Malaysian Students' Internet Use: Some Research Evidence

Su Luan WONG[a*], **Ab Rahim BAKAR**[b], **Ahmad Fauzi Mohd Ayub**[c], **Noor Ariffah SAPARI**[d], **Priscilla Moses**[e] **& Mas Nida Md. Khambari**[f]

[a,b,c,f]*Faculty of Educational Studies, Universiti Putra Malaysia, Malaysia*
[d]*Ministry of Education, Malaysia*
[e]*Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman*
[f]*School of Education, University of Wisconsin-Madison, USA*
*suluan@putra.upm.edu.my

Abstract: The Internet has become an essential tool in all levels of education. It is not only used as a tool to acquire information but is also widely used for academic, communication, entertainment and social purposes. It is no wonder that Internet usage in tertiary institutions is increasing at a phenomenal rate. Malaysian universities are beginning to allow greater Internet use and access within its campus grounds. This is the right step forward as tertiary students whose ages range between 20 and 24 years old are well within the age range of users identified as one of the biggest groups of Internet users in Malaysia (Malaysian Communications and Multimedia Commission, 2010). Based on the literature review, this paper reports on the scenario of the Internet use in Malaysia. It also explores how students use this medium in general. It then highlights their Internet pattern usage and how they respond to the Internet through a review of academic papers and dissertations published between 2003 and 2012.

Keywords: Internet use, students, Malaysia

Introduction

The Internet is considered as the fastest globally adopted technology in the history of civilization [1]. With the Internet, everything about the world is just a click away. Thus, with the swift change of technology, the Internet is something everyone should be familiarized with in order to be in touch with the development of a country throughout the world. Whatever we do now is all about the Internet. People of all ages, colors, creeds and countries freely share ideas, stories, data, opinions and procedures. Increasingly, news get out on the Internet before it is available on other media and the cyber-deprived are losing ground in keeping current on the world's happenings [2]. The Internet plays an important role in the everyday lives of many people throughout the world [3]. The Internet can provide its users with a vast amount of information and has penetrated into areas such as education, business, entertainment, general knowledge and many other useful areas.

1. Scenario of Internet Use in Malaysia

In fact, the Internet has become one of the most important tools among the people of Malaysia. Using the Internet is considered as part and parcel of their daily lives. The Internet penetration rate in Malaysia has been very encouraging. The Internet World Statistic [4] reported that the penetration rate has increased to 61.7% in 2011 from 25.9%

in 2006 where 17,723,000 out of its 28,728,607 population are using the Internet. According to Nielsen, a leading global information and analytics provider revealed that 1, 321 Malaysian digital consumers surveyed spend close to 20 hours online each week [5]. Based on the same report, more than half of those surveyed (53%) access the Internet daily, 35% percent of the respondents access it several times per week, 6 % access it once per week, 5% access it once or twice per month while the rest access it less often [6]. According to the report by Nielson [6], it can be assumed that Malaysia has one of the highest Internet usage in the South East Asia region.

2.   Students as Internet Users

The Malaysian Communications and Multimedia Commission [7] reported that for the year 2009, 19.2% of the Internet home users in Malaysia, are between 15 and 19 years old. Those who are between 20 and 24 years of age make up 14.2% of users.

Table 1: Percentage share of household user based on age

Age category	2005	2006	2008	2009
Below 15	6.5	7.3	6.8	8.1
15-19	18.6	18.7	17.9	19.2
20-24	17.2	16.3	15.7	14.2
25-29	12.5	11.3	11.9	12.9
30-34	12.2	12.3	11.7	11.4
35-39	9.9	10.4	11.2	9.5
40-44	9.6	10.6	9.3	9.4
45-49	5.1	6.1	6.1	5.1
50 and above	8.4	7.1	9.4	10.2

(Malaysian Communications and Multimedia Commission (2010, p. 10)

Based on the aforesaid figures, the majority of Internet users come from the age groups of 15 to 19, 20 to 24 and 25 and 29 years old. The age categories of 20 to 24 and 25 to 29 would be the groups of undergraduate and postgraduate students. Literature has shown that students are usually the biggest users of the Internet because of increasing demands on students to be ICT literate. This is true as Odell, Korgen, Schumacher, and Delucchi [8] reported that college students use the Internet far more than the general population. In addition, students are expected to be skilled in the Internet as they enter tertiary education. This is because in contemporary and future societies, it is clear that Internet literacy plays and will continue to play an essential role for all citizens to become information literate and lifelong learners [9]. Tsai et. al [9] also stressed that in the twenty-first century, citizen's attitudes toward using and learning the Internet may determine the educational and economical development of a society.

