

En Route for the Sustainability of Digital Local Content for Mobile Learning to Preserve Malay Local Cultural Heritage

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Abstract— This study voices serious concern about the sustainable development of Malay digital local cultural content. Digital local content is crucial in learning local cultural subjects in Asia countries, such as Malay culture. However, there is a serious lack of digital local content for mobile learning purposes in Malaysia. One of the challenges is the influx of overseas digital content 'Mat Salleh' from Western countries, such as the USA, and UK, particularly in accessing mobile phones content. This research concerns the sustainability of local content via the study of local culture. This research methodology is largely qualitative. The focus group discussions and interviews were conducted with students and academics at local universities. The findings were derived through thematic analysis. The results are the themes generated, which elucidate the challenges for this study.

Index Terms— digital local content, Malaysia, local culture, mobile learning, heritage, challenges

1 INTRODUCTION

Mobile learning is underutilised in many areas in educational subjects [16]. For an instance, there is a lack of digital content for mobile learning in Asia [31]. The United Nations Educational, Scientific and Cultural Organization (UNESCO) highlighted the importance of local content in terms of cultural diversity, irrespective of which culture the society belongs [36]. Research in other countries has been conducted to address the huge interest in learning and understanding African American and American Indian [12], as well as Chinese culture [34] for a culturally appropriate technology design.

Malays are one of the indigenous peoples in the Malay Archipelago, a region that houses a predominantly Malay population that mainly lives in the Malay Peninsula, Brunei, Singapore, Southern Thailand, and Cambodia, as well as outside south East Asia [27]. Recently, it was confirmed that the Malay culture is one of the oldest ancient cultures in the world having emerged from the Sunda Shelf, which now constitutes the South East Asia region [22, 37]. Local cultural identities have been explained in the National Cultural Policy, inasmuch as when referring to the National Culture it must be based on the indigenous people (Malay Culture) with Islam as an important component, albeit suitable elements from other cultures may be considered part of the National Culture [18, 32]. Meanwhile, local content development must be in accordance with the 'Malaysian Communications and Multimedia Commission', also known as SKMM [30]. This is the body established by the government to monitor the development and

appropriateness of the local content in the Malaysian context.

The lack of local content causes disengagement between the users and the subject [35]. Meanwhile, in Malaysia, the former Malaysian Minister of Energy, Water and Communications, Tun Dr Lim Keng Yaik, has drawn attention to the fact that 'content is king' and urged the content providers to take a more serious attitude towards producing local content [17]. Additionally, a study in Malaysia suggested the need for more local content producers in order to compensate for the lack of availability of local content [15]. There is a serious lack of local content in Malaysia, especially for mobile applications, as highlighted by Dato' Seri Utama Dr Rais Yatim, the former Information, Communications and Culture Minister [7].

The problem concerning the lack of local content for learning is a worldwide problem, including Indonesia [23], Ghana [13], and Uganda [21]. However, Malaysia as a small Asian country, has a serious lack of digital local content for mobile learning [31]. A study conducted in Malaysia affirmed the dearth of local content for mobile phones in Malaysia [1]. The research found that the Western content, such as from the USA and European countries, such as the UK, is considerably greater. This includes the local cultural studies or LCS subjects for which the majority of the locus of the content still refers to that from overseas. For example, 'Mat Salleh' content via mobile phones is much more widely available. 'Mat Salleh' is a Malay colloquial word referring to English speaking content. Four main culturally appropriate design principles that can be used when developing the local content: the use of the local language Bahasa Malaysia or bilingual, local philosophy, local aesthetic values, and content that is appropriate for the local

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context [1]. In fact, the digital local content is crucial in mobile learning for local cultural subjects, such as Malay culture, as part of the local cultural identity in Malaysia.

