

Multimedia Courseware Design for English Language and Pronunciation Training

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Introduction

Language is a complex system comprising structural features which are almost entirely focused on communication. Learning the English language is not a piece of cake for non-native speakers including Thai people. Ways to master a foreign language include learning and understanding its structured system across language use, grammar, words and lexicon, as well as its sound system (Foley & Thompson, 2003).

In Thailand, students study English as the first foreign language based on the national curriculum. They study hard to know about English principles and usage, and expect to obtain a high score or to pass the course examination. This is a factor that pushes Thai students, who are fearful to use English, to worry too much about grammatical rules. Because learning grammar is the main focus for Thai teachers, rather than the communicative aspect of language, Thai EFL students have learnt a great deal of English grammar and writing with limited improvement in speaking and listening. Hence, Thai EFL learners have faced difficulties in using English for communication and end up with a limited ability to speak English with intelligible pronunciation.

Kamphaeng Phet Rajabhat University (KPRU) is a government university providing several fields of study such as Education, Sciences, Liberal Arts, and Business Administration and the university serves both local people and students coming from local community and nearby provinces. KPRU provides mandatory general educational courses which including English. The general courses are required for all Bachelor degree curriculums. English language teaching (ELT) at KPRU has become stronger concentration in recent years in response to the national curriculum, which requires English language courses for all educational levels, to prepare students for the ASEAN community where

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each member nation needs to use English as the inter-language within the community. Besides, KPRU provides

English courses to promote learners' abilities to communicate in daily life and in their careers. They are assigned to take at least three English core courses with credits, such as Fundamental English, English for Communication, Listening – Speaking (1–2), Language and Communication for Specific Purpose (KPRU, 2011). According to the English course descriptions (KPRU, 2011), the purpose of most courses is to improve English communicative competence, particularly listening and speaking skills.

Even though a tutorial class is prepared for two or three hours a week in a fifteen week term for forty up to sixty students with one lecturer, the university attempts to set instruction media like visualizers, audio materials and computers to assist teachers and classroom instruction.

Such a good chance with the fast growth of technology, language teachers could enrich the class environment by using innovative instructional tools. The key at this point is for teachers to learn how to integrate those with their lessons; teachers would find their experience in the classroom transformed if the technology infrastructure could be improved (Hewer, 1997). Technology tools today include computers, mobile phones and tablets, each of which could assist pronunciation teaching and learning. Instruction via technology enhances various learning styles by providing interactive functions and instant feedback. Said by an English lecturer from English Program at KPRU, she has been using a tablet to assist her instruction. She prefers uploading and sometimes paying for useful English courseware and lessons via websites. She mentioned that students really liked and enjoyed interactive exercises, games, quizzes presented on those tools since they were fun and could repeat lessons again and again (Winaitam & Singhara, Interview, 2011).

The recent use of 'Speexx', the courseware for training English skills, information available on <http://www.speexx.com/EN/?country=Thailand>, offered by KPRU Language Center has been attended by KPRU students who were enrolling in fundamental English courses like Fundamental English, English for communication and special English 1 -3. They were motivated by lessons and activities on the courseware. Optimistic feedback was found from the instructors' commentaries and students' post-test results (Winaitam, Sittida & Toothong, Interview, 2013). It may assume that learning English via this courseware could help and improve learners' skills. According to the students' comment, this courseware made them more enjoyable and active to study English than before.

However, some technical problems were found. The participants sometimes were upset with this kind of software system (Winaitam, Kladphiban & Thongkorn, Interview, 2013).

