

The tablet - a learner's gadget : a case study on tablet effectiveness in enhancing open distance learning in Wawasan Open University, Malaysia

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The Tablet - A Learner's Gadget: A Case Study On Tablet Effectiveness In Enhancing Open Distance Learning In Wawasan Open University, Malaysia

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Abstract. This study adapted Koole's (2009) FRAME to explore the effectiveness of tablet as a device for enhancing engagement in ODL in Wawasan Open University, Malaysia. The Microsoft Surface RT tablet was selected for use in this study. 20 participants were involved in the tablet trialing for one semester. A survey questionnaire was used to collect data. Findings indicated that the tablet was effective for the individual learner, especially for reading course materials, participation in LMS, preparation for tutorials and researching on the internet. The tablet as a tool for learning enhanced the knowledge and understanding gained from self-study. The tablet usability anytime and anywhere also enhanced ODL. The tablet's portability and user-friendliness were strengths, and its wi-fi enabled technology was important for effective tablet use in an ODL environment. This study was limited by its small sample size. Future studies may include larger samples to be able to inform the University of the feasibility of a school-wide and possibly campus-wide adoption of tablet for learning and its benefits for distance learners.

Keywords: open and distance learning (ODL), tablet user profile, mobile learning, e-learning

1 Introduction

Tablet, as with the other social media developments, is an important wave of the future in education. The Commonwealth of Learning (COL) drew the attention of the Education Ministers of the Commonwealth to the serious value of tablet computers as learning devices at their meeting in August 2012. The interest in Open Educational Resources (OER) and the more recent arrival of massive open online courses (MOOCs) have in one way or another seem to substantiate the COL's advocacy of the tablet not only because of its cost and convenience advantage but also because of its value as an asset to both teaching and learning.

1.1 Statement of the Problem

Wawasan Open University (WOU) uses flexible approaches to make higher education accessible to all – anytime, anywhere – and to create a lifelong learning community

for aspiring individuals. Through its unique open distance learning (ODL) model, self-paced learning and flexible study pathway, WOU continually seeks to enable working adults to pursue their educational dreams with the least disruption to their professional and personal commitments. This is reflected in the provision of on-line course learning materials to the learners. The University has progressed from the distribution of textbooks to using course CD ROM to full on-line access of course materials for student learning.

WOU was keen to test some of the assumptions associated with the use of tablets in an ODL environment for learning focusing on its effects on learning, communication and interactions (Fig 1). The Institute of Research Innovation (IRI) funded this study to explore the effectiveness of tablet as a learning device.

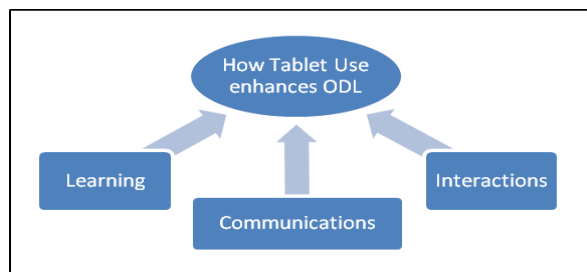


Fig 1. Assumptions: How Tablet Use Enhances ODL

1.2 Purpose of the Study

This study's intent was to explore the use of tablet as a tool for course learning and course material delivery and access. Specifically, it explored the effectiveness of using the tablet as a device for course material storage and distribution, access and self-learning by learners. This would include activities like reading course materials, uploading assignments, accessing the University learning management system (LMS), and interaction with tutors, course coordinators and other learners using WizIQ, video conferencing or via Skype. This practice would allow the learners immense flexibility in terms of the timing and location of not only materials access, but also tutorial class attendance and other interaction activities.

1.3 Research Questions and Research Objectives

This study aimed to explore the effectiveness of the tablet as a technology-integrated gadget for course materials distribution, self-learning, communication and interaction. The objective of the study was also to explore the effectiveness of the tablet as a tool for enhancing ODL. This study also assessed the tablet features that are important to make it an effective tool for ODL. The research questions were as follows:

- i. How did students use the tablet in an open and distance learning environment?
- ii. How was the tablet an effective tool for enhancing e-learning?
- iii. What tablet features were important for effective open and distance learning?

