แบบจำลองการเรียนการสอนโดยใช้สมาร์ทโฟนในวิชาการอ่านภาษาอังกฤษสำหรับนักศึกษาไทยในระดับมหาวิทยาลัย

A Smartphone-Assisted Instructional Model in English Reading for Thai Students at University Level

*Poonsuk Jantasin**
Suksan Suppasetseree ***

บทคัดย่อ

ทักษะด้านภาษาอังกฤษทั้ง 4 ด้าน พบว่า ทักษะด้านการอ่านถือเป็นทักษะที่สำคัญที่สุดสำหรับผู้เรียนภาษาอังกฤษ และทักษะการอ่านภาษาอังกฤษเป็นสิ่งสำคัญในบริบทของโลกยุคโลกาภิวัตน์ เนื่องจากเป็นทักษะหนึ่งที่มีบทบาทสำคัญต่อความสำเร็จทั้งในด้านการศึกษาและอาชีพ อย่างไรก็ตามเห็นได้ว่าระดับความสามารถในการอ่านภาษาอังกฤษของนักเรียนไทยยังไม่เป็นที่น่าพอใจและจำเป็นต้องได้รับการปรับปรุง ปัจจุบันสมาร์ทโฟนกำลังกลายเป็นเครื่องมือที่เหมาะสมสำหรับที่จะใช้ในบริบทของวงการการศึกษา เนื่องจากสมาร์ทโฟนมีคุณสมบัติที่มีประสิทธิภาพ และผู้เรียนสามารถเข้าถึงเนื้อหาจากสมาร์ทโฟนได้ทุกที่ทุกเวลา นอกจากนี้สมาร์ทโฟน ยังมีศักยภาพสูงสุดในการรวมฮาร์ดแวร์สำหรับการเรียนรู้ภาษา

ดังนั้นการศึกษาครั้งนี้ ได้พัฒนาแบบจำลองการเรียนการสอนโดยใช้สมาร์ทโฟน (SAI Model) ในการอ่านภาษาอังกฤษ สำหรับนักศึกษามหาวิทยาลัยราชภัฏร้อยเอ็ด (RERU) ประเทศไทย อย่างไรก็ตามในการออกแบบและพัฒนา แบบจำลองการเรียนการสอนโดยใช้สมาร์ทโฟน (SAI Model) ได้มีการศึกษาหลักการพื้นฐานในการออกแบบ แบบจำลองการเรียนการสอน แบบจำลองการเรียนการสอน 5 แบบ ทฤษฎีการเรียนรู้ และทฤษฎีการอ่าน ทั้งนี้ข้อมูลที่ได้จากการศึกษา จะถูกนำมาวิเคราะห์ และสังเคราะห์ เพื่อนำไปใช้เป็นแนวทางในการพัฒนาแบบจำลองการเรียนการสอนอย่างเป็นระบบ หลังจากนั้นแบบจำลองการเรียนการสอนที่สร้างขึ้น จะถูกประเมินโดยผู้เชี่ยวชาญในการออกแบบระบบการเรียนการสอนและการสอนภาษาอังกฤษจำนวน 3 คน ผลการศึกษาพบว่า แบบจำลองการเรียนการสอนโดยใช้สมาร์ทโฟน (SAI Model) ได้ออกแบบและพัฒนาเป็น 8 ขั้นตอนหลักและ 9 ขั้นตอนรอง และได้รับการประเมินจากผู้เชี่ยวชาญที่คะแนนเฉลี่ย 4.54 (SD = 0.000) ซึ่งแสดงให้เห็นว่า แบบจำลองการเรียนการสอนโดยใช้สมาร์ทโฟน (SAI Model) ความเหมาะสมมาก ในการเรียนการสอนการอ่านภาษาอังกฤษ

ABSTRACT

Among the four skills of English language, reading is considered as the most important skill for English learners. The importance of reading skills in English has long been perceived as being crucial in the context of a globalized world as it is one of the imperative skills which play an important role for educational and professional success. However, it is demonstrated that the proficiency level of English reading among Thai students are unsatisfactory and needed to be improved. Today, smartphone is becoming an appropriate tool to be used in educational contexts. Because of its powerful features and services, learners can access to content from a smartphone anywhere and anytime. It also offers the greatest potential for integration of technological hardware into language learning. Accordingly, this study was conducted to develop a Smartphone-Assisted Instructional Model (SAI Model) on how to read in English for students at Roi Et Rajabhat University (RERU), Thailand. Nevertheless, to design

