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FOREWORD

Welcome to the 10th volume and 1st issue of the ESTEEM Academic Journal (EAJ), an online peer-refereed academic journal of engineering, science and technology.Since the beginning of this year, a number of articles have been sent to us; some of which still being under review in their first or second phase, and the first eight of them are being published now, others following in the subsequent issue. Article submissions came from different UiTM branch campuses across the country and the manuscripts covered a wide range of engineering, science and technology topics, all of them being interesting and innovative.

First and foremost, we would like to extend our sincere appreciation and utmost gratitude to Associate Professor Dr. Ngah Ramzi Hamzah, Rector of UiTM (Pulau Pinang), Dr. Mohd Mahadzir Mohammud@Mahmood, Deputy Rector of Academic Affairs and Dr. Mohd Subri Tahir, Deputy Rector of Research, Industry, Community & Alumni Network for their generous support towards the successful publication of this issue. Not to be forgotten also are the constructive and invaluable comments given by the eminent panels of external reviewers and language editors who have worked assiduously towards ensuring that all the articles published in this issue are of the highest quality. In addition, we would like to thank the authors who have submitted articles to EAJ, trusting Editor and Editorial Board and thus endorsing a new initiative and an innovative academic organ and, in doing so, encouraging many more authors to submit their manuscripts as well, knowing that they and their work will be in good hands and that their findings will be published on a short-term basis. Last but not least, a special acknowledgement is dedicated to those members of the Editorial Board who have contributed to the making of this issue and whose work has increased the quality of articles even more. Although there will always be cases in which manuscripts will be rejected, our work so far has shown that the board members' motivation has been, and will be, to make publications possible rather than to block them. By means of intensive communication with authors, academic quality is and will be guaranteed and promising research findings are and will be conveyed to the academia in a functional manner.

Dr. Chang Siu Hua
Chief Editor
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ICT INTEGRATION IN CLASSROOMS: THE EDUCATORS' PERSPECTIVE BASED ON THEIR SCHOOL AND HOME ICT USE

Johan @ Eddy Luaran[1], Ahmad Danial Mohd Ghazali[2] and Jasmine Jain[3]

[1,2]*Faculty of Education, Universiti Teknologi MARA.*
[3]*School of Education, Taylor's University.*
[1]*johaneddyluaran@gmail.com;* [3]*jasmynjain@gmail.com*

ABSTRACT

The development of Information and Communication Technology (ICT) influences much of our culture and lifestyle. The application of technology in teaching and learning gives a new paradigm in teacher's teaching techniques. Previous studies have proven that the application of ICT has been able to revolutionize teachers' teaching techniques and pupils' learning method. Therefore, this study was conducted to a selected number of secondary school teachers to investigate their utilization and ICT integration into classrooms. The nature of this study is quantitative, where questionnaires were utilized to collect data from 54 teachers. This study aimed to find out the availability of ICT equipment to the teachers both at home and school. Besides that, teachers' ICT usage and their attitude towards ICT integration for teaching and learning were probed. The main finding of this study is despite the availability of ICT equipment in schools, these facilities has been underutilized by the teachers. In regard to teachers' attitude towards ICT integration in their classrooms, results showed that the teachers highly acknowledged the importance of ICT, enabling more interesting lessons. In general, this study revealed fairly similar perceptions about the usage of ICT issues in secondary schools as raised in this paper. It is hoped that this study provides insights on ICT issues and motivate teachers to integrate ICT into their teachings in fostering students' overall development.

Keywords: Information Communication Technologies (ICT); computer literacy.

1. INTRODUCTION

The effort on leveraging the usage of information and communication technologies (ICT) in teaching and learning has been greatly emphasized since the last decade, visible through the financial allocation provided by the Malaysian government. The figure for financial allocation has since increased, where the latest report by Ministry of Education (2012) reported that more than RM6 billion has been spent on ICT over the past decade under the education initiatives. Despite all the vigorous efforts, it is disappointing to find that only about 30% of the teachers who had undergone ICT training actually integrated the ICT in their teaching and learning process (Ministry of Education, 2010). The teachers use the facilities only as audio-visual material or to conduct computer literacy classes.

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Findings in previous researches have displayed concrete understanding that despite the efforts taken to elevate the integration of ICT in schools, there has been disappointing slow uptake in schools (Kandasamy & Parilah, 2013). However, such efforts should be seen as a stepping stone to foster more usage of ICT in schools as research findings over the past 20 years provided evidences on the positive effects of ICT on pupils learning.