2 Relevant Studies

2.1 Open and Distance learning and Mobile Learning

The term open and distance learning (ODL) reflects both the fact that all or most of the teaching is conducted by someone removed in time and space from the learner, and includes the greater dimensions of openness and flexibility, whether in terms of access, curriculum or other elements of structure (UNESCO, 2002). Using the learning resources, rather than attending classroom sessions, is the central feature of the ODL experience (Commonwealth of Learning, 2003).

In ODL, the three key features are the provision of flexible educational opportunities in terms of access and multiple modes of knowledge acquisition. Flexible means the availability of choices for educational endeavours anywhere, anytime and anyhow. Access means opportunity made available to all, freeing them from constraints of time and place. Multiple modes mean the use of various delivery systems and learning resources (Ahmad, Phillips, Santhi & Wahid, 2013).

Mobile learning refers to the mode of delivery system via the use of mobile technology. The most common elements in various definitions of mobile learning include anywhere and anytime learning. Many studies have been conducted to understand the usefulness of technologies in mobile learning. Mobile learning has become popular due to the technology advancements especially mobile and wireless communication technologies. These technologies have been found and recognised to support mobile learning (Hwang & Tsai, 2011; Shih, Chuang & Hwang, 2010).

2.2 Tablet and Its Uses

A tablet is a mobile computer with display, circuitry and battery in a single unit. Its hardware capacity includes camera, microphone and touch screen. Tablets are progressively produced in slimmer, lighter and more manageable forms. The tablet used in this study was the Microsoft Surface RT. It is 9.3 mm thick, has a 10.6 inch display screen and weighs 1.5 pounds. Its portability has gained popular use. However, the Microsoft Surface RT have certain limitations in that it does not have free writing function, and does not allow the use of data package, thus limiting the extent of internet access to wi-fi enabled only.

It was reported that as of March 2012, 31% of United States internet users were reported to have a tablet, used mainly for viewing published content such as video and news (Moscaritolo, 2012). By May 2013, over 70% of mobile developers were targeting tablets as compared to 93% for smart phones and 18% for hand phones (Developer Economics, 2013). Karr (2015) reported that more than half of all Internet time now occurs on mobile platforms, and 12% is on tablet. The tablet may be considered useful for learning as a strategy to distribute class materials, to replace CDs and textbooks contents, and provide more convenient accessibility to increasingly mobile learners.

2.3 Model for Framing Mobile Learning in Open Distance Environment

There are a few models which are adopted and developed in examining the use of devices for mobile learning. One such model was proposed by Marguerite L. Koole (2009). This model, called Framework for the Rational Analysis of Mobile Education (FRAME) constitutes three elements/components and their interactions. The three elements are device (D), learner (L) and social aspects (S) (Figure 2). Hypothetically, the primary intersections resulting in a convergence of all the three aspects defines an ideal mobile learning situation.

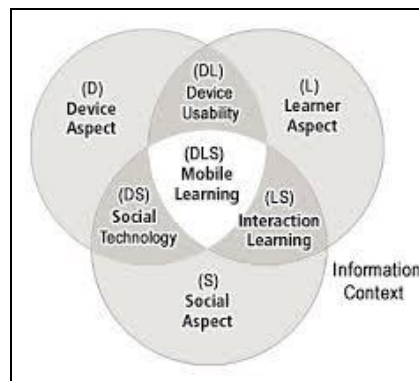


Fig 2. Koole's (2009) Framework for the rational analysis of mobile education

This study adapted and utilized the above framework to assess and understand the effective use of tablet for mobile learning in WOU's ODL environment. The device in this study was the tablet, the learner was the ODL student in WOU and the social aspects focused on three considerations mentioned in the preceding section, which were learning, communication, and interaction. This study employed the model to examine the different aspects of each of the elements and their mutual interactions to create and enhance learning effectiveness: the device (D), that is, examining the important tablet features for effective open and distance learning, the learner (L), that is, how students used the tablet in an open and distance learning environment, and the social aspects (S), that is, how the tablet was effective for enhancing e-learning in terms of learning, communication and interaction.