* *Degree of Doctor of Philosophy in English Language Studies, Suranaree University of Technology*
** *Lecturer at Suranaree University of Technology*

and develop the SAI Model, the fundamental principles of Instructional Systems Design (ISD), five instructional models, learning theories and reading theories were analyzed, synthesized and applied as guidance for developing the model step-by-step. When the model was designed and developed, it was evaluated by the three experts in instructional systems design and English language teaching field. The results of the study revealed that the SAI Model, designed and developed in eight major steps and nine sub-steps, was rated by the experts at a mean score of 4.54 (SD=0.000). This indicated that the model is very appropriate in English reading instruction.

คำสำคัญ : *รูปแบบการเรียนการสอน, ทักษะการอ่านภาษาอังกฤษ, สมาร์ทโฟน*

Keywords : *Instructional model, English reading skill, Smartphone*

INTRODUCTION

It is believed that people with a high potential in reading skill are more likely to be successful in both education and professional achievement. However, English seems to be a recurring problem for Thai students at all educational levels and most students reading abilities are not good enough to understand what they read (Songyut. 2011, Wichadee. 2011). A number of research studies on reading in Thailand revealed that reading ability in English of Thai students were fairly poor (Laoarun. 2013; Ponmanee and Sinsuwan. 2001, Wongsothorn. 2003, and Chawwang. 2008). Accordingly, language scholars and instructors are at present exploring teaching and learning methods which can effectively improve students' English reading ability. Some research studies have been carried out to develop new reading instructional models to enhance reading ability and create new materials to increase students' motivation.

To resolve this problem, technology which has a high potential for teaching and learning was integrated in the teaching of reading. Based on a large number of research studies such as Abdous et al (2009), Alemi et al (2012), Azabdaftari and Mozaheb (2011), Begum (2011) and Lee et al (2014), it was revealed that technology could be effective when used in the teaching of the English language and has a great potential as a language instructional tool that enhances students' language skills in different aspects. However, in terms of technology, smartphones seem to be the most popular technology tool among young people. They are nowadays becoming more and more extensively used because of their user-friendly design and convenient multi-function. With respect to language learning, smartphones provide a personal and learner-centered learning opportunity that allows learners to access a large amount of language learning materials, information resources and language activity easily and quickly at anytime and anywhere.

Moreover, the instructional design which is a systematic procedure for instruction development was applied to construct a well-organized instructional model. It is believed that instructional design is a serious responsibility in the design of teaching and learning activities because in the instructional design process, there are a lot of factors which are closely related to each other and affect each other (Isman. 2011). Due to the reason that the logical steps play an important role on the outcomes of instruction, they should be seriously taken into consideration and designers should create a model that will help to keep a balance between them. An instructional design model gives methods and implications in the design instruction. During the instructional design process, instructional design models help educators to visualize the problem. If the instructional design model solves the problems in learning-teaching, it means that the instruction should be effective.

The purpose of the current study is to design and develop an effective instructional model for teaching students at Roi Et Rajabhat University

on how to read in English. It is intended to improve the students' English reading ability and increase students' interest in studying on a reading course. The instructional model was constructed based on mobile learning perspectives with the modern ideas of 'anywhere, anytime' learning and a wide variety of language inputs, activities, and materials were provided to enhance and arouse students' interest in learning. To achieve the research purpose, two research questions have been formulated:

1) What are the components and logical steps of developing a Smartphone-Assisted Instructional Model (SAI Model) in reading English as a foreign language?

2) What are the experts' opinions on Smartphone- Assisted Instructional Model (SAI Model) in reading English based on an evaluation form?

