

STUDENTS' PERCEPTION ON IMPLEMENTING PERSONALISED M-LEARNING TO SUPPORT THE TEACHING AND LEARNING OF FOOD AND BEVERAGE SERVICE COURSE

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Abstrak: Kajian ini dijalankan untuk mengenal pasti persepsi pelajar dalam pembelajaran mobil personal untuk menyokong pengajaran dan pembelajaran bagi kursus Perkhidmatan Makanan dan Minuman. Kajian ini dijalankan menggunakan pendekatan kuantitatif. 50 responden dipilih sebagai sampel dalam kajian ini. Soal selidik telah digunakan untuk mengumpul data. Analisis deskriptif digunakan untuk menganalisis data menggunakan perisian SPSS. Keputusan kajian menunjukkan bahawa terdapat keperluan untuk membuat perubahan kepada kaedah pengajaran dan pembelajaran yang sedia ada. Penyelidikan lanjutan disarankan untuk kerjasama dalam pelaksanaan kurikulum m-pembelajaran yang diperibadikan. Elemen personal dan kontekstualisasi diperlu dipertimbangkan untuk menyokong konteks sosial pelajar. Ini dapat meningkatkan sistem pembelajaran mobil personal untuk menyokong pembelajaran kolaboratif.

Kata Kunci: *Persepsi pelajar, pembelajaran mobil personal, pengajaran dan pembelajaran*

INTRODUCTION

We are living in a time of intense change in the area of digital technology and the way it affects every aspect our everyday life. The current educational system does not cater to learners of different levels. The need for the adult learners to continuously learn is widely recognized and it is a 'must' for a corporation's competitive advantage. Adult learners, especially people who want to learn on the move, find it difficult to go through the traditional learning process. Traditional lecture-oriented learning is not appropriate for adult learners especially for professionals as this requires them to allocate time and space. M-learning provides a solution for this problem. However, implementing m-learning is a challenging problem. M-learning is completely different from the current teaching and learning systems. It will involve major changes in the way we teach and learn. Learning outside the traditional educational context such as classroom, library labs and etc. required self-motivation to do so whenever the opportunities arise from any source (Kok, 2013). M-learning provide these opportunities by giving small and portable device as a learning tool for easy caring and better functionalities than other media. Designing and developing learning activities for these types of devices is complex and challenging.

Mobile devices become learning tool as soon as people used to send and/or receive learning content. It has greater advantage compare to other learning tools since the said device can be used anywhere and at anytime. Mobile devices are considered as 3rd generation technologies which allow learners to access their learning content while being away from computers and classrooms. However, creating mobile content is not an easy task and become more difficult when it involves various types of mobile devices.

Mobile learning (m-learning)

New terms and concepts had been introduced in educational sector due to new advancement in technology. In the area of technology-assisted learning, e-learning (electronic learning) becomes the buzzword in providing instant learning services. However, in e-learning, students still need to find a networked computer to work with. This means that the students need to find specific time for learning at a specific location (Jun, Kyung-Seob, Vicki & Greg, 2001). The need for "information anywhere anytime" has been the driving force for the increasing growth in m-learning (Gupta & Srimani, 2000). Mobile education is defined as "any service or facility that supplies a learner with general electronic information and educational content aids in the acquisition of knowledge regardless of location and time" (Quinn, 2013). M-learning is the intersection of mobile computing and e-learning, which includes anytime, anywhere resources; strong search capabilities; rich interaction; powerful support for effective learning; and performance-based assessment. Mobile

devices also provide feeling of true ownership. Students who use lab must share them with others but the mobile devices on the other hand, can be a true “personal computer”.

The students can use mobile devices to gather, store, and retrieve important information thus developing information literacy, which is at the heart of lifelong learning (Issham Ismail, Siti Norbaya Azizan & Thenmoli Gunasegaran, 2016). By using the mobile devices, the student's educational experience expands beyond the teachers-centred classroom and they learn through their own experiences and ask own questions. Mobile devices actually, encourage the student to think, as stated in the theory of constructivism, humans generate knowledge and meaning from an interaction between their experiences and their ideas. In a boarder perspective, m-learning able to bring student experiences that occur in the educational process. So, it's not necessarily dictate by the teachers. How student interact within the content or learning materials shapes the student's experience in any learning process.

