Challenges Faced by Secondary School Teachers in Using Technology in Classrooms

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Abstract
Technology has become a part in the era of globalization. In order to track the progress of world, one must master the knowledge of technology. To do so, teachers in schools have to use technology to carried out their lesson so that students get exposure through learning process. However, teachers face a lot of difficulties to conduct lesson using technology. The aim of this study is to find out teachers' familiarity in implementing technology in classroom, to investigate the challenges faced by teachers in using technology in classroom and to find out teachers' opinion in using technology in classrooms. Questionnaire were given to 40 secondary school teachers. Based on the data analysis through SPSS, teachers have positive perception towards using technology but they faced challenges as pressure to prepare students for exams and test and there is no sufficient computers.

Keywords: challenges, technology, classrooms

1.0 Introduction

Technology holds the major role in today's world. They play different role in different arena especially in work places, business, education and entertainment. Technology is used to make human's life less complicated and more convenient as handling and exchanging information, for research purposes and even a tool for teaching as well as learning (Ratneeswari, 2018). Education flows with the update of world hence technology in education helps teachers to do things differently. Using technology as a tool for teaching in classrooms can help students to understand and retain the lesson topic better compared to just using books (Raja & Nagasubramani, 2018).

In 21st century teaching and learning, using technology as a teaching tool has become one of the basic requirement for teachers. To make Malaysia a leader in information and communication technology, the Smart School project was built in both primary and secondary education (Moe,1997). Many incentives were put in effort by the government to ensure schools were well equip by technology. There are also school programme developed such as Frog Virtual Learning Environment to encourage the use of technology.

2.0 Problem statement

Despite all benefits of using technology in classroom and the efforts taken by the government, there are still enormous problems faced by the teachers while using technology. According to few research ICT has a very light usage in Malaysia secondary education in reality as the teachers faced few problems applying the concept in classroom during lessons (Ebrahami ,2018). One of the challenges faced by the teachers is limited accessibility to technology and internet connection. Even in different countries, teachers faced problems of lack of computers and adequate material (Empirica, 2006).

Even there is no sufficient amount of tool for learning and teaching, teachers face difficulties to conduct a lesson using technology in classroom.

There is also limited time for the teachers prepare and explore different types of educational websites (Silicia, 2005). Some teachers reported ICT require more time to locate internet advice, prepare lessons, explore and practice using technology, deal with technical problems and receive adequate training, all these affects their ability to complete a task (Becta, 2004).

2.1   Research objectives
a. To find out teachers' familiarity in implementing technology in classroom.
b. To investigate the challenges faced by teachers in using technology in classroom
c. To find out teachers' opinion in using technology in classrooms.

3.0 Literature review
There are a lot of challenges faced by the teachers when comes to using technology in classroom room. There are few past related studies illustrates the challenges faced by teachers. A study conducted involves a number of 100 secondary school teachers of Malacca. A quantitative study was carried out to find out teacher's point of view on the difficulties they faced to use technology in lessons. Based on the findings through a survey questionnaire, teachers in secondary school faced issues due to limited accessibility and network connection, lack of effective traning results to lack of teachers' competency (Ghavifekr,Kunjappan,Ramasamy & Anthony, 2016).

Another past related study been carried in Uganda involves a number of 150 teachers and administration. Based on the results teachers do favor using technology in classroom however they faced difficulties in by facing lack of genuine software, insufficient computers for students, lack of training, poor administrative and poor course of curriculum. All these factors forbids teachers to integrate technology in classroom. When teachers faced problems as low internet speed, lack amount of computers in the middle of lesson it would delayed the process of learning and students would lose interest in the lesson (Habibu, Clement, & Mamun, 2012).

Another past related study been conducted that demonstrates different difficulties faced when using ICT in classroom. This study been conducted through a programme that focused on computer literacy skills, pedagogical knowledge for technology integration and online learning. More than eleven thousand teachers were involved in this programme. Data was collected using survey. Same as previous study teachers don't mind to use technology in their lesson because they are aware of the benefits of using technology but they are reluctant to use due to few factors. Teacher faced difficulties as lack of time, poor structure of curriculum, lack of tools to support teachers. To ensure the success of integration of technology in lesson everyone must play their parts equally.

