APPLICATION OF LOCALISED DIGITAL LEARNING OBJECTS TO ENHANCE VOCABULARY LEARNING AMONG INDIGENOUS PRIMARY SCHOOL STUDENTS IN SABAH

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ABSTRACT

This study reports on the insights gained on the development and application of materials based on localised knowledge and resources to enhance vocabulary learning among indigenous primary students in a rural primary school in Sabah. The study aims to describe a research study which involves the implementation of localised digital learning objects using open educational resources and to share the findings obtained as well as the student teachers' perceptions on the effectiveness of the learning objects. The digital learning objects were developed from various open educational resources which include animation, audios, photos, graphics and video creation. The project was conducted in a primary school located in the area of Ranau in Sabah. Forty-five (45) students from Year 1 to Year 3 classes as well as a group of 9 student teachers from University Malaysia Sabah's TESL programme were involved in the study. Data was collected by using both quantitative and qualitative instruments which comprised of pre and post-tests, interview sessions and survey questionnaire. Findings revealed that there is a significant difference in the mean scores of students learning of vocabulary taught with localised digital learning objects. Discussions on how localised digital learning objects helped in enhancing vocabulary learning were also presented and the perceptions of the student teachers who were directly involved in the designed and implementation of the localised digital learning objects.

ABSTRAK

APLIKASI OBJEK PEMBELAJARAN DIGITAL SETEMPAT BAGI MENINGKATKAN PEMBELAJARAN KOSA KATA DALAM KALANGAN PELAJAR SEKOLAH RENDAH TEMPATAN

Tesis ini adalah bertujuan untuk melihat hasil penyelidikan daripada pengaplikasian bahan dan pembangunan berdasarkan pengetahuan serta sumber tempatan bagi meningkatkan sistem pembelajaran kosa kata dalam kalangan murid sekolah rendah tempatan di Sabah. Selain itu, penyelidikan ini juga bermatlamat untuk menghuraikan kajian penyelidikan yang melibatkan pelaksanaan kaedah pembelajaran digital setempat dengan menggunakan open educational resource dan untuk berkongsi hasil penemuan serta persepsi guru pelatih tentang keberkesanan kaedah pembelajaran digital setempat. Kaedah tersebut dibangunkan dengan menggunakan pelbagai open educational resource yang merangkumi animasi, audio, foto, grafik and penghasilan video. Projek penyelidikan ini dijalankan di sebuah sekolah rendah yang terletak di Daerah Ranau. Seramai empat puluh lima (45) pelajar sekolah rendah daripada Tahun 1 sehingga Tahun 3 dan sembilan (9) guru pelatih jurusan TESL dari Universiti Malaysia Sabah terlibat dalam penyelidikan ini. Data dikumpulkan dengan menggunakan kaedah kuantitatif dan kualitatif yang merangkumi ujian pra dan pos, sesi temuduga serta soalan kaji selidik. Dapatan kajian menunjukan bahawa kaedah pembelajaran digital setempat yang digunakan dalam penyelidikan ini berkesan dalam meningkatkan pembelajaran kosa kata dalam kalangan pelajar sekolah rendah tempatan. Hasil perbincangan mengenai kaedah pembelajaran dalam membantu meningkatkan pembelajaran kosa kata dan persepsi guru pelatih yang terlibat dalam penghasilan serta pelaksanaan kaedah pembelajaran tersebut juga turut dibentangkan.

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CHAPTER 1

INTRODUCTION

This chapter outlines the introduction, background of the research, statement of problems, the aim of research and objectives of research. Apart from that, the research questions, the research hypotheses, the research significance, the limitations of the research, the conceptual framework, and the operational definitions are also presented in this chapter.

1.1 Overview

Globally educational systems have failed to deliver practical knowledge and provide academic success for indigenous students around the world which ultimately leads to the lack of academic accomplishment and poor enthusiasm for schooling among the indigenous students (Battiste, 2002; Cooper, Batura, Warren & Grant, 2006; Cushner, McClelland & Safford, 2012; Ezeife, 2002; Yamauchi, 2005). The concern lies on the mismatch in materials for language learning; in which the teaching content are culturally alien and incompatible to support for the learners' indigenous knowledge. In addition, for indigenous students who are deemed as the most educationally disadvantaged group in the nation, the strategies that have been successful and are used for teaching non-indigenous students are unfortunately, ineffective for them (Australian Bureau of Statistics, 2007; Doyle & Hill, 2008; Hughes & Hughes, 2010; Klenowski & Gertz, 2009). Therefore, in order for pedagogies to deliver an impactful learning for the indigenous students, teaching materials must be connected, meaningful and it should be addressing the cultural

sensitivity by integrating cultures through the insertion, recognition and transmission of cultural knowledge, beliefs and practices.

