

ICT Needs and Patterns of Use across four Malaysian Universities

ABSTRACT

The proposal to undertake major reforms in universities to cater to the need of the so-called “digital natives” has revealed that the belief that there is a homogenous generation of university students highly skilled in the usage of technology is untrue. Instead these students seem more inclined to use technology for social rather than academic purposes. In Malaysia, the use of technology in learning English as Second Language (ESL) has generally been well received. However the characteristics of the “digital natives” have not been clearly defined until recently when Author 1 et al. (2014) undertook a study to investigate patterns of ICT needs and computer use of students in a public university in Malaysia. Their findings are somewhat similar to those of other countries but they differ in that they found students to show a preference for the teacher-centred approach. The current study extends on this by undertaking a study involving four different types of public universities. A questionnaire designed by the research team was used to collect data which were analysed quantitatively using SPSS. The findings indicated a great deal of similarity in patterns of use and perceptions among the students from the four universities. They also reinforced the general belief that Malaysian students have high respect for their teachers and are reluctant to criticise them openly. However, there were some variations which suggest that students from older research universities are more self-reliant and students from newer universities, more receptive to the use of technology for learning ESL.

Keywords: digital natives; technology and learning; perceptions of technology use; teacher-centeredness

INTRODUCTION

At the end of the 20th century, it was proposed that there was “an urgent need to recognize and adapt to the characteristics of a new generation of students” (Smith, 2012, p. 2) labelled as ‘digital natives’. Various other terms like ‘Net generation’, ‘Y-generation’ and ‘Millennials’, have been used to refer to them and characteristics ascribed to them include being tech-savvy, multi-taskers, team-oriented and collaborative and (Smith, 2012). Proponents of the notion of “digital natives” further contend that their early exposure to technologies makes them think and act differently compared to the pre-ICT generation or the “digital immigrants” (Prensky, 2001, p. 3). They argue that teachers and educational institutions need to transform their methods of delivery and knowledge content in order to accommodate the different needs and ability of this new generation of learners. However, recent studies undertaken on the “digital natives have revealed that they are not a homogenous group in term of level of access and usage of technology. There was also evidence of a tendency to use technology for social purposes rather than academic purposes (Hew, 2011; Madge et al., 2009; Selwyn, 2009). This clearly suggests that the concept of “digital natives” warrants further investigation.

Studies on the use of technology in learning English have generally revealed positive influence of technology on learning (Afendi et al., 2012; Author 1 & Bidmeshki, 2010; Author 1 et al., 2013; Author 1 et al., 2012) however, no Malaysian studies have actually attempted to identify the key characteristics of Malaysian “digital natives” in terms of needs and patterns of technology use in learning English until Author 1 et al. (2014) explored the characteristics of “digital natives” in one public university in Malaysia, i.e. Universiti Kebangsaan Malaysia. Their findings are not very different from studies undertaken in other countries. Generally they found them to use a limited range of technology and this usage was more for social purposes than for academic purposes. Their findings differed from the other contexts in that they found them to show a preference for the teacher-centred approach despite showing very positive responses towards the use of technology for language teaching and learning. The current study extends on this by undertaking a nation-wide study to find out whether the findings from UKM, a premier research university located the heart of the Klang valley, is similar to other geographically different and diverse public universities located in various parts of Malaysia – Universiti Sains Malaysia (USM), the only Malaysian APEX-rated university located in the northern region of Peninsular Malaysia; Universiti Malaysia Sabah (UMS), a comprehensive university located across the South China Sea in East Malaysia; and Universiti Malaysia Kelantan (UMK), a focused university located in the East coast of Peninsular Malaysia. The focus and strength of each of these universities are different, thereby lending scope to this study (more information regarding types of universities in Malaysia will be provided later in Table 1). Before describing the Malaysian setting in greater length, the next section provides a brief overview on students’ perceptions of technology use in various parts of the world in order to set the scene for this study.

STUDENTS’ PERCEPTIONS OF TECHNOLOGY USE IN INTERNATIONAL SETTING

Some researchers are beginning to be sceptical about the argument that digital natives in generally have strong affinity towards the use of technologies in their learning as empirical studies from various parts of the world have found that students varied considerably in terms of access, usage and perceptions of technologies. Kennedy et al. (2008) and Thinyane’s (2010) studies for instance, found considerable variations in the patterns of technology access among their respondents. Among the 11 technologies listed in Kennedy et al.’s study, the majority of the Australian respondents had unrestricted access to seven of them (mobile phones, desktop

computers, digital cameras, memory sticks, MP3 players, laptop computers and broadband Internet). However, many did not have access to PDAs and wireless Internet. Thinyane on the other hand discovered that the majority of her South African respondents had unrestricted access to only four (mobile phones, memory sticks, Bluetooth modems and desktop computers) of the technologies listed and most respondents did not have access to dedicated video game consoles, web cams and PDAs.