Personalised mobile learning

When talk about content, distributing personalised learning content to wide range of mobile devices not an easy task. Creating different contents for different types of mobile devices will be never ending task. Besides that, developing content for m-learning to cater wide range of mobile devices is an expensive and time-consuming process which required at least a reasonable knowledge of the learning content, learning and teaching issues, software engineering and mobile device technologies (Jahankhani, Yarandi & Tawil, 2011). If the device is fixed and content is created around this device technology, any new device introduce in the market will required the developer to reinvent the wheel. So, in order to deliver multimedia rich content to different types of mobile devices, the content needs to go through series of adaptation and transformation processes based on the user's preferences and the mobile device capabilities.

Learning from the mobile devices especially from phone not necessary learning from YouTube, Facebook, LinkedIn and other social media linked to videos. It's beyond that. Just because the mobile devices are available to almost everyone especially every student, doesn't mean we can create a learning opportunity using these devices (Viberg & Grönlund, 2012). In m-learning system, there are no fixed learning path which appropriate for all learner. Every individual will have their own learning style which best works for them. Beside their ability to learn, the instrument they use for learning (in m-learning, their mobile device) also play an important role in defining ones learning path. Personalised m-learning take into account the learner's preferences (also their ability), the environment (network) and the limitation of their mobile device (Geoffrey, 2001).

RESEARCH QUESTIONS

In identifying the personalised m-learning curriculum for diploma in hospitality management programme, the students' views were seek to answer the following research questions:

- 1.1 What are the mobile devices that the students carries and capabilities of these devices?
- 1.2 What are the students' perceptions on their current ways of teaching and learning setup for Food and Beverage Service course?
- 1.3 What are the students' perceptions on implementing personalised m-learning to support the teaching and learning of Food and Beverage Service course?

METHODOLOGY

The sample for this phase involved fifty (50) students from private college in Malaysia who are enrolled in diploma in hospitality programme. Diploma students in hospitality programme who enrolled for the Food and Beverage Service course was selected as the research focus for this study. This diploma in hospitality programme is a 2.5 years programme where students will go through two years of theory and practical sessions at the college. The last six (6) months of study, the students need to do internship programme at hotel or travel agency. During this period, students will practice what they have learned in their two years of studies at the college. This programme provides students with the requisite knowledge and skills required for developing a career in hospitality, event management, and tourism with a managerial perspective in this field.

The subject selected for this personalised m-learning curriculum implementation model is HM 2.03 Food and Beverage Service. This is a fourteen weeks of compulsory subject for student enrolled in this diploma in hospitality programme. The objective of this subject is to provide student with the basic skill and techniques to serve in food and beverage service. This will enable the student to understand, applying the skill and subsequently specializing in food and beverage

operation. The outcome of this subject will make the students understand the food and beverage operation and serve in the right and professional way. The subject introduces the basic technical and conceptual skill of food and beverage service to all students. It also emphasized the correct and professional way of serving food and beverages.

Purposive sampling method was used to select the students for this study which attempted to develop the personalised m-learning curriculum implementation model for hospitality subject. A pilot study was conducted on 30 diploma students from hospitality programme from the same higher education institution who enrolled for Food and Beverage Service course. However, these students will not take part in the actual needs analysis study. This survey questionnaire is a quantitative survey method to investigate the students' level of acceptance on the implementation of m-learning into their curriculum. Before the survey questionnaire was carried out, the students were given a briefing on the purpose of this survey. The face and content validity of the questionnaire instrument were evaluated by a team of six (6) experts from curriculum design and instructional technology. Cronbach alpha technique was used to conduct the reliability test on the survey questionnaire. The questionnaire items registered a Cronbach alpha coefficient of 0.865. It is considered to be a measure of scale reliability or internal consistency (Cohen, Manion & Morrison, 2007).