In Malaysia, mobile learning can be extended for learning local culture. Local Cultural subjects are not popular compared to other subjects, such as Science and Engineering, and are often underrated with a lower uptake of students. For convenience, the term Local Cultural Studies (LCS) is given to Humanities subjects relating to the teaching and learning of Malay culture, for example, Local History, Local Culture and National Heritage, Malay Wood Craft, Malay Drums, Cooking, Batik Textile, Ceramic, and Local Drama. However, Malaysian students are ready as they are equipped with mobile phones [14] and most of them prefer movies or video content for streaming [4]; and mobile apps with music, calendar, video and photos [28].

Studies from overseas reveal the benefits of the user generating mobile learning local content. In Panama, [9] demonstrated that students also created mobile learning content by taking digital photos. The schoolchildren experienced using mobile phones to take photos from the textbooks to understand Spanish prepositions. In other regions, the study of Chinese culture by local Taiwanese primary school students involved them generating digital photo content [29]. In other places, such as in Australia, [10] demonstrated the success of student-generated activities in which students used their own mobile devices to generate content in learning Information Systems. Likewise, student-generated content in using multimedia, such as video, promotes sustainability in technology and pedagogy, as well as economically [10]. Thus, student-generated activities for digital local culture content for Local Cultural Studies (LCS) is a good start that can promote cultural diversity, especially for mobile learning, and has the potential to address the lack of digital local cultural content.

There is a lack of literature providing a perspective in the context of universities in Malaysia concerning the challenge of a lack of local content for mobile learning in LCS. Thus, first, this study aims to understand the students' and academics' perspectives regarding mobile learning in LCS. This article is arranged in such a way that it begins by introducing the topic, and then the literature background. Next, this article discusses the methodology, including the approach deployed for this study. The article then presents the results and discussion for this research. Finally, a summary of the research is provided to conclude the study.

2 METHODOLOGY

This research is qualitative and interpretative in nature in garnering users' in-depth perspectives [20] of their experiences, particularly those pertaining to mobile learning content for Malay culture in learning LCS subjects.

This study recommends a broad phenomenological approach to understanding the user experiences and

perspectives for mobile learning. Rather than taking the adoption of mobile phones due to its appealing factors [26], this study considered all the meaningful and valuable experiences using mobile phones for learning activities in LCS [24].

This research also applies an inductive approach, which is the "common sense view" of how the researcher is going to execute his work. The researcher begins the research with some presumptions and choices about what is to be conducted. The inductive research approach consists of four main stages: all data are recorded without determining their relative significance; these data are analysed, compared and classified, without using hypotheses; from this analysis, generalisations are inductively drawn as to the relations between the facts; and these generalisations may require further assessment [6].

The interviews comprised semi-structured questions adapted to the interviewees and inspired by the mobile learning literature, in respect of the Asian context [24, 38]. Additionally, focus group discussions were considered to be an appropriate method for data collection from the students [5], as Malaysian students are more responsive when they discuss in groups than when they are asked questions individually. Purposive sampling was used to select participants for this research purpose [19]. The responses came from academics and students at Malaysian universities, who were mostly teaching and studying LCS that is related to Malay culture. There were 15 focus groups comprising 15 academics and 127 students who volunteered to be involved in this study. Most of the duration of the interviews and focus group discussions were from approximately thirty minutes to one hour.

The thematic analysis approach was performed to produce the themes [8]. The thematic analysis process began by listening to the audio recordings of the interviews, secondly, writing down the Malay transcriptions, thirdly translating the Malay transcriptions into the English language, fourthly, familiarization with the transcriptions text, and, finally, coding using the Nvivo method according to the themes. This is a repetitive process until the theme has been ascertained. Some examples of semi-structured questions are:

- What are your daily experiences involving the use of mobile phones?
- What is your experience of mobile learning, particularly in terms of learning LCS?
- What are the challenges for local mobile content for learning LCS?
- What is your recommendation for the sustainability of local content?