Other researchers also found diversity in the patterns of technology use. Corrin et al. (2010) who examined Australia's university students' access and usage of technology in the contexts of everyday life and academic study, found that they used a wide range of technologies and used them more frequently in everyday life than in the academic context. Their results further revealed diversity in students' technological ability and access to the technologies. In USA, Thompson (2013) observed that the range of technologies her respondents used was fairly limited. Most of the university freshmen were shown to frequently use only two out of the eight groups of digital technologies examined in her study. These two groups were Rapid Communication Technology (such as using cell phones to send text messages) and Web Resources (that includes watching videos online). Majority of them did not or rarely use technologies with educational potential. Jones et al.'s (2010) found active use of technologies among a group of Net-generation age students but they were not able to identify any pattern of homogeneity in usage. Thus, it would appear that there is "a complex picture of minorities" (Jones, 2010, p. 731) who would frequently engage in a wide range of technology uses but did not display the kind of participation and generational homogeneity as described by the advocates of the concept of digital natives.

In addition to that, some studies revealed that their subjects differed from what is expected of digital natives in term of perceptions of the use of technology in learning in the classroom. Kvavik and Caruso's (2005) and Margaryan et al. (2011) found that their subjects preferred traditional teacher-centred approach to learning to the more autonomous approach to learning involving the use of technologies. The studies reviewed above provide empirical evidence to refute the existence of a homogenous generation of students called the digital natives who all have strong affinity towards the use of technologies in learning. In the Malaysian context it is also generally believed that the current generation of undergraduates is ICT savvy and hence desires the use of technologies in teaching and learning and this has led to initiatives from the Government to promote the use of technologies in schools and universities. Thus, it is essential to find out to what extent this belief is true so that any future initiatives undertaken are firmly established on empirical evidence. This motive serves to be driving force behind this research study. More information regarding the Malaysian scenario is given in the next section.

THE MALAYSIAN SCENE

The use of Information and Communications Technology (ICT) is central to Malaysia's vision of attaining a developed nation status by the year 2020. In view of this, the government has called upon educational institutions to equip students with relevant ICT skills and knowledge which would ensure quality human capital. The government's call for the diffusion of technology in the education system is not only limited to schools but also institutions of higher learning. In charting the direction of Malaysian higher education for the future, the Ministry of Education for example, has identified e-learning as one of the Critical Agenda Projects (CAPs) in the development of quality human and intellectual capital (Mohamed Amin Embi, 2012). The belief that university students are 'digital natives' (Prensky, 2001) may have influenced decisions to promote ICT-based instructional and learning approaches, in many Malaysian universities. A study by Mohamed Amin Embi (2012) on the implementation on e-learning in

26 institutions of higher learning (IHL) revealed that all 26 institutions had a learning management system. It was reported as being widely used for communications, course delivery and production, and content development and administration. In most cases, it was also supported by face-to-face learning. Other studies also revealed the use of web-based technologies to gather materials for class presentations (Chong et al., 2005; Yasmin et al., 2008) as well as for content sharing and management and development sharing (Mohamed Amin Embi, 2012).

However, findings also revealed conflicting perceptions and practice among teachers and students with regard to the use of ICT for teaching and learning. Kaur and Abas (2004), for example, found that university students indicated readiness and commitment for e-learning, however, their teachers found them not committed in their use of online lectures and tutorials for their studies. Mohamed Amin Embi's study (2012) revealed possible reasons for this lack of commitment. He found that students were frustrated in their usage of the e-learning portals due to lecturers' slow online feedback and uninteresting content. Afendi Hamat et al. (2012) and Author 1 et al. (2014) further disclosed that online activities that Malaysian university students embarked on were limited to online activities such as social networking and blogging. Their findings are in line with those in the West which showed that technologies seem to be used more for interacting and communicating with peers rather than for formal learning purposes (Corrin et al., 2010; Thompson, 2013).

