



การศึกษาการจัดการเรียนการสอนผ่านเทคโนโลยีไร้สายในการสนับสนุนการสอนการอ่านภาษาอังกฤษ¹ และเสริมสร้างแรงจูงใจในการอ่านภาษาอังกฤษของนักเรียนชั้นประถมศึกษาปีที่ 4

The Study of Mobile Learning to Support English Reading Instruction and Enhance English Reading Motivation of Grade 4 Students

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บทคัดย่อ

งานวิจัยนี้ใช้การจัดการเรียนการสอนผ่านเทคโนโลยีไร้สายที่นักเรียนสามารถเรียนรู้ได้ในสถานที่และทุกเวลา เป็นเครื่องมือในการตรวจสอบแรงจูงใจและความเข้าใจในการอ่านของนักเรียน สำหรับโปรแกรมการเรียนการสอนผ่านเทคโนโลยีไร้สายที่ถูกนำมาใช้ประกอบการวิจัย ตั้งอยู่บนพื้นฐานในยุคของโปรแกรมบนเทคโนโลยีไร้สาย (Yau & Joy, 2009) และหลักการสอนการอ่าน 5 ประการ (Armbruster et al., 2001) งานวิจัยนี้มีวัตถุประสงค์เพื่อ 1) พิจารณาความเหมาะสมของโปรแกรมบนเทคโนโลยีไร้สายที่คัดเลือกมาสำหรับการจัดการเรียนการสอนผ่านเทคโนโลยีไร้สายและการเรียนการสอนการอ่านภาษาอังกฤษ 2) ตรวจสอบการจัดเรียนการสอนผ่านเทคโนโลยีไร้สายที่มีส่วนช่วยเสริมสร้างแรงจูงใจในการเรียนการอ่านภาษาอังกฤษของนักเรียน โดยกลุ่มตัวอย่างเป็นนักเรียนชั้นประถมศึกษาปีที่ 4 จำนวน 5 คน ในหลักสูตรปกติ ของภาคเรียนที่ 2 ประจำปีการศึกษา 2557 โรงเรียนสาธิตจุฬาลงกรณ์มหาวิทยาลัย ฝ่ายประถม งานวิจัยนี้เก็บข้อมูลโดยการจัดการเรียนการสอนการอ่านภาษาอังกฤษผ่านเทคโนโลยีไร้สายเป็นเวลา 3 คาบ คาบละ 50 นาที และการเรียนผ่านเทคโนโลยีไร้สายนอกชั้นเรียน โดยมีเครื่องมือในการวิจัยคือ แบบประเมินแรงจูงใจอย่างง่ายและการสนทนากลุ่ม

ผลการวิจัยในครั้งนี้พบว่าผลตอบรับเชิงคุณภาพจากการสนทนากลุ่มส่วนใหญ่เป็นไปในเชิงบวก นอกจากนี้การประเมินความพึงพอใจของผู้เรียนต่อการจัดการเรียนสอนผ่านอุปกรณ์ไร้สายแสดงให้เห็นว่า ผู้เรียนร้อยละ 40 มีความพึงพอใจในระดับกลาง และร้อยละ 60 มีความพึงพอใจในระดับสูง

คำสำคัญ : การจัดการเรียนการสอนผ่านเทคโนโลยีไร้สาย, หลักการสอนการอ่าน, แรงจูงใจ

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Abstract

This study examines mobile learning, which allows for learning to occur anytime and anywhere, as a tool to investigate students' reading motivation and reading comprehension. The study incorporates criteria from the three generations of mobile applications (Yau & Joy, 2009) and the five areas of reading instruction (Armbruster et al., 2001). The objectives of the study were 1) to examine the appropriateness of a selected mobile application for mobile learning and reading instruction, and 2) to investigate whether mobile learning enhances students' reading motivation. The participants of this study were five Grade 4 students of Chulalongkorn University Demonstration Elementary School who were enrolled in the regular English class in the second semester of academic year 2013. The data collection was conducted over three 50 minute class periods and with outside class learning through mobile devices. The instruments used were the motivation evaluation form and the focus group.

