

Original Research Article

The Use of Technology at Malaysian Public High Schools

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Abstract

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Technology use has become a basic issue in today's post-modern educational era. Therefore, Malaysia like any other country needs to sustain worldwide mastery in technology use at schools. As a result, this paper investigates the role of technology at the secondary education in Malaysia and also emphasizes the need for the inclusion of more technologies at Malaysian public high schools. The participants of this study included 30 public high schools in Johor, Malaysia in both rural and urban regions. The researcher observed the schools and interviewed 120 teachers and 120 students in total. In addition, using Nvivo to analyze the pieces of video recordings at the sample schools revealed the actual technology use at Malaysian public high schools. This data complemented the data analyzed by SPSS for the perceptions of teachers and students in using such facilities. The results interestingly showed that perceptions and the real practice do not really match. This research can give a true insight to Malaysian educational authorities to have an overview on the general perceptions of teachers and students on the technology use at schools and assist them to come up with effective solutions to get more benefits from technologies in education. The paper is concluded by reaffirming the need for increased digital access and awareness in the Malaysian context.

Keywords: Technology, Education, Malaysia

INTRODUCTION

The need for technological innovation has brought a revolution in development of technological application in education. This has contributed to the development of educational systems. Educators are fast realizing that the use of computer assisted teaching and learning could be convenient for the users (Ebrahimi, 2016).

The growth of technologies is based on world's development in all aspects. As a result, the need for the use of Information Communication Technologies (ICT) in teaching/learning is inevitable (Idrus and Salleh, 2017). It is essential to consider that this spread and development is most fundamental when computers are no longer the exclusive domains of the few privileged people only.

ICT provides the basic technology for assisting teachers and learners to improve their skills (Rahmat et al, 2017). This will facilitate the integration of relevant

technologies in the development of education. Through ICT, computer-based resources like the Internet are used to deliver, equip, and assess learning and teaching materials. It is a known fact that education is dynamic and it is on this basis that the following paper examines the language from a bird perspective. Therefore, the research question of this study is how the role of technology in secondary education in Malaysia is. Therefore, this study found the role of technology use in educational system of Malaysia. This research can help Malaysian educational authorities to come up with effective solutions to get more benefits of technologies in education.

The objective of this research is to investigate the ICT use in Malaysian high schools. It is important to note that the emergence of ICT in education in Malaysia

has changed some roles of English; therefore, not everybody is excessively attracted about this incursion. In spite of that, the present study has a glance at the application of technology in language teaching and learning in Malaysia.

Literature Review

The use of ICT in education is increasing in Malaysia and is continuing to modify strategies which are employed by both teachers and students in teaching and learning (Hanapiah, 2017). Malaysia started establishment of Electronic and Smart Schools in 2013 (Cheok, 2017). In Malaysia, the initiative to increase ICT usage in schools known as the Smart Schools' project found that 80% of the teachers used ICT less than one hour per week, and this was also mostly limited to word-processing (UNESCO, 2013).

The use of ICT in teaching/learning came on board because of the need to create new aspects of education that suits the twenty-first century such as the use of technologies like videos (Ebrahimi, 2013). This aims at changing the attitudes, values, and aspirations in line with the current global benefits of modernization. Therefore the adoption of ICT on education becomes proper for the development of the individuals.

Moreover, ICT has changed education interactively. It has empowered teachers and students practically and theoretically in the use of technological means. ICT valued efficiency, it extends the speed of communication in the world and it helps teachers and students to keep up to date.

In Malaysia, in 2014 the online learning system called Frog Virtual Learning Environment (VLE) was established to organize the learning and teaching in the country. This system is originally a UK system that Malaysia decided to use to develop e-learning use at schools. This system can assist educators and students in material presentation, course management, and assessment. The user friendly environment of VLE is suitable to provide the users with any sort of instructional facility that educators may need in order to make it easier to teach and to learn such as graphics, videos, animations, sounds, and hyperlinks (Berns, Gonzalez-Pardo, & Camacho, 2013). Moreover, there are numerous other advantages to this system, including course management, communication and discussion tools, assignment submission, assessment, resource management and tracking student's participation and learning development (Thah, 2014).

Such a huge improvement in the educational system of Malaysia has occurred to achieve the goals of Malaysia Education Blueprint that covers expected educational perspectives between 2013 and 2025. Malaysia has already felt the necessity of the use of technologies in education to produce more skilled and

computer literate generations to compete with the rest of the world in the twenty first century. The Blueprint of 2013 to 2015 planed to provide 1BestariNet and software for all schools across the nation, although in 2018 it is not fully reached this goal yet. This system provides the real class situations for the teachers and students online (Frog Asia, 2014); however, still it is not yet well popular enough among educators to employ the service substantially and they prefer to apply the traditional methods of teaching.