PURPOSE OT THE STUDY

To develop a Smartphone-Assisted Instructional Model (SAI Model) in how to read English for English major students at RERU

RESEARCH METHODOLOGY

This study consisted of two phases. At the first phase, A Smartphone-Assisted Instructional Model (SAI Model) in English Reading would be designed and developed. In this phase, the SAI Model was designed and developed following the seven steps in developing an instructional model (Brahmawong and Vate-U-Lan. 2009) step by step. At the second phase, to verify the efficiency of the model, an evaluation form was drawn up by the researcher together with the prototype of the SAI Model and submitted to three experts for their evaluation and recommendations. Based on the responses from the experts, the model was revised and improved.

DATA ANALYSIS

To evaluate the SAI Model, the data obtained from the evaluation form of SAI Model were calculated for the arithmetic means. The criteria of means were adopted from Suppasetseree (2005).

RESULTS

After the study had been conducted, the two research questions which were demonstrated previously were answers as follows:

1. Design of the SAI Model in English Reading

Based on the results of the evaluation and the recommendations from the three experts, the SAI Model has been carefully revised. Eventually, the SAI Model in English reading was developed in 8 major steps and 9 sub-steps in the process. Each step will be briefly described as following:

Step 1.0 : Analyze Instructional Context

Analysis is the first basic step in the design of the SAI Model. Before the instructional process is designed, the 4 different aspects were carefully analysed by the researcher: (1) analyse learners' needs and problems of first-year students majoring in English from the College of Education of Education at Roi Et Rajabhat University regarding learning how to read in English, and their characteristics; (2) analyse the learning context of Roi Et Rajabhat University; (3) analyse the teacher's roles and availability in using the smartphone-assisted learning courseware and, (4) analyse the instructional content of the reading I course used in Roi Et Rajabhat University. The information gained from this stage should contribute towards identifying the learning goals of the reading courseware in the second stage.

1.1 Analyse Learners

In this sub-step, the needs and problems of first- year students majoring in English from the College of Education at Roi Et Rajabhat University concerning how to learn to read in English and the students' characteristics were examined. The analysis emphasised their background knowledge and the learning problems they had encountered while they were studying how to read in English and their expectations of the program. It was possible to

entertain this information from on-site visits using interviews and observation. The findings of this analysis can contribute towards identifying the learning goals and determining the instructional strategies which help learners to make connections between the new information and what they already know.

1.2 Analyse Learning Context for the SAI Model

The next thing we need to look at is the learning context. This is the setting in which actual learning will take place. If we understand the setting in which instruction will take place then it will be easier to plan activities that will make the best use of the instructional environment. In this sub-step, the learning setting of Roi Et Rajabhat University will be examined by on-site visits using interviewing with instructors as well as observing the site in use for obtaining the necessary information. The purpose of this sub-step is to identify the availability of smartphone devices for English instruction provided by the university and to investigate any limitations of the setting that might affect the design of the instruction.

1.3 Analyse the Teacher's Roles and Availability for the use of the Reading Courseware

A study of teachers' roles online and their competencies are important as they provide information about how teachers might be trained and supported online, as well as factors that might affect the design of online learning environments. There are several aspects of the teacher's role that can influence how e-learning environments are developed and delivered. Thus, this sub-step examines the lecturer's roles and availability and then specifies what that the teacher needs to do while teaching the smartphone-assisted learning course. For example, the teacher will need to serve as a facilitator and a consultant, and to be available all the time whilst teaching this course.

1.4 Analyse the Instructional Content of the Reading Courseware

One of the important factors which can affect how the instruction is designed and developed is the different types of content used, which will require a variety of strategies., The content analysis focuses on the analysis of both the domain (type) and the level (sequence) of the content.

Step 2.0 : Identify Learning Goals of Reading Courseware

After the analysis, it was necessary to specify the learning goals of the reading courseware. The findings from step 1.0 can influence the goal statements. A clear statement of the instructional goals of the course will help determine the pathway to develop the smartphone-assisted learning coursewear and reduce unsuitable or unnecessary elements during the development of the course. The learning goal is the backbone of a lesson, consequently whatever the instructors decide to do in the class will be considered in the light of the goals.

Step 3.0 : Design and Develop Smartphone-Assisted Learning Courseware

After identifying the learning goals of the reading courseware, the lessons, exercises and assessments which will be used for the instruction must be developed. To affirm that the lessons, exercises and assessments of the online instruction follow a holistic approach means that everything fits together in hamony.