ICT as an enabler for meaningful learning has been widely acknowledged. The integration of ICT into teaching and learning is able to cater for various types of learners as they are learnt meaningfully through interesting lessons. Apart from the pedagogy, ICT has penetrated into the educational management in the educational system. The hierarchy in educational management from federal educational management to the school management requires the latest technological advancements in planning, organizing, leading and controlling educational organizations. The relation between stakeholders and the school can be built through a better communication channel. Hence, ICT is the best tool for communication among them (Enamul, Zabidi, & Fatema, 2012).

It is vital that teachers understand the importance of ICT and fully utilize it in their work. Teachers must take on this challenge and integrate ICT as part of their teaching in ensuring that Malaysian education system is kept abreast with the advancement of technology and the availability of modern teaching equipments. Despite so much iteration on the benefits of ICT integration into the educational system, the report on the utilization of ICT resources and facilities are scant. Besides that, framework focusing on enhancing ICT integration into teaching and learning and how these facilities assist school management have been left underexplored (Enamul et al., 2012). The present study examines the utilization of ICT in teaching and learning from teachers' perspectives in the attempt to address these gaps.

1.1 The Importance Of ICT In Education

The Information & Communication Technology (ICT) has become one of the significant tools in enhancing language learning process in the educational area (Hafizoah, Haslinda & Raha, 2005). ICT has been immeasurably significant in educational settings, claimed to enhance learning process and at the same time, prepares students for future technology advancement. The integration of ICT in teaching and learning has revolutionized the educational system worldwide. However, there still exist gaps in the usage of ICT among local school teachers despite government's extensive efforts to bring ICT to the secondary school classroom through school computerizing programme (Fariza, Mokhtar, & Samsilah, 2009).

As a large proportion of the educational software produced in the world market is in English, it is prudent for English teachers to make use of the advantages in learning ICT (Light, 2009). It is vital then, for English language learners to master computer literacy as the dominant language of the internet is already in English. With that, ICT in English classroom will be efficient because while learning to use the ICT, students will be able to learn English better at the same time. The use of ICT in English learning and teaching has been recognized because using the Internet to learn a language can compensate for the lack of communication with native speakers and can create wide opportunities for learning enhancement (Kavaliauskienė & Kaminskienė, 2010).

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2. PURPOSE OF THE STUDY

The purpose of this research is to provide input on the availability of ICT in school and home of teachers; and to probe the usage of ICT and the attitude of teachers toward the integration of ICT in Malaysian secondary schools. This study attempts to answer the following questions:

What types of ICT equipment are available in both the home and school of the secondary school teachers?

Are the ICT equipment at home and in school fully utilized by teachers?

What are teachers' perceptions towards the utilization of ICT in classroom?

To answer the research questions posed, questionnaires were administrated. The questionnaire consisted of four sections namely; Section A: Respondents' Demographic Profile; Section B: Questions about the ICT Infrastructure Facilities in the Respondents' Home and Schools; Section C: Questions on the Respondents' Utilization of ICT at Their Home and Schools, and Section D: Questions on the Attitude and Perception of Teachers toward the Integration of ICT into Classroom.

2.1 Sample

The samples of this study consist of 54 secondary school teachers from three schools in Shah Alam- a district of Selangor, Malaysia.

3. RESULTS

3.1 Demographic Factors

The data that were collected focused on several aspects which were the gender, age, marital status of the respondents, respondents' highest academic qualification, duration of teaching experienced, frequency of accessing the Internet and the experience in using the Internet.

3.2 Availability Of ICT At School

The findings in Table 2 show that although most of the ICT equipment is available in respondents' schools, these facilities have been largely left underutilised. There are also respondents who claimed that their school do not provide desktop computers and laptops. If a school does not have ICT equipment, integration of ICT into classroom can hardly be achieved.

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Table 1: Respondents' Demographic Data.

	Frequency	Percent (%)
1. Respondents' Gender		
Male	33	61.1
Female	21	38.9
Total	**54**	**100.0**
2. Respondents' Age		
21 – 30	24	44.4
31 – 40	6	11.1
41 – 50	18	33.3
51 – 60	6	11.1
Total	**54**	**100.0**
3. Respondent's Marital Status		
Married	30	55.6
Single	24	44.4
Total	**54**	**100.0**
4. Respondents' Highest Academic Qualification		
SPM	6	11.1
Diploma	3	5.6
Degree	42	77.8
Master/PhD	3	5.6
Total	**54**	**100.0**
5. Respondents' Duration of Teaching Experience		
Less than 1 year	12	22.2
1 – 5 years	15	27.8
6 – 10 years	6	11.1
More than 15 years	21	38.9
Total	**54**	**100.0**
6. Respondents' Frequency in Accessing the Internet		
Everyday	39	72.2
Weekly	9	16.7
Sometimes	6	11.1
Total	**54**	**100.0**
7. Respondents' Experience in Using the Internet		
1 – 2 years	3	5.6
2 – 3 years	3	5.6
More than 4 years	48	88.9
Total	**54**	**100.0**

Table 2: Availability of ICT at School.