The study found that the qualitative feedback from the focus group was largely positive. In addition, the assessment of the students' motivation level with mobile learning for reading instruction showed that 40% of the students had a medium motivation level and 60% had a high motivation level.

Keywords: mobile learning, reading instruction, motivation

Introduction

Reading is a lifetime skill. Young students learn about their world through their spoken language and interactions with others, and usually learn to read new texts on their own, using their background knowledge of spoken language, written language, and the subject of the text to produce meaning. Accordingly, beginning readers read and understand words in the context of a story with familiar language on a familiar topic better than they read words out of context, as in lists or on flash cards (Goodman, 1996). The teaching of reading of English as a Foreign Language (EFL reading) can be generally included in the field of teaching reading comprehension, as it focuses on developing the skills of foreign language learners who can already read in their first language. Thus, the term 'reading' in this study refers to the nature of reading in this sense, not to first language reading.

In the English as a Foreign Language (EFL) context, learners encounter difficulty in finding appropriate English resources. As Gerhard (1996) notes, reading is especially important for learners of EFL in an educational setting with limited L2 resources. Many countries now support the development of EFL reading skills; however, in many of them there are limited opportunities for exposure to English. Hirvela (2004) highlighted the importance of providing

appropriate reading materials to EFL learners so that they can learn the rhetoric and writing styles of the language through reading. In addition, there is a growing recognition that reading provides important opportunities for L2 development (Day & Bamford, 1998). As an English teacher, it is crucial to utilize appropriate methods and materials for teaching English reading that support the development of learners' reading comprehension.

In the twenty-first century, people are surrounded by technology and increasingly rely on it to carry out daily tasks. Children also have become heavy users of technology and many of them grow up using smart phones and tablets for playing games and watching cartoons, for example. Prensky (2001) notes that today's students are much different from in the past and that they are not the same as the people our educational system was designed to teach. The prevalence of new technologies clearly affects the ways in which they learn. Because young people interact so much with electronic devices, it would be beneficial to learning if this equipment could be incorporated into the education field through 'mobile learning'.

In its simplest form, mobile learning is any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies (O'Malley et al., 2005). Mobile learning has also been defined as 'any educational provision where the sole or dominant technologies are handheld or palmtop devices'. This definition implies that mobile learning would include mobile phones, smart phones, personal digital assistants (PDAs) and their peripherals, tablet PCs and laptop PCs, but not desktops (Traxler, 2005). So mobile learning takes advantage of technology that most people regularly carry around with them anyway nowadays. However, to use mobile learning to support learners' reading comprehension, teachers need to have guidelines to use in selecting the applications most appropriate for mobile learning.

According to Yau and Joy (2009), mobile learning applications can be divided into three generations – rudimentary, adaptive, and context-based/aware. The rudimentary generation has been defined simply as 'e-learning through mobile computational devices' (Quinn, 2000). Becking et al. (2004) noted that applications of this generation must consider the size and font, quality and scope, and also how learning materials fit onto the mobile devices. The second generation is known as the adaptive generation which emphasizes adapting applications to learner profiles to provide the learners with more customized materials. The

latest type is the context based/aware generation. This focuses on the importance of selecting appropriate learning materials/activities for students based on various learning environments which may not always be ideal. For example, the noise level and the frequency of interruption are conditions in mobile learning environments which affect concentration. Thus, in selecting mobile learning applications, all of the aforementioned factors should be considered, including: size and font, quality and scope, proper fit for mobile devices, and ability to accommodate students' profiles and learning environments.

As the current research focuses on student reading comprehension, how mobile learning is applicable for reading instruction was also considered. Armbruster et al., (2001) state that there are five areas of reading instruction: 1) Phonemic Awareness is the ability to hear, identify, and manipulate individual sounds or phonemes in spoken words. 2) Phonics instruction helps children learn the relationships between the letters of written language and the sounds of spoken language. 3) Fluency Instruction is the ability to read a text accurately and quickly. 4) Vocabulary Instruction refers to the words we must know to communicate effectively. 5) Text Comprehension Instruction is necessary when readers can read the words but do not understand what they are reading, and thus they are not truly reading. Mobile applications selected for teaching should account for these five areas of reading instruction.