3 Methodology

This was a single case study trialing the use of tablet to improve learning effectiveness in open and distance learning. Case studies include a variety of approaches commonly used for observing and reporting the variables of interest with the targeted group of study (Nock, Michel and Photos, 2007). In context of this study, the single case study referred to small, targeted groups of students in the School of Education, Languages and Communications and interactions with the ubiquitous tablet use.

3.1 Research sample

Loch & Fisher (2010) suggested that care should be taken to choose the participants in the research. The participants selected for this study had the ability and commitment to participate in this project, and indicated interest willingness to invest time to trial the tablet and examine its effectiveness.

The students included undergraduate and postgraduate students from two programmes, namely Bachelor of Arts (Hons) in English Studies (BAES) and Post-Graduate Diploma in Education (PGDE) offered by the School of Education, Languages and Communications (SELC), Wawasan Open University.

The courses involved in this study were EED 308/05 English Language Teaching in Malaysia, ELL304/05 Critical Reading and EED205/05 Introduction to Pedagogy. These courses were purposively selected from a suite of courses that would allow for the use of the tablets more effectively. The first two courses were offered in the BAES programme while the latter was a PGDE course. These courses were offered in three of the university educational regional centers in the Kuala Lumpur Regional Centre (KLRC), Penang Regional Centre (PGRC) and Johor Bharu Regional Centre (JBRC). This study involved a total of 20 students, 4 males and 16 females. The majority of students were from the course EED205/05 with a total of 12 students. The delivery of these three courses was carried out by three expert tutors. The courses EED205/05 and EED308/05 were conducted via the face-to-face mode while the course ELL304/05 was conducted via the video conferencing mode anchoring from PGRC.

3.2 Research Implementation

When investigating suitable models of tablets for this study, emphasis was placed on portability and user-friendliness as well as useful application soft-ware available, storage, on line accessibility, and speed. The Microsoft Surface RT tablet was selected among the availability of tablets in the market. In addition to the aforementioned criteria, the Microsoft Surface RT tablet also came with pre-installed Office Home and Student 2013 RT which included touch-enhanced versions of Microsoft Word, Excel, PowerPoint, and OneNote.

The tablet has eight hours battery life, an advantage for adult learners on the move. The tablet is also WiFi and bluetooth enabled; another advantageous feature to enable learners to access information on the internet or from the WOU portal, and be connected through email anytime and anywhere there are wifi facilities. The tablet is also equipped with USB 2.0 port and micro SDXC card slot allow easy transfer of course contents and information to be pre-loaded into the machine before dissemination to the learners. The HD video output allows videos or PowerPoint presentations to be projected on to the big screen.

The researchers recognized that it was imperative for the research participants to receive proper orientation and training on the use of the tablet before commencing the trial. Loch & Fisher (2010) suggested that both pedagogical and technological training should be provided prior to the launch of trial. The researchers went on-site in July 2014 to conduct face-to-face orientation and training in KLRC, PGRC and JBRC. The training sessions included an explanation of the objectives of tablet use

A survey questionnaire was used to collect data from the sample group. There were five sections in the questionnaire. The question items sought to elicit information regarding the profile of tablet use, the views about the effectiveness of tablet as a tool for learning, communication and interaction, and also views about the tablet features. Respondents' written feedback was also sought. The questionnaire was distributed at the end of the semester to the research participants. The returned questionnaires were processed and the results presented descriptively. These findings were intended to shed light on the extent to which the students effectively used the tablets in the teaching and learning process of the said courses.

20 students from three courses EED205/05, EED 308/05 and ELL304/05 used the tablet throughout the trial period. Respondents were asked to self-rate their level of technology competency from a non-user to expert user (Table 1). The average competency level of this group of participants is between intermediate and advanced level. 9 of the students were self-rated as intermediate level in terms of technology competency, and 4 were self-rated as advanced user. 3 students between the ages of 21 to 40 self-rated themselves as expert users, whereas the student age 41 to 60 years self-rated at elementary competency level.

