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A NEEDS ANALYSIS ON THE DEVELOPMENT OF A MOBILE LEARNING (M-LEARNING) MODULE FOR MULTICULTURAL COUNSELLING

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Abstract
Various studies in instructional strategies have been conducted to enhance multicultural counselling competency. However, there is a lack of pedagogical approach for technological aspects in multicultural counselling, particularly for mobile learning. This article highlights the development of the Multicultural Counselling Mobile learning (M-learning) module using the ADDIE model. It concentrates on the first stage of the module development, which involved the needs analysis study to construct the framework of the module. 86 respondents consisted of counselling students both undergraduate and postgraduate were involved in the study. The results of the study indicated the positive needs for mobile learning during teaching and learning. The discussion and implications of the study that helped in the planning and designing of the multicultural counselling competency module were discussed.
Keyword: competency, counsellors in training, ADDIE Model, Instructional strategies.

1. Introduction

Technology has had a dynamic impact on learning. Online learning has the capacity to enhance the pedagogical approach to enable learners to create, access, explore, and communicate their learning activities in a more exciting manner (Low, 2006). This is because the new generations of students who live in the era of digital revolution are technologically savvy who heavily utilize the internet and social media platform as a form of communication and learning. Most of these young people make routine use of the Internet as a form of communication that helps them manage their learning. Additionally, they have unique learning styles that demand institutions of higher learning to reframe their instructional strategies (Havice, Davis, Foxx, & Havice, 2010). This article highlights the development of the Multicultural Counselling Mobile learning (M-learning) Module for counsellors in training using the ADDIE Model. It will cover the needs analysis study for constructing the framework of this module. The last section will discuss the implications of the findings in developing multicultural counselling pedagogical content knowledge.

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2. Mobile learning

The rapid growth of mobile technology provides learners the autonomy to immerse in significant learning activities at any time and place they want (Franklin & Peng, 2008; Traxler, 2009). The development of learning input for mobile devices provides new prospects in education (Martin, Pastore, & Snider, 2012). Mobile learning or also called m-learning is regarded as one of the advancements of e-learning. M-learning is the convergence between mobile computing and e-learning, which provides the high efficiency in its accessibility and content performance (Quinn, 2000). Stevens and Kitchenham (2011) defined mobile learning as "the use of a wireless handheld device, such as a cell phone, a personal digital assistant (PDA), a mini-computer, or an iPod to engage in some form of meaningful learning" (p. 3). The E-learning guild defines e-learning as the affordances of any individual to interact in learning activities mediated through mobile digital devices. (eLearning Guild 360 Mobile Learning Research Report, 2007, p.6). Hence, this type of learning employs the use of mobile devices to accelerate the learning process (Pegrum, Oakley, & Faulkner, 2013).

Mobile learning refers to the ability of students in using mobile devices and programme applications of technologies as well as social networking in teaching and learning (Kukulsa-Hulme, Evans, & Traxler, 2005; Park, 2011).
Findings of Thornton and Houser (2005) indicated that majority of Japanese university expressed their interest in receiving their learning materials via mobile devices rather than on PCs as they are convenient and effective learning tool. Therefore, appropriate mobile learning approaches can aid educators in their teaching and learning processes (Hamann, 2015).

3. Multicultural counselling pedagogy

Studies on multicultural counselling competency have demonstrated the lack of training, particularly in instructional strategies. According to Kim (2003), trainings that emphasise on the affective, cognitive, and behavioural aspects are still lacking in multicultural courses. Similarly, Hanna and Cardona (2013) mentioned that research involving strategies and techniques to reduce the impact of prejudice, discrimination, and oppression in society are still scarce. Haskins and Singh (2015) also emphasised on the fact that multicultural counselling competency has not yet met the needs of the marginalised community.