Lastly, a key factor affecting students' reading comprehension is motivation. Studying and implementing the conditions under which students are motivated to read is essential to the process of teaching and fostering learning (Alexander, 1998). Motivation can be categorized into two types: intrinsic motivation and extrinsic motivation. Intrinsic motivation is the kind of motivation which comes from students' own interests and exists within the students themselves rather than coming from external pressures or rewards (Ryan & Deci, 2000). According to Wigfield et al. (2004), extrinsic motivation involves the performance of an activity to attain a given outcome, and may occur together with intrinsic motivation. Extrinsic motivation comes from outside the individual.

The purpose of this study is to examine whether a selected mobile application can be effective for mobile learning and reading instruction and whether mobile learning can enhance students' reading motivation.

Objectives

1. To examine the appropriateness of a selected mobile application for mobile learning and reading instruction.
2. To investigate whether mobile learning enhances students' reading motivation.

Method

Research Design

The study was a single group quasi-experimental research study employing the qualitative research method. The study was carried out over three class periods in the second semester of academic year 2013. The research instruments were employed to examine whether the selected mobile application was appropriate for mobile learning and reading instruction and whether mobile learning enhances students' English reading comprehension. The qualitative data of this study were obtained from a students' focus group about their perceptions, opinions, beliefs, and attitudes towards the use of mobile applications and teachers' observations during students' use of a mobile application. The independent variable was mobile learning and the dependent variable was students' reflection and motivation on the mobile learning.

Participants

Participants in this study were Grade 4 students in Chulalongkorn University Demonstration Elementary School ages 9-10. Five Grade 4 students who were enrolled in the regular English class in the second semester of academic year 2013 with various English proficiency levels were purposively selected as the sample of this study to represent the population.

Research Procedures

There were three major steps involved in the research procedures. The first step concerned the mobile application selection and the study of the basic concepts of how to use the application. The second step involved the implementation of mobile learning and the third step was the students' focus group regarding the use of mobile applications.

Step 1: Mobile application selection and the study of the basic concepts of how to use the application.

The researcher selected a number of mobile applications based on the criteria of the three generations of mobile applications and the five areas of reading instruction. Then the researcher studied the basic concepts and the use of mobile applications—specifically those which were interactive English reading books. The researcher ultimately selected the mobile application called Reading Monster Town for the study.

Reading Monster Town is an application which contains six units of English reading. In each unit, there is storytelling, a question and answer activity, vocabulary practice, and also sentence structure practice. However, the researcher elected to use only three of the six units because of time limitations.

Mobile Application Selection

1. A fun, interactive, engaging and meaningful storytelling application was chosen based on the criteria of the three generations of mobile applications and the five areas of reading instruction, as well as one of the indicators from the national curriculum for Grade 4 students – Strand 1: Language for Communication, Standard F1.1 ‘Understanding of and capacity for interpreting what has been heard and read from various types of media and ability to express opinions with proper reasoning’.
2. Vocabulary items and phrases appropriate for Grade 4 students were selected as potential target words as they add meaning to the story and would be useful to the students. Vocabulary items and phrases selected were: silver, horn, sharp, big, hand, tummy, teeth, dad, mother, son, wife, brother, twin, funny, same, excellent, lucky, sun, sticky, snow, cold, rain, rainbow, wet, everything, toys, pull, hair, happy, sleep, floor, eat, play, rainy, windy, cloudy, sunny, rain boot, scarf, shorts, sweater, set the table, wash the car, make the bed, and feed the dog.

Step 2: Preparation for Implementation of Mobile Learning

The duration of the experiment was three class periods.

Step 2.1 Lesson Plan

The lesson plans were created by following the steps of teaching reading PDP framework of H. Douglas Brown. This lesson framework helps teachers plan and deliver effective reading lessons. It is designed to ensure students are motivated, engaged and active before, while and after (pre, during and post – PDP) reading a text. The details of lesson plan

were created to ensure fun, interactive, engaging and meaningful lessons to be conducted through the mobile applications.

