachers in finding factors that determine the use of Multimedia Technology in TnF in Tamil. As such, this study can be used as a guide for other researchers in the future

to further investigate the level of use of Multimedia Technology in Tamil TnF.

Almost all the studies that have been conducted on the stated issue focus on small populations and no studies use the TAM model in measuring the use of Multimedia Technology among the Tamil teachers in the Tamil TnF in large population classrooms. Halili and Suguneswary (2017) conducted a study on teachers' acceptance of the use of Information and Communication Technology based on the TAM model in the teaching of Tamil language subjects. However, the study only focused on one school to collect research information on one issue - teachers' acceptance of ICT. While in this study, the samples collected are on a larger scale, where a total of 96 schools were selected. At the same time, this study will examine the relationship between moderators and teachers' attitudes, as well as the differences in the acceptance of urban and rural teachers (teachers' behaviors) in the Tamil TnF classroom.

Although many studies have proven the advantages of using ICT to improve the quality of learning, not all teachers use this technology in their teaching. Many studies showed that the integration of ICT in education has faced many obstacles. According to Mirzajani et al. (2015; 2016), teachers are unable to use ICT in their classrooms due to a lack of training, knowledge, skills, facilities, time, and self-efficacy related to the use of ICT. This finding is supported by Letchmanan and Saad (2021) who revealed that many factors can influence the use of ICT among the teachers such as limited ICT skills and knowledge, availability of ICT equipment in schools, and excessive teaching periods. Another study also emphasized that the challenges of ICT integration are due to the lack of ICT efficiency and support for capacity building (Amuko et al., 2015). However, the factors influencing the successful use of ICT in education are not far apart from each other which enables teachers to integrate ICT into their teaching. A study by Ojo and Adu (2018) revealed that teachers do not use ICT in their teaching even though there are adequate facilities because of limited knowledge and skills. Therefore, both facilitation and teacher efficiency factors are key to successful ICT integration (Ponniah et al., 2020). Thus, this study is determined to explore whether there is a relationship between the frequency of ICT use with the attitudes of teachers in the Tamil TnF in the classroom.Based on the above problem statement, an objective was outlined to solve the study problem. The quantitative method that was used in this study to collect data is embedded in the objective of this research as follows:

To identify the moderating relationship between teachers' attitudes and the differences in ICT acceptance between urban and rural area teachers, and its effects on their behavior in Tamil TnF in the classroom.

This objective will answer the following question:

Is there a moderating relationship between teachers' attitudes and the differences in ICT handling between urban and rural areas teachers, hence affecting their behavior in Tamil TnF in the classroom?

2. Methodology

This study aims to examine the issue of the level of teacher preparation in the use of Multimedia Technology in Tamil Teaching and Facilitation (PdPc) in the classroom. The variables of this study are related to the use of Multimedia Technology in teaching and its contribution. Variables for improving student achievement require a dynamic research approach firmly rooted in qualitative and quantitative epistemology. Respondents in this study extracted subjective and magnitude views (Tamil School Teachers) on the phenomena studied, while the objectivity of the entire research enterprise of this study is described in detail in the following sections.

This study adapted the Technology Acceptance Model (TAM) in determining the level of preparation of teachers in the use of Multimedia Technology in the Tamil language TnF in the classroom. The use of Multimedia Technology in the Tamil language TnF in the classroom is a process that requires very in-depth knowledge. The teaching and learning of Tamil cannot be done based on textbooks alone in the classroom. This model (TAM) clearly illustrates the knowledge that Tamil teachers need to understand to effectively integrate technology in their classrooms.