Step 4.0 : Develop Instructional Strategies

Based on the plan of the online reading courseware from step 3.0, the instructional strategies will be developed following 3 sub-steps: 1) determine the instructional strategies 2) create the learning tasks and 3) select an online instructional platform.

4.1 Determine Instructional Strategies: Learner-Centered Approach

It is well-known that what children learn depends not only on what they are taught but also on how they are taught (Instructional strategies online. 2013), accordingly, to achieve the learning goals of the reading course, appropriate instructional strategies must be carefully chosen to maximize learning

effectiveness. Therefore the learner-centered approach was consequently selected as the main instructional strategy in the smartphone-assisted reading in English instruction. The following areas will now be considered : Pre-reading activities; During- Reading, and Post-reading activities.

4.2 Create Learning Tasks for Pre-Reading Activity, During-Reading Activity, and Post-Reading Activity

After the instructional strategy is determined, the learning tasks which will affect the accomplishment of the instruction of the smartphone-assisted reading in English courseware must be considered and created. The design of appropriate tasks will possibly have a significant influence on the success of the reading instruction.

4.3 Select Instructional Platform: Smartphones

Based on the results of the previous steps, the selection of a suitable online instructional platform will have to be carefully considered. In an online environment, the platforms should be selected in order to expand accessibility to educational opportunities, make use of multimedia capabilities, and provide effective management of the teaching and learning experience. As the online reading instruction focuses on self-organized learning and social networking, smartphone devices can also provide a platform which can serve the notion of learning anytime or anywhere.

Step 5.0 : Produce the SAI Lessons

Once the instructional platform has been selected, the actual reading courseware which will be used by teachers and students needs to be carefully developed. However, this step is somewhat time consuming because the proposed instructional material may possibly have to be changed or amended and new instructional material may have to be to adopted or added to make the courseware more effective.

Step 6.0 : Developmental Testing

To test the efficiency of the SAI Lessons, in this step the try-out and the trial run processes need to be carried out.

6.1 Try-Out

In this sub-step, to test the efficiency of the SAI Lessons, three steps of the try-out will be carried out: individual testing, small group testing and field testing.

6.1.1 Individual Testing

In this stage, three students will learn through the reading English lessons produced on the SAI Model. The time allotted for this step is ten weeks. The results of the try-out will be analyzed to find out the efficiency of the SAI Lessons based on the 80/80 efficiency criterion. Try-out data on the opinions of the students concerning the quality of the SAI Lessons will be utilized to improve the quality of the lessons.

6.1.2 Small Group Testing

In the small group testing, 6-12 students will be asked to study the SAI Lessons which will be modified and revised following the individual testing stage. Results of the try-out will be analyzed to find out the efficiency of the lessons based on the 80/80 efficiency criterion. The lessons will be further improved based on the students' opinions of their quality.

6.1.3 Field Testing

Similar to the individual and the small group test, in this stage thirty students will be asked to learn via the SAI Lessons. After that, students' achievement scores from both the exercises and the tests from the three stages will be determined for the effectiveness of the SAI Lessons based on the criteria of the 80/80 standard level (Brahmawong. 1978).

6.2 Trial Run

In this step, the learning context where the actual learning will take place is conducted. The reading courseware will be given to thirty students. Before and after studying the SAI Lessons, all of the learners will be asked to do the pre-test and

post-test respectively. Results of the trial run will be analyzed to find out the efficiency of the lessons based on the 80/80 efficiency criterion. A comparison of the pre- and post acheivement scores of the students who used the SAI Lessons will be investigated as well. Eventually, the lessons will be further improved based on the students' opinions of their quality.

Step 7.0 : Implementation of SAI Lessons

Once the SAI Lessons have been approved as efficient and satisfactory, they will be implemented to ensure that maximum efficiency and positive results will be obtained from the lessons. The evaluation should also be designed in the implementation step.

Step 8.0 : Conduct Evaluation

After the implementation step, the evaluation process is conducted in order to evaluate the learning processes and their outcomes. Accordingly, two types of instructional evaluation, namely, formative and summative evaluation will be conducted in this step. Formative evaluation is a method for judging the value of a program while the program activities are still in progress. Thus, formative evaluation focuses on the process. It provides the information needed to adjust the teaching and learning after they have been tried out. Summative evaluation is a method of judging the worth of a program at the end of the program activities. Thus, summative evaluation focuses on the outcome. The results of these evaluation enable course designers to decide whether a program should be adopted.