Step 2.2 Implementation

Researcher conducted the lessons with a time allocation divided into three class periods.

Step 3: The students' focus group regarding the use of the mobile application and motivation evaluation form

Step 3.1 Motivation evaluation and focus group

The motivation evaluation and focus group were created to assess students' motivation level based on reading using the mobile application and the appropriateness of the selected application for mobile learning and reading instruction.

Step 3.2 Implementation of the motivation evaluation form and feedback based on focus group

The researcher conducted the focus group by discussing the use of mobile applications and having students complete the motivation evaluation form to rate their motivation for reading using the mobile application. Then researcher then allowed students to express their perceptions, opinions, beliefs, and attitudes regarding the use of mobile applications and also their motivation regarding the reading using the mobile application.

Research Instruments

Two instruments were used for this research study: the motivation evaluation form and the focus group.

1. The motivation evaluation form was adapted from Sangthong (2013) and consisted of three pictures of facial expressions, ☺ ☻ ☹, indicating the students' motivation level regarding reading using the mobile application. The facial expressions indicated low, medium and high motivation level. The students were asked to select the face that matched their motivation level the most.
2. The focus group was students' discussion during the focus group process to investigate their perceptions, opinions, beliefs, and attitudes regarding the use of the mobile applications and their motivation based on reading using the mobile application.

Data Collection

The researcher collected data using the following procedures:

1. The researcher conducted the lesson plan with five Grade 4 students for three consecutive days for 50 minutes per day.
2. While conducting the lesson, the researcher made observations while the students used the mobile application in class and collected data by taking notes, taking pictures, and recording videos.
3. In the third class period, the researcher led the focus group, starting off with the motivation evaluation form. The form was distributed to the participants in order to assess their motivation level regarding reading using the mobile application. Then a focus group discussion was held to allow students to express their perceptions, opinions, beliefs, and attitudes regarding the use of mobile applications and their motivation based on reading using the mobile application.
4. During the focus group process, the teacher collected data by taking notes, taking pictures, and recording videos.

Data Analysis

The analysis of this research study is divided into two parts, which are the analysis of the researcher's focus group, examining whether the selected mobile application is appropriate for the reading instruction and mobile learning for Thai EFL young learners, and the analysis of students' motivation level based on the focus group feedback regarding the students' perceptions, opinions, beliefs, and attitudes regarding the use of the mobile applications and mobile learning.

The analysis of researcher's focus group examined whether the selected mobile application is appropriate for mobile learning and the reading instruction for Thai EFL young learners by using the data collection from voice recordings and note taking during the class activities, which were the reading aloud activity, vocabulary practice, and text comprehension practice, to see whether students read and understood the meaning of the vocabulary and the stories themselves.

The analysis of students' motivation level based on reading using the mobile application was tabulated using frequency of rating to compute the percentage of students' motivation level. The focus group feedback was examined based on students' perceptions,

opinions, beliefs, and attitudes regarding the use of mobile applications to assess the appropriateness of the selected mobile application for mobile learning and reading instruction.

Results

Qualitative feedback from focus groups was mixed, but largely positive. The results were divided into 3 parts which were students' perceptions, opinions, beliefs, and attitudes regarding 1) appropriateness of the mobile learning application for mobile learning, 2) mobile learning for reading instruction, and 3) mobile learning and reading motivation.

1) Appropriateness of the mobile application for mobile learning

In the focus group, students reported:

1.1) Rudimentary Generation

"The application was really colorful with many cartoon characters and pictures. The size and fonts were big and easy to read. It also had activities and exercises which were fun!"

The display of the applications was the first consideration for selecting the most appropriate mobile application, taking into account the appropriateness of the size and fonts and the quality and scope for mobile devices so that it was easy for students to read and use.

1.2) Adaptive Generation

"We easily understood the contents through the pictures, activities, also the special features in the application. The content was thematic and the vocabulary and grammar level was not too hard."

The students' profile was that they were 9-10 year old, fourth grade students with various levels of English proficiency. Therefore, the selected mobile application contained many pictures, activities, and special features to assist students learning and enjoyment. Likewise, the grammar level and vocabulary were mostly appropriate for the students' proficiency level. However, there were some students who said that the contents were too easy for them.