The questionnaire instrument is divided into four (4) parts. The first part (Part A) presented data analysis associated with respondents' demographics. The second part (Part B) reported the finding on the mobile device usage by the respondents. In Part C, the data analysis are performed from the finding of the students' perception on the current teaching and learning setup. The finding from Part D, the students' perceptions on implementing personalised m-learning in teaching and learning of Food and Beverage Service course will be discussed.

The collected data were analysed using descriptive statistics via the Statistical Package for Social Sciences (SPSS) software version 25.0. The mode and mean scores from this analysis were used to determine the students' view on the needs of personalised m-learning for this Food and Beverage Service course.

RESEARCH FINDINGS

Part A: Background of Participants

The findings comprised of data with descriptive statistics through the analysis of mean, standard deviation, percentage, and frequency to determine the needs to develop the personalised m-learning curriculum implementation model based on the students' view. The survey questionnaire was distributed to a specific group of 50 students enrolled in Food and Beverage course. The sample consisted of 35 female and 15 male students. The findings on the background of the respondents are summarized as shown in the table 1.

Table 1
Participants' Demography

Item		Frequency	Percentage
Gender	Male	15	30
	Female	35	70
Age	From 18 - 20	50	100
	From 21 - 22	0	0
	Older than 22	0	0
CGPA	3.67 - 4.00 (1st Class)	6	12
	3.00 - 3.66 (2nd Upper)	32	64
	2.67 - 2.99 (2nd Lower)	10	20
	2.00 - 2.66 (3rd Class)	2	4
	Below 2.00 (Fail)	0	0
The mobile device capabilities	Basic (Voice call & SMS)	0	0
	Intermediate (Basic + limited Internet browsing)	42	84
	Advance (Basic + unlimited Internet Browsing)	8	16

Table 1 shows the demographics of survey respondents, comprising a total of 50 students with 35 (70%) of the respondents were female and the male respondents only comprises 15 respondents (30%). All the respondents were from same age group from 18 to 20 years old. In term of their result, majority of the respondents were in second class upper category (64%). There are 6 respondents (12%) from first class category while only 2 respondents (4%) are from

third class category. No respondent in the fail category bracket and the remaining 10 respondents (20%) are from second class lower category. In terms with respondents' mobile device capability, there were no respondents with basic capability which permits basic voice call and SMS. Majority of the respondents, 84% were with intermediate capability where they can make basic voice call and SMS with limited Internet browsing capability. The limited Internet browsing capability was due to their data plan subscription where there are only given certain amount of Gigabytes (GB) data to be used in a week or month (based on their plan). In terms of type of mobile device used by the respondents, there are 16 respondents (32%) having more than one device and all of the owned a smart phone. This means that all of the respondents owned a device which capable to do functions such as voice calls, SMS, sending and receiving emails, Internet browsing, camera and video recording and streaming, MMS, video calls, and preloaded software that could readily accommodate m-learning.

Access to Internet became a must if you are students and besides using mobile devices for communication and collaboration, it's also important to access online content related to their studies. This survey indicates that all of the respondents' mobile device are capable to access Internet via WLAN WIFI. Thus, wherever WIFI connection is available, students are able to connect to Internet whether it's at their campus, home, hostel, and restaurant and even inside a moving bus. While there are 8 respondents (16%) who have unlimited Internet access through their data plan, the majority of them (84%) are using limited data plan due to cost concern.

Part B: Participants Mobile Device Usage

The following findings reported on the mobile device usage by the students. This was to investigate time spend by the students on their mobile devices, types of activities performed using their mobile devices and time spend away from campus or on the move. The findings on the respondents' mobile device usage are summarized as shown in the table 2.