Various studies on instructional strategies in multicultural counselling competency have been conducted and recommended, which include the use of film (Michael, 2016), reflective journals (Collins, Arthur, & Wong-Wylie, 2010; Sheely-Moore & Kooyman, 2011; Midgett & Doumas, 2016), experiential learning or experience (Toporek, 2001; Kim & Lyons, 2003; Andleon & Moore, 2011), and role play and interviews (Sheely-Moore, & Kooyman, 2011). However, research on the technological aspects of this competency is sparse. Little evidence has shown

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how technology can develop students' multicultural counselling competencies, as they are very much exposed to traditional modes of learning delivery (Chen, Basma, Ju, & Ng, 2020). To date, a narrative study by Anderton and King (2016) is the only one to incorporate game-based learning, known as "Oblivion". Their study involved five participants (4 females and one male), which was aimed at broadening the cultural empathy and explore personal biases among participants. Their findings revealed that they obtained their learning processes while playing the game. The participants have associated these experiences to their personal daily life behaviours, including cognitive and affective aspects. The researchers identified four themes from the collected data, namely, the ability to confront new culture, increased self-awareness, and be respectful to others' cultural values. "Oblivion" provided the participants the chance to penetrate into a uniquely designed world, which is the participants' simulated cultural world.

Hence, several researchers have suggested that counsellor educators should enhance their instructional strategies. Arredondo and Arciniega (2001), and Goodman et al. (2015) urged multicultural counselling courses to seek a more appropriate pedagogical approach. For example, other technologies can help instil a multicultural perspective that would be pertinent to the local situation, while respecting a universal perspective. According to Kim and Lyons (2003), technological aspects can be used along with didactic teaching based on three-dimensional competencies, namely, awareness, knowledge, and skills. This notion is supported by Rejlic, Harper, and Crether (2013), who also advised counsellor educators to use technology to strengthen their instructional delivery to enable students to better understand their clients' culture. Protera (2014), Swazo and Celinska (2014), as well as Cook, Krell, Hayden, Gracia and Denitzio (2016) have urged counsellor educators to review various aspects of multicultural competency training and to incorporate an instructional strategy that can deal with cultural diversity. Meanwhile, Mitcham, Greenidge, and Smith (2013), as well as Haskins and Singh (2015) proposed the transformation of pedagogy that can emphasise on creativity and recommended educators to change the traditional instructional methods to a form of personal exploration that can stimulate cultural reflexivity among students.

Studies related to mobile learning are thus vital for strengthening multicultural counselling competence. Mobile learning can help educators increase students' interests and motivations (Wains & Mahmood, 2008). Additionally, mobile learning provides valuable opportunities for educators to develop instructional activities, as well as support resources for traditional forms of instructional education and various forms of online learning (Fardoun, Villanueva, Garrido, Rivera, & Lopez, 2010). Hence, the developed Multicultural Counselling M-learning Module has the potential to become a driving force to enhance competencies among counsellors. It is important to provide counsellors with different ways to manage challenges in managing client diversity.

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4. Study Design

This study employed the ADDIE Model, an instructional technological design, which has enhanced the quality and effectiveness of instruction (Dick, Carey, & Carey, 2005), as well as increased the efficiency of delivery-time and possible cost. This research design process consisted of five phases or stages, as listed as follows:

1. Analyse
2. Design
3. Develop
4. Implement
5. Evaluate

The five-phase process of the ADDIE model includes analysis, design, develop, implement and evaluation. The analysis phase involves the needs to determine the types of content, training needed as well as assessing the characteristics of the target population. Subsequently, the design phase involves the learning objectives, content, needs analysis, the use of assessment instruments and platform selection. During the development phase, all the findings from the data collection will be placed according to the suggested requirement. (Dick et al., 2005; Molenda et al., 1996). Implementation phase involves the continuous changes of the instruction based on the results obtained. Evaluation phase involves meticulous final testing regarding the whole learning objectives and the entire instructional processes by identifying demands that may develop to improve or update the instructional process (Gagne et al., 2005). Thus, this article will highlight the first stage of the research design, namely, the "analyse" stage. It is the most important stage in which it is the blueprint for the entire project. This stage involved identifying module requirements, such as the target group and comparing them based on skills, knowledge, and abilities. The comparisons included users' prior knowledge on mobile learning and their expectations of learning using this method. This stage determined the kind of instruction necessary for that particular course, including the design, development, implementation, and evaluation of the project, such as the estimated completion time. The needs analysis study involves a survey among users to determine the suitability of the developed module. The demographic aspects of users were also surveyed, in terms of experiences, attitudes, and exposure to m-learning for enhancing multicultural counselling competency. The types of M-learning required for multicultural counselling courses were also included. Before commencing the study, the ethical approval was acquired from the ethical board of committee of the university. The procedures used in this study adhere to the tenets of the university.