1.3) Context based/aware Generation

“We used the application through our mobile devices, so we were able to use it anywhere we wanted. Even when we were outside, we still read and did the activities using the many special features in the applications.”

It is significant that the application was effective in mobile learning environments which were unpredictable. When students were in places with many interruptions, they were able to use the special features to help them with the application. For example, if they were in places with distractions that affected concentration level, they used the special features (touch screen) to interact and concentrate on their reading. They were able to choose the pages automatically or manually by using the touch screen.

The selected mobile application was deemed appropriate for mobile learning because the language level was not too high for the students. Additionally, the application had special features such as voiceover and a touch screen with colorful pictures and cartoon characters to assist students' reading, especially in challenging mobile learning environments. Therefore, the application can be considered as effective in allowing EFL learners with limited opportunities and exposure to English to practice their English reading.

2) Mobile learning for reading instruction

From the focus group feedback, students reported:

2.1) Phonemic awareness

“We loved it because the applications had not only the cartoon characters and the pictures but also the voiceover along reading the stories.”

The voiceover played the main role in helping students to identify and classify the sounds and phonemes in spoken words. Students were also able play and listen to the sounds repeatedly to review the words.

2.2) Phonics instruction

“We heard sounds, accents, and pronunciations and while we were reading, we recognized the words and sentences from what we heard.”

Students related the sounds that they heard from the voiceover to the vocabulary and sentences while they were reading. Students learned the relationships between the letters of written language and the sounds of spoken language.

2.3) Fluency Instruction

“The stories were not too long and also the sentences were not too complicated. So we were able to read the text fluently.”

As reported, the language level was not too difficult and there were a number of features in the application that allowed students to be able to read a text accurately and quickly. For example, ‘My dad has a beautiful wife, but I don’t.’, ‘My dad has a twin brother, but I don’t.’, ‘My dad has a funny mother, but I don’t.’ ‘My dad has a super excellent son, but I don’t’, ‘What do I have?’, ‘A very lucky dad!’

2.4) Vocabulary Instruction

“Pictures and special features helped us to easily understand the vocabulary and be able to do the activities and exercises correctly.”

In the application, each story had pictures, voiceover, and special features which referred to the words in the sentences so that students could learn the meaning of the words efficiently. For example, there was a story of a monster named Turly - ‘I am Turly’ ‘I am six hundred years old.’, ‘I have silver horns’, ‘I have sharp teeth.’ ‘I have a big tummy and two big hands’, ‘I have many books.’, ‘I love reading!’. Then there was a task to find and circle Turly in that page. After finishing reading and the task, there were the vocabulary and grammar exercises.

2.5) Text comprehension

“Not only understanding the vocabulary but also the sentences--the pictures and special features also helped us to easily understand the stories.”

As reported, the selected mobile application included a digital book. The features proved very helpful for students to understand the texts as well as provided interactive games and activities to help students review what they read from the stories.

Reading instruction is not just teaching students how to spell words, read sentences, and then translate them into their mother language; it should give EFL learners a way to truly understand the reading through what they see in the texts. In this research, mobile learning played a key role in supporting the reading instruction. The mobile application helped students to see and explore things which were more than just text. It allowed them to see

English reading as being something that did not have to be a chore, but something challenging and fun.

3) Mobile learning and reading motivation

The students found that mobile learning enhanced both their intrinsic and extrinsic motivation. From the feedback, students reported that:

3.1) Extrinsic motivation

"It was like playing games more than reading books. We could interact with the application such as tapping to answer the questions, playing with the cartoon characters. We really enjoyed it."

Students felt that the special features allowed them to have greater interaction with the contents in the application. The mobile devices persuaded students to explore the knowledge more than normal books because of the features in the mobile application. They had fun playing and reading through the application and wanted to learn more.

In other words, the students' expectation was to have fun with games, cartoon characters, and special features, rather than reading. Therefore, they were motivated by outside factors which can be considered extrinsic motivation.