THE STUDY

This study intends to extend on the study of Thang et al. (2014) which used a questionnaire survey to explore the patterns and perceptions of use of technology in learning English as a Second Language (ESL) by undergraduates of Universiti Kebangsaan Malaysia, a public university in Malaysia. This study used the same method of investigation on four Malaysian public universities in an attempt to find patterns that will allow the findings to be generalised. The universities involved are Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), Universiti Malaysia Sabah (UMS) and Universiti Malaysia Kelantan (UMK). Specifically, the study seeks to find answers to the following research questions:

- i. What are the perceptions of the usefulness and ease of use of technology in learning ESL of the students from each university?
- ii. What are their perceptions of their teachers' use of technology in teaching English as a Second Language (ESL)?
- iii. What are their perceptions of the usefulness and ease of use of technology for recreation?
- iv. Are there any differences in (i), (ii) and (iii) across universities?

CONTEXT OF STUDY

UKM and USM, are research universities, UMS is a comprehensive university and UMK is relatively new focused university. The public universities in Malaysia according to categories are given in Table 1.

TABLE 1. Categories of Public Institutes of Higher Education in Malaysia

University Category	Characteristics
---------------------	-----------------

Research Universities		
i.	Universiti Malaya	▪ Fields of study focusing on research
ii.	Universiti Sains Malaysia	▪ Competitive entry requirements
iii.	Universiti Kebangsaan Malaysia	▪ Quality lecturers
iv.	Universiti Putra Malaysia	▪ A ratio of 50:50 of undergraduates to post graduates
v.	Universiti Teknologi Malaysia	
Comprehensive Universities		
i.	Universiti Teknologi MARA	▪ Various areas of study
ii.	Universiti Islam Antarabangsa Malaysia	▪ Competitive intake
iii.	<u>Universiti Malaysia Sabah</u>	▪ Quality lecturers
iv.	Universiti Malaysia Sarawak	▪ A ratio of 70:30 for undergraduates to post-graduates
Focused Universities		
i.	Universiti Utara Malaysia	
ii.	Universiti Pendidikan Sultan Idris	▪ A focused field of study
iii.	Universiti Tun Hussein Onn Malaysia	▪ A competitive intake
iv.	Universiti Teknikal Malaysia Melaka	▪ Quality lecturers
v.	Universiti Malaysia Perlis	▪ A ratio of 70:30 for undergraduates and post graduates
vi.	Universiti Malaysia Terengganu	
vii.	Universiti Malaysia Pahang	
viii.	Universiti Sains Islam Malaysia	
ix.	Universiti Darul Iman Malaysia	
x.	<u>Universiti Malaysia Kelantan</u>	
xi.	Universiti Pertahanan Nasional Malaysia	

Source: Adapted from Ministry of Higher Education (2007, p. 91; 2011, p. 26)

In Malaysia, it is generally accepted that students who have high proficiency in English will find it easier to find a job. In view of this all university students in public universities in Malaysia are required to take English courses to help them attain the level of English that are deemed appropriate for the job market. The courses they have to take depend on their English proficiency level on entering the university concerned. Students with low scores in the Malaysian University English Test (MUET), i.e. those with bands 1 and 2, are generally required to take foundation or preparatory courses whereas students with higher proficiency (Bands 3 to 5) usually take only higher level courses. Generally a blended approach is used to teach the students in each university. UKM, USM and UMS have their own learning management systems whereas UMK, a new university, has to depend on free learning management systems such as Moodle. However, all four universities claimed that their teachers are aware of the importance of technologies in enhancing the learning of English and hence use them extensively in their teaching of ESL. The present study is interested to shed more light in this matter too.

METHODS

RESEARCH DESIGN AND INSTRUMENT

The students were required to complete a questionnaire designed by the research team. The questionnaire was based on the experiences of the researchers in the project as well as ideas drawn from a variety of questionnaires in the field (e.g. Margaryan et al., 2011; Thinyane, 2010). The questionnaire which is a descriptive survey with a non-experimental design was used to measure the characteristics of the sample at a certain point in time (Fraenkel et al., 2012). It comprises two sections: Section 1 gathers information on the students' personal

background through a demographic profile; Section 2, which has two parts, collects information on students' patterns of computer use. The first part elicits information on students' ownership and usage of technological tools when learning ESL as well as using the tools for recreational purposes. The Likert scale, with 1 for 'never', 2 for 'seldom', 3 for 'sometimes', and 4 for 'frequently', is used to score the items. The second part investigates students' opinions on the use of technologies to learning ESL. The Likert scale designed for this has 1 for 'strongly disagree', 2 for 'disagree', 3 for 'agree', and 4 for 'strongly agree'. To avoid failure to comprehend and respond appropriately due to a lack of proficiency in English, the questionnaire was translated into Bahasa Melayu (the Malay Language).