The authors of this study have emphasized how the use of Information and Communication Technology (ICT) in the classroom has become a uniquely 21st-century trend in teachers' mastery of using Multimedia Technology in the Tamil TnF pedagogical approach in the classroom. The TAM model has sought to compile key qualities of knowledge for teachers so that they can integrate technology into their teaching and learning environments. Design (TAM) presents the teachers' practices in the use of Multimedia Technology in the Tamil TnF in the classroom to effectively integrate technology and specialized knowledge related to the affairs of combining technology with the learning environment. Furthermore, Ghavifekr et al. (2016) argued that the practice of Multimedia Technology in TnF by Tamil teachers has produced the idea that teachers should have knowledge related to content and pedagogy, and education in in-service professional development programs should provide ICT training for the Tamil teachers in this field.

Data analysis was performed to determine the answers to the research questions once data collection was completed from the study sample. Data analysis was conducted with an SPSS software program known as Statistical Package for the Social Sciences. SPSS is a statistical tool that is widely used in this academic field because this tool offers users easy steps for statistical handling.

This study was conducted in 96 primary schools in Selangor to investigate the application of the TAM model in the use of ICT in the Tamil language TnF in the classroom. This study focuses on the use of ICT in the Tamil language TnF in the classroom. The author chose 96 primary schools in Selangor to investigate how the Tamil language teachers in those schools perform their responsibilities in the TnF of Tamil language in the classrooms.

3. Findings

3.1. Descriptive analysis

Table 1 shows the summary of the respondents' genders involved in this study. Overall, the number of female teachers is higher compared to the number of male teachers in this study. This statement can be seen from the number of female teachers which is 205 compared to male teachers which are only 55.

Table 1: Gender

		Frequency	Percent
	Male	55	21.2
Valid	Female	205	78.8
	Total	260	100.0

Table 2 shows the summary of the respondents' ages involved in this study. The majority of respondents in this study are teachers in the age range of 32-42 years which is 108 teachers and the second highest is from the age range of 43-53 years which is 91 teachers while the third-highest is from the age range of 53 years and above, which is 36 teachers. Finally, only 25 teachers were identified from the 21-31 age category.

Table 2: Age

		Frequency	Percent
	21-31	25	9.6
	32-42	108	41.5
Valid	43-53	91	35.0
	53 above	36	13.8
	Total	260	100.0

Table 3 shows the summary of the respondents' teaching experiences involved in this study. Most of the respondents have teaching experiences from 1-5 years (95 teachers). Next, 88 teachers have 6-10 years of teaching experience. In addition, 40 teachers stated that they have less than 1 year of experience and only 37 teachers stated that they had teaching experience of more than 10 years.

Table 3: Teaching experience

		Frequency	Percent
	<1 Year	40	15.4
	1-5	95	36.5
Valid	6-10	88	33.8
	>10	37	14.2
	Total	260	100.0

Table 4 shows the summary of the school areas involved in this study. Overall, the school areas of the respondents are mostly in urban areas, in which 167

teachers are serving there while the respondents from rural areas are 93 teachers.

Table 4: School area

		Frequency	Percent
	Urban Areas	167	64.2
Valid	Rural Areas	93	35.8
	Total	260	100.0

Table 5 shows the summary of the teaching methods used by Tamil teachers in teaching the Tamil language. Overall, we can see that most respondents (148 teachers) in this study use modern methods in teaching such as computer aids while another 112 teachers stated that they use traditional methods of teaching including whiteboards or textbooks in c

Table 5: Teaching methods

		Frequency	Percent
	Google Classroom	25	9.6
	Google Meet	14	5.4
	Education TV	12	4.6
	WhatsApp	12	4.6
	Telegram	12	4.6
	Youtube	9	3.5
	Facebook	6	2.3
	E-mail	10	3.8
	Drive	16	6.2
	E-Game	8	3.1
Valid	Apps Playstore	4	1.5
	Video	8	3.1
	E-book	4	1.5
	Recording	4	1.5
	Live worksheet – online assignment	4	1.5
	Audio Clip	4	1.5
	Photos	4	1.5
	MS Word	54	20.8
	PowerPoint	50	19.2
	Total	260	100.0

Table 6 summarises the Tamil language teachers' level or ability to handle ICT in the classroom. Overall, we can see that most of the teachers in this study have a moderate ability in handling ICT (112 teachers). Meanwhile, another 76 teachers stated that they are good at using ICT in teaching the Tamil language and only 72 teachers stated that they use less ICT in teaching the Tamil language in the classroom.