Many steps has been taken so far to help 1BestariNet to get its deserved status in Malaysia, such as specifying an especial ID for each student and teacher to be able to connect to the system at any time at any place with any device. This helps teachers to share the material and choose the most suitable materials for the classes all over the country. In addition, students are able to access to the materials whenever they can connect online (Razak & Yusop, 2013). Therefore, getting information is easily accessible, and communication among students as well as students and teachers is easier. Teachers do not need to wait to the end of the semester to check if the students have learned, but they can easily check their learning and intervene if necessary at any time before it is too late.

The similar situation exists in many other countries where the platform is available for facilities but they are not practically being used in educational purposes (Kinchin, 2012). There are many reasons for the failure of ICT use in different societies such as lack of enough budget, lack of infrastructural supports, lack of skills, shortage of time, mismanagement, and many others (Motaghian, Hassanzadeh, and Moghadam, 2013). In Malaysia, most teachers use this platform only to share the teaching materials with the students (Rienties, Giesbers, Lygo-Baker, Ma, & Rees, 2014) complaining that employing the service needs so much time and efforts. They believe that with the limited time to cover the textbooks they cannot use this system efficiently as the Ministry of Education expects.

Most literature on Research on the Frog Virtual Learning Environment is about the system's characteristics (Sa'adon, Dahlan, & Zainal, 2013) than on its applicability in reality. Therefore, more research is needed to be done on the application and its usefulness in real classes rather than explaining about the technicalities of the system itself. As a result, this research aims to go more in depth to the application of ICT in Malaysia in order to let teachers know how their colleagues are performing in terms of ICT use in their own classes.

METHODOLOGY

The participants of this study done in 2017 included 30 public high schools in Johor, Malaysia in both rural and

urban regions. The researcher observed the schools and interviewed 120 teachers and 120 students in total. The participants were selected based on convenience random sampling. The questions were about five main categories, namely, 1) the use of ICT at that school, 2) ICT training at that school, 3) the preference of using ICT at that school, 4) reasons of ICT use at that school, and 5) ICT use in reality. The semi-structured interviews were based on open ended conversations not to impose the participants any bias to choose any particular item from a questionnaire and let them enough freedom to express their own perceptions and beliefs. Their answers were recorded and transcribed later to extract the direct answers of the above four main questions. The results were analyzed by help of SPSS software.

In addition, using NVivo to analyze the pieces of video recordings at the sample schools revealed the actual ICT use at Malaysian public high schools. Five minutes were recorded in each school the researcher observed which made a total one hundred fifty minutes. The video timing was selected purposefully on the thirtieth to thirty fifth minute in all classes to record the mid of the classes as the random samples of classroom ICT based activities. The classes were selected randomly without letting the teachers know beforehand that they would be observed in that particular session in order to prevent any excessively unreal ICT use in that session. The total time of ICT use in classes was calculated through Nvivo to give a real overview on the ICT use in Malaysia. This data complemented the data analysed by SPSS for the perceptions of teachers and students in using such facilities.

RESULTS AND DISCUSSIONS

The research question of this study is how the role of technology is in secondary education in Malaysia. Base on this main research question the following results are revealed for the four sub-questions by using SPSS and Nvivo softwares. SPSS helped in statistical analysis and Nvivo helped in analysis of the real practice of technology use at public high schools in Malaysia. The following results are revealed for the first sub-question, which is about the use of ICT at schools:

- %76 of schools in Malaysia use ICT for education
- %57 of teachers in Malaysian use ICT for education
- %72 of students in Malaysia use ICT for education

These results show clearly that Malaysian high school educational system is invested on equipping the school with technologies. That is, the country knows about the importance of technologies in education and they step on the right track. However, the number of teachers who use ICT in education still has a lot to reach to the worldwide acceptable level. It shows that about half of the teachers in the country generally do not use technologies in

education. This may be due to several reasons: lack of familiarity to suitable technologies, lack of enough skills to deal with technologies, lack of technology availability in their school. On the other side, results show that many more Malaysian students use technologies for their educational purposes. The reason can be due to the widespread usage of technologies in the country as a whole and not directly to the school education. (Figure 1) The following results are revealed for the second sub-question, which is about the ICT training at school:

- %39 of the Malaysian teachers claimed not to have received any ICT training.
- %61 of the Malaysian teachers claimed to have received some ICT training.
- %78 of the Malaysian students claimed not to have received any ICT training.
- %22 of the Malaysian students claimed to have received some ICT training.