5. Sample

This study utilized a descriptive quantitative method using an online Google survey form to collect data from 86 counselling students, consisting of both undergraduates and postgraduates. This research procedure was endorsed by the university review board. Prior to conducting the

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survey, the respondents were given informed consent forms to ensure their rights, including confidentiality, anonymity and their participation to involve or withdraw from the study. Respondents consisted of counselling students based on random sampling. The questionnaire comprised of 19 items that the respondents can answer using a five-point Likert scale to indicate the extent to which they agree or disagree with the different statements. The five response likert scales are as follows: 1 = I totally disagree; 2 = I disagree; 3 = I neither agree nor disagree; 4 = I agree; and 5 = I totally agree. The collected data were analysed using version 24 of the SPSS statistical software package.

6. Findings

Based on Table 1, the respondents consisted of counselling students from various semesters. The majority of them (29) were from semester 2 (33.7%), followed by those from semester 1 (26.7%). The least number of respondents were from semester 7 (2 students), which represented 2.3% of the sample. The majority of the respondents were female (71) or 82.6%, while a total of 15 respondents were male (17.4%). A total of 80 respondents (93%) were undergraduate students, while 6 of them (27.3%) were postgraduate students. When asked about the type of mobile device used daily, 97.7% of respondents indicated mobile phone as the main device. Only 2 respondents (2.3%) used laptop as their daily mobile device. Android is the preferred operating system for the mobile devices used by the respondents (81.4%), while iOS catered for the remaining 18.6%.

Demographic information of respondents

Table 1

Description		***f***	**%**
Age	20-29	82	95.3
	30-34	3	3.5
Gender	Male	15	17.4
	Female	71	82.6
Level of study	Undergraduate	80	93
	Postgraduate	6	7
Semester	1	23	26.7
	2	29	33.7
	3	6	7
	4	15	17.4
	5	3	3.5
	7	2	2.3
	8	8	9.3
Type of mobile device used daily	Mobile phone	84	97.7

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	Laptop	2	2.3
	Tablet	-	-
	iPod Touch	-	-
	Others	-	-
Operation system of mobile device used	Android	70	81.4
	IOS	16	18.6

N=86

Based on Table 2, more than half of the respondents mentioned that they have prior knowledge (higher than 80%) of mobile phone utilisation, which included using mobile phones to access the Internet and all applications provided by the respective mobile service providers. However, one item indicated the least knowledge that the respondents have; 38.4% of respondents claimed not knowing the process of downloading a podcast on a mobile phone.

Student's Prior knowledge

Table II

No.	**Description**	***f***	**%**
	I have a knowledge on how to use smart phone to:		
1.	access the internet	81	94.2
2.	download a podcast	33	38.4
3.	download a mobile application (app)	77	89.5
4.	find the definition of a word.	74	86
5.	use calculator	71	82
6.	set an alarm for a certain date.	73	84.9
7.	translate a sentence into another language.	73	84.9
8.	access a social networking site	75	87.2
9.	send an email.	72	83.7
10.	post a comment to a blog or respond to a post.	71	82.6

N=86

Based on Table 3, half of the total items indicated more than 80% of respondents have participated in mobile learning activities. The highest percentage of respondents (93%) used mobile devices to assist them in understanding their courses. Approximately 89.5% of respondents used mobile devices to take pictures or videos for their assignments. The majority of the respondents (88.4%) accessed the university's e-learning portal, known as MyGuru to read articles or assignments on their mobile devices. Only 1 item (item 8) indicated less than 40 percent of respondents who mentioned that they texted their classmates about the content of the class.