Table 6: Ability to handle ICT

		Frequency	Percent
	High	76	29.2
Valid	Moderate	112	43.1
	Low	72	27.7
	Total	260	100.0

Table 7 summarises the types of software that are frequently used by Tamil teachers in teaching the Tamil language. In total, there are 4 software receiving the highest response namely, MS Powerpoint (50 teachers); MS Word (54 teachers); Google Classroom (25 teachers); Google Drive (16 teachers). The types of software that received the least attention among the Tamil teachers are Ebook, Recording, Live online worksheet, Audio Clip, and Photos (4 teachers for each software).

Table 7: Types of software used in TnF

		Frequency	Percent
	Traditional Method	112	43.1
Valid	Modern Method (ICT)	148	56.9
	Total	260	100.0

3.2. Data analysis between urban and rural teachers

One of the objectives of this study was to find out whether there is a difference between rural and urban Tamil teachers' acceptance of the use of Information and Communication Technology (ICT). Therefore, this study conducted a separate analysis between the two main groups, namely among teachers in urban areas (a total of 167 teachers) and teachers in rural areas (A total of 93 teachers). This data analysis only focused on 4 issues; 1) Teaching methods; 2) Ability to control ICT; 3) Type of software used in TnF; 4) Teaching experience extracted from the demographic information of the questionnaire. The above four pieces of information can provide a broad picture of the extent to which urban and rural teachers in this study use ICT in the Tamil language TnF.

3.3. Teachers in urban areas

Table 8 shows the teaching methods of teachers in urban areas. Based on the analysis, most teachers in the city use modern methods, that is 85 teachers while 82 teachers stated that they use traditional methods. Although the difference in number between these teachers is only 3, there are still a handful of teachers in the city using traditional methods compared to modern methods.

Table 8: Teaching methods of teachers in urban areas

		Frequency	Percent
	Traditional Method	112	43.1
Valid	Modern Method (ICT)	148	56.9
	Total	260	100.0

Table 9 shows the ability to handle ICT by teachers in urban areas. Referring to the table above, we can see that most teachers in the city have a moderate ability in handling ICT which is a total of 73 teachers, while 51 teachers in the city have a high ability to handle (ICT). In addition, only 43 teachers have low ICT skills.

Table 9: Ability to handle ICT among teachers in urban areas

		Frequency	Percent
	Ting	51	30.5
Valid	Sederhana	73	43.7
	Rendah	43	25.7
	Total	167	100.0
		Frequency	Percent
	Ting	51	30.5
Valid	Sederhana	73	43.7
	Rendah	43	25.7
	Total	167	100.0

Table 10 shows the types of software frequently used by teachers in the city to teach the Tamil language. Overall, 4 software are recording the

highest responses among teachers in the city namely; Powerpoint (31 teachers); MS Word (32 teachers); Google classroom (20 teachers); Google Drive (12 teachers). While the type of software that received the least attention among teachers in the city is the Ebook software; Recording; Liveworksheet online assignment; Audio Clips; Photos (each were only used by 2 to 5 teachers).