These results show that although many teachers went under some sort of governmental ICT training, the training was not effective and motivating enough for the teachers to use the facilities. This is due to the other result that many more students have never experienced the use of technologies in their education at schools. This shows that the country only made efforts in equipping schools with facilities without concentrating on training teachers effectively in such a way to be able to take the most advantage of the facilities. (Figure 2)

The following results are revealed for the third sub-question, which is about the preference of using ICT at that school.

- %81 of Malaysian teachers claimed that they prefer the use of ICT.
- %89 of Malaysian students claimed that they prefer the use of ICT.

These results show that both teachers and students tend to use technologies in education and know the positive role of ICT in education. Most participants were well aware that ICT can help in better and faster understanding of the subjects and they believed it can make the education a kind of fun as well. This is one of the main sources of motivation for learning (Majid, 2017). In addition, they believed that supplementary ICT materials can be used in line with traditional methods of teaching rather than merely ICT usage in education. (Figure 3)

The following results are revealed for the fourth sub-question, which is reasons of ICT use at schools:

As research shows (Majid, 2017), most teachers and students of this study also believe that technologies are effective tools in education. They perceive that they are easy to use most of the times so that both teachers and students would be able to use them with no difficulty. They prefer using them as they feel happier and more satisfied in manipulating technologies with some boring

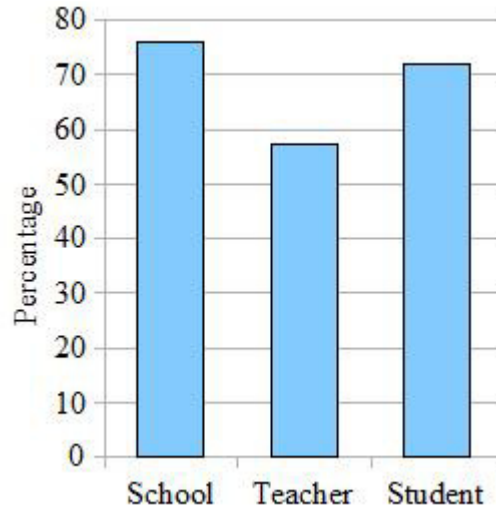


Figure 1. Percentage of Schools, Teachers, and Students in Malaysia That Use ICT for Education

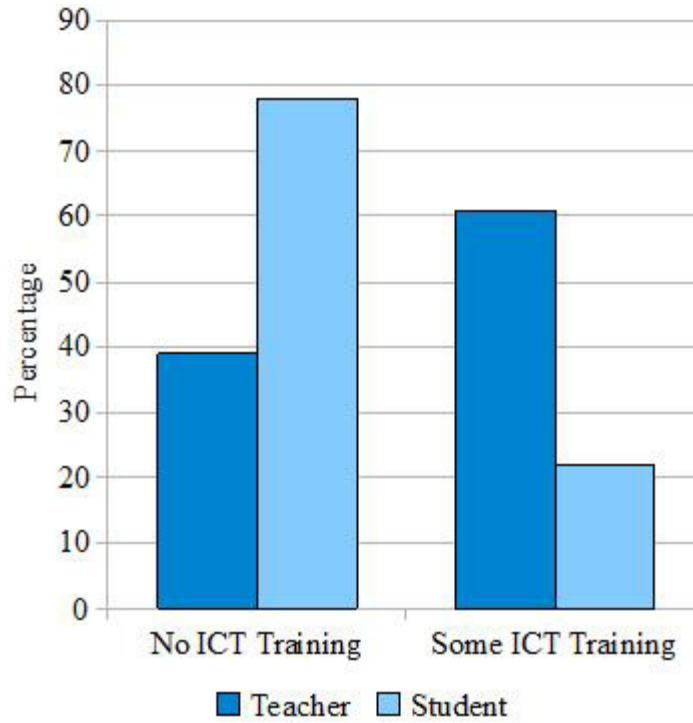


Figure 2. Percentage of Teachers and Students in Malaysia Who Claimed to Receive ICT Training