The usage of Internet is now diversified. Learning institutions are encouraged to have Internet access for the students' benefit. Rich contexts and tasks that are as authentic as possible should be provided to present links to the world outside the learning environment [10]. Thus, the Internet is used widely as a teaching and learning tool in higher learning institutions. It is pertinent, therefore, that students be proficient in the use of the Internet.

3.   Related studies of Internet Use

The Internet is unlike all other communications media anyone has ever encountered. It has a variety of uses for both work and leisure [11]. There are, however, many different reasons as to why students surf the Internet. Generally students mostly surf the Internet to acquire information as it provides loads of information especially through the World Wide Web (WWW). The WWW is useful to students who are looking for information for their assignments or any other related tasks assigned to them by their teachers or lecturers. However, they may actually need to filter some of the information that they get through the Internet, as they might not be viable or justified. The Internet has become an educator, a marketing tool, a conduit of information, a means of communication, a forum for debate, a facilitator of social interaction and a source of entertainment [12].

Palesh, Saltzman and Koopman [12] found that their sample of Russian college students use the Internet mainly for school-related activities (60%), e-mail (55%), entertainment (50%) and chatting (24%). A small percentage of these students use the Internet to access pornographic materials (6%). Internet use among American undergraduates is driven mainly by interpersonal communication, information acquisition and entertainment, with interpersonal communication constituting the dominant underlying reason [13]. In addition Weiser [13] also found that both information acquisition and entertainment via the Internet are multifaceted. He viewed the Internet as a tool to conduct research, check flight schedules and reservations, build world wide web pages, obtain educational assistance, shop, listen to audio broadcasts from distant radio stations, search for items that are ordinarily difficult to find, catch up on the latest news and many more [13].

Jones, Johnson-Yale, Millermaier and Pérez [14] reported that college students in the United States have a positive opinion about the Internet's impact on their educational experience. Their findings reveal that all participants reported using the Internet to obtain information through popular search engines such as Google or Yahoo! library websites, news websites or online encyclopedias. The majority of students also used the e-mail to communicate with their course professors [14].

Internet use among undergraduate students is also fast catching up in developing nations such as Nigeria. Okon [15] revealed that Nigerian students used the Internet but at a low level of daily use (16.6%). Despite the poor extent of Internet use, the study reported that the majority of students accessed the Internet to acquire information for research related activities such as writing of term papers, seminar presentations and projects (87.1%). Non academic Internet usage among these students was found to be dominated by online registration for admission and payment of tuition fees (84.9%), e-mailing (70.5%)and searching/applying for scholarships (54.6%). In addition, reading online newspaper was not reported as a popular activity (31.7%).

More recently, a cross-cultural study was conducted among student teachers in two Turkish universities and a Korean university [16]. Tutgun, Deniz, and Moon [16] reported that Turkish student teachers used the Internet more for social interactions (90.7%) than their Korean counterparts (54.1%). More Korean student teachers, on the other hand, accessed the Internet to shop online (84.5%). A small proportion of student teachers from both countries were reported to be involved in unsavoury activities such as gambling and accessing pornographic materials.

A summary of the aforementioned literature relating to the students' purpose of using the Internet use is presented in Table 2 (Study 1-5). The information in this table suggests that the purpose of Internet use can be categorised into four major types—school-related activities, communication, social and entertainment. In other words, it can be reasonably inferred that academic and non academic use of the Internet is very much the norm of the students' lives. It should also be pointed out that there are students who are also involved in unhealthy activities while online.