Table 10: Types of software used by teachers in urban areas

	Frequency	Percent
Google Classroom	20	12.0
Google Meet	3	1.8
Education TV	7	4.2
WhatsApp	10	6.0
Telegram	9	5.4
Youtube	3	1.8
Facebook	4	2.4
E-mail	10	6.0
Drive	12	7.2
E-Game	6	3.6
Apps Playstore	2	1.2
Video	5	3.0
E-book	3	1.8
Recording	3	1.8
Liveworksheet –online assignment	3	1.8
Audio Clip	2	1.2
Photos	2	1.2
MS Word	31	18.6
PowerPoint	32	19.2
Total	167	100.0

Valid (applies to all rows above)

Table 11 shows the teaching experience of teachers in the city. Overall, it was found that most respondents in this study have teaching experience from 1-5 years, which is 75 teachers, and then 65 teachers stated that they have teaching experience from 6-10 years. A total of 25 teachers stated that they have less than 1 year of teaching experience and only 4 teachers stated that they have more than 10 years of experience.

Table 11: Teaching experience in urban areas

		Frequency	Percent
Valid	<1 Year	25	15.0
	1-5	75	44.9
	6-10	63	37.7
	>10	4	2.4
	Total	167	100.0

3.4. Teachers in rural areas

Table 12 shows the rural area teachers' teaching methods recorded in this study. Based on the analysis, the majority of teachers in rural areas use modern methods (63 teachers) and only 30 teachers stated that they use traditional methods. This number proves that most teachers in rural areas are proficient in using ICT which is a modern method as opposed to traditional methods in conducting the Tamil language TnF in the classroom.

Table 12: Rural areas teachers' teaching methods

		Frequency	Percent
Valid	Traditional Method	30	32.3
	Modern Method (ICT)	63	67.7
	Total	93	100.0

Table 13 shows the teachers' ability to handle ICT in rural areas. According to the result, the majority of teachers in rural areas have a moderate ability in handling ICT (39 teachers) while 29 teachers stated that they have low ability in handling ICT and only 25 teachers stated that they have a high ability in handling ICT.

Table 13: Rural areas teachers' ability to handle ICT

		Frequency	Percent
Valid	High	25	26.9
	Moderate	39	41.9
	Low	29	31.2
	Total	93	100.0

Table 14 shows the types of software frequently used by teachers in rural areas in teaching the Tamil language. In total, 4 software are recording the highest response namely; MS Word (23 teachers); Powerpoint (18 teachers); Google classroom (5 teachers); Google Drive (4 teachers). While the type of software that obtained less attention among Tamil teachers is E-book software; Recording; Liveworksheet-online assignment; Audio Clips; Photos (each only was used by 1 to 4 teachers).

Table 14: Types of software used in TnF by rural areas teachers

	Frequency	Percent
Google Classroom	5	5.4
Google Meet	11	11.8
Education TV	5	5.4
WhatsApp	2	2.2
Telegram	3	3.2
Youtube	6	6.5
Facebook	2	2.2
Drive	4	4.3
E-Game	2	2.2
Apps Playstore	2	2.2
Video	3	3.2
E-book	1	1.1
Recording	1	1.1
Live Worksheet –online assignment	1	1.1
Audio Clip	2	2.2
Photos	2	2.2
MS Word	23	24.7
PowerPoint	18	19.4
Total	93	100.0

Valid (applies to all rows above)

Table 15 shows the summary of rural area teachers' experience in teaching. Overall, most respondents in this study have teaching experience from 6-10 years that is 25 teachers followed by 20 teachers who stated that they have teaching experience from 1-5 years. 15 teachers stated that they have less than 1 year of experience and another 33 teachers stated that they have more than 10 years of teaching experience.

4. Regression analysis

The authors of this study conducted a regression analysis on (SG, Ability to handle ICT by teachers in urban and rural areas) and TL (Behavior). Table 16 shows the regression analysis of SG, ICT Handling Ability and TL found in this study. The results of the regression analysis showed that there is a significant

relationship between the TL and (SG, Ability to handle ICT by teachers in urban and rural areas). This can be seen from the results of the analysis that is the value of Sig 0.052 which is less than the value of Sig $p<0.10$. Apart from that, we can see that the value of F is 2.998 and this note proves that there is a correlation between (SG, Ability to handle ICT by teachers in urban and rural areas) and TL (2.99%).