5 FINDINGS

One of the factors pertaining to the underutilization of mobile phones for learning is due to the major absence of local cultural content as a source of learning for LCS. For

instance, there is a lack of learning sources and references for Malay digital local cultural content and knowledge in Malaysia due to the lack of online resources; content from the USA and other Western countries; content from Indonesia; content from Wikipedia; and the lack of local cultural identity. Participants also suggested ideas to address the lack of local cultural content and make it more sustainable, such as being more adventurous for self-exploring using mobile phones; becoming a content producer through student-generated learning activities. In addition, this challenge might be curbed by creating awareness of the need to produce digital multimedia content using mobile devices, such as mobile phones. The findings highlighted are the themes garnered from both the perspectives of both students and academics concerning local content for mobile learning, particularly for their LCS subjects.

Lack of Online Resources: According to the participants, websites lack the online resources for LCS. Academics stated that one of the challenges is the limited production of learning content for Malaysia in terms of learning local culture. Similarly, students affirmed their difficulty in obtaining local online resources to study Local Culture and National Heritage subjects. In addition, students reported difficulty in finding information on local culture online concerning LCS subjects for their own learning. This showed a lack of learning resources for LCS. For example:

"There are limited online resources available for learning using mobile devices for Batik and Weaving."

Content from the USA and Other Western Countries: Content from overseas, such as the USA, is flooding the local content market for mobile phones. Academics highlighted that the majority of local cultural content for references and learning in LCS subjects is from overseas, such as the USA and other Western countries, and, hence, does not reflect local content knowledge. Thus, this revealed that students referred to Western countries content, including that from the USA. Some examples:

"It will be useful to have local content as we don't have much available. Now the lecturers still use US-based scenarios in the syllabus, such as in teaching Science. For example ice-skaters or bungee jumps; these activities are not available in Malaysia."

"In contrast, my students still consult overseas' websites to obtain more information on making ceramics, such as 'Ceramic Daily' from the US."

Consequently, students stated that the majority of the content for reference for LCS subjects came from the West, particularly from the USA. In addition, students described the local culture content as being limited with the existing content being in a foreign language and not in the local Malay language. Participants commented that despite the huge video resources from the West that are available on YouTube, there is a lack of learning resources for Malay culture. Some examples:

"We can use YouTube for video streaming. Unfortunately, local video content, such as 'Mak Yong', traditional local dance, is very limited. On the other hand the Western

culture video content is huge; there is a lot to be found."

"...local content is limited, such as the Malay grand epic 'karya Agung Melayu'. Also, these grand epics use other foreign languages instead of Bahasa Melayu."

"When I open the Android Market to find applications for Malaysia, very few local cultural applications have been listed. However if we type drawing and arts, a lot of items listed come from Western countries."

Content from Indonesia: The availability of content from Indonesia also reflects the lack of local content on local LCS subjects. One academic referred to the lack of local content on Malaysian Batik, which is a major drawback for the source of local information and local Malaysian identity for Batik in the study of local culture. Thus, most of the content of Batik comes from Indonesia, which could make learning Malaysian Batik more difficult. An example:

"When we want to see about our local Batik content learning information, we still refer to Indonesia. It is very difficult to get such resources for our local content from Malaysia. Most of the information on Batik still refers to Indonesia. Some of the authors also come from Europe, such as Holland and the UK, and not local Malaysian people."

Content from Wikipedia: Due to the lack of local content, students can still access sites, such as Wikipedia for reference. However, the academics explained that such sources from Wikipedia were not reliable for academic references. Thus, academics discouraged the use of Wikipedia for academic purposes. For example:

"I don't encourage the use of Wikipedia."

In addition, the focus groups reported that it was very difficult to find information on a traditional Sarawak house. Also, the source from Wikipedia was incomplete for academic referencing for LCS subjects. Hence, some students were aware of the unreliability of Wikipedia resources for references. For example:

"It is very difficult to find local information on them from mobile content online resources via mobile phones."

Concern for Local Cultural Identity: Academics were concerned about the new generation forgetting their roots and about how their own local culture relates to past colonialism. This can be a challenge for showcasing LCS in the universities. Thus, academics were worried about the future of local cultural identity, especially for the younger generation. For example:

"Actually the education system during the colonial reign was to brainwash the mind of the local intellectuals. They embed their Western thinking in our education system. Therefore, students lack esteem for their own local culture."