	Item	Availability		
		Yes (%)	Yes, but I don't use it (%)	No (%)
a)	Desktop computer	66.7	22.2	11.1
b)	Portable laptop	50.0	11.1	38.9
c)	Internet connection	94.4	5.6	0
d)	Printer	72.2	27.8	0
e)	External disk	44.4	11.1	44.4
f)	LCD projector	50.0	33.3	16.7
g)	Remote presenter	33.3	22.2	44.4

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3.3 Respondents' Use Of Computer At School

It is apparent from Table 3 that the number of teachers who do not perform school work via computers in school is quite high. Only 11.1% of the respondents do it almost every day. On top of that, the result clearly showed that the respondents do not use e-mail, online forum and do not chat when they are in school. Majority of the respondents also did not use the ICT facilities available in school for Internet browsing or file downloads which are 66.7% and 83.3% respectively. Other than that, the respondents also never or hardly maintain a personal website or blog nor participate in online forums constituting of 83.3% and 94.4% respectively.

Table 3: Respondents' Use of Computer at School.

	Activity	Never or hardly ever (%)	Once or twice a month (%)	Once or twice a week (%)	Almost every day (%)
a)	Do schoolwork on the computer	27.8	27.8	33.3	11.1
b)	Use e-mail client	55.6	16.7	27.8	0
c)	Use chat software	66.7	22.2	11.1	0
d)	Browse the Internet for fun	66.7	5.6	11.1	16.7
e)	Download music, films or games	83.3	16.7	0	0
f)	Maintain a personal website or blog	83.3	11.1	0	5.6
g)	Participate in online forums	94.4	5.6	0	0
	Average	68.3	15.1	11.9	4.8

3.4 Respondents' Ability To Complete Tasks

From the data in Table 4, majority of the respondents (44.4%) claimed that they can edit digital photographs or other graphic images with assistance from others. However, 55.6% of the respondents said that they know what database is but they were not well-verse with it. Next, 33.3% of the respondents said that they can create spreadsheet on their own while another 33.3% said that they can create it but with assistance. On the other hand, majority of the respondents said that they can create presentations by themselves which is 66.7% of the respondents. Lastly, 44.4% of the respondents can create a multi-media presentation by themselves.

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Table 4: Respondents' Ability to Complete Tasks.

	Task	I can do this very well by myself (%)	I can do this with some help (%)	I know this but I can't do it (%)	I don't know what it means (%)
a)	Edit digital photographs or other graphic images	22.2	44.4	27.8	5.6
b)	Create a database (e.g. using Microsoft Access)	11.1	11.1	55.6	22.2
c)	Use a spreadsheet to plot a graph (e.g. using Microsoft Excel)	33.3	33.3	22.2	11.1
d)	Create a presentation (e.g. using Microsoft PowerPoint)	66.7	16.7	16.7	0
e)	Create a multi-media presentation (with sound, pictures, video)	44.4	38.9	16.7	0
	Average	35.5	28.9	27.8	7.8

3.5 Respondents' Ability To Complete Tasks

Figure 1 presents the respondents' out-of-class computer usage in school. Highest range of computer usage outside the classroom is 28% which is about half an hour a week. It is then followed by 22% of the respondents who claimed that they use the computer about two hours a week while another 22% said that they never use the computer outside classroom lessons in school. 17% of the respondents on the other hand responded that they used the computer for about an hour a week outside classroom. The least is 11% of the respondents who claimed that they use the computer outside classroom lessons in school about three or more hours a week.

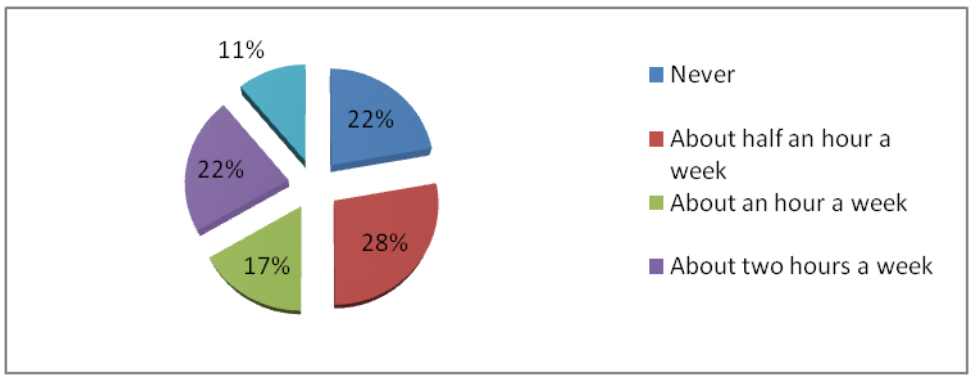

Figure 1: Respondents' Usage of Computer outside Classroom Lessons in School.

