

Multimedia Courseware Design for English Pronunciation Learning at Kamphaeng Phet Rajabhat University

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Abstract. The purpose of this paper is threefold: 1) to provide an overview of English language learning in Thailand, focusing on the background of English language learning by undergraduate students at Kamphaeng Phet Rajabhat University, 2) to review some commercial multimedia courseware packages available on websites and 3) to offer design methods for multimedia courseware educational kits that can be used by teachers in the classroom or by students as self-tutorial aids.

1. Introduction

Language is a complex communication system that contains a variety of structural features. Learning the English language can be a challenging task for non-native speakers including Thai people. The many ways to master a foreign language include learning and understanding its structured system, such as grammar, vocabulary and syntax, as well as its sound/symbol system [1].

In Thailand, students study English as a second language based on the national educational curriculum. The English courses mostly provide instruction in English principles and usage. The students' goal in each level of instruction is to obtain a high score or to pass a course examination. This test outcome-based approach is a factor that causes many Thai students to worry too much about grammatical rules, and to devote little attention to the speaking aspect of language learning. Studying grammatical rules is the primary focus in English classes, rather than the communicative aspect. They study a great deal of English grammar and writing, with limited improvement in their listening and speaking skills. The result is that Thai L2 learners often face difficulties in using English for communication, and develop a very limited ability to speak English with intelligible pronunciation.

2. Background of English Learning at Kamphaeng Phet Rajabhat University, Thailand

2.1 English Language Classroom in KPRU

Kamphaeng Phet Rajabhat University (KPRU) is a government university that provides several fields of study, such as Education, Technology and Sciences, Liberal Arts, Management Sciences. KPRU provides mandatory general educational courses including English. English language teaching (ELT) at KPRU has become stronger in recent years in response to the national education curriculum, and prepares students with the English language skills to communicate with people in other ASEAN countries. At KPRU, general English classes are offered for two or three hours a week in fifteen week semesters. Each class has one teacher providing language instruction for between 30 and 50 students. To capitalize on the growth of technology in the classroom, the university has gradually acquired aids such as visualizers, smart boards, and audio materials to assist with classroom instruction. Students can learn how to integrate that technology with their lessons, and would find their experience in the classroom transformed if the technology infrastructure could be improved [2].

2.2 Commercial Online Program Provided for Students at KPRU

The Language Center at KPRU has recently provided the 'Speexx' Program, an online English language training platform. The courseware for training English skills, is available on the website <http://www.applitech.co.th/?lang=en>, offered by Applitech Solution Co., Ltd. KPRU students have been enrolled in Special English courses that utilize lessons and activities contained in this courseware. Optimistic feedback was found from the instructors' commentaries and students' post-test results [3]. The students and teachers said that this program enhanced active learning. However, it was also found that the some users were rather upset with some technical problems that they believed caused them to score lower. [4].

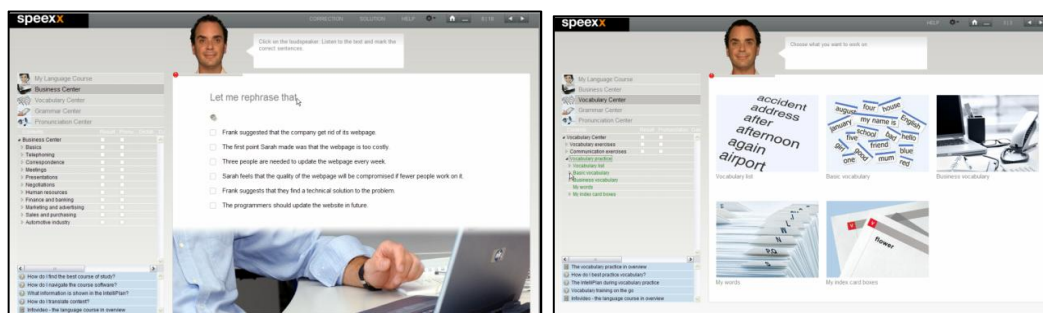


Fig. 1. Screenshots of Speexx Program

3. Commercial Multimedia Courseware

During the digital decade, teaching and learning methods have also paralleled changes in technology, and multimedia enables learners to learn within virtual situations [5]. Learners can listen to voices, model and repeat, watch instructional videos and demonstrations of mouth movement, play interactive games, and receive instant feedback. There are numerous pronunciation oriented commercial courseware programs available for non-native speakers of English. The result is that instructional tools are available and convenient for learners and teachers to utilize devices such as computers, smartphones and tablets. Courseware and technology are usually provided for a fee but sometimes for free. After payment, learners can use the courseware on their own device to access online lessons or they can download lessons for free from some websites.