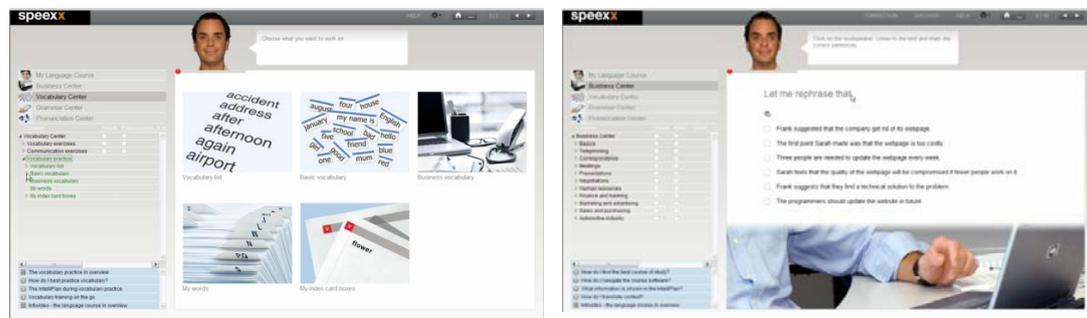


Figure 1 : Screenshots of Speexx courseware

Multimedia and Commercial Courseware

Multimedia enables learners to learn within virtual situations. They can listen to voices, model and repeat, watch instructional videos and demonstrations of mouth movement, play interactive games, and receive instant feedback, etc. There are numerous pronunciation oriented commercial software programs available for non-native speakers of English. Among the digital decade, teaching and learning methods have paralleled changes in technology (Por & Fong, 2011). The result is that instructional tools are available and convenient for educators and include devices such as computers, smartphones and tablets. Courseware and technology are provided for a fee or 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. Most programs are designed for ESL/EFL and specific learners. For instance, *Clear Pronunciation 1, 2* designed for general learners, which modified as a new version from *Pronunciation Power 1, 2* for Chinese speakers (Clarity, 2012). The user needs to buy the courseware and access the program from the Internet or through a network connection. It can be utilized via a computer or a mobile device. It is available on the website <http://www.clarityenglish.com>.



Figure 2 : Screenshots of the Clear Pronunciation Software

Oxford University Press also provides the program *New English File*, the interactive online courseware providing several exercises and activities for practicing english grammar, listening, vocabulary, reading and pronunciation (Oxford University Press, 2012). The users are able to access the software free at the website <http://elt.oup.com>, and use it via the computer with the Adobe Flash Program installed.

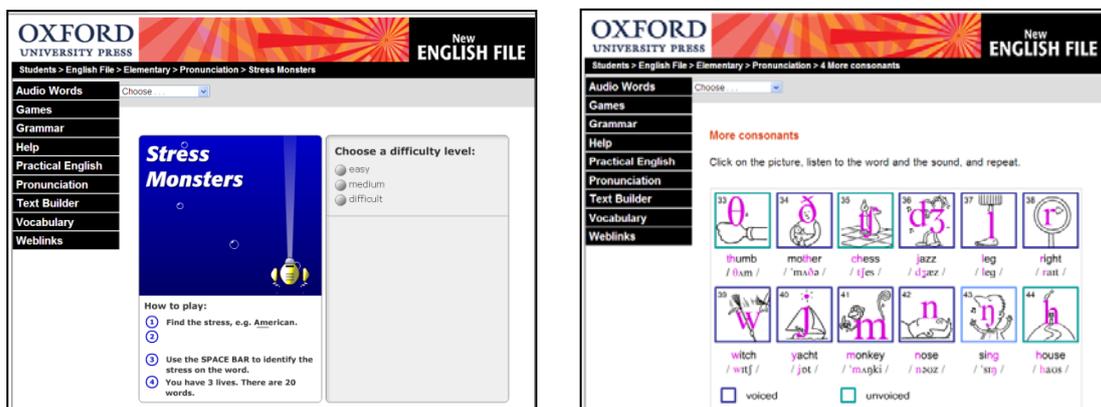


Figure 3 : Screenshots of New English File Website

Oxford University Press also provides the *New English File* software as a mobile application (App) with the name *English File Pronunciation (Version 1.1)*. This application enhances learners ability to speak by practicing sounds, words and sentences, using an interactive sound chart with click and listen, and pronunciation games including a record

and play function for repeated practice (Oxford University Press ELT, 2012). The user can buy it at the website <https://itunes.apple.com/us/app/english-file-pronunciation>. The limitation of this application is that it is only supported by Apple devices like iPhones, iPod and iPads.



Figure 4 : New English File software for Apple devices

Similarly, Cambridge University Press provides *Phonetic Focus* devoted to English phonemics and the phonetics drills and practice (Cambridge English Online, 2011). The program enables users to use it for free through a computer connected to the Internet, and/or buy the mobile application for smartphones or tablets at the Website http://cambridgeenglishonline.com/Phonetics_Focus/.