4.0 Methodology

Quantitative method was used in this research to collect and analyse the data obtained from all the respondents. A survey questionnaire was adapted from (Salehi & Salehi, 2012), (Ghavifekr, Kunjappan, Ramasamy & Anthony ,2016), (Birch, 2003) were given to randomly selected respondents. An adapted questionnaire consist of 5 sections was answered among respondents. The questionnaire was based on 5-point Likert Scale ranging from: 5 = always, 4 = often, 3 = sometimes, 2 = rarely and 1 = never. A total 40 secondary school teachers from state of Chemor, Perak were randomly selected as respondents for this research. The opinion of respondent was given the main priority to response the survey. The questionnaire was given in social media. There are 5 sections of the questionnaire included: Demographic information, Teachers' familiarity using technology, Challenges faced when using technology in classroom and Teachers' opinion in using technology in classroom. The questionnaire was given to 40 secondary school teachers and they were given 5 days to complete the survey. All the respondents willingly volunteered themselves in this study. The data collected from the respondents to analysed using the Statistical Packages for the Social Sciences (SPSS) version 21. The results of the questionnaire were analysed in descriptive and inferential statistics.

5.0   Results and findings

Demographic factors on the respondents:

Table 1: Demographic findings on sample

Factors	Category	Frequency	Percentage %
Gender	Male	15	36
	Female	25	62.5
School Area	Urban	13	32.5
	Suburban	19	47.5
	Rural	8	20
Teaching Experience (years)	1-5	19	47.5
	6-10	6	15
	11-15	5	12.5
	16-20	5	12.5
	More than 20	5	12.5
Subject taught	Language	26	65
	Mathematics	4	10
	Science	4	10
	other	5	12.5
	Physical education	1	2.5

Table 1 demonstrates demographic the respondents' background. Table 1 shows the respondents' gender category male with 15 frequency and 36 % whereas female category is 25 frequency and 62.5 %. Based on the data collected female respondent are more than male respondent.

Based on the data collected, for school area category urban is 13 frequency with 32.5%, for suburban category is 19 frequency with 47.5 %, for rural category is 8 frequency with 20%. Most of the respondent are from suburban category.

For respondents' teaching experience,1-5 years is 19 frequency with 47.5 %, for 6-10 years is 6 frequency with 15%, for 11-15 years is 5 frequency with 12.5%, 16-20 years is 5 frequency and for more than 20 years has 5 frequency with 12.5 %. Most of the respondents have 1-5 years of teaching experience.

From the findings, it is stated that most of the respondents teach language subject as the frequency is 26 with 65%. Mathematics and Science subject shares the same frequency which is 4 with 10 %. Other subject taught by the respondent is 5 with 12.5%. Only 1 respondent teach physical education with 2.5 %.

5.1 Teachers' familiarity in implementing technology in classroom among secondary school teachers

Table 2: Teachers' familiarity in implementing technology in classroom

Items	Always	Often	Sometimes	Rare	Never	Mean	Standard deviation
1.How is your personal experience	12	8	14	6	0	2.35	1.075
with technology?	30%	20%	35%	15%	0%		
2.How do you doubt yourself in	5	6	13	12	4	3.10	1.172
using technology in your classes?	12.5%	15%	32.5%	30%	10%		
3.How do you think of other	2	12	16	10	0	2.85	.863
teachers' familiarity to use	5%	30%	40%	10%	0%		
technology during lesson?							
4.How often do you conduct your	4	7	15	13	1	3.00	1.012
lessons using technology?	10%	17.5%	37.5%	32.5%	2.5%		
Overall mean						2.83	1.030

Based on the data analyse, entire disclosure mean showed a moderate level. For the statement "How is your personal experience with technology?" (M=2.35, SD=1.075), 30% of the respondents answered always, 20% of respondents answered often, 14 % of respondents answered sometimes, 6 % of respondents answered rare and no one choose never as an answer. For the statement "How do you doubt yourself in using technology in your classes?" (M=3.10, SD=1.172), 12.5 % of respondents answered always, 15 % of respondents choose often, 32.5 % of respondents choose sometimes, 30% of respondents answered rare and 10% of respondent choose never. For the statement "How do you think of other teachers' familiarity to use technology during lesson?" (M=2.85, SD=0.863),5 % of respondents answered always, 30% of the respondents answered often, 40% of the respondents answered sometimes, 10% of the respondents choose rare and no respondent choose never. For the statement "How often do you conduct your lessons using technology?" (M=3.00, SD=1.012), 10% of the respondents choose always, 17.5 % of respondents choose often, 37.5 % of respondents choose sometimes, 32.5% of respondents choose rare and 2.5 % of respondent choose never. The mean level of expression statement is in between 2.35-3.10. While overall mean constraints is M =2.83, SD=1.030 which is at moderate level.