3.2) Intrinsic motivation

"After we read through the application, we felt that reading was not hard and was fun. It was not only because of special features and activities in the application but also we wanted find some more stories to read, both through the application and books"

First, students undoubtedly were motivated by outside factors. But after they got used to the reading, they started to enjoy it. They wanted to find something new and interesting to read, not only from the mobile devices but also from books. This was due to their own interests rather than being stimulated from the outside which was intrinsic motivation.

It can be concluded that mobile learning can enhance students' both extrinsic and intrinsic motivation. Even though motivation first came with extrinsic motivation via the

features of the mobile application, the application later enhanced students' intrinsic motivation by making them feel relaxed and enjoy the reading.

Students' motivation level

The percentages of students' motivation level with the selected mobile application and mobile learning were calculated based on the ratings obtained from the motivation evaluation form and are as follows:

Table 1

Students' motivation level frequency and percentages

		Frequency	Percent
Rating	0	0	00.0
	1	2	40.0
	2	3	60.0
	Total	5	100.0

The three facial expressions on the motivation evaluation form represented each rating as follows:

:(= 0 represents low motivation level

:(= 1 represents medium motivation level

:D = 2 represents high motivation level.

Table1 shows that no student had rated a 0 motivation level. 40% had medium motivation level, while 60% had high motivation level with the selected mobile application and mobile learning.

Discussion

The results of the study indicate positive feedback from Thai fourth grade students (EFL learners) regarding use of mobile technology for learning, which fits well with Hirvela's (2004) contention that it is important to provide reading materials to EFL learners so that they can learn the rhetoric and writing styles of the language through reading. Based on students' focus group feedback, it is clear that today's students not the same as our educational system was designed to teach as noted by Prensky (2001). Also, mobile learning clearly does provide a viable new option for learners as noted by O'Malley et al. (2005).

The current research focused on this use of mobile applications in relation to teaching EFL reading skills. The mobile application selected for use in the study met the criteria of the

three generations of mobile applications of Yau & Joy (2009). Specifically, as the display affects students' first impression when they see the application, the size and fonts and the quality and scope were taken into account. Then, the contents in the application were adapted to fit the students' profile to support their learning. Lastly, and most importantly, the mobile application was able to be used in various learning environments and facilitated students' involvement in their own learning.

The application included a digital book which had many features which were found to allow students to read and have fun at the same time. Also the activities and exercises allowed students to review lessons and supported reading instruction as advocated by Armbruster et al. (2001). The voiceover supported phonemic awareness and phonics instruction while the language level supported fluency instruction. The pictures and cartoon characters supported vocabulary instruction. Finally, the special features supported text comprehension. These results indicate that the selected mobile application not only supported mobile learning but also supported reading instruction. The use of special features, cartoon characters, activities, and exercises served to aid students' reading comprehension. It can also be inferred that, although this study focused on the way to support EFL learners' reading comprehension, mobile learning can be applied with other skills such as listening, as well as with other learning materials besides books.

To a certain extent, learning outside the classroom or at various locations requires nothing more than motivation. According to the results of the motivation evaluation form and students' focus group, it is clear that studying and setting conditions under which students are motivated to read is important in the process of teaching and fostering learning, which supports the findings of Alexander (1998). Students were motivated by both the features in the mobile application and the stories that they read in the application. Their extrinsic motivation came from the interaction between them and the special features; their intrinsic motivation came from the enjoyment they got from the stories.

In conclusion, this research has examined the significant benefits as well as some possible challenges of using mobile phones for learning. It has confirmed that the introduction of mobile technology into learning can make learning become easier and more enjoyable, as it has been shown to enhance both the English reading motivation and the English reading

comprehension of young EFL learners for whom traditional modes of learning are becoming less effective.

Recommendation for Future Research

When interpreting the results of this study, it is important to note that the research was conducted on only one specific group of students; as a result, it cannot be concluded that the results would be the same for all types of EFL learners. Nonetheless, it is felt that this study successfully obtained representative perspectives of young Thai EFL learners. Thus, it is hoped that the findings of this report can be used by other researchers, materials developers, and teachers to develop effective ways of employing mobile technology to enhance and develop learning materials for EFL learners.

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