Table 4.2

Participants' Mobile Device Usage

Items	Frequency	Percentage	
Time spend on the move (weekly)	< 1 hour	0	0
	1 – 2 hours	0	0
	2 – 3 hours	9	18
	3 – 4 hours	15	30
	> 4 hours	26	52
Mode of transport	Car	5	10
	Bus	24	48
	Taxi	0	0
	Train	12	24
	Bike	6	12
	Walking	3	6
Average time spend on mobile devices in a day	< 30 minutes	0	0
	30 minutes – 1 hour	0	0
	1 – 2 hours	9	18
	2 – 3 hours	33	66
	> 3 hours	8	16
Any specific time preference to use the mobile devices	No specific time	22	44
	Mornings	3	6
	Afternoons	10	20
	Evenings	15	30
	Weekends	0	0
Place where mobile device usage is most often	At home	12	24
	On campus	20	40
	Travelling	18	36
	TV time	0	0

Table 2 shows students' mobile device usage pattern. Based on this table, 52% or 26 respondents spend more than 4 hours weekly for travelling. This is justifiable since 24 respondents (48 %) are using bus as their mode of transport. Relying on bus to ferry them around normally takes more time than using own vehicle such as car (10%) and bike (12%). Thirty percent of the respondents spending 3 to 4 hours weekly on the move and balance 9 respondents (18%) spend 2 to 3 hours travelling. Besides bus, train was the second highest in terms of public transport usage by the

respondents. There were 12 respondents (24%) use train as their most often used mode of transport. Only 6% of the respondents used to walk to move around. In terms of average time spend in a day on mobile device, 33 respondents (66%) selected that they spend average 2 to 3 hours each day on their mobile device. This is followed by 9 respondents (18%) spend an average of one to two hours daily and 8 respondents (16%) of participant spend more than 3 hours daily. Since the students are carrying their mobile device almost all the time, they do not have a specific time as preference to use their device. There are 22 respondents (44%) who do not have any specific time preference to use their mobile device. This followed by 15 respondents (30%) prefer to use in the evening and 10 respondents (20%) prefer afternoon as their preferred time to use their mobile device. There were only 3 respondents (6%) prefer to use in the morning and no respondent selected weekend as preferred time to use their mobile device. The selected students most often use their mobile device while there are at campus, where 20 respondents (40%) selected this option. This followed by 36% of the participants use their device while travelling and remaining 12 students (24%) often use their device at home.

The following table (Table 3) is the continuation from participants' mobile device usage (Table 2). In terms of types of activities students performed on their mobile device, the respondents selected combination of most of activities listed in the questionnaire except for banking. No respondent selected banking online as one of their activity performed on their mobile device. While all of the respondent use their device to perform calls, Internet browsing, photo sharing, music listening, music download, video download, video watching and Facebook. This followed by playing games where 46 respondents (92%) would like to play games on their mobile device. As for the use of mobile device for everyday study purposes, all of the respondent involved at least in one of the activity related to studying.

Table 3
Participants' Mobile Device Usage (types of activities)

Items	Frequency	Percentage	
Activity performed on mobile device	Call	50	100
	SMS	32	64
	Email	10	20
	Internet browsing	50	100
	Photo sharing	50	100
	Music listening	50	100
	Music download	50	100
	Music sharing	36	72
	Video download	50	100
	Video watching	50	100
	Podcast download	26	52
	Podcast watching	26	52
	Facebook	50	100
	Twitter	24	48
	Mobile education	18	36
	Study notes	14	28
	Research	5	10
Games	46	92	
Banking	0	0	
Use of mobile device for everyday study purpose	During lessons	5	10
	Between lessons	23	46
	Outside class hours	31	62
	For independent studying	18	36
	For group work	34	68
	For peer discussion	42	84
	I don't use my mobile device for studying purpose	0	0

Part C: Students' Perception on the current teaching and learning setup

The needs analysis investigation required to look at the current teaching and learning setup to find out whether the current setup was adequate to fulfil the students' learning needs and fulfil the learning outcome of the course. These findings justified that there is a need to make changes to the existing teaching and learning method. Thus, the following findings are discussed based on the objectives of the study. The following table (Table 4) is to elicit the students' perception on the current ways of teaching and learning setup.