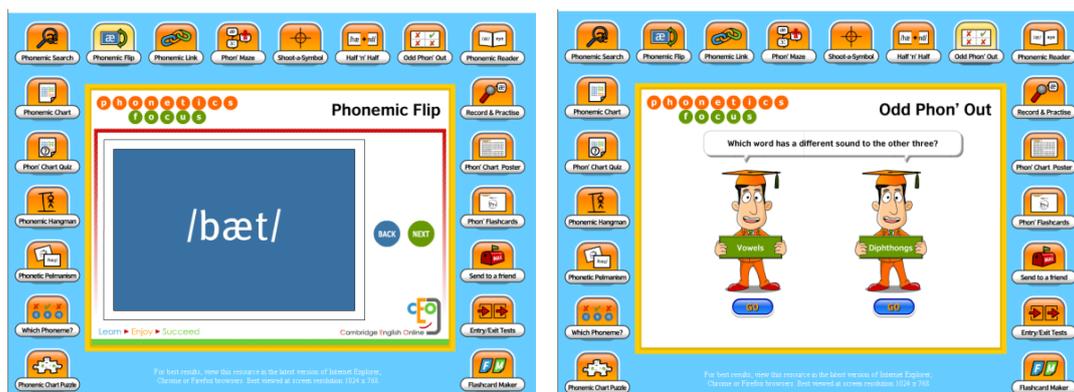


Figure 5 : Screenshots of Phonetic Focus software

Another software example is *WordBanker* (Soft Tonic, 2012). It provides pronunciation practice and tests with a number of words for learners to listen to and repeat. Students have many chances to listen to a British English (BE) native speaker. The student can record their own voice as a MP3. *WordBanker* provides a package in variety of languages (i.e. Chinese, French, German, Italian, Spanish, and Swedish) designed for beginner to intermediate learners. It is available on the website <http://wordbanker.en.softonic.com/>. *WordBanker* allows users to download and install the courseware on the computer for free.

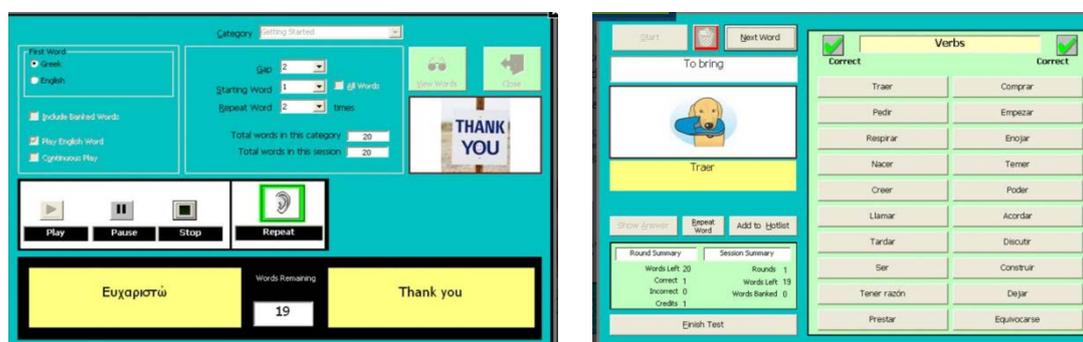


Figure 6: Screenshots of WordBanker software

Although there are many technologies for pronunciation teaching and learning that are available free or paid, 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 previous paragraphs, a few programs are designed for specific learners, such as, *Pronunciation Power* which was developed for Chinese speakers; *WordBanker* was designed specifically for some foreign speakers like Chinese, French, German, Italian, Spanish etc. As stated by Tamburini (1999, p.139).

“...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 are expensive and need a specific device or software to support them; for example, the *Clear Pronunciation 1/2* price is 3199 (5,700-5,900 Thai Baht) per computer, and \$1,699 (50,700-50,900 Thai Baht) for 40 computers. The program needs the *Adobe Flash Player* program to function on the computer.

The *English File Pronunciation* Application needs *iTunes* software to download. *Phonetic Focus*, and *English File Pronunciation* Apps are Supported only on Apple mobile devices (i.e. iPhone/iPad/iPod). The *WordBanker*, the *Phonetic Focus*, and the *New English File* software need an Internet connection to access.

According to the stated limitation, most Thai undergraduate students at KPRU are not able to afford these costly programs and devices. The Internet connection is often not available 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. Nevertheless, the limitation is that the commercial software is expensive and may need setting in specific area and devices. Likewise, *Speexx* users require the username and password with Internet connection. The software operation is quite complicated, and several technical problems are found.

The second choice, a teacher itself may develop a courseware by their own design based on an instructional system design (ISD) principles, with their well-organized and planned production. The program may be produced and designed as online and offline program operable on PCs and mobile computers. KPRU students can use it for free at the university computer laboratory or on their own computer. The courseware entire function includes an interactive instruction and integrated by multimedia like animated graphics, voice models of native speakers, video instructions, and text. The designed courseware also can be revised and edited when it is time to modify depending on the learners' problems and requirement.

