



ICT Literacy Among Teachers for Integration in Teaching and Learning

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ABSTRACT

Information and Communication Technology (ICT) has been introduced to many aspects and widely used in many schools in Malaysia. The usage of ICT possibly will support not teaching and learning process at school but also assist teacher in manage daily task. Hence, this study aims to identify teachers' behavioral of teachers to accept ICT in three secondary schools in Sungai Petani Kedah namely Sekolah Menengah Sungai Layar, Sekolah Menengah Khir Johari and Sekolah Menengah Ibrahim. The study propose to use quantitative methods to find out factors that influence the behavioral of teachers to accept ICT and teachers' ICT integration levels in teaching and learning process. This study applies descriptive method and the basic reason for carrying out the descriptive research is to identify the acceptance of teachers towards ICT. This study is self-assessed by the respondents. Evidence is collected through modified questionnaire to collect quantitative data which is then analysed by the Statistical Product and Services Solutions programme. The result of the study may provide proper information and recommendation towards ICT development in school and among teachers.

Keywords: Information Communication Technology (ICT), ICT in teaching and learning, ICT literacy, teachers' ICT knowledge

1.0 Introduction

Schools should endeavour ICT in order to provide teachers with adequate access to ICT facilities for the purpose of planning and preparing for their teaching. There are many schools intent to have teachers with ICT knowledge by providing such facilities in teachers' rooms or in work rooms such as projector, PCs, software application and so forth. It should be remembered that the provision of facilities in individual classrooms could also provide teachers with access to ICT for planning and preparation before teach the students and not just during teaching process. Consideration could also be given to acquire a small number of laptop computers, or other mobile facilities, that could be used by members of the staff at school or at home, as necessary

ICT is able to increase the education quality and also speed up the education process based on students ability. According to Ghavifekr and Ibrahim (2015), the use of ICT in education will greatly assist the development of teachers as well as the students in terms of attitudes, abilities and skills related to effective use of ICT.

ICT implementation can make teaching and learning more interesting and able to attract student's interest. The sophistication of ICT and advancement of technology-based in teaching and learning may offers various interesting method which include educational videos, stimulation, storage of data, the usage of databases, mind mapping, guided discovery, brainstorming, music, worldwide web (www) and it will make the learning process more fulfilling and meaningful (Finger & Trinidad, 2002).

1.1 Problem Statement

Issues related to the slow acceptance of technological innovations among teachers are often debated after several years after the innovation was introduced. Study done by Irfan and Amat (2015) found that the teachers' level of ICT integration is still at the low level, although most of the teachers admitted that ICT positively affects their teaching and their students' learning. Ferrari, Punie, and Redecker (2012) interpreted digital competence as a new literacy involving new components and a high degree of complexity. But with a lot of hindrances in the implementation of the ICT focussed programmes, more needs searches need to be carried out, hence the current aimed at investigating the teacher competences in ICT with a view to inform decision making.

Previous studies by Ng, Miao & Lee (2010) indicated that ICT integration is a complex phenomenon and technology or computer use among teachers is a complicated process. Previous study also identify serious institutional barriers such as school culture privileging

traditional print-based literacies (Tan & McWilliam, 2009). Some studies refer to professional issues that constrain teachers such as insufficient teaching experience, ineffective professional training (Dooly, 2009), simplistic professional views about the role of technology in language education and moral and pastoral obligations of professional identity (Chik, 2011).

1.2 Objectives

1. To identify the behavioral of teachers to accept ICT
2. To determine the factors that influence the behavioral of teachers to accept ICT
3. To examine teachers' ICT integration levels in teaching and learning process

1.3 Significance of Study

For practitioners, they have reference to know their level of ICT in integrating in teaching process and they can find out the method to learn new skill and also new technology. By practicing ICT in teaching and learning, it helps teachers as well students to have new environment in class and interesting method of learning. Based on the previous study by Juanna Risah, Wong and Samsilah (2005), show that the majority of teachers have highly positive attitudes in term of usefulness, confidence, anxiety and aversion toward ICT. This means that teachers are aware of the importance of IT in their teaching and the majority of teachers are able to use some of the sub-domains, which are basic computer operation skills, word processing, spreadsheets and telecommunication in their daily life, or career-related activities.