In this paper, there are four interesting commercial courseware presented which are appropriate for non-native speaker learners who prefer autonomous learning via technology devices.

3.1 Clear Pronunciation1, 2

Clear Pronunciation 1 (Sound) prepares learners to practice their pronunciation by helping them to recognize and pronounce 43 English phonemes. The program includes over 1,000 audio clips and 50 videos. The recorder enables users to record their voice and assess their pronunciation against a native speaker. Clear pronunciation 1 (Sounds) is suitable for all students [6].

Clear Pronunciation 2 (Speech) is suitable for Intermediate to Advanced students. The Program provides students learn to put the sounds of English together in natural speech. It helps them recognize and accurately produce word stress, sentence stress, consonant clusters, connected speech and intonation. Clear Pronunciation 1 and 2 are available on the website www.clarityenglish.com. [6] Clarity, 2017).



Fig. 2. Screenshots of the Clear Pronunciation Program 1, 2

3.2 New English File

Oxford University Press also provides the program *New English File*, an interactive online courseware providing several exercises and activities for practicing English grammar, listening, vocabulary, reading and pronunciation [7]. Teachers and students are able to access the software free at the website <http://elt.oup.com>, and use it via the computer with the Flash Player for some activities.



Fig. 3. Screenshots of New English File Website

3.3 New English File Application

Oxford University Press ELT also provides the *New English File* software as a mobile application (App) with the name *English File Pronunciation (Version 1.1)*. This application enhances a learners ability to speak by practicing sounds, words and sentences, using an interactive sound chart with a click and listen function, and pronunciation games including a record and play function for repeated practice [8]. The user can buy it at the website <https://itunes.apple.com> or on the App Store compatible with iPhone, iPad, and iPod touch.



Fig. 4. Screenshots of New English File Application

3.4 Phonetic Focus

Similarly, Cambridge University Press provides *Phonetic Focus* devoted to English phonemics and the phonetics drills and practice [9]. The program enables users to use it for free through a computer connected to the Internet, and/or to buy the mobile application for smartphones or tablets at the website http://cambridgeenglishonline.com/Phonetics_Focus/.



Fig. 5. Screenshots of Phonetic Focus

Although there are many technologies for pronunciation teaching and learning that are available free or for a fee, offline and online, that can be used on PCs and mobile devices, these are not responding to or satisfying the problems and needs of Thai undergraduate students. As seen in the details of the programs mentioned in the previous paragraphs, a few programs are designed for specific learners, such as, *Pronunciation Power* which was developed for Chinese speakers and specific foreign speakers such as Chinese, French, German, Italian, Spanish etc. As stated by Tamburi [10]

“...good courseware should be focused only on the student’s needs, and should be designed in a clear and well organized way in order to achieve the learning goal.”

Furthermore, some programs are expensive and need a specific device or software to support them. Due to these limitations, Thai undergraduate students at KPRU are not able to afford these costly programs and devices. The Internet connection is not available all time to them so they have to buy an Internet package or a 3G/4G connection to use those programs. Also, the programs mentioned are not designed for Thai EFL learners, and do not provide for the wide range of students’ proficiency levels of English and pronunciation.

There are two alternative choices to provide technology assisted English instruction at KPRU. Firstly, the university provides KPRU students’ autonomous learning with a commercial software program. However, the limitation is that the commercial software is expensive and may need setting in specific area and devices. Secondly, a teacher may develop courseware by their own design based on instructional system design (ISD) principles, with a well-organized and planned production. The program may be produced and designed as an online and offline program operable on PCs and mobile computers.

This paper suggests the Stress Pronunciation Multimedia Courseware (SPMC) Model, which was constructed based on instructional design (ID) theories [11]. The steps for the production model were presented to describe constructional plans of the multimedia courseware for enhancing English stress and pronunciation ability for Thai undergraduate students at Kamphaeng Phet Rajabhat University. The model was also adapted from other instructional models which have widely been used to design both course and curriculum. Those mentioned include ADDIE Model [12], 7 Step Model [13] and Dick and Carey’s Model [14].