For many young indigenous learners, the struggle has always been to keep them engaged within the traditional texts and programs long enough in order for a meaningful learning process to occur. In the research done by the New London Group (1996); the result showed that by integrating technology meaningfully into the curriculum, new pedagogies were generated to support and extend on the teaching of traditional concepts; and for some students these new pedagogies provided "hooks" to maintain engagement for learning as to compare to the conventional strategies in the past. Harris (1990), through his research on the success of computer courses for indigenous learners, has acknowledged that computer courses and integration needed to be designed with indigenous cultures and ways of doing, thinking and learning as its core to make a meaningful impact for the indigenous learners. Harris also identified that indigenous learning are different from the main stream, in which the identification of learning is by observation and imitation. In other words, students simply "watch and do," as opposed to receiving the verbal instructions and corrections that are embedded in the mainstream curriculum.

Many indigenous students, particularly those in remote communities often experienced their first exposure to spoken English, as well as reading and writing in their first year of schooling. For these children, they often find the transitional phase from their home culture into an educational setting is difficult, as there is a need for them to adjust to so many different experiences, demands and expectations in relation to their cultural, language and social skills. Fordham and Schwab (2007) stated that indigenous students fail school due to the combination of poor social policy, unfair economic arrangements and an 'inclusive curricula' wilderness.

Rigney and Hughes (1998) indicated that there is a current crisis in Indigenous Education. For example, Steering Committee for the Review of Government Service Provision (2011) reported that in 2010, the percentage of

indigenous students who achieved the year 3 national minimum standard includes; 75.1 per cent of indigenous students in reading compared with 95.0 per cent for non-indigenous students; 79.0 per cent of indigenous students in writing compared with 96.6 per cent for non-indigenous students; meanwhile 76.6 per cent of indigenous students in numeracy as to compare with 95.3 per cent of non-indigenous students. This confirmed that there are indeed lower proportions of indigenous students than non-indigenous students in achieving the year 3 national minimum standard. Whereas in Malaysia, Lim (as cited in Nicholas Colins, 2000), indicated that the percentage of passes among indigenous school children taking the Lower Secondary Examination (age 15) in 1990 to 1992 was between 43 to 59 per cent, compared to 69 to 78 per cent at the national level. Correspondingly, from 1993 to 1995, only 51 to 54 per cent of the indigenous students passed the Malaysia Secondary Examination (age 17) compared to 66 to 67 per cent nationally.

In this study, the term 'indigenous' is referred to the Sabah's indigenous people. To contextualise the understanding, the ethnic classifications used in Malaysia shall be provided. There are several ethnic classifications that are used in Malaysia. The following terms such as "Orang Asal", "natives", and "indigenous people" are often used interchangeably. The terms are frequently used to refer to the Orang Asli of Peninsular Malaysia and the natives of Sabah and Sarawak, who are also acknowledged as such by the Federal Constitution and relevant state laws.

For Sabah, Article 161A (6)(b) of the Federal Constitution stated that for a person to be considered as a native of Sabah, these following criteria are fulfilled:

i. a citizen of Malaysia;
ii. is the child or grandchild of a person of a race indigenous to Sabah;
iii. was born either in Sabah or to a father domiciled in Sabah at the time of the births.

Sabah Interpretation (Definition of Native) Ordinances (2)(1),7 stated that a "native" refers to any person who is indigenous to Sabah, in which one of whose parents or ancestor is indigenous to Sabah, and living as a member of a native community, and any Malaysian citizen who is a member of a people indigenous to

Sarawak, Brunei, Indonesia, Philippines, Peninsular Malaysia or Singapore. Under the provisions of the Rural Administration Ordinance 1951 stated that a "native community" is described as any group or body of persons the majority of whom are natives and those who live under the jurisdiction of the local authority, or under the jurisdiction of a native chief or headman as appointed under the provisions of the Sabah Native Court Ordinance 1993 or the Native Court (Labuan) Ordinance. The indigenous groups in Sabah and Sarawak can be either Muslim or non-Muslim.

Based on the last census in 2010, the population of Sabah is 3,206,742, with indigenous groups apparently making up 61.22 per cent of the overall population. Official statistics stated that the population of Sabah has grown from 929,299 in 1980 to 3.2 million in 2010. In the 2010 Census of Population and Housing, the three major groups of Kadazandusun, Murut and Bajau as well as 'Other Bumiputera' made up 1.6 million or 50% of the overall population. Budianto (2008) stated that according to the Federal Government list, major ethnic and sub-ethnic groups who make up the Bumiputera category (and therefore indigenous) totalled only 28.