Students also reported their concern that new generations are forgetting the roots of their own local culture. One of the reasons gleaned from the discussion is a lack of interest in local culture. Therefore, from the new generation of students, local cultural knowledge in learning is not important in today's modern world. For example:

"Nowadays, students prefer their modern social life; they don't want to learn about history. From my experience, my

friend said we don't need to learn about dead things or ancient things. If these attitudes exist, it's such a waste. History will be lost, just like that. We will lose the values and norms of our own local culture."

Suggestions to Overcome the Challenge for local cultural content sustainability: Despite the lack of local cultural identity, there are also possibilities to overcome such challenges. For instance, embed local context on the subjects, academics become content producers, students become content producers and self-exploratory learning. Self-exploratory learning using mobile devices for LCS emerged as the most discussed suggestion followed by embedding local context for the suggestions to overcome the lack of local content. In addition, some students reported using mobile content, such as photos and videos with some audio, for their assignments. Thus, one of the possibilities for overcoming this challenge is a self-exploratory approach by students using their own mobile phones for the creation of local content.

Embed Local Context for local cultural sustainability: Embedding local context could assist in understanding the content for LCS in the Malaysian context. Indeed, this approach can also be extended to other non-LCS subjects. Academics suggested embedding local context and exploring ways to obtain local content, as a potential means to sustain local cultural context for subjects being taught in Malaysian universities. Some examples:

"The advantage is to preserve local content for the local culture of sustainability. If we don't embed the local culture in our teaching and learning, the younger generation will not identify with what they have and what belongs to them."

"To change to local scenarios I can change my subject examples, such as to cook local glutinous rice cakes in cylinder shaped bamboo 'lemang', or cook local rice cakes 'ketupat' in coconut leaves in order to measure the cooking temperature, and so forth."

"The application can introduce visual presentation with Malay cultural motifs 'Krawang'. Perhaps cultural cartoon characters wearing 'Tanjak' or 'Keris'. It can be embedded with audio because the cartoon will have a funny sound. We can also embed the cultural sound from the drum 'Gendang'. Another example is the 'Serunai' sound, which could be converted to 'waw' and embedded as musical background."

Academics Become Content Producers: Academics can contribute to becoming content producers to overcome the lack of a local content problem. The academics suggested that educators become content producers by providing multimedia content on educator blogs and embedding websites with videos, such as YouTube, for students. Thus, this proactive approach can lead to a more effective strategy in learning the subjects. For example:

"Educators can upload digital video content on YouTube and show the steps and process."

Students Become Content Producers: One academic suggested that students develop multimedia local content so that the students themselves become the content

producers. This proactive approach could potentially reduce the lack of local content. Therefore, students as content producers could introduce their own ideas in content creation in facilitating their learning and understanding of the subjects. For example:

"I believe all the content has to come from the students. They are the content providers."

A few experiences have been reported of students utilising their mobile phones in learning for non-LCS subjects. In addition, mobile phones helped students in subjects, such as Science, by taking photos and videos for their assignments. Thus, these findings demonstrated that learning non-LCS subjects, such as Physics and Biology, have also profited by the usage of mobile phones. For example:

"We used the mobile phone camera and brought it close to the microscope to take a picture of the organism."

Self-Exploratory: Self-exploratory is one of the practical mobile learning approaches in assisting students to fully utilise their own mobile phones in doing their assignments. Some focus groups reported self-exploratory made video recordings using mobile phones for their assignments. They reported using audio recordings from mobile devices to record interviews for their assignments related to LCS. They also reported taking photos using mobile devices, such as mobile phone cameras and the original cameras, for taking photos in completing their assignments related to LCS. For example:

"We went to the local market of Siti Khatijah in Kelantan and interviewed the local traders about how they conducted business using our own mobile phones..."

6 DISCUSSION

Creating Awareness for Sustainability of Local Digital Content

This refers to the efforts of the education authorities in creating awareness for the sustainability of digital local content. One of the possibilities is by embedding the local context in the academic subjects. The use of multimedia by means of the mobile devices can promote the use of multimedia content, such as video, audio and photo content in a sustainable pedagogy, technology and economical approach [10, 11].