2. **Results of the Development of the SAI Model in English Reading for English Major Students**

After the SAI Model had been developed, it was sent to three experts in the field of Instructional Systems Design and English Language Teaching to be evaluated. The analysis used a five-point rating scale questionnaire (5 = very strongly agree, 4 = strongly agree, 3 = neutral, 2 = slightly agree, and 1 = least agree) for the calculation of the arithmetic means. The data from the evaluation form of the SAI Model were analyzed for the arithmetic means by adopting the criteria of Suppasetseree (2005). The following criteria were used for interpretation: 3.68-5.00 = the model is very appropriate, 2.34-3.67 = the model is appropriate and 1.00-2.33 = the model is not appropriate. According to the results, as a whole, it can be seen that the SAI Model was rated by the three experts at the mean score of 4.54 (SD=0.000). This meant that the SAI Model was rated as very appropriate ($\bar{X}$ = 4.54). When considering each aspect, it can be seen that the SAI Model was rated by the experts at the mean score ($\bar{X}$ = 4.67, SD=0.577) for items 3, 6, 8, 9 and 10 and the mean score ($\bar{X}$ = 4.33, SD=0.577) for items 1, 2, and 4 respectively. As a result, it was demonstrated that the mean score of all items is at ≥ 4.00 which means the model is very appropriate.

DISCUSSION

One of the purposes of the study was to develop a Smartphone-assisted Instructional model (SAI Model) in English reading for English major students at RERU. The model was developed in 8 major steps and 9 sub-steps and submitted to three experts in the field of Instructional Systems Design and English Teaching for evaluation and suggestions. After it was evaluated, the findings revealed that the SAI Model was rated as very appropriate for English reading instruction. This view was possibly due to the fact that the model was carefully designed and developed on the fundamental principles of Instructional System Design (ISD) step-by- step with insightful studies of various instructional models, learning theories and reading theories.

Based on the key principles of Instructional Systems Design (ISD), the SAI Model was developed systematically for each component of the model rather than as a random activity and all components were related to one another. Dick, Carey and Carey (2001) claim that the systematic approach of the model is an effective and successful approach

because there is a careful linkage between instructional strategies and desired learning outcomes. This is consistent with Molenda (2003) who claims that the process of designing instruction can be carried out more efficiently and effectively if the steps are followed in a logical order so that the output of each step provides the input to the next step. For that reason, the SAI Model created on the basis of systematic-oriented models was evaluated by the experts as very appropriate for English reading instruction.

After the SAI Model was rated by the experts, it was shown that it had particular strengths as follows. Firstly, the components of the model were connected appropriately. This was because the SAI Model was designed and developed on the basis of the principles of Instructional Systems Design (ISD) with insightful studies of various instructional models. As stated by Martin (2011), if the instructional components are properly allied with each other, the quality of the instructional design is high. The SAI Model was designed and developed using a systematic-oriented approach with a careful linkage between each component. For this reason, the components of the model were approved by the experts as the strong point of the model.

Secondly, a model that could offer learning activities with self-paced learning was declared to be a distinctive point of the model as well. This was due to the fact that the SAI Model was also designed and developed based on the theoretical perspective of constructivism. This view focuses on a learner-centered approach in the design step of the model for learning activities. Therefore, a model was designed and developed which allowed learners to review the content repeatedly at their own pace without the pressure that exists in virtual classrooms. With reference to Dunlosky and Theide (1998), it can be seen that self-regulated aspects of learning have important implications for the effectiveness of learners' learning efforts and their achievements in education. Accordingly, the model which focused on designing self-paced learning activities was rated by the experts as one of the strengths of the model.

Thirdly, another strong point of the SAI Model was that it could offer learning paths based on learners' needs. This might be the result of the model being developed on the basis of a behavioristic perspective. According to this view, at the analysis step of the SAI Model, learners, learning context, teacher's roles, and instructional contents were all analyzed to serve the learners' needs. Learning should meet students' needs and interests. If the learning activities are based on students' educational needs and interests, they are more likely to succeed academically, emotionally, and behaviorally (Grant & Basye. 2014). The SAI Model carefully analyzed the learning needs and identified the instructional goals, then created delivery systems, materials, and evaluation tools to address those needs to ensure high quality instruction. Therefore, the learning paths which served the learners' needs were considered as a strong point in the SAI Model.