The courseware design is suggested and developed by the following instructional models and steps.

Courseware Design and Models

ADDIE Model

The ADDIE Model is an instructional design (ID) model for instructional designers and ID training developers (Barrett, 2000). ADDIE is served alternative and rapidly with

a variety of systematic design that emphasizes holistic, repetitive approach, and providing continual or formative feedback. The generic ADDIE model has five steps: analysis, design, development, implementation, and evaluation which will be clarified in the following paragraph. See ADDIE Model in Figure 7.

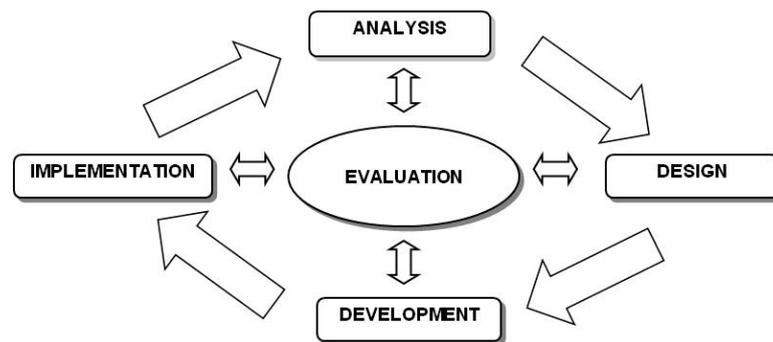


Figure 7: ADDIE Model (Adopted from Barrett, 2006)

1. **Analysis.** In this phase, instructional designers clarify the problem, establish goals and objectives of the instruction, and identify the learning environment and the learner's knowledge and skills.

2. **Design.** The goal of the design phase is to achieve instructional goals that address learning objectives, assessment instruments, exercises, content, subject matter analysis, lesson planning and media selection (Molanda, 2003). This phase involves the designed strategies of instruction, the application of visual aid techniques including the design of learner interfaces and experiences.

3. **Development.** The design process and content are applied and the learners become performers. In this phase technologies such as storyboards and graphics are designed (Liu, 2008) and product outcome or courseware is involved in training, and then the project is reviewed and revised according to feedback.

4. **Implementation.** A procedure for training or new tools, such as courseware (software or hardware), is developed for learners. The facilitators' training covers course curriculum, learning outcomes, methods of delivery, and testing procedures.

5. **Evaluation.** The performers, trainers or learners, facilitators or tools

(courseware, software or hardware) throughout the four phases are evaluated and revised if problems in any phases are found until the instruction can reach the desired results.

The 7 Step Model

The Seven-Step (the ๗ Step) Model was designed for research and development (R&D) of innovative / prototype development by Brahmawong (Brahmawong, 1999). The ๗Step Model is appropriate for a PhD project of innovative pedagogy development. The ๗ model steps are described in the following paragraph and shown in Figure 8.

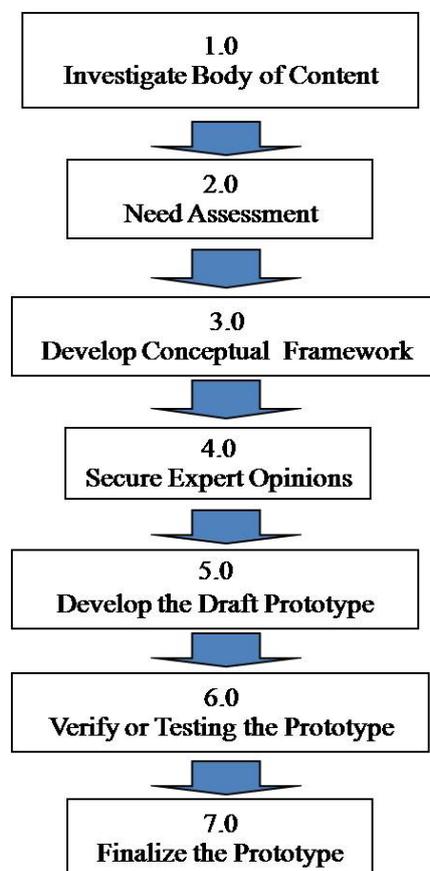


Figure 8: The 7 Step Model

Step 1.0 Investigate Body of Content. Content and data for documentary research is collected by reviewing related topics, interviewing experts and authorities in the topic, conducting study visits and getting involved in the field such as attending classrooms, seminars or conferences.