Student-Generated Activities and Culturally Appropriate Design Principles for Local Content Development

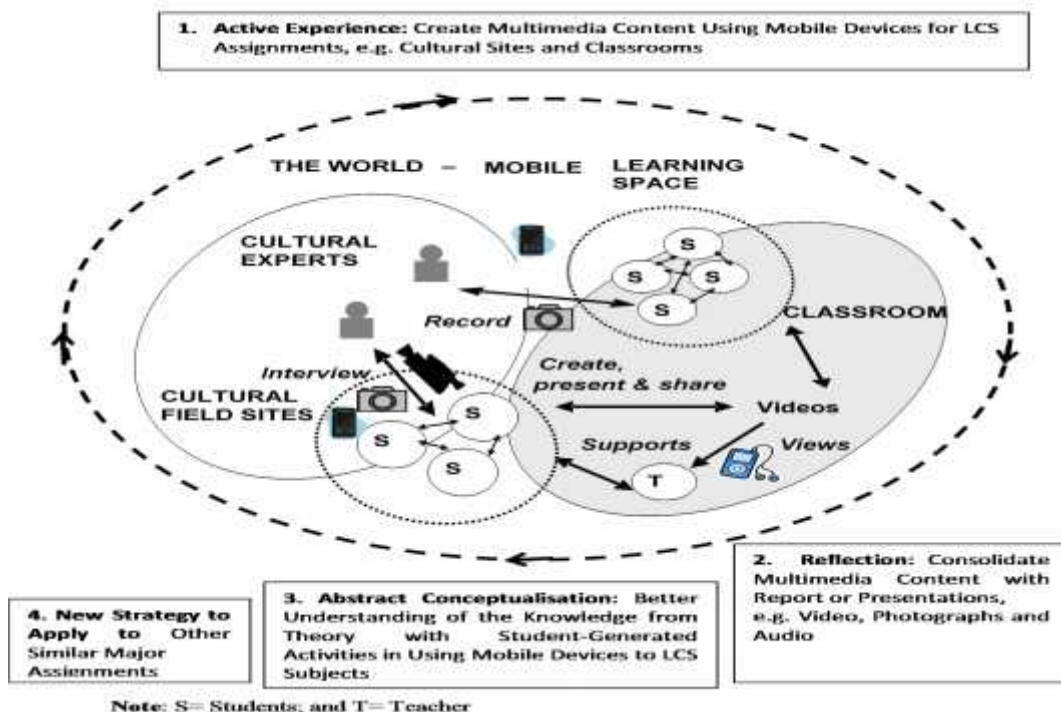
This approach as demonstrated from Appendix 1 has been recommended by implementing student-generated activities model [2] and also embedding culturally appropriate design principles [1]. This serves as a sustainable framework to overcome the challenges of the lack of local content. Moreover, students can become content producer themselves by adopting to these approaches. Thus, the sustainability of digital local cultural content has the prospect to be enhanced and revitalized by the use of local cultural content

development approaches with mobile devices.

7 CONCLUSION

Due to the lack of local digital content [3], there is a need to establish awareness and strategies in local content development for LCS in Malaysia. For example, from this study, the awareness for developing local cultural content must be promoted to academics and students by using an appropriate model. This local content development model includes student-generated activities for mobile learning sustainability to generate local content [2] and culturally design principles [1], and following the SKMM Guidelines in terms of the appropriateness for local content [28]. It is also aligned with the national cultural policy that focuses on Malay cultural values as the indigenous culture [16], and could lead towards more sustainable local content development prospects for Malay cultural heritage for digital content. All parties, such as from the universities, academics and government sector, must be aware of such strategies. Thus, the digital local content development must be aligned and strategized in addressing the lack of local content challenges such as by implemented student-generated activities and embedded culturally design principles.

APPENDIX 1 A SUSTAINABLE MODEL OF STUDENT-GENERATED ACTIVITIES



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