Administration of the questionnaire took place at the beginning of the semester during one of the English classes and collected the following day. Students who failed to return their questionnaires on time were required to submit them personally to their course instructors within the following week.

SAMPLE POPULATION

The respondents in this study are students from four universities: UKM, USM, UMS and UMK. The distribution of respondents according to universities is displayed in Table 2.

TABLE 2. Distribution of respondents according to universities

University	Number of respondents	%
UKM	303	25.4
USM	277	23.2
UMS	340	28.5
UMK	273	22.9
Total	1193	100

All respondents were drawn from three academic disciplines: Sciences, Social Sciences, and Economics. However, for this study, disciplines were not taken as a variable. At the time of the study, all the respondents were taking an ESL course conducted by the various universities they enrolled in.

RESULTS

The data obtained from the questionnaire survey were analysed using Statistical Package for Social Sciences (SPSS) version 19. The statistical procedures carried out were frequency counts, item analyses, reliability analyses and ANOVA.

OWNERSHIP AND USAGE OF TOOLS

Based on the frequency analysis, almost all the respondents owned a laptop (98.8%). Other tools that a majority of them possessed were camera phones (96%), and music phone (94.1%). The tools that they least possessed were games console (23.3%), handheld computers (20.9%), and portable games console (19.3%). To identify the most and least used tools, item analysis was conducted. The analysis revealed that the three most used tools include mobile phones, laptops and camera phones while the least used tools are handheld computers, games consoles and portable games consoles.

USE OF TOOLS IN THE LEARNING OF ENGLISH

Eleven tools that are commonly used in English language teaching and learning were examined. They are emails, blogs, Facebook, Skype, Twitter, discussion lists or online forums, learning management systems, digital videos, online submission assessments, particular subject websites and online self-tests, quizzes or practices.

Table 3 indicates the highest mean scores of tools used in learning English by students in each of the four universities. The most commonly used tools across universities were Facebook, emails and online self-tests/quizzes/practices. The scores for Facebook, emails and online self-tests, quizzes or practices hovers between 2.5 to 3 which suggests that these tools were “seldom to sometimes” used for learning English.. However, the mean scores of the other tools are only near to 2 demonstrating that these tools including the learning management system (e-learning portal) were “seldom” used by students in learning English.

TABLE 3. Top 5 tools used in English language learning

No.	Items	UKM	UMS	USM	UMK
1	Facebook	2.94	3.10	3.06	2.91
2	Email	2.82	3.17	2.88	2.34
3	Online self-tests/ quizzes/ practices	2.65	2.43	2.34	2.36
4	Blogging	2.22			
5	Online assessment submission	2.13			
6	Digital videos in lectures		2.46		2.23
7	A subject website		2.36	2.10	
8	A learning management system			2.08	2.18

**Rating scale: 1=never; 2=seldom; 3=sometimes; 4=frequently*

Table 4 presents the lowest mean scores of tools used in learning English by students in each of the four universities. Among the tools used in all four universities, the online discussion forum, Skype and Twitter were less commonly used by students. Even blogging was seldom used. It is also apparent that online assessment submission and a subject website created for students were infrequently utilised by students.

TABLE 4. Bottom 5 tools used in English language learning

No.	Items	UKM	UMS	USM	UMK
1	Digital videos in lectures	2.08			
2	A subject website	1.99			
3	Online discussion forum	1.89	2.17	1.81	1.69
4	Skype	1.69	1.81	1.95	1.53
5	Twitter	1.50	1.75	1.58	1.57
6	A learning management system		2.22		
7	Blogging		1.83	1.78	1.68
8	Online assessment submission			2.02	1.93

USE OF TOOLS IN TEACHING OF ENGLISH

Tables 5 and 6 show the technological tools that have the highest mean scores for each university. Three main tools seemed to be more popular than others – e-mails, online self-tests/Quizzes/Practice and learning management system. However, the mean scores are approaching or below 2.5. This means that these tools were only “sometimes” to “seldom” used by their ESL teachers. Another technological tool that was also moderately used in all the universities (except UKM) is digital videos in lectures. As shown in the Table 5, the mean

scores for use of all tools in the bottom five list are all approaching or below 2.0, which implies the other tools were rarely used by their ESL teachers.