Table 4

Students' perception on teaching and learning setup

Items	Descriptions	Mean	SD	Interpretation
1	Four (4) hours per week in one semester is ENOUGH for me to acquire the learning outcomes of F&B Service course	2.42	.642	Moderate
2	Two (2) hours per week in one semester is ENOUGH for me to acquire the theory part of F&B Service course	2.26	.633	Moderate
3	Two (2) hours per week in one semester is ENOUGH for me to acquire the practical part of F&B Service course	2.18	.629	Moderate
4	I am able to recall the theory and practical knowledge that I obtained in face-to-face sessions	2.48	.707	Moderate
5	The theory and practical face-to-face classroom sessions are NOT ENOUGH for me to obtain the knowledge required for this course	3.88	.558	High
6	Students who have the practical experience will perform better in this course	3.98	.553	High
7	At the end of the course, I end up emphasising more in the grade obtain rather than the practical skills that need to acquired	2.24	.591	Moderate

Note: SD = Standard Deviation

Table 4 discusses the students' perception on the current ways of teaching and learning. The finding shows that the respondents perceived that the current face-to-face session for theory and practical part of the course are not enough to obtain the knowledge required to master this course. This is evidenced by a mean value of 3.88 (SD = .558). The respondents also agreed that students with practical experience will perform better in this course which reflected in the mean value of 3.98 (SD = 0.553). The result in the above table also reflected that the respondents were disagree in term of duration of the course. The respondents are disagree that the four hours per week allocated for this course was enough for them to acquire the targeted learning outcomes and this is reflected by the mean value of 2.42 (SD = .642). The respondents also disagree that the two hours per week class for each theory and practical session was enough to acquire the theory and practical part of the course and this is evidenced by a mean value of 2.26 (SD = .633) and mean value of 2.18 (SD = .629) respectively. Since this course required the respondents to acquire practical skills which is useful during their internship period, the respondents disagree that they emphasises more in the grade obtained rather than the practical skills. This is evidenced by the mean value of 2.24 (SD = .591).

The overall finding indicated that the majority of the respondents disagree on the amount of time spend in their face-to-face session for theory and practical part of the course. The respondents believed that lack of time spend on this course, could affect their success to meet the course outcomes. Thus, in order for the respondents to improve their knowledge acquired in this course, the need to support the learning course should be considered. Thus, the personalised m-learning intervention was proposed to aid the students to fulfil the course outcomes while assisting their learning needs.

Part D: Students' perceptions on implementing personalised m-learning in teaching and learning of Food and Beverage Service course

This part is to investigate the students' perceptions on implementing personalised m-learning in teaching and learning. The findings are shown in Table 5.

Table 5

Students' perception on implementing personalised m-learning in teaching and learning

Items	Descriptions	Mean	SD	Interpretation
1	I believe that my mobile device could support my learning in this course.	3.98	.515	High
2	I believe that learning with mobile device motivate me to achieve better study outcomes.	4.10	.463	High

3	I think that using my mobile device for learning would be frustrating.	2.00	.452	Moderate
4	I agree that having course materials such as slides, lecture notes and practice quizzes available on my mobile device would be beneficial to my study process.	3.96	.450	High
5	I would invest my personal time learning to use and install software that could make these resources available on my mobile device.	3.68	.551	High
6	I am willing to purchase a new mobile device if I think it would improve my performance in this course.	1.88	.328	Moderate
7	I feel that the use of some kind of m-learning software would improve overall success in my course.	3.78	.418	High
8	I would like to be able to exert control on the learning materials.	4.38	.490	High
9	I agree that if the learning materials presented in a way that I wanted, it will keep my attention focused.	4.30	.463	High
10	I agree that when a physical environment is noted but it does not hinder the lesson experience.	3.98	.428	High
11	I agree that the lessons is followed where noise and audible interference is experienced.	3.16	.866	High