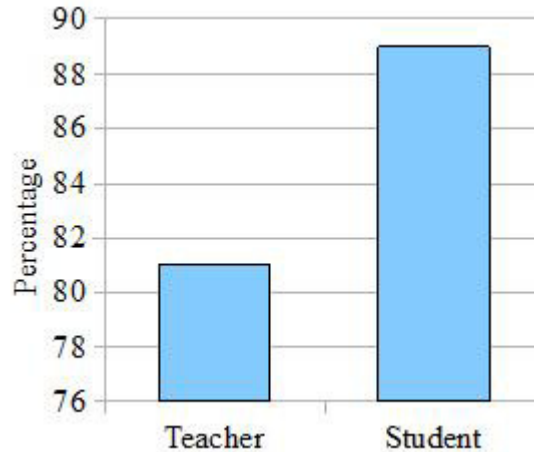


Figure 3. ICT Use Preference Among Malaysian Teachers and Students

Table 1. Advantages and Disadvantages of ICT Use in Schools

Advantage	Disadvantage
User Friendly	Time
More Fun	Training
Organized Teaching	Technical Support
Printing Reduction	Role of Management
	Validity of Information
	Large Class
	Insufficient Computer

or difficult subjects. They also believe that education softwares or programs can help them to track the time and manage the class in an organized way. It also helps in sustainability and it is considered a green movement due to independence to printing and using papers, ink, energy, and time.

Furthermore, this study found some similar advantages to the use of ICT in Malaysian context like other studies (Yunus and Suliman, 2014). In addition, both teachers and students named some disadvantages for ICT use in education which seems to be solvable through more time and practice. Some of the main disadvantages were being sometimes time consuming to first digest the technology by the teacher and then help students to learn through those technologies. lack of enough training in using ICT is also among the first few reasons that teachers most of the times mentioned. The other reasons can be not much technical and encouraging support in using ICT either through school management or the top management at the ministry. It shows that if teachers are motivated, they would willingly use ICT. Validity of the information is another disadvantage, meaning that there is no same authentic

software or program based on the Malaysian syllabus that can be used throughout all schools in the nation. The other reason of difficulty of using ICT can be being difficult to use them in large classes with many students. It means that more facilities are needed for more populated schools and therefore more budgets must be dedicated to this purpose. The last but not least reason among many other reasons can be the old systems and facilities at some schools which need to be updated especially at schools which are located at rural locations, remote regions, and even poor areas of towns. (Table 1)

In the fifth sub-question of this study about the reality of ICT use in Malaysian high schools was measured by help of NVivo software. Based on the analyzed results from NVivo the average of ICT use in secondary schools in Malaysia is only 2 minutes 46 seconds per hour which is about 0.016 percent of the class time. (Figure 4)

This result shows that the perceptions of the teachers and students in the use of ICT in education is far less than what in reality is happening in Malaysian high schools. It shows that although both teachers and students know the necessity of ICT in the improvement of

% 0.016 of ICT Use at the total time of Classes

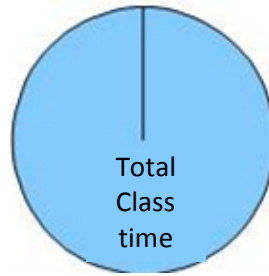


Figure 4. ICT Use in reality at Malaysian Public High Schools

education, due to many above mentioned reasons, they fail to use ICT in real contexts properly and fruitfully.

CONCLUSION

The application of technologies in teaching and learning has raised education to a new phase by improving the quality of education in the world. In case of Malaysia, the results of this study interestingly showed that perceptions and the real practice of ICT use do not match.

The following conclusions are the main facts that this study shed light on:

- The use of ICT at Malaysian high schools is perceived to be highly welcomed.
- Malaysian high school teachers and students do not receive proper ICT trainings.
- Malaysian high school teachers and students prefer to use ICT in education.
- There are advantages and disadvantages in ICT use at Malaysian high school educational systems.
- ICT has a very light usage in the Malaysian secondary education in reality.

Following the discussed conclusions will help in realizing more needs in the application of ICT in Malaysian Educational system. This research can give a true insight to Malaysian educational authorities to have an overview on the general perceptions of teachers and students on the ICT use at schools and assist them to come up with effective solutions to get more benefits from ICT in education. The paper is concluded by reaffirming the need for increased digital access and awareness in the Malaysian context.

The implications that can be taken from the results of this study are that both teachers and students are aware that ICT can help them in teaching and learning. It is more effective if teachers change their teaching methods and use more ICT in classes. On the other hand, it is

more effective if students use more ICT for better learning and understanding in their lessons. It is recommended that the Ministry of Education take more steps to train teachers and encourage them to get more use of ICT in their classes in order to achieve a higher standard of teaching and learning in Malaysia.

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