5.2 Challenges faced by secondary school teachers in using technology in teaching and learning in classrooms

Table 3: Challenges faced by secondary school teachers in using technology in teaching and learning in classrooms

Items	Always	Often	Sometimes	Rare	Never	Mean	Standard Deviation
1.Insufficient number of computers	23 57.5%	7 17.5%	6 15%	1 2.5%	3 7.5%	1.85	1.231
2. Insufficient number of internet-connected computers	22 55%	10 25%	3 7.5%	3 7.5%	2 5%	1.83	1.174
3.Lack of adequate skills of teachers	12 30%	6 15%	15 37.5%	6 15%	1 2.5%	2.45	1.153
4.Insufficient technical support for teachers	18 45%	10 25%	9 22.5%	3 7.5%	0 0%	1.93	.997
5.Pressure to prepare students for exam and tests	24 60%	6 15%	4 10%	5 12.5%	1 2.5%	1.83	1.196
Overall mean						1.98	1.150

Based on the data analyse, entire disclosure mean showed a moderate level. For the "Insufficient number of computers" (M=1.85, SD=1.231), 57.5% of respondents choose always, 17.5% of respondents answered often, 15% of the respondents choose sometimes, 2.5% of the respondents choose rare and 7.5% answered never. For the statement "Insufficient number of internet-connected computers" (M=1.83, SD=1.174), 55% of the respondents choose always, 25% of the respondents answered often, 7.5% of the respondents choose sometimes, 7.5% of the respondents answered rare and 5% of the respondents choose never.

For the statement "Lack of adequate skills of teachers" (M=2.45, SD=1.153), 30% of the respondents choose always, 15% of the respondent choose often,37.5% of the respondents choose sometimes, 15% of the respondent choose rare and 2.5% choose never. For the statement "Insufficient technical support for teachers" (M=1.93, SD=0.997), 45% of the respondents answered always, 25% of the respondents answered often, 22.5% of the respondents choose sometimes,7.5% of the respondents selected rare and no respondent answered never. For the statement "Pressure to prepare students for exam and tests" (M=1.83, SD=1.196),60 % of the respondents answered always,15% of the respondents selected often, 10% of the respondents choose sometimes, 12.5% of the respondents choose rare and 2.5 % selected never. The mean level of expression statement is in between 1.83-2.45 While overall mean constraints is M =1.98, SD=1.150 which is at moderate level.

5.3 Teachers' perception in using technology in classrooms

Table 4: Teachers' perception in using technology in classroom

Items	Always	Often	Sometimes	Rare	Never	Mean	Standard Deviation
1.Students concentrate more on their learning	12	18	8	2	0	2.00	.847
	30%	40%	20%	5%	0%		
2.Students feel more autonomous in their learning	11	15	12	2	0	2.13	.883
	27.5%	37.5%	30%	5%	0%		
3.Students understand more easily what they learn	16	23	0	0	0	1.60	.496
	41%	59%	0%	0%	0%		
4.Students remember more easily what they have learn	10	15	13	2	0	2.18	.874
	25%	37.5%	32.5%	5%	0%		
5.Using technology during lessons improves the class environment(students more engaged, les disturbing)	11	19	9	1	0	2.00	.784
	27.5%	47.5%	22.5%	2.5%	0%		
Overall Mean						1.98	.0777

Based on the data analyse, entire disclosure mean showed a moderate level. For the statement "Students concentrate more on their learning"

(M=2.00, SD=0.847),30% of the respondents choose always, 40% of the respondents choose often,20% of the respondents choose sometimes, 5 % choose rare and no respondent choose never. For the statement "Students feel more autonomous in their learning (they can repeat exercises if needed, explore in more detail topics that they are interested in, etc.)", (M=2.13, SD=0.883), 27.5%   of the respondents choose always, 37.5% of the respondents selected often, 30% of the respondents selected sometimes, 5% of the respondents choose rare.

For the statement "Students understand more easily what they learn", (M=1.60, SD=0.496), 41% of the respondents choose always, 59% of the respondents choose often. For the statement "Students remember more easily what they have learn", (M=2.18, SD=0.874), 25% of the respondents choose always, 37.5% of the respondents selected often, 32.5% of the respondents choose sometimes and 5% of the respondents choose rare. For the statement "Using technology during lessons improves the class environment (students more engaged, less disturbing)", (M=2.00, SD=0.784), 27.5% of the respondents selected always, 47.5% of the respondents choose often, 22.5 % of the respondents choose sometimes and 2.5% of the respondents choose rare. The mean level of expression statement is in between 1.60-2.18 While overall mean constraints is M =1.98, SD=0.777 which is at moderate level.

6.0 Hypothesis testing

6.1 First hypothesis testing

Ho: There is no significant relationship between gender and the personal experience of using technology in classroom.