Table 15: Teaching experience of rural areas teachers

		Frequency	Percent
	<1 year	15	16.1
	1-5	20	21.5
Valid	6-10	25	26.9
	>10	33	35.5
	Total	93	100.0

Table 16: Regression analysis between SG, ability to handle ICT by teachers in urban and rural areas on TL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.151[a]	.023	.015	.42458	.023	2.998	2	257	0.052	2.154

a. Predictors: (Constant), ABILITY TO HANDLE ICT, ATT
b. Dependent Variable: BI

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.081	2	0.540	2.998	0.052[b]
1	Residual	46.329	257	0.180		
	Total	47.410	259			

a. Dependent Variable: TL
b. Predictors: (Constant), ABILITY TO HANDLE ICT, SG

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
	(Constant)	3.570	.171		20.826	0.000					
1	ATT	.095	.039	.149	2.419	0.016	0.149	.149	.149	1.000	1.000
	ABILITY TO HANDLE ICT	-.012	.035	-.022	-.354	0.724	-0.023	-.022	-.022	1.000	1.000

a. Dependent Variable: TL

The authors of this study conducted a regression analysis on (SG, Ability to Handle ICT by teachers in the city) and TL (Behavior). Table 17 shows the regression analysis of SG, Ability to Handle ICT by urban teachers and TL. The results of the regression analysis showed that there is a significant relationship between TL and (SG, Ability to handle teacher ICT in the city). This can be seen from the value of Sig 0.093 which is less than the value of Sig $p<0.10$. Moreover, we can see that the value of F is 0.071 and this note proves that there is a correlation between (SG, Ability to handle ICT by teachers in the city) and TL (0.07%).

Table 17: Regression analysis between SG, ability to handle ICT by teachers in urban areas on TL

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	0.029[a]	0.001	-0.011	0.38800	0.001	0.071	2	164	0.093	1.944

a. Predictors: (Constant), ATT, ABILITY TO HANDLE ICT
b. Dependent Variable: BI

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	0.021	2	0.011	0.071	0.093[b]
1	Residual	24.689	164	0.151		
	Total	24.711	166			

a. Dependent Variable: TL
b. Predictors: (Constant), SG, ABILITY TO HANDLE ICT

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
	(Constant)	3.926	.180		21.765	0.000					
1	ABILITY TO HANDLE ICT	.011	.040	.022	-.287	0.077	.023	.022	.022	1.000	1.000
	ATT	.010	.041	.019	.242	0.081	.019	.019	.019	1.000	1.000

a. Dependent Variable: TL

The authors of this study conducted a regression analysis on (SG, Ability to handle ICT of rural teachers) and TL (Behavior). Table 18 shows the regression analysis of SG, ICT Handling Ability of rural teachers, and TL. The results of the regression analysis showed that there is a significant relationship between TL and (SG, Ability to handle ICT of teachers in rural areas). This can be seen from the results of the analysis that is the value of Sig 0.000 which is less than the value of Sig $p<0.005$. Moreover, we can see that the value of F is 10.644 and this note proves that there is a correlation between (SG, the Ability to handle ICT of teachers in rural areas) and TL (10.6%).

Table 18: Regression analysis between SG, ability to handle ICT by rural teachers on TL

				Model Summary						
						Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.437[a]	.191	.173	.44870	.191	10.644	2	90	0.000	2.330

a. Predictors: (Constant), ABILITY TO HANDLE ICT, sg
b. Dependent Variable: TL

	ANOVA[a]					
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.286	2	2.143	10.644	0.000[b]
	Residual	18.120	90	0.201		
	Total	22.406	92			

a. Dependent Variable: TL
b. Predictors: (Constant), ABILITY TO HANDLE ICT, sg

	Coefficients[a]										
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
Model		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2.274	.375		6.062	0.000					
	ABILITY TO HANDLE ICT	.404	.088	.437	4.612	0.000	0.437	0.437	0.437	.999	1.001
	ABILITY TO HANDLE ICT	-.002	.061	-.004	-.039	0.969	-0.014	-0.004	-.004	.999	1.001