Other than that, this study may also be used for the researcher to improve or extend the next research in the near future. Based on this study, the teachers may develop themselves by using new technology in class and also administrative task and find the other factors that can help them to engage with ICT in teaching and learning.

2.0 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN TEACHING AND LEARNING

Instructional media tools in education are very important to assist teachers in teaching and learning process. Based on the analyses, the teachers use ICT for different purposes such as for teaching in different kinds of digital software and for administrative purposes, such as providing information through the school's learning management system (LMS) and use e-mail for communicating purpose. According to the teachers, ICT is also used for recording attendance and communicating with parents about students' progress at school (Lindberg et al., 2017). Moreover, Sezer (2016) informed that millennial students which are digital natives prefer to share, collaborate, communicate and active learning approaches.

Instructional tools used in schools assist teachers deliver knowledge well to the students. Students also need a good environment to receive knowledge given by the teachers. Therefore, in digital era right now, Information Communication Technology (ICT) among the important element to be included in teaching and learning process in class. Many teachers can benefit from online learning owing to the combination of their busy schedules and the online format's convenience (Ching & Hursh, 2014; Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2009).

2.1 Acceptance of ICT Among Teachers

Every teachers accept the phenomenon of ICT with different attitudes especially teaches with different generation and ICT literacy skill. Previous studies indicated that ICT integration is a complex phenomenon (Ng, Miao & Lee, 2010) and technology or computer use among teachers is a complicated process (Chen, 2010). The implementation of technology initiatives in Malaysian education systems, reported by Ismail, Zakaria and Aziz (2007) that teachers' level of technology integration is still low. A previous study proposed that research on Internet behavior is still in an early stage and that, to proceed to more substantial stages, researchers in the field should have access to validated instruments capable of illuminating the benefits and drawbacks of e-learning (Teo, 2010). It means familiarising students with technology tools, turning textbook content into interactive lessons online and making a requirement for students to complete their homework electronically.

The components in digital age literacy skill covers basic literacy, scientific literacy, economical literacy, environmental literacy, ICT literacy and global awareness. Global awareness is the ability to understand and identify the relationship between organization, country, community and economic as well as social culture group within the community and individual in the global world. Previous study has shown there is a trend for teachers to merely cultivated new technology based on traditional practices rather than embrace transformative models of exploiting the pedagogical affordances of new educational technologies (Brown, 2015). Despite this, teachers rarely have access to specific guidance or support on how to make twenty-first century goals come to fruition in the classroom (OECD, 2015).

Other than that, there are also teachers who involved their feeling of control in implementing ICT. Study done by Salleh (2016), finds that attitudes of teachers towards the usefulness of ICT in teaching and their feelings of control are more essential for the implementation of ICT in teaching instead of usage of technology-based. In addition, teachers try to manoeuvre between the expectations of others and their own beliefs, concerns, emotions

and knowledge about the advantages and disadvantages of using ICT for teaching and learning would seem to be vital (Fransson, 2016).

2.2 Level of ICT Among Teachers

According to Ministry of Education (2012), the use of ICT in teaching and learning process as well as in managing educational institutions and administrative sectors are the prerequisites for making Malaysia a high-income countries. In addition to that, Ministry of Education has allocated substantial funds for ICT use in school. The need for effective ICT-based curriculum is one of the main elements in strategic planning for ICT integration in the Malaysian education system. This will ensure that technology investment decisions are optimized in the system and well planned (Suhaimi et al., 2007). Creative, collaborative and recordable communications techniques are essential for the next generation to interact in social, cultural, economic and intellectual careers and life.