3.6 Respondents' Attitude Towards ICT

Based on Table 5, the mean of all the items calculated are 3 and above, inferring a positive result on the respondents' attitude towards the integration of ICT. The highest mean is found in Item 1 which states that "It is very important for students to learn using ICT" (4.28) followed by Item 2 "It is more fun for students when working with ICT devices" (4.22). The

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lowest mean is found in Item 5 which states that "It is easier to work with computers than using the textbook" (3.33). Overall, the results indicate that the respondents are positive towards integrating ICT in their teaching and learning.

Table 5: Respondents' Attitude towards ICT.

Item	Statement	Mean	Standard Deviation
1	It is very important for students to learn using ICT	4.28	0.74
2	It is more fun for students when working with ICT devices	4.22	0.72
3	It is very interesting to integrate ICT into teaching	3.83	0.97
4	I lose track of time when I am working with ICT	3.00	0.95
5	It is easier to work with computers than using the textbook	3.33	1.01

4. DISCUSSION

4.1 Availability Of ICT

The results showed that although majority of the respondents have the ICT equipment available at home and in school, majority of them did not fully utilise the available facilities whether at home or at school. It also indicates that 50% of the respondents answered that their schools do not have LCD projector installed. This is contrary to Lau and Sim (2008) research stating that "a wide range of ICT such as laptop, LCD projectors, trolley with speaker and UBS system, as well as software like power point, flash and interactive courseware have been used to support teaching and learning of Mathematics and Science throughout schools in Malaysia."

According to Hoque, Razak, and Zohora (2012), in their research, 84% of the teachers are not aware of national ICT policy despite its existence. Findings show that most of the schools (80%) do not have ICT policy at the school level though the facilities and equipment of ICT are available in most Malaysian schools. Since teachers are not aware of the policy, it may potentially cause them not to adopt ICT in their teachings.

4.2 Utilization Of ICT

When the respondents do not use the ICT equipment at home, it is possible for them not to use ICT equipment in school. At home, majority of the respondents would rather browse Internet for leisure, followed by doing schoolwork. When in school, the results show that majority of the respondents do not use ICT equipment to accomplish any activity. This clearly shows that the respondents are not optimally utilising the ICT equipment. The results are parallel with the report from Ministry of Education (2012) which states that only a third of the students perceive their teachers to be using ICT regularly. The Ministry also stated that the 2012 UNESCO review found that ICT usage has not gone any further than the use of word-processing applications as an instructional tool.

Other than that, the results show that the respondents are able to work with the computers quite well. Majority of the respondents have the ability to do tasks with computers. This proves that although they can do the tasks, they would rather use the conventional textbook-

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based learning rather than integrating ICT into their teaching. Majority of the respondents can create database, presentation and multimedia presentation on their own. They can also edit digital photographs or other graphic images, and use a spreadsheet to plot a graph,

4.3 Teachers' Attitude Toward The Integration Of ICT Into Classrooms

The results are very promising as majority of the respondents agree that the integration can be very interesting and fun for the students. This corroborates with Lau and Sim (2008) research stated "teachers broadly agree that use of ICTs makes them more effective in their teaching". However, majority of the respondents were afraid that if they bring in the ICT equipment into the class, students will vandalise the equipment. It could be that the respondents do not use ICT equipment in teaching fearing that students will not cooperate well and vandalise the equipment. The results of this research are parallel with Hoque et al. (2012) research in 2012 which stated "ICT is not used appropriately and effectively in schools". Even though the respondents have the required skill to administer a class using ICT equipment, they simply do not do it. Hence, teachers are not utilising the ICT equipment even if the equipment is provided.

5. CONCLUSION

It can be concluded that the teachers do not really utilize the ICT equipment provided in school. However, the respondents look at ICT as an enabler for effective teaching. The teachers willingly participated in providing useful data and information through the questionnaires that were distributed by the researcher. Many of the respondents agreed and support the idea of using ICT as a teaching medium in classrooms' instructions. It can also be concluded from the attitudes of the respondents towards ICT integration that they viewed ICT as an important, fun and interesting tool that can help and benefit the teaching and learning process.

In a nutshell, the findings have laid out a foundation on the positive attitude educators have about teaching with technology but there are still other loopholes that are apparent. It is hoped that the use of ICT in the process of teaching and learning will be explored more in further improving the quality of education in Malaysia. The opportunity that ICT can offer when integrated wisely in education is believed to be overwhelming as the nation moves towards future development, homogeneous with tomorrow's technology. Nation's development can be shouldered by equipping educators and students with ICT skill, an inextricable skill of 21st century.

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