		Technology Competency				
		Elementary user	Intermediate user	Advanced user	Expert user	Total
Age	21-30 years	1	6	2	2	11
	31-40 years	1	2	2	1	6
	41-50 years	0	1	0	0	1
	51-60 years	1	0	0	0	1
Total		3	9	4	3	19
Missing = 1						

4.2 The Learner and the Gadget - Profile of ODL students using the Tablet

This section answers the research question “*How do students use the tablet in an open and distance learning environment?*” Findings indicated that a small percentage (15%) of students used the tablet daily for their learning purposes (Table 2). Most of them used the tablet two to three times a week (35%) or once a week (20%). Table 2 also indicates that the duration of use for more frequent users was longer than not so frequent users. For example, 2 users who used the tablet two to three times a week utilized it for more than four hours at any one time. Those who used the tablet one to two times a month utilized the device for less than one hour to two hours at any one time. The students used the tablet mostly during evenings and at nights. This is to be expected as all the students are career people and carry out the work responsibilities in the day time.

Table 2: Frequency of Use and Duration of Use

Frequency of use	Duration of use				Total
	<1hour	1-2 hours	3-4 hours	>4 hours	
daily	0	1	1	0	2 (10%)
2-3 times a week	0	4	1	2	7(35%)
once a week	1	2	1	0	4(20%)
1-2 times a month	3	4	0	0	7(35%)
Total	4 (20%)	11 (55%)	3 (15%)	2 (10%)	20(100%)

In profiling users’ habits, one of the aspects explored was the use of tablet for course learning purposes in off-line mode and on-line mode, from “*never (= 1)*” used to “*always (=5)*” used. 40% of the students used the tablet both in on-line and off-line modes, although the on-line use (mean = 3.2) is marginally higher than off-line use (mean = 2.9).

Almost all (N=19; 95%) of the students utilized the tablet for reading course learning materials (Table 3) of which 10 (50%) often used it for this purpose. Other purposes and more often use of tablet were for LMS activities (N=16) and for tutorial preparations and internet search (N=15), and work on assignment and examinations revision (N =13). These are indicative of use for individual activities. The tablet was less often used for the purposes of interactions with others like tutors, peers and course coordinators.

Table 3: Purposes of Tablet Use and How Often Used

Purpose of tablet use	Number of users and how often used for the purpose					
	1= rarely	2= sometimes	3= often	Total	Mean	Std. Dev
Reading course learning materials	5 (25%)	4 (20%)	10 (50%)	19 (95%)	2.2	.99
LMS Activities	5 (25%)	5(25%)	6 (30%)	16 (80%)	1.7	1.14
Tutorial Preparation	5(25%)	2 (10%)	8 (40%)	15 (75%)	1.7	1.27
Internet Search	4(20%)	6(30%)	5 (25%)	15 (75%)	1.6	1.15
Work on Assignment	5(25%)	3 (15%)	5(25%)	13 (65%)	1.3	1.22
Examinations	4(20%)	4(20%)	5(25%)	13 (65%)	1.4	1.23

Purpose of tablet use	Number of users and how often used for the purpose					
	1= rarely	2= sometimes	3= often	Total	Mean	Std. Dev
Revision						
Communicate with tutors	9 (45%)	0 (0%)	2(10%)	11 (55%)	.8	.91
Communicate with Peers	6(30%)	2(10%)	1(5%)	9 (45%)	.7	.88
Communicate with CC	8 (40%)	1 (5%)	0 (0%)	9 (45%)	.5	.61

Table 4 shows that almost all (N=19, 95%) students made use of the tablet at home and half of them used it often (N=9, 45%). The tablet was less used in other locations like library and cafes and restaurant. About half (N=5, 25%) the total number of students who used the tablet in regional centers (N = 11, 55%) used it often whereas most of those who used the tablet in their work office (N = 11, 55%) only rarely or sometimes used it (N = 4+5, 45%).

Table 4: Location of Tablet Use and How Often Used

Location of tablet use	Number of users and how often used for the purpose					
	1= rarely	2= sometimes	3= often	Total	Mean	Std. Dev
At home	5 (15%)	5 (25%)	9 (45%)	19 (100%)	2.1	.97
Regional Center	3 (15%)	3(15%)	5 (25%)	11 (55%)	1.2	1.29
Work Office	4(20%)	5 (25%)	2 (10%)	11 (55%)	1.0	1.08
Cafe and Restaurant	3(15%)	3(15%)	2 (10%)	7 (35%)	.75	1.07
Library	2(10%)	5 (25%)	0(0%)	7 (35%)	.60	.88
Moving vehicles	4(20%)	2(10%)	0(0%)	6 (30%)	.42	.69

All (N = 20, 100%) the research participants reported that they made use of the tablet for individual learning (Table 5) and more than half (N=11, 55%) often made use of it. The tablet was rarely used for other teaching learning situations like making presentation, giving explanation, giving demonstration, group discussions, and pair work.