a. Dependent Variable: TL

5. Discussion and conclusion

According to the statement of Sapian et al. (2021) called for ICT based education is very important for the rural population, especially among the younger generation to improve their living standards. If the rural population receives a low-quality education, then this will damage all the efforts of the Malaysian government toward the development of rural areas. At the same time, Azeema et al (2016) found that the integration of ICT in these rural schools will open up many opportunities for them to explore the wider world. This is because ICT-based education will contribute to the development of appropriate skills among rural students in facing challenges in their lives. Therefore, we can see from the results of this study that the cooperation of Tamil teachers is in line with the goals of MOE and this can be seen from the results of a descriptive study between urban teachers and rural teachers.

Overall, the results of the above analysis indicate that there is a significant relationship between the urban and rural teachers in the use of Information and Communication Technology (ICT) in the Tamil language TnF. This can be seen from the results of regression analysis between teachers in urban and rural areas on the Ability to Control (ICT) which showed a positive significant value of ($p<0.052$) (Refer to Table 16). At the same time, the results of regression analysis between the Level of Ability to Handle (ICT) among teachers in the city also showed a positive value of ($p<0.093$) (Refer to Table 17). Besides, the Level of Ability to Handle (ICT) among rural area teachers also showed a positive value of ($p<0.000$) (Refer to Table 18). The study concludes that there is a positive outcome on the use of Information and Communication Technology in the Tamil language TnF in the classroom between teachers in urban and rural areas.

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.

References

Amuko S, Miheso M, and Ndeuthi S (2015). Opportunities and challenges: Integration of ICT in teaching and learning mathematics in secondary schools, Nairobi, Kenya. Journal of Education and Practice, 6(24): 1-6.

Azeema F, Talib O, and Othman A (2016). Computer technology integration and teachers' knowledge and self-efficacy: Barriers and promise. Journal of Research, Policy & Practice of Teachers and Teacher Education, 6(1): 25-37.

Darmayanti L, Magfiroh I, Bellyan M, Faradila V, Anton D, and Satrio R (2020). Persepsi guru pre-service dalam penggunaan ict dalam konteks pengajaran dan pembelajaran. In the Prosiding Seminar Nasional Pendidikan: Transformasi Pendidikan Sebagai Upaya Mewujudkan Sustainable Development Goals (SDCs) di Era Society 5.0, FKIP, 2: 430-433.

George F and Ogunniyi M (2016). Teachers' perceptions on the use of ICT in a CAL environment to enhance the conception of

science concepts. Universal Journal of Educational Research, 4(1), 151-156. https://doi.org/10.13189/ujer.2016.040119

Ghavifekr S, Kunjappan T, Ramasamy L, and Anthony A (2016). Teaching and learning with ICT tools: Issues and challenges from teachers' perceptions. Malaysian Online Journal of Educational Technology, 4(2): 38-57.

Gupta D and Singh G (2018). Competency of teacher educators and student teachers towards e-learning tools. Journal of Indian Education, 44(2): 126-140.

Halili SH and Suguneswary S (2017). Penerimaan guru terhadap penggunaan teknologi maklumat dan komunikasi berasaskan model Tam dalam pengajaran mata pelajaran Bahasa Tamil. JuKu: Jurnal Kurikulum and Pengajaran Asia Pasifik, 4(2): 31-41.