The use of ICT in classroom helps in the explanation of difficult concepts so students' are able to easily understand those concepts. The integration of ICT in education can takes several forms such as information and computer networks, digital content, internet sites, multimedia and others. ICT integration can be defined as ICT use in classroom teaching (Lloyd, 2005). Previous literatures on teachers' skills and ICT integration in the classroom (Cavas et al., 2009) have shown that there are significant positive relationships between teachers' ICT skills and frequency of ICT use.

Malaysia education system has emphasized the use of ICT in classroom and it will make teachers require ICT literacy in order to use it as instructional media tool for teaching and learning process. ICT includes a wide range of approaches to teaching based on various traditional and innovative instructional theories (Ling Pick Yieng & Rohaida Mohd. Saat, 2013). However, the usage of ICT in class is not fully practiced. This barriers due to attitude of teachers and it will reflect the school culture and affect a personal belief or self-efficacy of teachers and the bestow impact of using technology in the classroom. Samira, Faizah and Marzila (2013) highlighted that the use of technology in the classroom is also much related to attitudes of teachers towards the technological barriers inherent in the traditional deployment of technology in schools.

Some researchers (Snoeyink and Ertmer, 2001–2002; and Zhao et al., 2006) believe that teachers' adaptation of technology are influenced by their skills and beliefs about technology. Thus, Samira, Faizah and Marzila (2013) found most of the teachers claim they can also accomplish tasks using technology quickly. This finding shows that the teachers have

a sound knowledge in the use of technology and in using the technological devices in the classroom, for teaching and learning purposes.

3.0 METHODOLOGY

The data are collected from three secondary schools namely Sekolah Menengah Sungai Layar, Sekolah Menengah Khir Johari and Sekolah Menengah Ibrahim. These three schools are balance in term academic and co-curricular activities in Kuala Muda district. In addition, these schools are among aged schools in Sungai Petani and also many achievements have been accomplished. This study is self-assessed by respondents. The questionnaire is adopted from previous study. There are two parts of questionnaires namely demographic profile (PART A), and 3 sections in Part B which are behavioral of teachers to accept ICT, factors that influence the behavioral of teachers to accept ICT and ICT integration levels in teaching and learning process.

This study used cross sectional survey; it involves data collection at one point in time from a sample or from more than one sample representing some populations. A questionnaire is chosen as data collection instrument. Nominal scale is used to perform demographic measurement. Meanwhile, to examine the teachers' behavioral of teachers to accept ICT, likert scale from one to five is also used that ranked from (1) strongly disagree to (5) strongly agree due to that it provides respondent with freedom to answer and give more information than nominal data (Mitchell & Jolley, 2007).

The responses to the structured close-ended questions are rated in percentages. The percentage of respondents for each alternative was given and analysed. The data collected is analysed using the computer software known as Statistical Product Services Solution. The used of Statistical Product Services Solution version 25.0 can analyse the data via graph, bar chart and pie chart. The minimum errors give the best result.

4.0 Benefits/ Anticipated Outcome

The purpose of this study is to identify the level of ICT among teachers and intention to integrate ICT in teaching and learning. This study with anticipation to measure the usage of ICT among teachers which almost all school use the technological devices every day. All of them use the Internet regularly, and they are expected have knowledge for using the technology in teaching and learning. Respondents also are anticipated in their view that it is easy to become skillful at using these technology and can integrate in teaching and learning process and also in their daily task.

5.0 Conclusion

Awareness of teachers towards ICT is important and also an added advantage to the implementation of ICT related programmes. With the advent of Information and Communications Technologies (ICT) in education, teachers form their own beliefs about the role of ICT as a teaching tool, the value of ICT for student learning outcomes and their own personal confidence and competency (Prestridge, 2007). Begin from education program in institution, it is must to update skill of ICT among teachers include knowledge level, behaviour and attitude as well as facilities and capability to achieve the high standard.

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