Fourthly, one more strong point in the SAI Model was the facility whereby students can study at any time or anywhere. This view is possibly the result of the model being designed and developed based on a mobile learning perspective which focused on learner-centered learning. From this perspective, it could be said that m-learning is any sort of learning that happens when the learner is not at a fixed, predetermined location, or able to use learning opportunities offered by mobile technologies (O'Malley et al, 2003 cited in KESKİN, 2011). For that reason, the SAI Model was developed to enable students to study at any time or anywhere through the use of smartphone devices was valued as one of the strong points of the SAI Model.

Finally, the SAI Model is suitable for current social conditions. This can be explained by the growing mobility and functional convergence of technologies, and the fact that mobile devices are progressively present in everyday life. According to Johnson (2011), it was reported that virtually 100% of university

students are now equipped with mobile devices. Students use their mobile devices to communicate with other people, create video/audio, take photos, receive or send text messages. As a result of the benefits of mobile devices for language learning, mobile technology is currently considered to have a promising future in teaching and learning. For that reason, the SAI Model adopted a smartphone technology to assist with instruction which would be appropriate for current social conditions. As a result, the suitability of the SAI Model for current social conditions was evaluated as a strong point of the model.

The results of the evaluation of the SAI Model were consistent with the studies of previous models such as Suppasetseree's (2005) SREO Model, Nutprapha BOLA model (2011), and Tian's (2012) OTIL Model which were rated as appropriate by the experts. These models include the SAI Model which was designed and developed using a systematically-oriented approach with a careful linkage between each component. In addition, the models showed the linear application of the design stage that made each component into clear steps which were easy to understand. Moreover, they placed importance on a learner-centered approach, which allows students to study online at their own pace and according to their interests. As a result, this model was approved by the experts as a very appropriate model for its learning objectives. In conclusion, the SAI Model was systematically developed based on the principles of Instructional Systems Design (ISD). Every step in designing and developing the model was evaluated by three experts. As a result of the comments and suggestions of the experts, the model was modified and revised and in the long run approved as very appropriate for English reading instruction for English major students at RERU.

IMPLICATIONS

Due to the findings of the present study, the implications of the study can be mentioned as follows. First, the SAI Model which was developed for the present study was approved as appropriate for English reading instruction. Therefore, it can be used as a useful example or a guide to other instructors and instructional designers who are interested in the further development of the instructional model in which smartphone technology is integrated. Moreover, the findings of the study revealed that the SAI Model was effective in the teaching and learning of reading in English, future curriculum development or syllabus design should be shifted towards the integration of technology into reading instruction. Finally, the evaluation form used in the present study was verified by the experts and accepted as efficient. For that reason, it can be adopted or adapted as a guideline to further research in similar areas.

IMPLEMENTATION OF THE SAI MODEL

To implement the SAI Model effectively in any educational institution, it is highly recommended that the following factors should be taken into consideration.

1. Administrative Commitment Policy

One factor that plays an important role in the effective use or adoption of the SAI Model is the administrative commitment policy which supports the mobile learning system. For educational institutions, a supportive policy for mobile learning should be generated. To support mobile learning systems, the institutions should invest in high quality infrastructures and facilities. Moreover, institutes should recruit experienced staff in the field of online learning and occasionally set up in-house training and workshops on instructional systems design and mobile learning to develop both the technical staff and instructional designers who will be capable of dealing with the needs of the SAI Model with regard to course planning, production, delivery, and evaluation.

2. Infrastructures and Facilities Needed before Implementation

Another factor that plays an important role in the effective use or adoption of the SAI Model

concerns the quality of the infrastructures and the facilities provided by the institution. As the SAI Model requires the connection of smartphone technology to a wireless network through a deployed network platform or model, in order to employ the model effectively, it is imperative that the educational institution which is interested in implementing the SAI Model should be able to provide an internet connection with signal strength and availability and high-speed connections which students can log on to whenever they want to participate in the learning process at a convenient time or in any convenient place around the campus.