TABLE 5. Top 5 tools used in English language teaching

No.	Items	UKM	UMS	USM	UMK
1	Online self-tests/ quizzes/ practices	2.61	2.29	2.20	2.43
2	Email	2.59	2.45	2.50	2.21
3	A learning management system	2.28	2.37	2.10	2.66
4	Online assessment submission	2.25			
5	Blogging	2.18			
6	Digital videos in lectures		2.35	2.10	2.58
7	Facebook		2.23	2.05	
8	A subject website				2.19

TABLE 6. Bottom 5 tools used in English language teaching

No.	Items	UKM	UMS	USM	UMK
1	Facebook	2.09			1.98
2	A subject website	2.03	2.10	1.93	
3	Online discussion forum	1.93	2.09	1.74	1.75
4	Twitter	1.45	1.42	1.44	1.49
5	Skype	1.44	1.43	1.51	1.39
6	Blogging		1.56	1.53	1.54

OPINIONS ON WHICH TECHNOLOGY TO USE IN TEACHING AND LEARNING OF ENGLISH

Tables 7 and 8 below show the technologies that were preferred by the students in learning English. Emails were most favoured across universities followed by Facebook which was choice of students from all universities except UMK. Some interesting features were revealed through a comparison across universities based on the status and types of universities. It was observed that for research universities such as UKM and USM, the top three types of technologies preferred were are emails, Facebook, and online self-tests/quizzes/practice. For UMS, which is a comprehensive university, the top three preferred technologies were emails, digital videos in lectures, and learning management system. In the case of UMK, which is a focused university, the top three technologies preferred were digital videos, email, and learning management system.

TABLE 7. Top 5 opinions on which technology should be used in teaching and learning of English

No.	Items	UKM	UMS	USM	UMK
1	Email	3.32	3.22	3.15	3.09
2	Facebook	3.11	2.97	2.95	
3	Online self-tests/ quizzes/ practices	3.02			2.94
4	Blogging	2.83			
5	Online assessment submission	2.81			
6	Digital videos in lectures		3.06	2.83	3.12
7	A learning management system		3.00	2.79	3.07
8	Online discussion forum		2.96		
9	A subject website			2.71	2.88

TABLE 8. Bottom 5 opinions on which technology should be used in teaching and learning of English

No.	Items	UKM	UMS	USM	UMK
1	Digital videos in lectures	2.78			
2	A subject website	2.67	2.79		

3	Online discussion forum	2.58		2.57	2.68
4	Skype	2.12	2.14	2.25	2.21
5	Twitter	2.12	2.14	2.08	2.23
6	Online assessment submission		2.83	2.55	2.69
7	Blogging		2.41	2.41	2.51

Interestingly among the list of technological tools with the lowest means scores, there are a few tools that have mean scores approaching 3.0 (i.e. above 2.5) which suggest that the students believed that these tools should also be used for teaching and learning of English too. The items are digital videos, subject website, online assessment submission, and online discussion forums. The findings clearly suggest that the students generally would like to see the incorporation of more technology in the teaching and learning of English.

THE EXTENT TO WHICH STUDENTS USE TECHNOLOGY FOR RECREATION

According to Tables 9 and 10, the students regardless of their universities, appear to have similar tendency in the usage of technology tools for recreation purposes. All of them used Facebook most frequently, followed by emails and blogs. The regular use of these tools indicates the students used them to connect and communicate with others on a daily basis.

TABLE 9. Top 5 tools used for recreation

No.	Items	UKM	UMS	USM	UMK
1	Facebook	3.46	3.61	3.43	3.27
2	Email	2.94	2.84	3.00	2.73
3	Blogging	2.65	2.45	2.59	2.32
4	Skype	2.31	2.25	2.52	2.08
5	Online self-tests/ quizzes/ practices	2.22		2.27	2.13
6	Digital videos in lectures		2.29		

TABLE 10. Bottom 5 tools used for recreation

No.	Items	UKM	UMS	USM	UMK
1	Online assessment submission	2.16	2.15	2.08	1.93
2	A subject website	2.11	2.21		2.05
3	Twitter	2.09	1.96	2.18	2.03
4	Online discussion forum	2.01		2.10	1.91
5	A learning management system	1.97	1.95	2.06	1.98
6	Online self-tests/ quizzes/ practices		2.06		
7	Digital videos in lectures			2.25	

The mean scores of all other items are below 2.5 which suggest that the students only used Skype occasionally for recreation purposes.

OPINIONS ON THE USE OF TECHNOLOGY IN THE LEARNING OF ENGLISH

Items in this section are categorised into three discussion themes: (1) technology makes learning easier, (2) affective effects of technology, and (3) opinion of teachers' use of technology.

Item analysis was conducted on all items and revealed that the top-ranking items are all associated with Category 1. The mean scores of the five highest ranking items (as shown in Table 11) are all above 3.00. This ranking suggests that students from all four universities considered technology as advantageous to their learning as it makes learning easier for them.