Literacy is fundamental to all areas of learning, as being literate increases the opportunities for individuals in all aspects of life and it provides foundations for a lifelong learning. One of the important areas of literacy knowledge is vocabulary learning. Vocabulary is central to English language teaching because without having sufficient vocabulary knowledge, students would be having difficulties to understand others and to express their own ideas. Despite that, Rinvolucri and Morgan (2004), stated that vocabulary is commonly assumed to be the least important in second language teaching as more emphasis is put on the teaching of grammar and pronunciation, while vocabulary is deemed as a poor third. Nation (1990) stated that learners feel that inadequacy in vocabulary resulted in their difficulties in both receptive and productive language use. The issue worsened provided that learners come from a background in which English is not their primary language; and this eventually leads to learners' inability to comprehend texts at grade level.

This study was mooted to explore the use and to find out the effectiveness of using localised digital learning objects adapted with culturally familiar teaching materials to enhance the vocabulary learning among indigenous Sabahan primary students. Online Computer Library Centre (OCLC) of E-Learning Task Force (2003) has emphasized that learning objects are "at the heart of the learning/technology nexus." Learning objects are useful in which it can be powerful assets in augmenting, enhancing, and streamlining the teaching and learning process, not only in distance education, but in the traditional classroom as well. In the studies of Metros and Bennett (2002), Polsani (2003) and Rehak and Mason (2003); the instructional systems design and technology literature mentions that one of the primary reasons why learning objects have generated excitement within the online learning community is the reusability of learning objects, or the ability to be able to share them and use them in various instructional contexts. Using technologies, as learning objects, are successful in part because of their ability to nurture interest and motivation through the use of electronic media. For these indigenous students, these tools can provide a "hook" that is culturally sensitive, fun and engaging during the teaching and learning process itself.

The development and implementation of localised digital learning objects in enhancing vocabulary learning has the potential to improve the students' vocabulary knowledge. Therefore, more localised digital learning objects should be established and used in the teaching and learning of vocabulary particularly for the indigenous students in Malaysia.

1.2 Background of the Research

Vocabulary knowledge is a critical factor in enhancing comprehension, fluency and achievement. However, DeCarrico (2001) stated that vocabulary has not always been recognized as a priority in language teaching. Richards and Renandya (2002) affirmed that vocabulary teaching and learning has been left to a position of secondary importance as to compare with the other fields of research in language

teaching and learning. As from the mid-1980s onwards, vocabulary becomes the area of interest for many investigators. However, NICHD (2000) concluded that there is no single best method for vocabulary instruction – instead students should encounter both direct and indirect methods of instruction when learning new vocabulary (Blachowicz & Fisher, 2000; Graves & Watts-Taffe, 2002). One of the indirect methods in teaching vocabulary includes providing multiple exposures to words in various contexts (Baumann et al., 2003; Graves, 2000). Hence, as it is shown in research; that in order to support vocabulary development, digital learning objects can be used to provide multiple exposures to words.

Folse (2006) and Hulstijn and Laufer (2001) indicated that studies have suggested that simply presenting material via an exercise or attempting to get learners to notice items via textual enhancement may not be as effective for vocabulary retention as actually doing something with the words which may lead to deeper processing. Chun (2007) noted that for vocabulary learning, some addition of visuals in addition to glosses is helpful, whereas it is also reported that the majority of studies show no effect of annotations and visuals for overall reading comprehension. Heilman et al., (2010) and Zapata and Sagarra (2007) also identified in their studies that computer assisted language learning (CALL) ability to provide immediate, individualized materials and feedback has been shown to be helpful in promoting long-term retention of vocabulary items practiced.

Labbo, Eakle and Montero's (2002) work on Digital Language Experience Approach based on the Language Experience Approach (Allen, 1982); suggested that students of all ability levels can learn how to sequence events, generate high quality oral language, and use highly descriptive vocabulary when they discussed digital photos and arranged them in the presentation software. The students were able to transform the original information into a new form as they represent their experiences through digital photographs, re-contextualized their knowledge of the experience and shaping new meaning. In other words, the children will be able to reflect on, to discuss and to write more deeply when they use photographs of an experience to accurately write about them. Solvie (2003) stated that one of the famous digital learning objects is the digital whiteboards – an electronic dry erase

boards that serve as an interactive touch screen/monitor when connected to a computer. The use of digital whiteboard in the research provides unique occasions for the children to engage in oral language and to learn new vocabulary based on the visual representations of the vocabulary terms. Hence, it helps students to become analytical when viewing photographs as they talked and wrote about their own experiences that are related to the original story text.

