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STUDENT PERSPECTIVES ON MLEARNING FOR LOCAL CULTURAL STUDIES IN MALAYSIA

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Abstract. Notwithstanding the high penetration of mobile phones in Malaysia, especially amongst the contemporary generation of Malaysian students, who are technology savvy and use them with versatility, students' acceptance of the possibility that mobile phones can be employed for learning (mLearning) with locally developed content is still largely invisible. A major factor is the lack of availability of local mobile content for learning about Malay culture. This research attempts to understand the perspective of students in Malaysian public universities on what mLearning could contribute to the study of local culture. It does this through qualitative data from 15 focus groups comprising students who had taken part in an mLearning activity. The results provide themes and directions for how mLearning can contribute to local cultural studies, and highlight benefits and challenges. This paper provides a holistic point of view of mLearning in Malaysia, whereby the local students' preferences and requirements for mLearning are acknowledged .

1. Introduction: The Case for Local Cultural Content and Design

The Malaysian Government has long recognized the importance of local cultural sustainability and the availability of local content for new technologies such as mobile phones. The previous Minister of Energy, Water and Communication Minister Lim (2005) once stated that "Content is King". Meanwhile, the Minister of Information, Communication and Culture Datuk Seri Dr Rais Yatim (2010), in a press interview, has urged for more local cultural content for mobile phones to be developed.

Despite the high penetration rate of mobile phones in Malaysia, there is only limited local cultural content in the national language Bahasa Melayu and limited content based on the Malay culture (Ariffin, Hoskins-McKenzie, & Dyson, 2012). This is especially so in comparison to mobile content from overseas. Ariffin, Hoskins-McKenzie, & Dyson (2012) found that there is a gap in motivation for the development

of local content from mobile specialists within Malaysian industry. In particular, local mobile experts have expressed the view that they are not interested in developing local content for mobile learning (mLearning) in institutions of higher learning as the financial return is low. For these developers, a noble idea is not necessarily good for the mobile industry in term of optimizing profits for their companies. Within the educational environment, there is a serious concern over the lack of local cultural content for mLearning. This issue naturally impacts on students in the Malaysian public universities as they are the generation in need of local cultural learning resources.

Cultural issues also impact on usability and interface design. Nielsen and Loranger (2006) recommended the inclusion of the users' needs, including cultural considerations, when interrogating the usability of an interface design. They pointed out that most content developers tend to generalise their usability guidelines without considering the importance of specific cultural factors. Kukulska-Hulme (2008) criticised the tendency of developers to overlook usability factors in mLearning research. Reinecke and Bernstein (2011) argue that it is not feasible to design one interface that would appeal to all users. They propose that, by having a specific cultural design interface for a particular cultural group, this could help improve usability and students' performance in learning.

Inspired by the lack of research in the area of mLearning and culture, this study was initiated to investigate university students' perspectives on local cultural content and usability with respect to mLearning in Malaysia. It took place in the context of students enrolled in cultural studies courses, whom one would reasonably expect to be more aware of the importance of local culture. At present, students from Malaysian public universities are mainly of the Malay ethnic group and profess Islam as their religion. The Malaysian Economic Planning Unit (2009) illustrates in their report on "Percentage Distribution of Households by Income Class, Malaysia" that the Malay ethnic group is the lowest income group within the Malaysian demography, with only MYR3,624 of income per month (equivalent to USD1,186.25 per month). Being in a lower income group simply means the majority of Malay students do not have the capacity to buy expensive mobile phones for learning. Despite this limitation on mobile sophistication, all the 126 students who took part in the study owned a mobile phone and were able to undertake the mLearning activities that formed part of the research.

The paper begins with a description of the research methodology and then presents the findings of focus groups that were conducted after students had had the opportunity to take part in some mLearning as part of their cultural studies courses. From an analysis of themes from the focus groups a series of insights into the benefits and challenges of using mLearning in the cultural studies context emerged. The research contributes to an understanding of the potential uses of mLearning in Malaysian universities and helps towards an understanding of student preferences for local content and culturally appropriate interface design.