TABLE 11. Top 5 opinions on the use of technology for learning

No.	Items	UKM	Rank	USM	Rank	UMS	Rank	UMK	Rank
1	Using technology enables me to learn many new things. (Category 1)	3.58	1	3.50	3	3.65	1	3.67	1
2	Technology has made learning English easier today. (Category 1)	3.50	2	3.52	1	3.54	2	3.59	2
3	It is easier to search for suitable English materials online than looking for suitable printed texts. (Category 1)	3.46	3	3.51	2	3.53	3	3.56	3
4	Students nowadays need technology to help them learn English. (Category 1)	3.43	4	3.39	4			3.55	4
5	I can get my assignments done faster using online services. (Category 1)	3.36	5	3.36	5	3.31	5	3.39	5
6	I am more motivated to learn English when technology is used. (Category 1)					3.31	4		

Rating scale: 1=strongly disagree; 2= disagree; 3=agree; 4= strongly agree

Table 12 shows the mean scores of the bottom-five items. As can be seen, all the items in the list are negative items. Five items (1, 2, 4, 6 and 8) are on the affective effects of technology. The low mean scores (of below 2.5) indicate that the students across universities believed that the use of technology would not affect them adversely. In addition, the low mean scores of the three items (3, 5 and 7) on their opinion of teachers' use of technology suggest that they disagreed that their teachers were not competent in using technology.

TABLE 12. Bottom 5 opinions on the use of technology for learning English

No.	Items	UKM	Rank	USM	Rank	UMS	Rank	UMK	Rank
1	Web 2.0 devices have no place in the English classroom. (Category 2)	2.20	1						
2	I am not comfortable using the latest digital tools for language learning. (Category 2)	2.04	2	2.15	2	1.99	4	1.91	2
3	I think my English teachers use technology because they have to and not because they like to. (Category 3)	1.92	3	2.15	3	2.14	2	1.70	4
4	The use of digital technologies in learning English is not worth the time and effort. (Category 2)	1.88	4	2.11	4	1.79	5	1.76	3
5	My English teacher is not competent in the use of technology. (Category 3)	1.81	5	2.06	5			1.45	5
6	The use of digital technologies in the English course is unfair to the less IT-savvy students. (Category 2)			2.32	1				

7	Students do not expect their English teachers to use any Web 2.0 devices for teaching. (Category 3)	2.19	1		
8	The use of technology in learning English has increased my workload. (Category2)	2.02	3	1.98	1

To determine the reliability and validity of the findings on the use of technology in the learning of English derived from the descriptive statistics, inferential statistical analysis was carried out. However, before proceeding further, the internal consistency of the items in each category needs to be determined. To do so, Cronbach's Alpha reliability coefficient was used. The internal consistency of items in Category 1 (technology makes learning easier) is 0.718, for Category 2 (affective effects of technology), 0.768 and for Category 3 (opinions on teachers' use of technology), 0.561. Since the internal consistency of Categories 1 and 2 was above 0.7, the reliability of the classification was therefore confirmed. However, the internal consistency of Category 3 was much lower, and thus the reliability of its classification was lower than the expected, hence the findings for this category were not compared.

Table 13 displays the ANOVA results that compare the students' perceptions of technology use in learning English across the four universities.

TABLE 13. ANOVA results comparing students' perceptions of technology use

Category	University	Mean	Std. deviation	df	F	Sig.
1	UKM	3.2829	.40668	3	3.723	.011
	UMS	3.2446	.35241			
	USM	3.2736	.39694			
	UMK	3.3453	.34321			
2	UKM	2.7503	.40848	3	8.683	.000
	UMS	2.7836	.36299			
	USM	2.6660	.47418			
	UMK	2.8391	.38341			

The results support that of the item analysis. Category 1 obtains the highest mean scores (all above 'agree') across universities, suggesting that the majority of the students agreed that technology make learning of English easier. The mean scores of Categories 2 also approach 'agree' which indicates that majority of the students perceive the affective effects of technology in a positive manner.

The analysis reveals that there were statistically significant differences between groups with regard to all three categories: Category 1 = $F(3, 1185) = 3.723$, $p = 0.01$ and Category 2 = $F(3, 1179) = 8.683$, $p = 0.00$. Scheffe test indicates that with regard to Category 1 (technology makes learning easier), the mean scores of the UMK students are significantly higher than those from UMS suggesting that UMK students had the most favourable view of technology.

