The Use of Mouth Movement Video and Digitised Phonetic Symbols on Pronunciation Learning among Learners with Different Psychological Profiles

Fei Ping Por

School of Educational Studies, Universiti Sains Malaysia, 11800 USM, Penang, Malaysia
E-mail: christinepor@yahoo.com

Soon Fook Fong

School of Educational Studies, Universiti Sains Malaysia, 11800 USM, Penang, Malaysia
E-mail: sffong@usm.my

Abstract

Being able to communicate is relatively indispensable in today's world considering the increased people's mobility, joint study programmes, and commercial networks. Pronunciation is a salient element of effective communication. However, due to different cultural backgrounds and native languages, non-native English speakers experience pronunciation difficulties. The conventional pronunciation teaching method of aural-oral approach has not achieved the expected outcomes, and it shapes the learners to be passive and dependent by mere duplicating the sounds of words without any explicit understanding to critically discern the sounds. Thus, this study investigates the contribution of mouth movements and digitised phonetic symbols on the learning of pronunciation among non-native English speakers with different psychological profiles. The Multimedia Pronunciation Learning Management System (MPLMS) designed and developed in this study is expected to address the issues by teaching pronunciation through the universally agreed system of phonetic symbols. A 3 x 3 x 2 quasi-experimental factorial design in a non-equivalent control group pretest-posttest design is adopted in this study. The independent variables are the three modes of Multimedia Pronunciation Learning Management System (MPLMS): Text + Sound + Mouth Movements (TSMM), Text + Sound + Phonetic Symbols (TSPS), and Text + Sound + Mouth Movements + Phonetic Symbols (TSMMPS). The moderator variables are visualiser/verbaliser, language anxiety and language aptitude. The dependent variable is pronunciation competence (as measured by the posttest mean scores). ANOVA is to be used to determine the significant differences of the pretest scores among the three groups. Analyses of covariance (ANCOVA) and Post hoc will be carried out to examine the main effects as well as interaction effects of the independent variables on the dependent variables. Simple and Multiple Regression Analysis will be used to determine the relative contribution of each factor to the changes in the dependent variable.

Keywords: Mouth Movement Video, Digitised Phonetic Symbols, Pronunciation, Psychological Profiles

1. Introduction

Being able to communicate in English is relatively indispensable in today's world in the light of the increased people's mobility, joint study programmes, commercial networks, information technology, medicine, diplomacy, and many more. Moreover, the relationship between good pronunciation and social power cannot be dismissed (Mishra & Sharma, 2005). People with proficient pronunciation are usually regarded as more professional and they are respected by given higher social status. In this regard, most parts of the world are striving to master pronunciation. For instance, in Beijing, learning English is part of an official drive to transform the Chinese capital into a "world city". A government programme calls for all pre-schools to introduce English courses within five years. Police officers and civil servants would also be required to pass English tests (Greig, 2010).

Unfortunately, the non-native English speakers with different cultural backgrounds and native languages experience pronunciation difficulties. An illustration by Carson (2009) who has taught English as a foreign language reported that people from Chinese speaking background encounter problem in pronouncing the letter 'r'. They may instead produce the sound as 'l', thus leading to "flied lice" rather than "fried rice". This is similar for Spanish or Indian speaking people, the sound of 'b' is like 'v', and German speaking people will mix up 'v' with 'w' (Carson, 2009). Similarly, in one of the local news broadcast, TV3 (the Malaysia's commercial television station) late news programme, *Nightline*, the news presenter mispronounced 'head' as 'had' and 'said' as 'sad'. In an early morning programme on Berita Awani (one of the Astro channels delivers 24-hour news and current affairs), the presenter pronounced 'Pope John Paul' as 'Pop John Paul' (Hussaini, 2011). It is to say there are still bottom billions who forms the majority of the community are yet to be ready to communicate with the world.

Pronunciation is a salient element of effective communication. To be able to speak English fluently and comprehensibly, the speakers need to learn and master the sound system. Rivers (1968) contended the difficulty of pronunciation is barely due to the lack of vocabulary and grammar, but primarily because of the sounds are produced incorrectly, the intonation and the pitch seem strange. Celce-Murcia (1987) also commented that if a speaker's pronunciation is below average, he or she will not be able to communicate orally even though the mastery of vocabulary and grammar is excellent. One cannot achieve the goal of oral communication if he or she cannot pronounce the words at all. Therefore, it is firmly suggested that English pronunciation is to be innovatively integrated into the curriculum.