Table 5: Tablet Use in Teaching-Learning situations and How Often Used

Tablet use in TLS	Number of users and how often used for the purpose					
	1= rarely	2=sometimes	3= often	Total	Mean	Std. Dev
Individual Learning	5 (25%)	4 (20%)	11 (55%)	20(100%)	2.3	.86
Making presentation	6 (30%)	1(5%)	0 (0%)	7 (35%)	.4	.60
Giving explanation	4(20%)	3 (15%)	0 (0%)	7 (35%)	.5	.76
Giving demonstration	2(10%)	4(20%)	0 (0%)	6 (30%)	.5	.84
Group Discussions	4(20%)	1 (5%)	1(0%)	6 (30%)	.5	.83
Pair Work	4(20%)	2(10%)	0(0%)	6 (30%)	.4	.68

4.3 The Social Aspects: Enhancing e-learning using the tablet

This section answers the research question “*How was the tablet an effective tool for enhancing e-learning?*” Data for this question was obtained from the items in Section C of the survey questionnaire which required their views about the effectiveness of the tablet as a tool for learning, communication and interaction. The reliability analysis performed on these items returned a high index of .88, which indicated that the results from this analysis were very reliable.

4.3.1 Effectiveness of the tablet as a tool for learning

For this sample, there was strong indication that the tablet was an effective tool for students’ course learning preparations (Table 6). Students agreed that the tablet was effective for reading course e-learning materials, searching the internet for course-related information, accessing the LMS for all course learning purposes, downloading and viewing course-related lecture notes, and checking emails, and to a lesser extent, downloading and viewing course-related power point presentations and doing research for course assignments. Respondent 5 wrote that “*the tablet has helped to improve my learning, especially self-learning, by serving as a supportive device to access course-related information other than my own laptop.*” Using the tablet, Respondent 11 “*can read and study the course material at anywhere, anytime*”. Respondent 4 found it “*easier to have all my notes in one place*”, and according to Respondent 7 “*it is easier to have the whole subject downloaded in the tablet. I can read it anytime and anywhere without having to carry a bulky book.*” Eight persons had mentioned access to materials/download all materials/reading /assignment.

Table 6: Effectiveness of the tablet for course learning preparations

Preparations for course learning	Mean	Std. Dev.
Read course e-learning materials	4.0	.75
Search the internet for course-related information	4.0	.79
Access the LMS for all course learning purposes	4.0	.79
Download and view course-related lecture notes	4.0	.86
Check emails	4.0	.75
Download and view course-related Power Point presentations	3.9	.88
Do research for course assignments	3.8	.95
①strongly disagree ②disagree ③neither agree nor disagree ④agree ⑤strongly agree		

Regarding the tablet’s USB device, Respondent 9 thought it was “*convenient*” for learning and “*useful because I can download the reading materials in the tablet and I can read it in offline mode anytime.*” In addition, the use of the tablet as a tool for assignment preparations was remarked by several respondents. According to Respondent 13 the tablet “*help me to easily highlight the key points so can learn what have to learn. Easily can do my assignment and find the materials need for my course easily*”, Respondent 20 wrote that the tablet made it “*easy to access an assignment*”, and Respondent 1 “*often use it to do my assignment as it is very light and I can carry it everywhere*”.

The tablet was also relatively effective for individual course learning activities (Table 7). There were some agreement that the tablet allowed them to do revisions for examinations, watch course-related educational/academic videos, and do course-related activities and self-test items. There were lower levels of agreement that the tablet allowed them to do specimen examination questions, make notes during tutorial sessions, plan course-related learning activities with the calendar, and plan and write course assignments.