H1: There is significant relationship between gender and the personal experience of using technology in classroom

Table 5: Independent sample test for hypothesis 1

Gender	N	Mean	Std. deviation	Std.error mean
male	15	2.4000	1.24212	.32071
female	25	2.3200	.98826	.19765

				T-test for equality of means					
	F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std.Error Difference	Lower	Upper
Question	2.193	.147	.225	38	.823	.08000	.35557	-.63981	.79981
Equal variances assumed			.212	24.586	.834	.08000	.37673	-.69655	.85655
Equal variances not assumed									

From the independent t-test means in Table 5 shows that male respondents personal experience in using technology in classroom (M=2.40,

SD=1.242) is higher than the personal experience in using technology among female respondents (M=2.32, SD=0.988). Since p< .05, the null hypothesis is rejected. Therefore, there is significant relationship between gender and the personal experience of using technology in classroom. The data provided by both groups is different from each other, thus data provide is sufficient evidence to conclude that male personal experience in using technology for teaching is higher among the females.

6. 2 Second hypothesis testing

Ho: There is no relationship between teaching experience and the personal experience of using technology in teaching in classroom

H1: There is relationship between teaching experience and personal experience of using technology in teaching in classroom.

Table 6: Independent sample test for hypothesis 2

Personal experience	N	Mean	Std.Deviation	Std.error Mean
1-5 years	19	2.0000	1.00000	.22942
6-7 years	6	1.8333	.98319	.40139

	Levene's Test Equality of Variances		t-test Equality of Means					95% Confidence Interval of the Difference	
	F	Sig	t	df	Sig (2 tailed)	Mean Differences	Std.Error	Lower	Upper
Equal variances assumed	.002	.969	.357	23	.724	.16667	.46659	-.79855	1.13189
Equal variances not assumed			.360	8.547	.727	.16667	.46232	-.88769	1.22102

From the independent t-test means in table 6 shows that respondents with 1-5 years of teaching experience (M=2.00, SD=1.000) has better personal experience in using technology in classroom than respondents with 6-10 years of teaching experience (M=1.83, SD=0.983). Since p< .05, the null hypothesis is rejected. Therefore, there is significant relationship between teaching experience and the personal experience of using technology in classroom. The data provided by both groups is different from each other, thus data provide is sufficient evidence to conclude that those with least teaching have better personal experience in using technology for teaching compare to those who have 6-10 teaching experience.

7.0   Discussion and conclusion

Based on the data analyzed, selected respondents have positive perception towards using technology in classroom for teaching. Most of the respondents do agree with the statement that technology helps students to focus and understand easily. Most of the respondents agreed that often students will be more engage and they will be less disturbing when the respondents use technology to conduct lessons. Similarly stated by (Costley,2014), technology improves students' learning in classroom.

Despite all the advantages of using technology, respondents also faced a number of challenges. Based on the data collected, most of the respondents faced a great challenge of pressure to prepare students for exam and test. In urge of preparing the students, they tend not use technology to conduct lessons. Furthermore, respondents also face an obstacle when there is no sufficient number of computers in their schools. Hence it is difficult to conduct classes that equip all the students. Even in another study bv (Johson, Jacovina, Rusell & Soto, 2016), it is stated that students do not have the consistent access to the computer. Thus, it delay the integration process of technology in lesson plans.

For future research, more number of respondents can be choose to generalized the outcome and more options of challenges should be given to the respondents.Furthermore researcher can conduct this research in other areas to obtain better results.

8.0   Reference

Becta. (2004). *What the research says about using ICT in geography.* Coventry: Becta.

Costly. (2014). *The positive effects of technology on teaching and student learning.*

Empirica. (2006). *Benchmarking access and use of ICT in european schools 2006: final report from head teacher and classroom teacher surveys in 27 european countries.* Germany: European Commission.

Ghavifekr, S., & Mohammed Sani, I. (2015). Effectiveness of ICT integration in Malaysian schools: a quantitative analysis. *International Research Journal for Quality in Education,*1-12.

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

Ministry of Education Malaysia. (1997). *Smart school flagship application: The Malaysian smart school a conceptual blueprint.* Kuala Lumpur: Ministry of Education.

Salehi.H & Salehi. Z (2012). Challenges for using ICT in education: teachers' insights. *International Journal and Business.*

Sicilia, C. (2005). The challenges and benefits to teachers' practices in constructivist learning environments supported by technology. Unpublished master thesis. McGill University, Montreal.

Raatneswari.K (2018). Information communication technology in education. *Journal of Applied and Advanced Research,45-47.*