Design and Development of Mobile App for Language Learning

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Abstract
Educational mobile apps have advantages and capabilities for enhancing literacy development. This paper is about the mobile app implementation in developing Thai language learning courseware used as CAI for sixth grade students. The prototype mobile app developed based on ADDIE framework process and constructivist approach. The prototype consists of three main modules including lesson module, game module and quiz module. Moreover, this paper shows how the mobile app has been tested informally with targeted students and the feedback from their teachers and parents.

Keywords: Mobile app, Multimedia for learning, Language learning

Introduction

Mobile devices have become a significant part of everyday life. Because of the familiarity with the mobile technology, many educators and researchers realize to apply the mobile technology into teaching and learning environments (Park, 2011). Educational mobile apps are alternative tools that widely used in multidisciplinary especially with informal education (Keskin & Metcalf, 2011). The potential of mobile learning is accepted and highly popular, including among language educators to enhance language learning and literacy for students (Godwin-Jones, 2011).

Objective and scopes

The purpose of the study is to develop the prototype of Thai language learning app based on ADDIE framework process and constructivist approach that could be used as CAI and CAL tools via mobile devices.

1. The educational mobile app objectives

The objectives of the mobile app development were:
1) To design and develop a mobile app prototype of Thai language learning for students.
2) To evaluate informally the satisfaction of the prototype with students, teachers and parents who were targeted users and stakeholders.

2. The educational mobile app scopes

The mobile app for language learning content covered Thai language learning that is referred to the current Thai basic education core curriculum B.E. 2551 (A.D. 2008). The courseware was delivered in Thai. The targeted users were sixth grade students in the range of 11-12 years old from three southern border provinces of Thailand. This study focuses on using mobile app for informal learning as an individual tool.

Constructivist theory and design approach

Constructivism is paradigm for teaching and learning which explains how students construct their knowledge through their own experiences (Muda and Mohamed, 2005). With this viewpoint, the researcher concerned with the experiences and contexts that make students willing and able to learn with the mobile app courseware. Furthermore, the mobile app is developed based on ADDIE Methodology in five phases; analysis, design, development, implementation, and evaluation. ADDIE methodology is an instructional systems design (ISD) model that is widely used for instructional tool design (Morrison & Gary, 2011).

Prototype development

The prototype mobile app developed based on ADDIE framework process and constructivist approach. The prototype was divided into three main modules including:
1) Lesson: the module had 3 units that sorted content from easy to hard.
2) Game: the module as an edutainment phase by using educational game for reviewing of lesson understanding.
3) Quiz: the module was used as both pre and posttests in form of the multiple choices for learning achievement analysis.

Figure 1 showed a user interface flow diagram for the whole content of the app in Thai language learning prototype for students
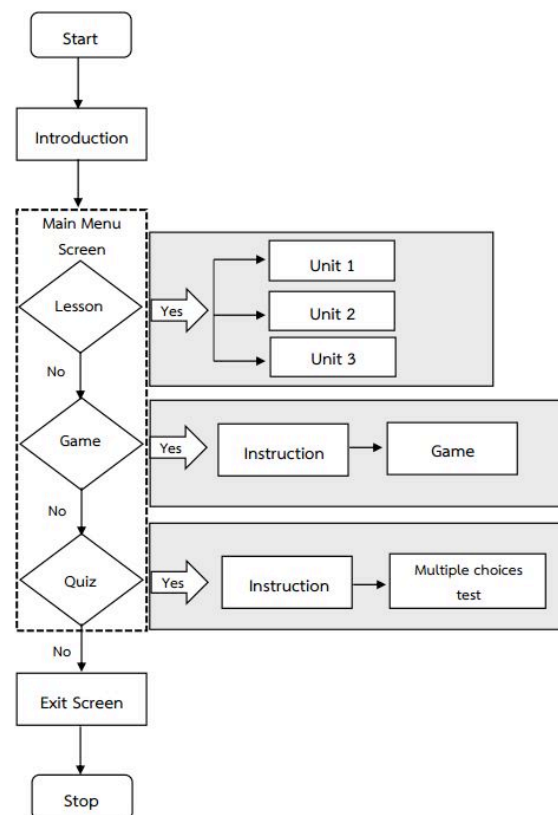

Figure 1: User Interface Flow Diagram.

After the development of the prototype, each module has been tested informally with targeted students. Moreover their teachers and parents give some benefit feedback. From the informal evaluation results, they were satisfied with the app. The strengths and the weaknesses of the prototype could be improved to fulfill the requirement of the users. Formal assessments for the completed mobile app will be conducted soon. Examples of the prototype interfaces are shown in Figure 2.

Figure 2: Sample of prototype screenshots.

Conclusion

This paper presented the educational app prototype design and development that could be used as CAI and CAL for an informal learning as an individual tool which foster Thai language and literacy learning of students. In conclusion, the study is only a first step. The researcher realizes that this project is still in the beginning phase of development and has been being continuously developed until it is practically used.

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