Table 7: Effectiveness of the tablet for individual course learning activities

Course Learning activities - individual	Mean	Std. Dev.
Do revisions for examinations	3.7	.98
Watch course-related educational/academic videos	3.7	.88
Do course-related activities and self-test items	3.5	.89
Do specimen examination questions	3.4	1.04
Make notes during tutorial sessions	3.4	1.23
Plan course-related learning activities with the calendar	3.1	.79
Plan and write course assignments	3.1	1.28
①strongly disagree ②disagree ③neither agree nor disagree ④agree ⑤strongly agree		

Overall, the tablet as a tool for learning to a certain extent (mean = 3.9) enhanced the knowledge and understanding gained from self-study and tutorials. However, respondents were ambivalent about its effectiveness in enhancing course performance as a whole (Table 8).

Table 8: Effectiveness of the tablet as a tool for learning

The tablet as a tool for learning	Mean	Std. Dev.
enhanced the knowledge and understanding gained from self-study	3.9	.99
enhanced the knowledge and understanding gained from tutorials	3.5	.95
enhanced course learning	3.4	1.05
enhanced course performance	3.3	1.02
①strongly disagree ②disagree ③neither agree nor disagree ④agree ⑤strongly agree		

4.3.2 Effectiveness of the tablet for interaction

35% of the respondents agreed about the effectiveness of the tablet to enhance interaction with course members (mean = 3.9), and 40% were ambivalent (Table 9). More than half (70%) agreed or strongly agreed that the tablet was effective for participation in the LMS forum (mean = 3.9).

Table 9: Effectiveness of the tablet as a tool for interaction

The tablet as a tool for interaction	Mean	Std. Dev.
enhanced interaction with course members	3.1	.89
Participate in the LMS forum	3.9	.81
Use social networking tools to collaborate with other course	3.7	.98
①strongly disagree ②disagree ③neither agree nor disagree ④agree ⑤strongly agree		

4.3.3 Effectiveness of the tablet for communication

Respondents' were generally ambivalent towards the tablet effectiveness as a tool for communication as indicated by the mean scores (Table 10). However, an examination of the frequency scores revealed that 9 (45%) out of 20 respondents agreed that the tablet was effective for communicating with course tutors, and 6 (30%) out of 20 respondents agreed that the tablet was effective for communicating with course coordinators.

Table 10: Effectiveness of the tablet as a tool for communication

The tablet as a tool for communication	Mean	Std. Dev.
enhanced communication with course members	3.1	1.05
Communicate with fellow learners on course matters	3.3	.73
Communicate with course coordinators	3.2	.63
Communicate with course tutors	3.2	.95
①strongly disagree ②disagree ③neither agree nor disagree ④agree ⑤strongly agree		

4.4 The Device: The tablet as a learner's gadget

This section answers the research question "*What tablet features are important for effective open and distance learning?*" Section D of the survey questionnaire required respondents' views about the importance of tablet features to make it an effective tool for learning, interaction and communication. The most important requirement for the tablet to be an effective learning device was its wi-fi enabled feature (Table 11). Other important tablet features for ODL were external keyboard, legibility for reading, display quality, touch screen responsiveness, battery life up to 8 hours, video display quality, audio quality, tablet size and quick boot up.

Table 11: The important tablet features for learning, interaction and communication

Important tablet features	Mean	Std. Dev.
Wi-fi enabled	4.65	.59
External keyboard	4.45	.76
Legibility for reading	4.40	.68
Display quality	4.25	.72
Touch screen responsiveness	4.25	1.02
Battery life up to 8 hours	4.20	.69
Video display quality	4.15	.67
Audio quality	4.10	.73
Tablet size	4.05	.99
Quick boot up	4.05	1.05
Selection of available apps	3.95	1.28
Rear kick-stand	3.90	.91
Thickness 9.4 mm	3.75	.91
Tablet appearance	3.75	1.25
Tablet display size 10.6 inch	3.75	1.02
Weight 690 gm	3.70	.92
Feel of the tablet	3.60	1.19
①not important at all ②not so important ③not sure ④important ⑤very important		

Respondents were also required to consider the important tablet characteristics that

would influence them to continue using the tablet for learning, interaction and communication. The device's portability and user-friendliness were important considerations for continued use of the tablet as an educational and communication tool (Table 12). Respondent 14 wrote that the tablet *"has provided me a more portable and some-what laptop replacement option for the past few months. It has improved my learning in a sense where I may carry my notes easily without a burden."* Five persons mentioned about the tablet portability in their comments. According to Respondent 19, the tablet's portability and *"clear display makes learning better."* Respondent 10 stated that *"I could utilise my time by using while I am on move"* and Respondent 1 wrote *"can learn anyplace, anytime"* with the tablet.