Step 2.0 Need Assessment. Conduct need assessment based on the project or research topic by determining existing needs, desirable characteristics and attributes of the innovative prototype. Then, conduct survey research on need assessment and write a survey report based on the results of the need assessment.

Step 3.0 Develop Conceptual Framework. Develop conceptual framework of the R&D prototype by writing a concept, objectives, components, production steps, technical attributes or characteristics, usages, and other relevant information to describe the proposed prototype. Then, develop and try out instruments.

Step 4.0 Secure Expert Opinions. Conduct a survey of experts' opinions using the developed research instruments. Then, write a survey report on the experts' opinions and summarize the critical points recommended for incorporation into the conceptual framework of the prototype. Finalize the conceptual framework of the prototype for use as the prototype blueprint.

Step 5.0 Develop the Draft Prototype. Draft the prototype in two phases: 1) planning and preparation based on the data and information collected from the survey, review of the contents and the results of the survey, and 2) designing and developing based on the data and information collected from the survey, a review of the contents, results of the survey, and the summary on peer-reviews of Phase 1.

Step 6.0 Verify or Testing the Prototype. Verify technical and content quality of prototype by seeking the experts' opinion before using it in the development process. Then, verify the expense and time-consumption of the prototype. Then, present the prototype draft for peer comments, and summarize recommendations and suggestions. Finally, conduct the developmental testing of the prototype in two stages: Tryout (during the development of various stages of the prototype) and Trial Run (after the whole prototype is completed and used in a real life situation for a period of time).

Step 7.0 Finalize the Prototype. Conduct experimental research by putting the prototype into practice in a real situation through a process of experimental design accordingly to the research objectives.

SPMC Model

The Stress Pronunciation Multimedia Courseware Model was constructed based on instructional design (ID) theories and principles (Winaitam, 2013). 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 steps are shown in figure 9.