With regard to Category 2 (affective effects of technology), the mean scores of the UMS students are significantly higher than those from USM. Similarly, the UMK students' means are significantly higher than the USM's. This indicates that that both UMK and UMS students considered the affective effects of technologies most positively.

DISCUSSION OF FINDINGS AND CONCLUSION

The findings of this study indicated a great deal of similarity in patterns of use and perceptions among the students from the four universities. Similar to the findings of Author et al. (2014), this study indicated that the tools that were most common owned by the students were laptops, camera phones and music phones and the tools. They also commonly used Facebook, emails and online self-tests/quizzes/practices to learn English. With regard to teachers from the four universities, the tools that were most popularly used in teaching English were e-mails, online self-tests/quizzes/practice and learning management system. The findings further revealed that students from all four universities generally had a positive view of the use of technology which they felt did not have any adverse effects on them. They also felt that their teachers were competent in using technology though they admitted that teachers only moderately used technology. Students from all four universities also used social networking tools like Facebook and emails regularly and they tended to use them mainly for recreation. These findings are in line with those undertaken in the west which also indicate that students generally use technology for social networking rather than for academic purposes (Corrin et al., 2010; Kvavik, 2005; Margaryan et al., 2011). The findings suggested that although students have a very favourable view towards the adoption of more technology in the teaching and learning of English, they are not personally taking any actions to integrate technology in their learning of English. This lack of commitment was also found by Kaur and Abas (2010). However, Mohamed Amin Embi's study (2012) suggested that the possible reasons for this lack of commitment could be due to the lecturers' slow online feedback and uninteresting content.

There were also some variations that are worth exploring. Although emails and Facebook were preferred by most university students, a comparison across universities based on the status and types of universities, showed that students in the research universities (UKM and USM) were more inclined towards online self-tests/quizzes/practice for learning of English whereas students from UMS and UMK opted for digital videos in lectures and learning management system. Since the tools used in all four universities were rather similar, the only possible explanation for this is that students in research universities are more self-reliant in that they preferred online self-tests/quizzes/practice, whereas students from the newer and less established universities with students whose academic results are generally lower than those in the research universities would opt for the more didactic tools such as digital videos and learning management system. However, this is just a conjecture and more research need to be undertaken to investigate the truth of this claim. A comparison across universities using statistics revealed that students of UMK, a relatively new university, seemed most positive towards the use of technology in teaching and learning English than students of the other universities. The fact that many of the students in this university come from rural areas may be a contributory factor as they would probably be less exposed to technology than students in research universities who are mainly drawn from urban areas. To a lesser extent this trend is also evident in UMS, a university from East Malaysia, which is also not a research university and who also has a large population of rural students.

Despite these variations, it is clear that the findings reinforce what is proposed by Author 1 et al.'s (2014), that is Malaysian students generally have high respect for their teachers and are reluctant to criticise them openly. Besides that, it is evident from this study that Malaysian university students are generally very receptive to the use of technology for learning English especially those from the newer universities hence there is a need to create a more technologically-enhanced learning environment in Malaysian universities. Mohamed Amin Embi (2012) in his study found that 26 institutions of higher learning (IHL) had already developed learning management system for communications, course delivery and production, and content development and administration. This is a positive move and efforts should be undertaken to help teachers to use such systems more effectively and to upgrade their technological skills as studies have shown that many Malaysian English university lecturers

are still reluctant to utilise technology in their language classrooms (Nor Aziah & Ahmad Marzuki, 2005; Author 1 et al., 2014).