4. SPMC Model

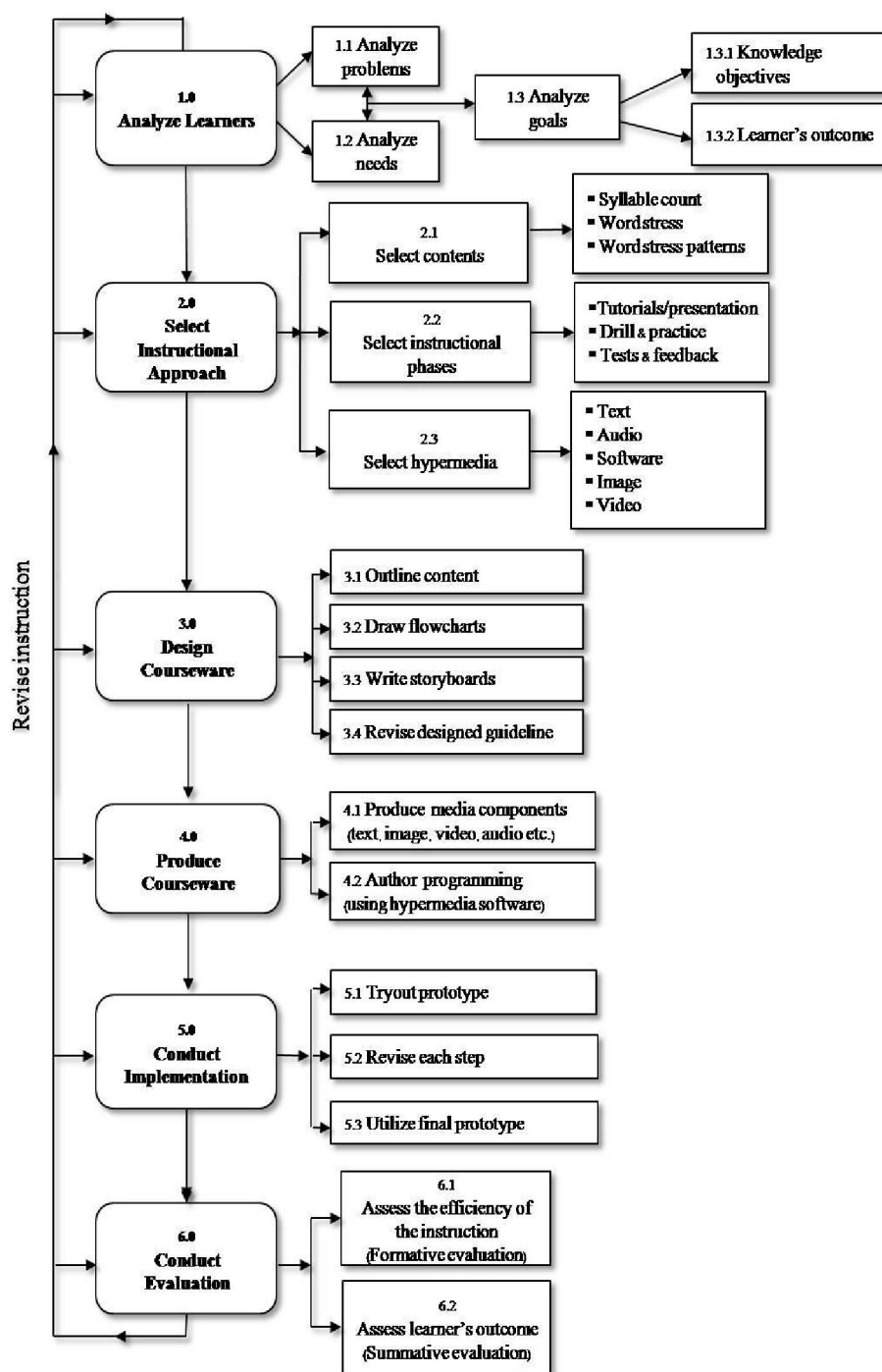


Fig. 6. SPMC Model

Step 1: Analyze Learners

SPMC Model step 1 is the beginning of the courseware production. The learners' problems and needs are analyzed by pronunciation proficiency tests, a questionnaire and an interview. The analyzing method is conducted to elicit students' problems in English pronunciation ability. The need of English pronunciation improvement is investigated to explore their requirements for pronunciation treatment and training.