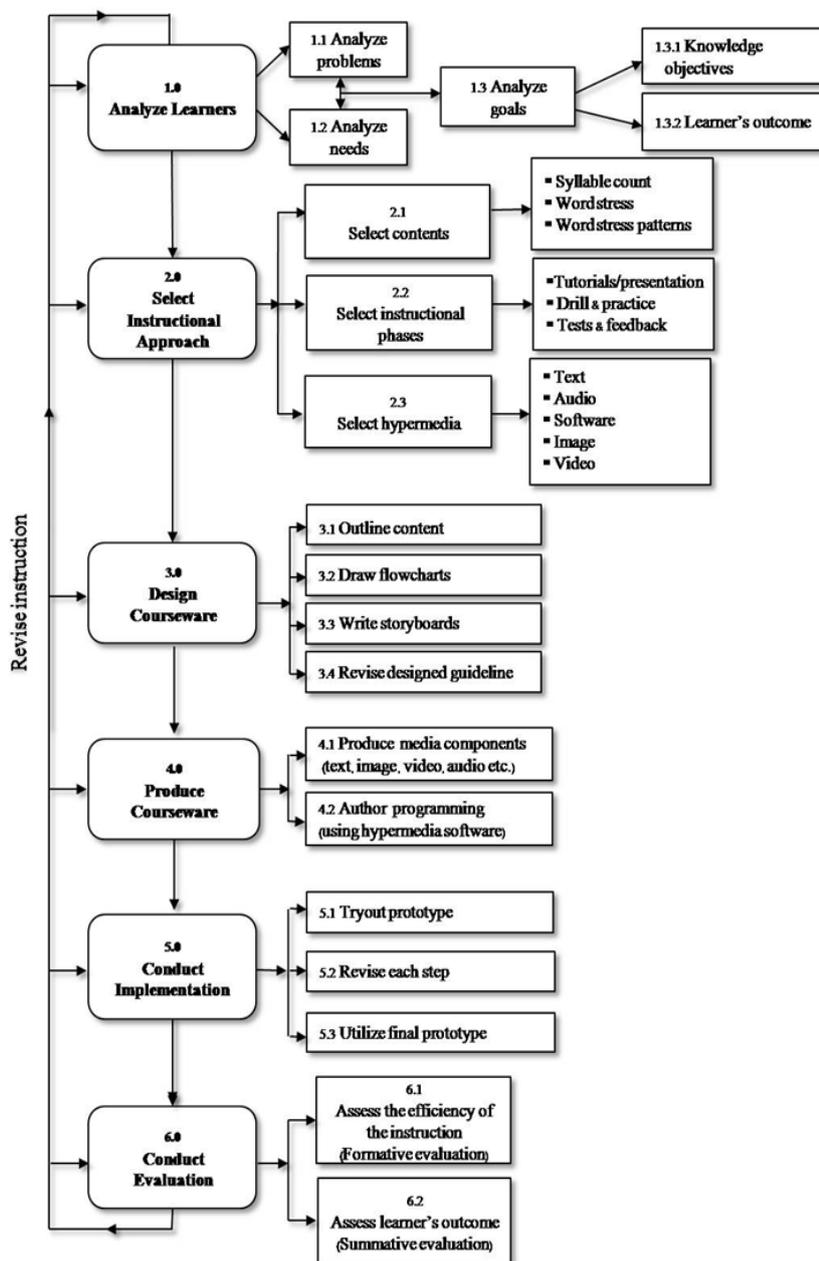


Figure 9 : SPMC Model

Step 1 : Analyze Learners

The Stress Pronunciation Multimedia Courseware (SPMC) Model step 1 is the beginning of the courseware production. The learners' problems and needs analyses

are employed by pronunciation proficiency tests, a questionnaire and an interview. The analyzing method is conducted to elicit in the students' problems in English pronunciation ability focusing on listening and speaking. The need of English pronunciation improvement is investigated to explore their requirements for pronunciation treatment and training including their preferences towards English language pedagogy and method. Knowledge objectives and learner's outcome are identified as learning goals.

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 contents 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 instructional phases and hypermedia are involved and selected.

Step 3 : Design Courseware

Suggested by Lee & Owens (2000), this step is very time consuming if the time is limited and the lack of skill in computer and software fields. 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.

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 that facilitated learners by reading while listening to a tutor's voice in a tutorial mode.

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

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

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) an individual testing (with three pilot samples), 2) a small group testing (with six pilot samples), and 3) a field study testing (with more than forty pilot samples). The samples in each group are assigned to use the courseware with suitable duration. After the treatment ended, the courseware is modified and edited following problems that occurred during the tryout prototype, and also from feedback and reflection from the pilot samples. It is reviewed and modified until it meets the target needs and requirements. Then, the final prototype is assigned in a trial run study. Results of the score feedback, questionnaire and interview are used to revise the steps again.

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 summative evaluation for learners' outcome. The Brahmawong E_1/E_2 formula based on criteria of 80/80 Standard (Brahmawong, 1999) 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.

Conclusion

There are two main reasons why courseware and multimedia are useful and preferable for English learning and teaching particularly for speaking, listening and pronunciation practice. Firstly, the computer system can store principles, knowledge, sound models including interactive and graphic media like animation and video that demonstrate mouth movement and pronunciation. Secondly, 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 Internet or a 3G connection through a desktop computer, laptop computer, Net-book computer, tablet, and/or a smart-phone (Winaitham, Buaban, Karaket, Phetpheung & Pinchaiyot, Interview, 2012). For these reasons, instructional system design and model development could be basic knowledge required of the courseware designer to understand the instructional design and how they can be used to produce, step-by-step, suitable multimedia courseware that was revisable and modifiable.

In this era, technology devices like computers, tablets, smart-phones are favored by people, especially among the younger generations as well as by Thai undergraduate students. As mentioned earlier, Thai students do not like to study English and are not able to use it effectively because they lack learning motivation. Consequently, it seems like an auspicious opportunity to use technology integrated into English language and pronunciation pedagogy to encourage learners' motivation in Thai EFL classes. According to the use of computer assisted language learning by KPRU students, they articulated optimistic views and attitudes towards using technology to enhance their English language learning and skills. The students mentioned that they liked and enjoyed using the courseware to study English pronunciation. Even though they might not master the material instantly, they showed improvement.

Accordingly, educators or English instructor might study the use of multimedia and technology and take advantage of this study to design technology instruction to assist language learning and teaching. It could also save the lecturers' time and energy in the long run.

Recommendations

Since the Speexx software and SPMC were designed to develop the pronunciation instruction using the multimedia courseware with a computer as a base, but undergraduate students at KPRU do not like to carry or frequently use their own computers in the campus. So, the requirements of updating technology and instruction, suggests that future studies are needed to explore new technology devices that can facilitate and motivate learners to use them for learning English and or other specific areas. Consequently, another instructional production model may be applied and modified to produce a course or a new pedagogy in conjunction with available technology and

devices in the future.

Therefore, 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. The future study may choose the software program that served for a new instructional designer to produce a course syllabus and curriculum easily. Those mentioned may include available websites with enhanced instructional development. However, to produce technology 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 have many advantages for an instructional technology production.

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