2. Methodology

The philosophical approach of this research is qualitative and interpretive (Myers, 1997). The research is based on an intervention in which cultural studies students from

Malaysian public universities participated. Students first took part in an mLearning activity appropriate to their course so they could experience what mLearning might be like in the context of their studies. Table 1 is a summary of the learning activities, undertaken by student participants, in which they used mobile phones. MLearning activities were student-centred, with an emphasis on active learning, such as site visits, videoing cooking sessions, rehearsing cultural performances, recording interviews, or photographing craft making.

Table 1. Learning activities where mobile phones were used

	Focus Groups' Names (No. of Groups)	Location of Activities	Mobile Phone Functions			Report Outputs by Focus Groups
			Photo	Audio-visual/ Video	Audio	
1	History (1)	Archeological site	✓	✓		Site visit
2	Cooking (2)	Kitchen	✓	✓		Video production
3	Cultural Heritage (3)	Museum	✓	✓	✓	Interview museum curator
4	Drama Theatre (2)	Studio	✓	✓		Rehearsals and event promotion
5	Batik Textile (1)	Workshop	✓			Batik textile
6	Creative (1)	Studio	✓	✓		Rehearsals
7	Malay Drum (1)	Studio	✓	✓		Rehearsals
8	Management (1)	Shops	✓		✓	Interview local traders
9	Edu Research (2)	Schools	✓	✓		Demo in learning
10	Wood Craft (1)	Workshop	✓			Craft Making
	TOTAL (15)		15	7	2	

Afterwards data was collected from focus groups (Hancock & Algozzine, 2006). The aim of the focus groups was to understand the contribution of mLearning to local cultural studies subjects and to gauge student perceptions of mLearning by asking them about the currents benefits and challenges.

There were 15 focus groups (Table 1). Each of the focus groups had at least 6 student-participants, with the exception of one which had only 4 student-participants. According to Barbour (2007), there are no magic numbers for the numbers of participants for each focus group. Students were recruited from two local universities and were selected on a voluntarily basis using purposive sampling (Auerbach & Silverstein, 2003; Barbour, 2007; Mertens, 2010). Sampling ensured that the students were studying courses related to Malay culture but in different domain areas. For example certain students in the focus groups were taking History, while others took Cooking, or National Culture and Heritage, Drama and Theatre, Batik Textile, Creative Movement, Malay Drum, Management, Action Research in Education, or Wood Craft.

The researcher investigated the students' current activities in using mobile phones for learning. The students used their own mobile phones during this research. A total number of 126 students participated in the focus groups. The semi-structured questions for discussions put to these focus groups were:

a. What has been your experience in using mobile phones for learning in your studies?
b. What benefits can mLearning bring to your study?
c. What are the issues and challenges in using mLearning for your study?
d. What mLearning tools and applications do you need for your study?
e. What are the attributes of local cultural design suitable for mLearning interfaces in your study?
f. Are you ready to use mLearning in your studies, and why?
g. What have you achieved in your study using mLearning?

The researcher's approach to analysing the data was through thematic analysis as it is a practical and flexible method to search for themes or patterns from the data. Thematic analysis is a fairly clear-cut structure of qualitative analysis, which does not occupy the same in-depth theoretical and technical understandings that Discourse Analysis or Content Analysis do (Braun & Clarke, 2006).

In this research, the focus groups' responses were audio recorded. The audio then was transcribed into Malay language (Bahasa Melayu). Next, the Malay language transcription was translated into English. The researcher then listened back to the recordings several times and identified several potential themes after having been familiarised with the audio and text.