3. Conditions for Successful Implementation

Although the SAI Model is capable of offering an alternative way of learning which helps flexibility in delivering education by meeting learners' needs, and supporting learning activities without restrictions on physical locations or time, the successful implementation of the SAI Model might not be possible unless the following conditions are fulfilled: the first condition for the successful implementation of the SAI Model is an administrative commitment policy which supports mobile learning systems, the second condition for the successful implementation of the SAI Model is a high quality infrastructure and adequate facilities provided by the institution to support the use of a mobile learning system. Finally, the acceptance of mobile learning by students is one of the critical conditions that needs to be met for the successful implementation of the SAI Model. If the students believe that learning through a smartphone will enhance or improve their learning performance, this belief will create a positive attitude toward mobile learning, thus increasing the students' motivation to learn via a smartphone and then to continue to use it.

Recommendations for Further Research

The present study has led to some useful results and conclusions on the use of smartphone technology in the teaching of reading in English, nonetheless it has also uncovered areas that need additional study.

Based on the findings of the study, it was revealed that the developed SAI Model was approved as appropriate for instruction in reading in English. As previously mentioned, the model was appropriate for instruction in reading in English, but this does not necessarily mean it would work equally well for other subjects. For example, Siemens (2002) and Ryder (2006) state that the application and value of instructional design models often depend on the instructional situation, problem or task. Therefore further research should be conducted in order to design and develop the instructional model for other specific areas or other subjects.

REFERENCES

Abdous, M., Camarena, M., & Facer, B. (2009). **MALL technology: Use of academic podcasting in the foreign language classroom**. RECALL Journal, 21(1), 76–95. Retrieved September, 12, 2015, from http://journals.cambridge.org

Alemi, M., Sarab, M., & Lari, Z. (2012). **Successful learning of academic word list via MALL: Mobile Assisted Language Learning**. International Education Studies, 5(6), 99–109. Retrieved Sep ' ' 14, 2015, from http://www.ccsenet.org.

Azabdaftari, B., & Mozaheb, M. (2012). **Comparing vocabulary learning of EFL learners by using two different strategies: Mobile learning vs. flashcards**. The Eurocall Review, *20*(2), 47–59. Retrieved October 10, 1025 from http://www.eurocall-languages.org/review/20_2/index.html

Alessi, S. M. and Trollip, S. R. (2001). **Multimedia for learning: Methods and Development**. Massachusetts: Allyn& Bacon.

Barrs, K. (2011). **Mobility in learning: The feasibility of encouraging language learning on smartphones**. Studies in Self-Access Learning Journal, 2(3), 228-233.

Begum, R. (2011). **Prospect for cell phones as instructional tools in the EFL classroom: A case study of Jahangirnagar University, Bangladesh**. English Language Teaching, 4(1), 105–115. Retrieved September 17, 2025, from http://www.ccsenet.org/journal

Brahmawong, C &Vate-U-Lan, P. (2009). **GUIDELINES FOR PH.D.RESEARCH ACTIONS**. Assumption University of Thailand.

Bruner, J. S. (1966). **Toward a theory of instruction.Cambridge**. Mass.: Belkapp Press.

Cedergren, S and Hellman, K. (2012). **Smartphone Applications The future tool for vocabulary learning?.** Royal Institute of Technology School of Computer Science and Communication.

Chawwang, N. (2008). **An investigation of English reading problems of Thai 12th – Grade students in Nakhonratchasima Educational Regions 1,2,3 and 7**.Unpublished master's thesis, Graduate School, Srinakharinwirot University.

Driver, R., Asoko, H., Leach, J., Mortimer, E., & Scott, P. (1994). **Constructing scientific knowledge in the classroom**. Educational Researcher, 23(7), 5-12.

Dick, W., Carey, L., & Carey, J. (2001). **The systematic design of instruction**.(5th ed). Allyn& Bacon.

Dunlosky. J., & Theide, KW. (1998). **What makes people study more? An evaluation of factors that affect self-paced study**. Acta Psychologica. 98: 37–56.

Good, Thomas L. and Jere E. Brophy. (1990). **Educational psychology: a realistic approach**. New York and London: Longman.