Chang, Lin and Lee (2005) have investigated the preferences of young children to the dynamic and complexity aspects of images presented to them for English vocabulary learning purposes via an interactive multimedia interface. Kraayenoord (1996) suggested that picture books are one of the most widely available and effective of all teaching material genres. Taylor, Boscato and Beagley (1992) asserted that thinking and talking about picture books and text provide important learning opportunities in integrated English language arts programs in many classrooms around the world. Chang, Lin and Lee developed a study based on Wallace, Newell and Wade's (1978) suggestion that children require larger visual targets in graphical user interface. In the study, two types of interactive displays were developed; namely a small display presenting a static image and the corresponding vocabulary item; and another small display with a dynamic image and the corresponding vocabulary item. The result of the study concluded that by using dynamic and highly complex images to present images to young children for English vocabulary learning helps to arouse and sustain the children's interest in the object and thus, it promotes their will to study. Dynamic images are presented in context that is rich enough to provide clues to meaning and this gives students the multiple exposures to items they should learn. Besides, the use of dynamic images also helps to stimulate the students' senses in which students are able to process information more readily.

In a research conducted by Agca and Ozdemir (2013), the usage of the new concept, Microsoft Tag technology is introduced in the field. The research investigated on the effect of the multimedia content integrated to learning materials by using 2D barcode technology to the learners' vocabulary learning. The Microsoft Tag is used by scanning it on the pages of printed course book, and in

return, the words' definitions and images related will be displayed on the mobile device. Microsoft Tag in this research is used as a medium for vocabulary learning in which it helps to connect the digital and printed materials. Ozdemir (2010) also stated that Microsoft Tag is beneficial as it prevents mistakes while entering data to the mobile devices. The findings concluded that the process of accessing the instructional materials in online environment does not only become faster and easier by using Microsoft Tag, but it also draws the attention of the students to use the mobile device in expanding their vocabulary knowledge. The idea of using Microsoft Tag as a part of the mobile learning environment is indeed innovative as it does not only create curiosity for students but it also made the vocabulary learning activity more fun. Mobile learning environment provide the advantages of learning with images, learning words with different aspects and it boosts the students' individual learning.

Rebecca Silverman (2013) conducted a research in kindergarten classrooms to investigate the use of video as a medium to promote vocabulary for at-risk children. Hammer, Farkas and Maczuga (2010) stated in their studies that children from low socioeconomic backgrounds and children from homes in which English is not their primary language often have considerably lower vocabulary knowledge than their more advantaged peers. Hence, the aim is to support early word learning specifically for children who are most at risk of having limited vocabulary knowledge. Hines (2009) suggested that the use of video might be another context ripe for vocabulary instruction in elementary schools, particularly for Dual Language Learners who are learning English in school and speak a language other than or in addition to English at home. The result indicated that repeated viewings of video were indeed helpful for vocabulary learning. This is parallel to the research done by Kamil, Intrator and Kim (2000); and Verhallen and Bus (2010) who stated that videos offer more multifaceted nonverbal support than books as it helps to bring stories alive through the sound, action and zoom shoots. The main issue raised from the results gathered is that watching a video alone; however does not adequately support word learning and that instruction on word meanings is needed. Hence, the future research on the use of video to promote vocabulary learning

should continue to explore the role of video in supporting vocabulary expansion under various conditions and with children from diverse backgrounds.

In addition, Elham Mahmoudi, Adlina Bt. Abdul Samad and Noor Zainab Bt. Abdul Razak (2012) conducted a study in Malaysia for 30 Iranian postgraduate students; in which the attitude and students' performance in Computer Assisted English Language Learning (CAELL) for Learning Vocabulary are investigated. In the area of using CALL programs in education, web-based learning is deemed as one of the fastest-growing areas. Crystal (1997) stated that by using multimedia technology in teaching English as a foreign language; it helps the learners increase their independence and solve some of the difficulties experienced in a traditional classroom. In this research, the participants learned vocabulary using websites during the treatment process. The findings of the research concluded that students' vocabulary increased significantly after using computers in their learning; as they also showed positive attitudes towards the use of computers in which they agreed that computers make their learning easier and enjoyable. In the research, students made use of educational websites in learning and most of them showed positive attitudes towards computers as it makes their learning easier and enjoyable. Tam (2000) stated that the use of technology has gained an importance place in vocabulary learning and it offers a great variety of learning possibilities through the daily improvements of Information and Communication Technology. Hence, by using computers as a learning tool, learners gain more freedom to experience learning on their own and explore more varieties in the independent learning environment. Students' positive attitude towards the changes from a teacher-centred to learner-centred classrooms is reflected hugely on the students' positive performance in expanding their vocabulary knowledge.

Meanwhile, Putman and Kingsley (2009) conducted an investigation about the use of podcast, which is a relatively new information and communication technology on enhancing the development of Science vocabulary. Podcast is a digital media that can be subscribed over the Internet directly on the computer, which can then be transferred to a portable music player, offering the listener opportunities to hear the content whenever and wherever they want. The research