Table 12: The important tablet characteristics for learning, interaction and communication

important tablet characteristics	Mean	Std. Dev.
Portability	4.10	1.07
User friendly	4.00	1.12
Cost (RM618.00)	3.60	1.14
①not important at all ②not so important ③not sure ④important ⑤very important		

With regards the tablet limitations that reduced its effectiveness as a learning, interaction and communication tool, respondents were generally ambivalent about the issues of one USB port, cannot support data package, 3G and any technical difficulties encountered (Table 13).

Table 13: The tablet limitations and its importance in reducing its effectiveness

	Mean	Std. Dev.
One USB port	3.6	1.27
Technical difficulties	3.4	1.23
Cannot support data package	3.2	1.44
No 3G	3.2	1.32

5: Discussion, Conclusions and Recommendations

This study explored the use of tablet as a tool for course learning and course material delivery and access, specifically its effectiveness as a device for course material storage and distribution, access and self-learning by learners. The preceding section discussed the findings based on the data collected. This section provides an emergent overview and draws the main conclusions of the study.

5.1 The Tablet – A Learner's Gadget

An emergent profile of tablet use for effective ODL can be concluded from this case study. The framework in Figure is adapted from Koole's FRAME (2009).

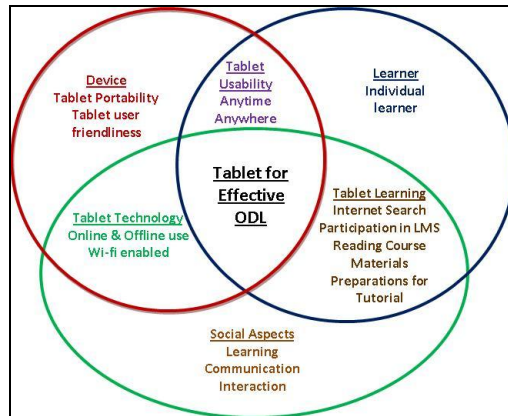


Figure 3: A Profile of Tablet Use in ODL

5.1.1 The Device – The tablet

Obviously, the most important requirement for the tablet to be an effective learning device is its wi-fi enabled feature. The device's portability and user-friendliness were important considerations for continued use of the tablet. However, respondents were generally ambivalent about the issues of one USB port, cannot support data package, 3G and any technical difficulties encountered

5.1.2 The Learner – The Individual User

What clearly emerged in this study was the effectiveness of tablet use in an ODL environment by the individual learner. Less obvious was its effectiveness for learning in groups. However, studies (Kothaneth et al. 2012; Loch and Fisher, 2010; Mckenzie & Franke, 2009; Weitz & Mirliss., 2006; Schwazer et al., 2005) have reported the tablet effectiveness for group work, interaction and discussion. But these were generally research done in face-to-face teaching-learning and on-campus learning situations. Perhaps in an ODL situation, the tendency for tablet use is individualistic. It was found that the individual learner used the tablet especially for reading course materials, participation in LMS, preparation for tutorials and researching on the internet. The tablet as a tool for learning to a certain extent (mean = 3.9) enhanced the knowledge and understanding gained from self-study. Future studies may explore in depth the strategies applied by the individual learner in enhancing their learning. Loch and Fisher (2010) reported the changes in learning strategies with the use of tablet by academics - highlighting text in an assignment and linking different colors to specific feedback (incorrect spelling, grammatical errors and learning outcomes). Evidently the tablet is an effective mobile learning tool for the individual learner.