4.   Malaysian students' Internet use

Findings from earlier studies such as those of Wong, Kamariah, Ramlah, Rohani and Tang [17] reported that more than 50% of education major students did not possess a high level of Internet skills despite going through a discrete introductory Information Technology course that comprised six hours of hands on training on the Internet. Hong Ridzuan and Quek [18] reported that the majority of students have only basic knowledge and skills to use the Internet for learning. Students who were more skilled in the Internet and perceived the learning environment to be supportive of using the Internet for their learning tasks tended to have more positive attitudes toward using the Internet for studies [18]. Both of these studies suggest that these students were not expert users of the Internet. In later studies, it appeared the students were responding towards the Internet in a more positive manner. For example, Luan, Fung, Nawawi and Hong [19] reported that education major students had a moderate online time where they spent an average of 3.41 hours (S.D.= 3.2) on the Internet per week. The majority of the respondents had learnt to use the Internet through friends. When they were online, almost all of them surfed the Internet to acquire information that was mostly for educational and general purposes. Although the students had moderate level of Internet use, their attitudes toward the Internet when assessed, were positive. The least used services were online banking and shopping. In another study, Sam, Othman and Nordin [20] reported that students used the Internet on an average of 9.2 hours per week (SD=1.2). They reported that the students used the Internet mainly for e-mail services (98.6%), research purposes (95.9%), downloading electronic papers (95.3%), entertainment (85.1%), and gathering product and service information (82.4%). Only a small percentage of students used it for online shopping (6.8%). Sam et al. [20] also detected differences in the undergraduates' Internet usage levels based on the discipline of study. Students from the Faculty of Computer Science and Information Technology and Faculty of Applied and Creative Arts were found to use the Internet longer than those from other faculties (Faculty of Resource Sciences and Technology, Faculty of Engineering, Faculty of Social Sciences, Faculty of Economic and Business, Centre for Language Studies, Faculty of Cognitive Sciences and Human Development). Generally, the students' attitudes levels towards the Internet were moderate.

In a similar study, Sapari [21] reported that the majority of students (64.5%) from various science and social science faculties accessed the Internet more at the campus than from home. They spent about seven to 14 hours per week on the Internet and accessing information was the most popular activities among the respondents. No significance difference were detected between students from the science (M=4.4, SD=1.2) and non science streams (M=4.5, SD=1.0). More than 80% of the students used the Internet to obtain information, communication while slightly more than 50% of them used it for games and banking. Slightly more than 30% of the students shopped online while a smaller percentage accessed pornographic materials (<15%). In a more recent study, Muniandy [22] carried out a study only on students' academic use of the Internet and his findings revealed that almost 70% of the respondents considered themselves to have a fair level of Internet usage skills. Academic activities that students engaged most while online were accessing information, downloading notes, and communicating with friends [22]. Students teachers were also reported to be extremely confident and satisfied while online to access resources and information and also for social and entertainment activities [23].

In a similar study, Wan Hamid [24] reported that students surveyed accessed the Internet on an average of 31.3 (SD=3.1) hours per week. Further findings from his study mirrored that of Sam et al.'s [19] where Computer Science students (M=5.6, SD=3.4)

used the Internet longer than other discipline of studies—Social Science (M=4.54, SD=2.8), Science (M=3.9, SD=2.7), Engineering (M=4.92, SD=3.31) and Agriculture (M=3.9, SD=3.1).

Table 2: Summary of studies for Internet use in various countries

Authors	Design	Sample/Location	Age (yrs)	Size	Purpose of Internet use
Study 1: Weiser (2000)	Survey	University students/Texas, USA	Exact age range is not stated	506	Entertainment, e-mail; educational & academic assistance; interpersonal communication; course information; research
Study 2: Palesh, Saltzman & Koopman (2004)	Survey	University students/Moscow, Russia	Exact age range is not stated	198	School-related activities; e-mail; entertainment; chat & pornographic materials
Study 3: Jones, Johnson-Yale, Millermaier & Pérez (2008)	Survey	College students/USA	Age range: 18-24	7421	Information, e-mail, instant messaging, wikis & chat
Study 4: Okon (2010)	Survey	University students/Nigeria	Not stated	536	Research; admission registration & tuition fees payment; e-mail; scholarship application; online newspaper
Study 5: Tutgun, Deniz, & Moon (2011)	Survey	University students/Korea & Turkey	Age range: 17-37	595	Friendship; games; chat; develop websites & blogs; shopping, pornographic materials; gambling; games
Study 6: Luan, Fung, Nawawi and Hong (2005)	Survey	University students/Malaysia	Mean age: 22.63	310	Information; e-mail; download software; online newspaper; games; shopping; e-banking
Study 7: Sam, Othman and Nordin (2005)	Survey	University students/Malaysia	Mean age: 23.8	148	Information; e-mail; download software; online newspaper; games; shopping;
Study 8: Sapari (2008)	Survey	University students/Malaysia	Age range: 21-26	361	Information; e-mail; download software; online newspaper; games; shopping; e-banking; & pornographic materials
Study 9: Muniandy (2010)	Survey	University students/Malaysia	Age range: 20–34	92	Information; e-mail; download software; upload files