Before the themes were developed, the text need to be coded. According to Saldaña (2009) there are two coding methods, which involve the first cycle followed by second cycle. The combination of two or more coding cycles form the Eclectic Coding to support the analysis. For this research, in the first cycle the researcher chose Initial Coding, Simultaneous Coding and Holistic Coding (Saldaña 2009). During the second cycle Pattern Coding was selected and applied. Pattern Codes are descriptive or inferential codes, ones that identify an emergent theme. Miles and Huberman (1994, as cited in Saldaña 2009, p. 152) explain that Pattern Coding is appropriate for development of major themes from the data. Auerbach and Silverstein (2003) emphasize that the coding steps are non-linear processes and can iterate in reverse order, with adjustments to the coding and themes as the development of themes continues. In fact, the choice of themes is not reliant on quantifiable measures. Next, the themes were rationalised again to ensure the interpretation of the data is consistent with the thematical framework (Braun & Clarke, 2006).

The researcher managed, stored and organised the data using NVivo software.

3. Findings

Table 2 is a summary of themes of students' perspectives on mLearning generated from an analysis of the focus group discussions.

Table 2. Summary of themes of student's perspectives on mLearning

	Themes	Sub themes
1.	Benefits (from existing experience)	• Accessibility • Multiple functionalities • Tool for sharing and discussing • Saves student's time • Portability • Tool for recall
2.	Challenges	• Technical hardware, software, and wireless issues • Underutilisation of mLearning • Lack of local cultural content • Ignorance towards own culture • Inability to imagine mLearning • Need of training to upgrade mobile literacy skills
3.	Costs	• High smart phone purchase cost • Travel cost when collecting field data
4.	Perceived Benefits (in facilitating learning)	• Web and application tools • Local content using local design motifs and colours • Video and storytelling animation • Educational interactive games and quizes • Sustainability of local culture through revitalisation of traditional concepts with new ideas
5.	Reflection on learning outcomes after mLearning experience	• Helped in assignment • Development of new skills • Limitations of mobile phone during field work

3.1. MLEARNING BENEFITS (FROM EXISTING EXPERIENCE)

MLearning functions have helped students when doing tasks related to their projects or assignments. These are the benefits of mobile phones which assisted students:

- **Accessibility**
  Accessibility of the phones means easy access anywhere, including the ability to find information. E.g.: "It facilitates my finding of information on a local traditional house for my assignment."
- **Multiple functionalities**
  Mobile phones have multiple functionalities such as recording video or voice and taking photos. E.g.: "I used my mobile phone to record an interview with the museum curator to learn about the Malay traditional palace."
- **Tool for sharing and discussion**
  Mobile phones can be used to share information and to discuss the topic about the subject. E.g.: "I can receive through short message service (SMS) recipes for my cooking class on how to make traditional layer cakes."
- **Saves student's time**
  Students can save on travel time as they don't have to go to different locations. E.g.: "It saves time to go to the library."
- **Portability**

The affordance of the small size of mobiles makes them much easier for students to carry around. E.g.: "The mobile phone is much smaller and portable than a laptop."

- **Tool for recall**
  The mobile phone is useful to refer back to notes, or audio or video recordings. E.g.: "My reference is inside my mobile phone, which is the Quran and its translation. I can refer back to the information from my mobile phone."

3.2. MLEARNING CHALLENGES

Challenges are barriers that will slow down the progress of mLearning in Malaysia. This was the feedback received from the focus groups:

- **Technical hardware, software and wireless issues**
  Technical problems consist of hardware, software and wireless issues. E.g.: "The battery may be easily used up. Quality of the pictures may vary, depending on the mobile phone model. The quality of wireless connection in college also may vary."
- **Underutilisation of mLearning**
  The mobile phone is still new for learning. Students do not know the capabilities of mobile phone in helping them to learn. Students spend most time playing games or music besides calling or texting friends using their mobile phones without realizing its capability for mLearning. E.g.: "I really don't know. It is not really for learning for me but to play games."
- **Lack of local cultural content**
  Local cultural content is scarce for students to refer to when doing their assignments. Most content available on the internet may not be verifiable and therefore may be unsuitable as a reliable reference. E.g.: "Our assignment is about long houses in Sarawak. It is very difficult to find information on them on mobile phones. The internet and even Wikipedia sources are incomplete."
- **Ignorance towards own culture**
  Some students cannot relate to local culture in their own life. For them, their own local culture is irrelevant and out-of-date. E.g.: "Why I should know all this, since I do not live in such era?"
- **Inability to imagine mLearning**
  There are still students who are unable to imagine using mobile phones for learning. E.g.: "I cannot imagine how to use it. I still use books and pencils. I prefer using traditional learning methods like reading books rather than using technology."
- **Training to upgrade mobile literacy skills**
  Students are not all mobile literate or capable enough in using mobile phones for learning because they can not use all the functionalities. Training may help them to use mobile phones more effectively for learning. E.g.: "Certain people may not be too advanced or mobile literate. Perhaps the teacher can teach the students first."

3.3. MLEARNING COSTS

Cost is one of the barriers to students' adopting mLearning. Students mentioned that the price of the mobile phones, especially smart phones, can be very expensive for most students. Students also need to consider other costs of learning, such as the traveling cost incurred when undertaking project assignment activities. E.g.: "I live at the university with only the support from the government education loan. If the loan money is finished, I cannot afford any more expenses."

3.4. MLEARNING PERCEIVED BENEFITS (IN FACILITATING LEARNING)

Perceived benefits using local cultural content illuminate what are amongst the best potential platforms to facilitate learning of mobile local cultural content:

- **Web and application tools**
  Mobile sites or mobile software applications on local culture can help students in the process of learning. E.g.: "If there is a mobile site on local culture and heritage I can introduce it to my friends for them to learn about the arts in Malaysia."
- **Local content using local design motifs and colours**
  Content using local design motifs and colours that suits the local community preference. E.g.: **"**Design must be related to local nature, such as local flora and fauna. The colours can be either chocolate or green, which relates to the local flora and fauna."
- **Video and storytelling animation**
  Students are more attracted to visuals, such as video stories, compared to reading books themselves. E.g.: "The history of Malay warriors, like Hang Tuah, requires us to read a very thick book with long texts. If we can adapt it into animation or games, the information and story will be much easier to retrieve and learn. Students can easily understand from visuals rather than reading."
- **Educational Interactive Games and Quizzes**
  Students also prefer games and quizzes when doing their learning activities. E.g.: "If we sketch *songket* the traditional way, we are prone to mistakes and in such case we would not get good marks. If there is a game where we can sketch freely and easily correct any mistakes, it will help us score better marks."
- **Sustainability of local culture through revitalisation of traditional concepts**
  Blending old and new ideas in local cultural content may hopefully preserve and revitalize it and lead to sustainability. E.g.: "In Malay architecture, by blending the old with the new ideas, we can have a modern building with a traditional interior decoration which will contribute to preserving and revitalising the local culture."

3.5. REFLECTION ON LEARNING OUTCOMES AFTER THE MLEARNING EXPERIENCE

It is important to assess whether students learn better through mLearning than through conventional learning, which leads us to reflect on the learning outcomes after the mLearning experience. These were amongst the students' responses after they had used mobile phones in their learning activities:

- **Helps in assignments**
  In this research students have transformed from learning passively inside classrooms to a more active learning process using mobile phones, such as taking suitable photos and recording audio-visual/video for completing their assignments. E.g.: "I can take photos and provide it as an appendix in my report."
- **Development of new skills**
  mLearning has developed new awareness and new skills for them such as interviewing people. E.g.: "I can record the voice of the museum curator when I interview him regarding old Malay palaces."
- **Limitation of the mobile phone during field work**
  There were hardware, software and wireless limitations such as memory size, battery life problems and wireless accessibility during their projects. E.g.: "Our mobile phones cannot sustain more than 15 minutes of recording, depending on the memory size."