The tablet usability anytime and anywhere also enhances learning in ODL. Indeed, the tablet use enhances the three key features of ODL, which are the provision of flexible educational opportunities in terms of access and multiple modes of knowledge acquisition (Ahmad, Phillips, Santhi & Wahid, 2013). This flexibility

allows the individual user to decide its usage. Findings indicated more use of tablet at home, average around 1-3 times a week. The duration of use for more frequent users was longer than not so frequent users. It is argued that mobiles can be ideal for bite-sized learning: "*One benefit identified by scholars is that if you learn something in short frequent bursts, you may very well be able to learn better than doing a five-hour study spree at the weekend*" (Thomas, 2013). The tablet's portability and user-friendliness are strengths, and its wi-fi enabled technology is important for effective tablet use in an ODL environment. The tablet as a tool is viewed in its capability to offer 'unparalleled access to communication and information', learning and interaction (Shuler & Winters, 2013).

5.1.3 The Social Aspects – Learning, Communication and Interaction

As Traxler (2007) stated, the mobile learning is "*essentially personal, contextual and situated.*" The tablet for mobile learning also enhances active learning as well as promotes interaction (Mckenzie and Franke, 2009). It is also likely that the affordability of the tablet as mobile technology facilitates more personalised learning (Shuler, Winters et al., 2013). On the other hand, Mckenzie and Franke's (2009) suggestion that the tablet has the potential to improve opportunities for collaboration and support social constructivist learning was not apparent. Perhaps a larger sample size and broader research scope may reveal more insights that were not possible in a research of this limited scale.

The tablet was effective as a tool for enhancing the individual learner's e-learning. As Respondent 3 succinctly wrote, the device was used to "*download course materials. Skype calls to tutors or fellow course mates to discuss subjects. It can be used anywhere. That's an advantage.*"

There was strong indication that the tablet was an effective tool for students' course learning preparations. Students agreed that the tablet was effective for reading course e-learning materials, searching the internet for course-related information, accessing the LMS for all course learning purposes, downloading and viewing course-related lecture notes, and checking emails, and to a lesser extent, downloading and viewing course-related power point presentations and doing research for course assignments. Overall, the tablet as a tool for learning to a certain extent (mean = 3.9) enhanced the knowledge and understanding gained from self-study. More than half (70%) agree or strongly agree that the tablet was effective for interaction in the LMS forum (mean = 3.9). Respondents' were generally ambivalent towards the tablet effectiveness as a tool for communication

5.2 Recommendations

This study's intent was to explore the tablet as strategy to distributing class materials, to replace content CDs and textbooks, and providing more convenient accessibility to increasingly mobile learners. There were limitations in the research due to scale and cost. The limited number of devices approved for trial was reflected in the small number of research participants selected from the School of Education, Languages and Communication in WOU. This study is thus limited in its generalizability of findings which therefore cannot be inferred to reflect the wider population of tablet users. Future studies may include larger samples to be able to

inform the University of the feasibility of a school-wide and possibly campus-wide adoption of tablet for learning and its benefits for distance learners. Studies may also consider developing a new generation of interactive course materials for tablets with a tablet and/or smart phone applications that enables students to download all the course materials they need on to their mobile devices. Future studies may also explore in depth the strategies applied by the individual learner in enhancing their learning. *“As the cost of technology falls, mobile devices become more powerful and cross-platform development becomes simpler, it seems inevitable that universities will start to take mobile devices into account when they design learning resources”* (Thomas, 2013). The customized applications may also allow users to access the university's LMS to interact with fellow students and tutors. For distance learners who often struggle to combine studying with full-time work, this will provide a new flexibility. Such mobile learning is ideal for students who want to study during lunchbreaks or quiet moments at work, or riding home as a passenger in traffic jams.

This study is significant in eliciting the profile of tablet use in an ODL environment, based on an adaptation of Koole's (2009) FRAME. The study may also allow subsequent tablet users (educators and learners alike) to handle anticipated issues in and facilitate the distribution of materials, self-study practices, communication and interactions among all parties concerned. This study also demonstrated that careful planning and implementation of the trial is vital, and this includes consideration of time frame, selection of participants and ways to maximise their experiences of tablet use in open and distance learning. While the list of conclusions is not exhaustive, it may help other academics in higher education environments with the planning of a larger scale trial of tablet or other educational technology in their institution.

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