REFERENCES

- Afendi Hamat, Mohamed Amin Embi, & Haslinda Abu Hassan. (2012). *The use of social networking sites among Malaysian university students. International Education Studies. 5*(3), 56-66.
- Corrin, L., Lockyer, L. & Bennett, S. (2010). Technological diversity: an investigation of students' technology use in everyday life and academic study. *Learning, Media and Technology. 35*(4), 387-401.
- Fraenkel, J., Wallen, N., & Hyun, H. (2012). *How to design and evaluate research in education*. McGraw Hill: New York.
- Hew, K.F. (2011). Students' and teachers' use of Facebook. *Computers in Human Behavior. 27*(2), 662-676.
- Jones, C., & Shao, B. (2011). The Net generation and digital natives: Implications for higher education. Higher Education Academy, York. Retrieved October 2, 2013 from <http://www.heacademy.ac.uk/assets/documents/learningandtech/next-generation-and-digital-natives.pdf>
- Jones, C., Ramanau, R., Cross, S. & Healing, G. (2010). Net generation or digital natives: is there a distinct generation entering university? *Computer & Education. 54*(3), 722-732.
- Kaur, K., & Abas, Z. (2004). An assessment of e-learning readiness at the Open University Malaysia. Paper presented at The International Conference on Computers in Education (ICCE2004). Australia: Melbourne.
- Kennedy, G., Judd, T.S., Churchward, A., & Gray, K. (2008). First year students' experiences with technology: Are they really digital natives? *Australasian Journal of Educational Technology. 24*(1), 108-122.
- Kolikant, Y.B.D. (2010). Digital natives, better learners? Students' beliefs about how the Internet influenced their ability to learn. *Computers in Human Behavior. 26*(2010), 1384-1391.
- Kvavik, R.B. & Caruso, J.B. (2005). ECAR study of students and information technology 2005: convenience, connection, control, and learning. CO: EDUCAUSE Center for Applied Research. Retrieved October 2, 2013 from <http://net.educause.edu/ir/library/pdf/ers0506/rs/ERS0506w.pdf>
- Kvavik, R.B., Caruso, J. B., & Morgan, G. (2004). ECAR study of student and information technology, 2004: Convenience, connection and control (Research Study, Vol. 5). Boulder, CO: EDUCAUSE Center for Applied Research. Retrieved October 2, 2013 from <http://net.educause.edu/ir/library/pdf/ers0405/rs/ers0405w.pdf>
- Madge, M., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more for socialising and talking to friends about work than for actually doing work'. *Learning, Media and Technology. 34*(2), 141-155.
- Malaysia Ministry of Higher Education (2007). *Pelan strategik pengajian tinggi negara melangkaui tahun 2020*.
- Margaryan, A, Littlejohn, A., & Vojt, G. (2011). Are digital natives a myth or reality? University students' use of digital technologies. *Computers & Education. 56*(2), 429-440.
- Mohamed Amin Embi. (2012). The use of Learning Management Systems among Malaysian university lecturers. *The International Journal of Learning. 18*(4), 61-70.

- Nadzrah Abu Bakar, Hafizah Latif, & Azizah Ya'acob. (2010). ESL students' feedback on the use of blogs for language learning. *3L: Language, Linguistics, Literature*. 16(1), 120-141.
- Nor Aziah Alias, & Ahmad Marzuki Zainuddin. (2005). Innovation for better teaching and learning: Adopting the learning management system. *Malaysian Online Journal of Instructional Technology*. 2(2), 27-40.
- Prensky, M. (2001). "Digital Natives, Digital Immigrants Part 1", *On the Horizon*. 9(5), 1-6.
- Selwyn, N. (2009). Faceworking: Exploring students' education-related use of Facebook. *Learning, Media and Technology*. 34(2), 157-174.
- Smith, E. E. (2012). The Digital Native Debate in Higher Education: A Comparative Analysis of Recent Literature. *Canadian Journal of Learning and Technology*. 38(3), 1-18.
- Smith, S. D., & Caruso, J. B. (2010). ECAR study of undergraduate students and information technology, 2010 (Research Study, Vol. 6). Boulder, CO: EDUCAUSE Center for Applied Research, 2010. Retrieved October 3, 2013 from <http://anitacrawley.net/Resources/Reports/ECAR%20study%20highlights.pdf>
- Author 1, & Bidmeshki, L. (2010). Investigating the perceptions of UKM undergraduates towards an English for Science and Technology online course. *Computer Assisted Language Learning Journal*. 23(1), 1-20.
- Author 1, Lee, Y. S., & Nurul Farhana Zulkifli. (2012). The role of the electronic portfolio in enhancing Information and Communication Technology and English language skills: The voices of six Malaysian undergraduates. *Computer Assisted Language Learning Journal*. 25(3), 277-293.
- Author 1, Najihah Mahmud, & Norizan Abd Razak. (2012). The use of wireless technology in UKM: Challenges faced and its impact on English language learning. *3L: The Southeast Asian Journal of English Language Studies*. 18(1), 129-143.
- Author 1, Author 2, Nambiar, R., Zaini Amir, & Wong, F.F. (2014). Are Malaysian undergraduates 'digital natives' in the true sense of the word? A quantitative analysis. *3L: The Southeast Asian Journal of English Language Studies*. 20(1), 177-191.
- Thinysane, H. (2010). Are digital natives a world-wide phenomenon? An investigation into South African first year students' use and experience with technology. *Computers & Education*. 55(1), 406-414.
- Thompson, P. (2013). The digital natives as learners: Technology use patterns and approaches to learning. *Computers & Education*. 65(2013), 12-33.