Grant, P., & Basye, D. (2014). **Personalized Learning : A guide for engaging students with technology**. International Society for Technology in Education. EUGENE, OREGON • WASHINGTON, DC

Isman, A. (2011). Instructional Design in Education : New Model. Turkish Online Journal of Educational Technology - TOJET, 10(1), 136-142.

Johonson, L., Smith, R., Willis, H., Levine, A., & Haywood, K. (2011). **The 2011Horizon Report**. Austin, Texas: The New Media Consortium.

Keskin, N., & Metcalf, D. (2011). **The current perspectives, theories and practices of mobile learning**. The Turkish Online Journal of Educational Technology, 10 (2).

Komiyama, R. (2009). **CAR: A means for motivating students to read**. English TeachingForum, 47(3), 32-37.

Kongpet Dennis, N. (2011). **Development of a blended online learning approach model for English for careers**. (Doctoral dissertation, Suranaree University of Technology, Nakhon Ratchasima, Thailand). Retrieved on July 26, 2015 From http://sutir.sut. ac.th: 8080/ sutir/ handle/123456789/3866

Laoarun, W. (2013). **Effects of Extensive Program Using Tales on Attitude and Motivation in Reading English of Undergraduate Students of Nakhonpathom Rajabhat University**. Nakhonpathom Rajabhat University.

Lee, C., Hsu, K-C., & Shih, R-C. (2014). **Effects of implementing C&U-message through smartphones on English grammar learning for college students**. The Online Journal of Distance Education and e-Learning, 2(1), 13-19. Retrieved September 16, 2014, from www.tojdel.net.

Martin, F. (2011). **INSTRUCTIONAL DESIGN AND THE IMPORTANCE OF INSTRUCTIONAL ALIGNMENT**. Community College Journal of Research and Practice, 35: 955–972.

Molenda, M. (2003). The ADDIE Model, in, *Educational Technology: An Encyclopedia (Eds.* A. Kovalchick & K. Dawson) Retrieved on July 28, 2015 from http://www.indiana.edu

Morrison, G. R., Ross, S. M., & Kemp, J. E. (2004). **Designing effective instruction (4thed)**. Hoboken, NJ: John Wiley & Sons, Inc.

Polmanee, S., &Sinsuwan, P. (2001). **Needs and problems in English usage of graduate students in teaching Thai and social science compared with students in teachingEnglish**. Unpublished master's thesis, Chiang Mai University, Bangkok, Thailand.

Rahman, Md. H. (2007). **An Evaluation of the Teaching of Reading Skills of English in Bangladesh**. A thesis submitted in partial fulfillment of the requirements for the degree of MA in English. Department of English University of Rajshahi, Rajshahi, Bangladesh.

Sedighi, S., & Soyoof, A. (2013). **Smartphone application: A superior tool to learn a new language**. International Conference "ICT for Language Learning" 6th edition.

Smith, P. L., & Ragan, T. J. (2005). **Instructional design (3rd ed.)**. Hoboken, NJ: John Wiley & Sons.

Songyut, A. (2011). **RAISING THE COMPREHENSION SKILLS OF THAI TERTIARY READERS OF ENGLISH THROUGH STRATEGIES-BASED INSTRUCTION**. The University of Otago, Dunedin, New Zealand.

Suppasetseree, S. (2005). **The Development of an Internet-Based InstructionalSystem for Teaching Remedial English for First-Year University Students**. Suranaree University of Technology, Thailand.

Tian, X and Suppasetseree, S. (2013). **The Development of an Instructional Model for Online Task-Based Interactive Listening for EFL learners**.Canadian Center of Science and Education, 6(3).

Tian, X. (2010). **The development of an instructional model for online task- based interactive listening for EFL learners**. Unpublished Doctoral Thesis, Suranaree University of Technology.

Wichadee, S. (2011). **Development The Self-Directed Learning Instructional Model To Enhance English Reading Ability And Self-Directed Learning Of Undergraduate Students**. Bangkok University Thailand, 8(12), 43-52.

Wongsothorn, A. (2003). **Levels of English skills of Thai students. E-Journal for Researching Teachers.1(2).** Retrieved from http://www.culi.ac.th/eJournal_02/research_10.htm