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Engagement in mobile learning activities

Table III

No.	Description	*f*	%
	I use mobile devices to:		
1.	download an application for knowledge purpose	75	87.2
2.	find for the information	80	93
3.	engage in social media	67	77.9
4.	write notes on mobile device	75	87.2
5.	set an alarm or reminder for assignment	72	83.7
6.	text a classmate during a class.	68	79.1
7.	text a classmate outside of class	69	80.2
8.	text a classmate about the content of the class.	34	39.5
9.	text a classmate about the teacher's ability.	56	65.1
10.	text a classmate about the level of engagement in the class.	55	63.9
11.	take pictures or videos for assignment.	77	89.5
12.	access an educational management system (e.g., Myguru)	76	88.4
13.	read an article or assignment	76	88.4
14.	download educational games.	75	87.2
15.	communicate with advisors and administrators.	68	79.1

N=86

The results revealed that the overall respondents were receptive to the idea of mobile devices use for teaching and learning in the multicultural counselling course. Based on Table 4, 14 statements out of 19 statements received positive responses, with more than 50% of cumulative percentage of Likert scale of 4 and 5. Out of the 14 positive responses, items 9 and 10 received higher than 80% percent of positive responses. 89.5% of the respondents stated that they would love to access MyGuru in a mobile format using their mobile devices, while 83.7% stated that they require the use of mobile devices to download applications for their learning process. In addition, the majority of the respondents (> 71%) concurred to the viability of mobile learning to access materials any time, and anywhere, as well as the accessibility of mobile devices to view course materials, quizzes, participate in online forums, and learning opportunities anywhere they like (items 2, 8, 11, 12, and 15). The respondents further supported the need for mobile learning in classrooms, as shown by their positive responses (> 50%), in terms of its benefits that include

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positive engagement in learning, as well as in discussion, communication, and completing their assignments (items 1, 5, 6, 14, 16, 17, and 19).

Item questions with lower positive response rates indicated that more than 40% of respondents neither agree nor disagree with the need for mobile learning in and out of the classroom, as well as motivation and perceived benefit of mobile learning (items 13, 3, 18, and 19). Meanwhile, less than 18% of the respondents indicated disagreement in the above-mentioned statements.

The findings in Table 5 indicated the limitations that the respondents have in terms of using mobile learning applications. The major limitation (68.6%) that they faced was the issue of internet connection. This was followed by the difficulties they felt (48.8%) in terms of learning using mobile applications compared to the traditional face-to-face interactions. Approximately 36% of respondents also claimed the lack of data plan and the small screen size of their mobile device as among the hindrances that they encountered. Approximately 26.7% preferred teaching and learning in the classroom, while 2.3% of the respondents indicated the issue of not owning a mobile device and internet access (8.1%).

Limitations pertaining to mobile learning

Table VI

No.	**Description**	***f***	**%**
1.	I do not have any mobile device.	2	2.3
2.	I do not have a mobile device that has access to the Internet.	7	8.1
3.	I cannot download applications on my mobile device.	6	7
4.	I do not have a data plan to access course and study materials online.	31	36
5.	I would have issue in mobile learning due to the connection speed.	59	68.6
6	I have difficulty in mobile learning due to its screen size.	31	36
7	I prefer only to learn in the classroom.	23	26.7
8	I prefer to learn using traditional methods as opposed to the technology.	42	48.8
9	None of the above	12	14

N=86

The need for a mobile learning module in a classroom

Table IV

No.	Description	**1**	**2**	**3**	**4**	**5**	**Sum**
1.	If I could use my mobile device, I would be more likely to participate in class.	4.7	8.1	24.4	43	19.8	62.8
2.	If I could access materials anytime and anywhere on my mobile device, I would spend	1.2	2.3	22.1	51.2	24.4	75.6