4. Discussions and Conclusion

This research informs us that mLearning is a new field and an exciting tool for local cultural studies. MLearning in Malaysia can potentially facilitate students to learn about their culture better with local cultural content, tools and applications. Overall, local students are keen and excited to embrace the latest technology development. It is therefore proposed that the government, institutions of higher learning, teachers and mobile content developers need to understand the potential contribution of mLearning to the study of local culture.

4.1. MOBILE TECHNOLOGY

As mentioned earlier, Kukulska-Hulme (2008) has criticised developers for ignoring or overlooking usability factors in mLearning. In this research, students were found to be concerned about accessibility and ease of use, and these issues relate back to the affordance of the devices, and usability of devices and mLearning applications. Students found that the mobile phones are easy to use anywhere, especially to find information, take photos, and record audio and video. Mobile tools can further help to develop content in the form of video storytelling. Specific applications and content related to cultural studies can also be developed, like cultural games and quizzes. Due to the high cost of smart phones, applications and services, a new strategy needs to be initiated so that students can benefit and have affordable mobile phones for learning. The quality of wireless service in colleges and other locations for students' activities

should be improved to enable the students to have uninterrupted access to mobile content.

4.2. MLEARNING ACTIVITIES

Students can become content generators via student-centred activities (Dyson, Litchfield, & Raban, 2010). MLearning has transformed existing traditional learning practices, like manually taking notes, to a more proactive approach whereby students use mobile phones to record their own ideas. The majority of students from the focus groups gave positive feedback on the usage of mobile phones for their assignments and will use them again in the future for learning.

4.3. MALAY CULTURAL CONTENT

Reinecke and Bernstein (2011) proved in their study that local culturally designed interfaces have higher efficiency, increased user performance and had better user experience than interfaces which were not adapted to cultural preferences. The local cultural content is unique in Malaysia as it has been influenced by local flora and fauna and Islamic values (Jamal, 1992). Ariffin and Dyson (2011) indicated that Malay students preferred local motifs and Malay local cultural symbols in their learning, and that these could motivate students to learn. Malay local culturally designed interfaces can potentially contribute to improve students' efficiency and performance in learning.

In order to facilitate mLearning of local culture amongst Malaysian students, the following guidelines are recommended:

- Firstly, academics need to check whether their students are equipped with mobile phones and applications (Hussin, 2011). In the absence of institutional support for mobile phones to be loaned to students, it is recommended that academics apply the Bring Your Own Device (BYOD) approach (Enterasys, 2012; Puente, 2012). This is a win-win situation as the institutions do not have to provide phones while students get to use their own devices to complete their assignments. Using student owned phones worked well in our study.
- Secondly, it is desirable that mLearning contributes to the study of local culture by using local content comprising local design principles and values (Reinecke & Bernstein, 2011). For example: the use of local nature, flora and fauna as design motifs and also the Islamic values is desirable (Jamal, 1992). Furthermore, students will be more motivated in their learning if it is local to them (Ariffin & Dyson, 2011): learning will be fun and engaging through the use of local designs and elements from the local culture.
- Finally, awareness campaigns to promote mLearning for local cultural studies at institutions of higher learning, as recommended by Ariffin, Hoskins-McKenzie and Dyson (2012), need to be initiated. This can be instigated by the educators through learning activities which embed the local cultural elements into their own lesson objectives.

Students in public universities in Malaysia are now more open to the exponential development of new mobile technologies. MLearning sparks the hope of learning in a revolutionary way. It suits the students' requirements for having appropriate local culture content at their fingertips. If mLearning for the study of local culture is to be

successful, students must at least have their own mobile phones and adequate literacy to undertake carefully designed activities for learning. Essentially, participation from all parties, including the government, educators, content developers and students are critical for the future development of mLearning.

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