Note: *SD* = Standard Deviation

Based on the outcomes of the needs analysis phase, personalised m-learning was proposed as a solution. In this part, the study investigate the students' use of personalised m-learning as access to technology is an important criteria in technology based education (Keshin & Metcalf, 2011). Table 5 discussed students' perceptions on implementing personalised m-learning to support the teaching and learning of Food and Beverage Service. Based on the respondents' view, they wanted to have control on the learning material presented to them. It was reflected by the highest mean value of 4.38 ($SD = .490$) in this part of the questionnaire. In order to keep the students' attention focused, the respondents preferred learning materials presented in a way that they wanted. This is evidenced by the mean value of 4.30 ($SD = 0.463$). Personalised m-learning could be a solution to the problem they faced since majority of the respondents believe that learning with mobile device could motivate them to achieve better study outcomes. This is reflected by the mean value of 4.10 ($SD = 0.463$). Evidenced by the mean value of 3.98 ($SD = .515$), the respondents believe that their mobile device could support the learning in this course. Respondents also agreed that when a physical environment is noted, it does not hinder them from learning. It was reflected by the mean value of 3.98 ($SD = .428$).

Since the respondents spend quite a number of hours in travelling per week (Table 2), environmental interference such as noise, play an important role in influencing the learning process when the respondents are on the move. This is also reflected in item number 11 with mean value 3.16 ($SD = .866$). The respondents also agreed to have their learning materials made available on their mobile device to benefit their study process. In order to improve overall success of this course, respondents are willing to invest their personal time to learn and use some kind of m-learning software. This was reflected in item number 5 and 7 by the mean value of 3.68 ($SD = .551$) and 3.78 ($SD = .418$) respectively. Majority of respondents disagree that using mobile device for learning would be frustrating and this is evidenced by the value 2.00 ($SD = .452$). Since all the respondents are students, they are not willing to spend to purchase a new mobile device just to use for learning purpose. In other word, the respondents want the learning materials suites their existing mobile device. This can be performed through adaptation and/or transformation of the learning materials.

DISCUSSION AND CONCLUSION

Personalised m-learning is strives to improve the learning process by providing the learning content based on the learners' preferences (Tom & Lydia, 2015). The outcome from this study is used as a basis for the development of personalised m-learning curriculum implementation model for a greater learning experience for students in hospitality programme. In the process of implementing personalised m-learning, the mobile device itself considered as a learning tool and the ownership of this device is important since it give students feeling of true ownership and opportunities to take control of their own learning. The finding revealed that majority of the respondents were with intermediate capability where they can make basic voice call and SMS with limited Internet browsing capability. In fact, all the students surveyed own a smart phone where this device have at least a minimum capacity to carry out mobile learning with 32% having more than one mobile device. This findings are important as the use of mobile technology is an

essential criteria in technology based education. According to Garrison and Anderson (2000), technology equipment can be used as a medium of instruction as it has a privilege not shared by other learning media. This shows that the personalised m-learning can be implemented since the students have readily access to mobile technology (mobile device and Internet accessibility).

The findings from this stage justified that there is a need to make changes to the existing teaching and learning method. The surveyed students perceived that the current face-to-face session for theory and practical part of the course are not enough to obtain the knowledge required to master this course. The overall finding indicated that in order for the surveyed students improve their knowledge acquired in this course, the need to support the learning course should be considered. Thus, the personalised m-learning intervention was proposed to aid the students to fulfil the course outcomes while assisting their learning needs. This is because the use of personalised m-learning as access to technology is an important criterion in technology based education (Jones, Valdez, Nowakowski, & Rasmussen, 1995; Dones, 2010).

Further study is recommended to include collaboration in personalised m-learning curriculum implementation. Personalisation and contextualisation elements to support the social context of the learner and to model the communities that the learner interacts with need to be considered. This could enhance the personalised m-learning system to support collaborative learning. Finally, the personalised m-learning curriculum implementation model could also be developed for learners with cognitive disabilities within different contexts (specific needs learners). The personalised m-learning could provide a personalised learning process for learners with mental/learning disabilities based on their specific abilities. This is to ensure that the learners with physical impairments also to be able to use this personalised m-learning system. This exclude the learners who cannot move their hands and blind.

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