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	more time on class work						
3.	I would be more likely to participate in and outside of class activities if I could do so through my mobile device.	3.5	5.8	41.9	32.6	16.3	48.9
4.	I would be more likely to engage my thoughts in discussions during the class using my mobile device.	3.5	5.8	43	31.4	16.3	47.7
5.	I would be more likely to engage in discussions outside of the class if I could post my thoughts from my mobile device.	2.3	8.1	36	32.6	20.9	53.5
6.	I would be more likely to communicate and ask for help through my mobile device.	2.3	7	25.6	45.3	19.8	65.1
7.	I would like to see mobile learning integrated into my classes.	2.3	16.3	0	31.4	17.4	48.8
8.	I would like to be able to easily view course materials on my mobile device.	3.5	2.3	15.1	45.3	33.7	79
9.	I would like to be able to download mobile applications that could help me study.	1.2	3.5	11.6	50	33.7	83.7
10.	I would like to be able to access MyGuru in a mobile format.	2.3	0	8.1	43	46.5	89.5
11.	I would like to be able to take quizzes on my mobile device.	1.2	3.5	19.8	45.3	30.2	75.5
12.	I would like to be able to participate in online forum discussion from my mobile device.	1.2	4.7	16.3	44.2	33.7	77.9
13.	It would require less effort for me to learn on using mobile applications.	2.3	14	44.2	29.1	10.5	39.6
14.	Learning using my personal mobile device would be easy because I am familiar with all its functions.	17.4	0	29.1	53	0	53
15.	Mobile learning opportunities would allow me to learn and study in places I couldn't normally learn or study in.	1.2	3.5	20.9	53.5	20.9	74.4
16.	Easier to discuss with classmates.	1.2	11.6	26.7	40.7	19.8	60.5
17	If I could use a mobile device, it would be easier to complete classwork and assignments.	1.2	5.8	30.2	41.9	20.9	62.8
18.	If I could use mobile devices, I would be more motivated to enrol.	3.5	10.5	41.9	30.2	14	44.2
19.	Perceived benefit of M-Learning.	1.2	2.3	41.9	44.2	10.5	54.7

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7. Discussion

The results of the survey revealed that the overall respondents were receptive to the use of mobile learning in multicultural counselling course. This is in line with the findings of Rachmawati, Octavia, Herawati and Sinaga (2019) that e-learning systems have an influence on user satisfaction. The findings also indicated that the use of hand phones or mobile smart phones was popular among the respondents because these devices are wireless, portable, and have many functionalities and features (Osman, El-Hussien, & Cronje, 2010). In addition, internet and mobile learning provide all-embracing information (Sharples, Taylor, & Vavoula, 2007) that are considered vital in higher education. Nevertheless, the results also indicated the neutral opinions of the respondents (40%) with regards to mobile learning, in terms of participation, discussion, personal engagement, and motivation outside of the classroom, as well as its overall benefits. These results indicated their reluctance to use mobile devices as a replacement method as opposed to face-to-face instructional methods in counselling.

These findings also indicated the limitations that the respondents faced with regards to mobile learning applications, which included the issue of Internet connection, lack of data plan, and the screen size of mobile devices. These findings are accordance with the findings obtained by Kaliisa, Palmer, and Miller (2019). They reported that among the most common mobile learning challenges mentioned by university students in Uganda and Australia included the accessibility, data usage and cost, as well as the technical difficulties. The findings are also in accordance with the study of Tominaga and Kogo (2018) who identified five factors that enhanced the attributes of e-mentors (e-learning platforms) that include "Guidance to learners, "Support for learners,", "Consideration for learners," "Cooperation with teachers," and "Motivating learners". Therefore, educational institutions should make provision for the necessary environment to fulfil these conditions, so that students and educators would be able to embrace mobile learning in a more convenient way.

8. Implication

Education authorities should play their role and offer solutions to address the issues of digital divide and infrastructure in several fundamental aspects such as digital infrastructures, as well as training, guidance, and counselling for educators. Certain beliefs and attitudes towards mobile learning and its implementation among educators need to be empowered and strengthened. Additionally, a successful incorporation of technology, the role of instructors and students' accessibility to the technology need to be taken into consideration. Instructors and administrators also have the responsibility to be proactive in finding alternatives by inquiring and learning about students' potential challenges regarding technology.

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9. Conclusion

Thus, it is concluded that mobile learning is vital to assist teaching and learning process. The accessibility as well as the promising contents offered by mobile learning environment can be regarded as catalyst for learners as well as instructional developers to design mobile instructional content.

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