Step 2: Select Instructional Approach

In this step, the selection of an instructional approach contained three sub-steps. In step 2.1, the selection of lesson content related to the learning goal. The pedagogy of English pronunciation and stress is carried out and suggested by peers in linguistics and a native English lecturer in an EFL class. Then, the lesson contents are compiled and divided by unit. In step 2.2 and 2.3, instructional phases and hypermedia are involved and selected.

Step 3: Design Courseware

Suggested by Lee and Owens [15], this step can be very time consuming. A novice courseware designer may ask other experts in a team in order to prepare specification documents, to write story boards, to record and edit video, to record audio, to edit and log, to create graphics, to develop courseware pages, to test and review etc., Guidelines for the courseware production include the following steps.

3.1 *Outline content*: The content was outlined in three units with sub-lessons. The lesson content is presented in the form of text and sounds.

3.2 *Draw flowchart*: The flowchart drawing is created to design and illustrate the courseware's step-by-step sequence and structure.

3.3 *Write storyboard*: Storyboards are prepared and identified for screen and display design, details included template names, background designs, colors, etc.

3.4 *Revise design guidelines*: The courseware production includes graphic design and is revised and edited for the most appropriate use and promptness.

Step 4: Produce Courseware

After the preparing the flowchart and storyboards, the media components such as text, pictures, videos and audio used in the courseware are produced and authored using a software program. Like the previous step, this step is time consuming. Help is needed from technical experts in computer and software design, drawing animation, and recording video and audio.

Step 5: Conduct Implementation

In this step, the courseware prototype was utilized for a tryout study in three steps; 1) individual testing (with three pilot samples), 2) small group testing (with six pilot samples), and 3) field study testing (with more than forty pilot samples) [13]. The samples in each group are assigned to use the courseware with suitable duration. After the treatment ended, the courseware is modified and edited based on problems that occurred during the tryout prototype and reflection from the pilot feedbacks.

Step 6: Conduct Evaluation

Evaluations are conducted at the end of each SPMC tryout. The assessment administered in this step was a formative evaluation for instructional efficiency and a summative evaluation for learners' outcome. The Brahmawong E_1/E_2 formula, based on criteria of 80/80 Standard [13] or other evaluations are employed for the courseware efficiency evaluation. Nevertheless, students' pre-test and post-test scores were compared and were calculated and analyzed by T-test statistic methods to confirm the courseware efficiency and to examine students' improvement.

5. Conclusion

Multimedia courseware are advantages and preferable for English learning and teaching, particularly for listening, speaking and pronunciation training since the computer system can store principles, knowledge, and sound models, including interactive and graphic media such as animation and video that demonstrate mouth movement and pronunciation, meanwhile Thai undergraduate students have excellent skills in using technology, and they indicated their preference in using technology on a daily basis, such as logging in to the Wi-Fi Internet or a 4G connection through a desktop computer, laptop computer, Net-book computer, tablet, and/or a smart-phone [3]. For these reasons, instructional system design and model development should be the basic knowledge required of a courseware designer to understand the instructional designs and how they can be used to produce, step-by-step, suitable multimedia courseware that is revisable and modifiable.

Consequently, it seems like an excellent opportunity to use technology integrated into English language and pronunciation pedagogy to encourage learners' motivation in Thai EFL classes.

6. Recommendations

The researcher of a future study should review and select additional updated package software and programs that can be produced and integrated into a small computer like a Netbook, Tablet, or a Smartphone in which data can be stored in different ways. Therefore, future studies may use these types of modern technology to construct lessons and evaluate the efficiency of the lessons, for instance, in a type of application (App.) program. A future study, researcher may choose a software program that assists an instructional designer in producing a course syllabus and curriculum more easily. Those mentioned may include available websites with enhanced instructional development. However, to produce multimedia courseware instruction effectively in order to save time and energy, a courseware production team consisting of a variety of subject matter experts may be essential and has many advantages for an instructional technology production.

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