Irtawaty AS, Ulfah M, Armin A, and Syahruddin S (2019). Penerapan informasi dan communication of technologyn (ICT) dalam peningkatan mutu pengajaran bagi guru di balikpapan pada era revolusi industri 4.0. Abdimas Universal, 1(2): 10-14. https://doi.org/10.36277/abdimasuniversal.v1i2.32

Letchmanan C and Saad A (2021). Keberkesanan bengkel dalam meningkatkan kemahiran teknologi maklumat dan motivasi guru terhadap proses penilaian dalam talian. Muallim Journal of Social Sciences and Humanities, 5(2): 137-149. https://doi.org/10.33306/mjssh/127

Mirzajani H, Mahmud R, Ayub AFM, and Luan WS (2015). A review of research literature on obstacles that prevent use of ICT in pre-service teachers' educational courses. International Journal of Education and Literacy Studies, 3(2): 25-31. https://doi.org/10.7575/aiac.ijels.v.3n.2p.25

Mirzajani H, Mahmud R, Ayub AFM, and Wong SL (2016). Teachers' acceptance of ICT and its integration in the classroom. Quality Assurance in Education, 24(1): 26-40. https://doi.org/10.1108/QAE-06-2014-0025

Ojo OA and Adu EO (2018). The effectiveness of information and communication technologies (ICTs) in teaching and learning in high schools in Eastern Cape Province. South African Journal of Education, 38(1): s1-s11. https://doi.org/10.15700/saje.v38ns2a1483

Ponniah K, Jose F.T, Sivanadhan I, Kumar M, Nadarajan P, and Akhmetova (2022). A blended learning: A study on Tamil primary schools. International Journal of Advanced and Applied Science, 9(3): 172-177. https://doi.org/10.21833/ijaas.2022.03.020

Rahimipour S (2021). Integrating reader response theory into EFL classroom at Farhangian University. Asian Journal of English Language and Pedagogy, 9(2): 16-25.

Rinawati R (2019). Upaya peningkatan kemampuan guru dalam penggunaan teknologi informasi dan komunikasi (TIK) melalui kegiatan workshop di tk Kecamatan Sungai Lalak. Jurnal Pajar (Pendidikan Dan Pengajaran), 3(4): 800-807. https://doi.org/10.33578/pjr.v3i4.7477

Santoso B, Aisyah N, Hapizah H, Meryansumayeka M, Sukmaningthias N, and Pratiwi WD (2019). Pendampingan inovasi bagi MGMP matematika SMP Kota Palembang untuk menghasilkan proposal penelitian tindakan kelas berbasis ICT. Jurnal Anugerah, 1(2): 91-97. https://doi.org/10.31629/anugerah.v1i2.1706

Sapian NA, Mahamod ZB, and Mahad IB (2021). Penglibatan murid-murid sekolah kebangsaan di kawasan bandar dalam pembelajaran bahasa melayu dalam talian daripada persepsi guru bahasa Melayu. PENDETA Journal of Malay Language, Education and Literature, 12(2): 80-97.

Shanmugam K and Balakrishnan B (2020). Microsoft power point as a presentation tool for teaching and facilitating science in rural Tamil schools in Perak [Perisian microsoft power point sebagai peranti persembahan semasa pdpc sains di SJK (T) luar bandar di negeri Perak]. Muallim Journal of Social Sciences and Humanities, 4(1): 49-65. https://doi.org/10.33306/mjssh/55

Thannimalai T and Baloh S (2021). Cabaran PDPR bahasa Tamil di sekolah luar bandar [Challenges of Tamil language PDPR in rural schools]. Muallim Journal of Social Sciences and Humanities, 5(2): 183-190. https://doi.org/10.33306/mjssh/132

Wicaksono L and Utama DDP (2020). Pemanfaatan media pembelajaran berbasis ICT oleh guru PENJAS Kota Bandar Lampung. Jurnal Kejaora (Kesehatan Jasmani Dan Olah Raga), 5(1): 41-49. https://doi.org/10.36526/kejaora.v5i1.846

Wong KT, Goh PS, and Osman R (2012). Effects of determinants for computer use among teachers in Malaysia. Journal of Research, Policy & Practice of Teachers and Teacher Education, 2(1): 75-83.