A summary of the aforementioned literature relating to the Malaysian students' purpose of using the Internet use is presented in Table 2 (Study 6-9). The information in this table suggests that the purpose of Internet use among Malaysian students can also be categorised into the same four major types identified earlier. The literature suggests that Malaysian students are now using the Internet no differently than students from more developed countries. There is evidence to show that they have embraced the Internet instead of fearing it. It is obvious that over the decade, Malaysian students have been going online to harness the benefits of the Internet. While the literature suggests that a small proportion of Malaysian students are also engaged in unhealthy activities such as accessing pornographic materials, there is no information to suggest if they are accessing it inadvertently or intentionally.

5. Conclusion

The growth of the Internet in Malaysia has been dynamic. In line with this growth, all Malaysian universities are beginning to emphasize greater Internet use and access among students. Students are expected to access the Internet in a more aggressive manner as universities are constantly upgrading the Internet infrastructure within their campus grounds [25]. Such move will enhance Internet accessibility so that students can access the Internet seamlessly and freely. This is the right step forward towards a creation of a more digital literate population. This in turn will be act as an impetus to a stronger economic growth for Malaysia as this creates new business opportunities and global markets for its products and services.

The literature presented in this paper does paint a sanguine picture of the Malaysian students' Internet literacy. Past studies reported between 2003 and 2012 suggest that Malaysian students in universities are slowly catching up and are getting more familiar with the Internet. As can been seen from the aforesaid literature, Malaysian students are spending longer hours on the Internet for various positive reasons. The students are using the Internet for academic, communication, entertainment and social purposes. The literature also suggests that academic discipline may have an impact on students' duration of Internet use. It appears that students from disciplines related to computer science or Information Technology tend to spend longer hours on the Internet. By and large, the Internet technologies available to students ten years ago maybe different from the ones students have today but Malaysian students continue to respond favorably towards the Internet as attested by their positive attitudes shown over the decade.

6.   Limitations

It is important to point out that the authors of this paper framed the selection of literature to achieve a balanced literature among students in tertiary education in Malaysia and more developed countries. The authors acknowledge that while there is a great deal of published materials on Malaysian students' use of the Internet, it should be noted that preferences were given to more rigorous studies conducted with appropriate and sound methods, results and conclusions. For this reason, the literature related to the Malaysian students presented in this paper was rather limited. The authors, however, are convinced that the literature offered in this paper provides a glimpse of the students' use of the Internet and its future within the Malaysian context. It is worth to point out that all the literature reviewed in this paper were survey studies. The findings derived from this quantitative method are exploratory at best.

7. Future directions

To further enhance and broaden the understanding of Internet usage among students in Malaysia, more in-depth research should be conducted to understand factors that can influence their use of this medium. It is also worthwhile to study their extent of Internet use for various purposes from a qualitative point of view. A deeper exploration of how students are using the Internet would be helpful as the central findings would tease out policy and practical implications for better Internet access and usage. In addition, more should be done to understand deeper why differences exist in the way students from different disciplines of study respond to the Internet.

References

[1] Awang, H. (2005). *Leaders must shape the direction of the information society*. Jaring Internet Malaysia.

[2] Levine, J.R., Young, M.L., & Baroudi, C. (2003). *The Internet for dummies* (9th ed.). Hoboken, NJ: Wiley Publishing, Inc.

[3] Yee, H.T.K., Luan, W.S., Ayub, A.F.M., Mahmud, R. (2009). A review of the literature: Determinants of online learning among students. *European Journal of Social Sciences*, *8*(2), 246-252.

[4] Internet World Stats (2011). Internet users in Asia. Retrieved from http://www.internetworldstats.com/stats3.htm#asia

[5] The Malaysian Insider (2011). Retrieved from http://www.themalaysianinsider.com/malaysia/article/nielsen-malaysians-spend-20-hours-online-per-week/

[6] The Nielsen Company (2011). *The digital media habits and attitudes of Southeast Asian Consumers* Report 2011.

[7] Malaysian Communications and Multimedia Commission (2010). *Household use of the Internet survey 2009*. Cyberjaya: Suruhanjaya Komunikasi dan Multimedia Malaysia.

[8] Odell, P.M., Korgen, K.O., Schumacher, P., & Delucchi, M. (2000). Internet use among female and male college students. *Journal of CyberPsychology & Behavior*, *3*(5), 855-862.

[9] Tsai, C.C., Lin, S.S.J., & Tsai, M.J. (2001). Developing an internet attitude scale for high school students. *Computers & Education*, *37*, 41-51.

[10] Smeets, E., & Mooij, T. (2001). Pupil-centered learning, ICT, and teacher behaviour: Observations in educational practice. *British Journal of Educational Technology*, *32*(4), 403-417.

[11] Hills, P., & Argyle, M. (2003). Uses of the internet and their relationships with individual differences in personality. *Computers & Education*, *19*, 59-70.

[12] Palesh, O., Saltzman, K., & Koopman, C. (2004). Internet use and attitudes towards illicit internet use behavior in a sample of Russian college students. *Journal of CyberPsychology & Behavior*, *7*(5), 553-558.

[13] Weiser, E. B. (2000). Gender differences in internet usage patterns and internet application preferences: A Two-Sample Comparison. *Journal of CyberPsychology & Behavior*, *3*(2), 167-178.

[14] Jones, S., Johnson-Yale, C., Millermaier, S., & Pérez, F. (2008). Academic work, the Internet and U.S. college students. *Internet and Higher Education*, *11*, 165−177.

[15] Okon E.A. (2010). Internet access and use: A study of undergraduate students in three Nigerian universities, *The Electronic Library*, *28*(4), 555 - 567

[16] Tutgun, A., Deniz, L. & Moon, M.-K. (2011). A comparative study of problematic internet use and loneliness among turkish and korean prospective teachers. *Turkish Journal of Educational Technology*, *10*(4), 14-30.

[17] Wong, S. L., Kamariah, A. B., Ramlah, H., Rohani, A. T., & Tang, S. H. (2003) Assessing IT preparedness among pre-service teachers at Universiti Putra Malaysia. *Jurnal Teknologi, 38* (E), 1-14.

[18] Hong, K. S., Ridzuan, A. A., & Kuek, M. K. (2003). Students' attitudes toward the use of the Internet for learning: A study at a university in Malaysia. *Educational Technology & Society*, *6*(2), 45-49.

[19] Luan, W. S., Fung, N. S., Nawawi, M., & Hong, T. S. (2005). Experienced and inexperienced Internet users among preservice teachers: Their use and attitudes toward the Internet. *Educational Technology & Society*, *8*(1), 90-103.

[20] Sam, H. K., Othman, A. E. A., & Nordin, Z. S. (2005). Computer self-efficacy, computer anxiety, and attitudes toward the internet: A study among undergraduates in Unimas. *Educational Technology & Society*, *8*(4), 205-219.

[21] Sapari, N.A. (2012). *Antecedent factors and Internet usage amongst undergraduates in Universiti Putra Malaysia (UPM)*. Unpublished Master's thesis. Universiti Putra Malaysia.

[22] Muniandy, B. (2010). Academic use of Internet among undergraduate students: A preliminary case study in a Malaysian university. *International Journal of Cyber Society and Education*, *3*(2), 171-178.

[23] Majid,O., Atan, H., Rahman, Z.A., Mohamad, A.H., Chuen, T.W. & Luan, W.S. (2012). The effect of the use of, and attitude towards, the Internet to create perceived confidence and satisfaction among student teachers enrolled as distance learners. *International Journal of Social Science & Education*, *2*(2), 1-5.

[24] Wan Hamid, W. H. (2012). *Tahap ketagihan internet dan hubungannya dengan pencapaian akademik, harga diri dan pengurusan masa dalam kalangan pelajar*. Unpublished Master's thesis. Universiti Putra Malaysia.

[25] Luan, W.S., Fung, N.S., Nawawi, M., Hong, T.S. (2005). Experienced and Inexperienced Internet Users among Pre-service Teachers: Their use and attitudes toward the Internet. *Journal of Educational Technology & Society*, *8*(1), 90-103.