In addressing the issues, the proposed design of the Multimedia Pronunciation Learning Management System (MPLMS) in this study emerges as a timely and useful tool to provide personalized one-to-one guidance especially for non-native English speakers to achieve pronunciation competence substantially. This proposed system optimizes the strengths of mouth movements and phonetic symbols by digitising them to make a profound impact in training the learners to improve their pronunciation independently, actively and critically.

Studies conducted by Cronbach (1957), Swanson (1990), Shute & Gawlick-Grendell (1994), Fong

(2000), Li (2008) and Aldalalah (2010) showed that the learning outcomes of students are considerably enriched when the modes of instruction are adapted to the learners' aptitude and psychological profiles. Hence, specifically in this study, factors within the learners which are visualiser/verbaliser, language anxiety and language aptitude will be investigated.

2. The Problem Statements

The English Curriculum Specifications for primary and secondary schools in Malaysia include pronunciation under the topic of 'Sound System' with specific sounds being highlighted for every specific year (Bahagian Pembangunan Kurikulum Kementerian Pelajaran Malaysia, 2008). The sound system forms part of the language content in the syllabus to enable students to pronounce words correctly and to speak internationally intelligible English (Bahagian Pembangunan Kurikulum Kementerian Pelajaran Malaysia, 2008). However, in actual fact, the teachers admitted that this is largely ignored in the classroom. They would focus on the presumed 'more important' aspects of language, such as grammar and writing (Nair, Krishnasamy, & Mello, 2006). The assumption is wrongly placed on the basis that students who have mastered grammar and vocabulary are least likely to have problems with pronunciation. The Board of Editors of Dorling Kindersley (India) Pvt. Ltd (2011) contended that "the ability to speak English fluently requires not only a good understanding of grammar and a rich vocabulary but also the ability to speak smoothly and expressively with correct pronunciation…" (p. 28).

Fraser (2000) noted that many English teachers struggle with teaching pronunciation and concluded that the teacher training courses give them insufficient basics of phonetics. The teacher trainers in Malaysia also revealed that not much emphasis is placed in preparing teachers for teaching pronunciation (Nair, et al., 2006). Pronunciation has often been viewed as a skill that is most resistant to teach due to its strict phonemic description, complicated phonetics and phonology, complex and often unproductive terminology of articulatory phonetics. Therefore, it comes to no surprise that disproportionately scant attention is paid to pronunciation in teacher training programmes. The lack of training in this area has thus inadequately equipped English teachers to be confident to deal with pronunciation. This phenomenon eventually leads to the teaching and learning of pronunciation remains extensively neglected in the field of English language curriculum.

In addition, looking at the high teacher-student ratio in the classroom, it is unrealistic for teachers to attend to individual student's speech sounds even the teacher is well-equipped with phonetics and phonology expertise. There are usually about 30 to 40 students or even more in a class. Teachers experience difficulties when teaching pronunciation in such large classes. The teacher-student attention is minimised and students' opportunities to speak are lessened (Brown, 2001; Kankam, 2003). This situation is unavoidably worsened with the fact that proficiency and ability vary widely across students. The same materials and assessment tools used for low proficiency students are seemed to be less challenging for students with high proficiency levels, and vice versa (Su, 2008). The teaching and learning quality is further constrained by human limited capabilities. Even an excellent teacher of pronunciation can only repeat the pronunciation of a word for mere limited times and moreover with varied quality

each time.

The conventional method of solely emphasised hearing, imitating and reproducing restricts the capacity of the learners to be competent in mastering the precise sounds of pronunciation. This prominent aural-oral method used in the existing teaching and learning programmes shapes the learners to be passive and dependent by duplicating the pronunciation without any explicit understanding to critically discern the sounds. If the learners listen to the incorrect pronunciation, they will inevitably repeat the incorrect sounds. Furthermore, the hearing of the learners is not adequately reliable as they are strongly influenced by the "phonological matrix of their native languages" (Schütz, 2008, p.116).

3. Purpose of the Study

The purpose of this study is to design and develop three presentation modes of the Multimedia Learning Management System (MPLMS), and to evaluate their effectiveness in the learning of pronunciation among learners of visualiser/verbaliser, with varied levels of language anxiety and language aptitude (Figure 1).
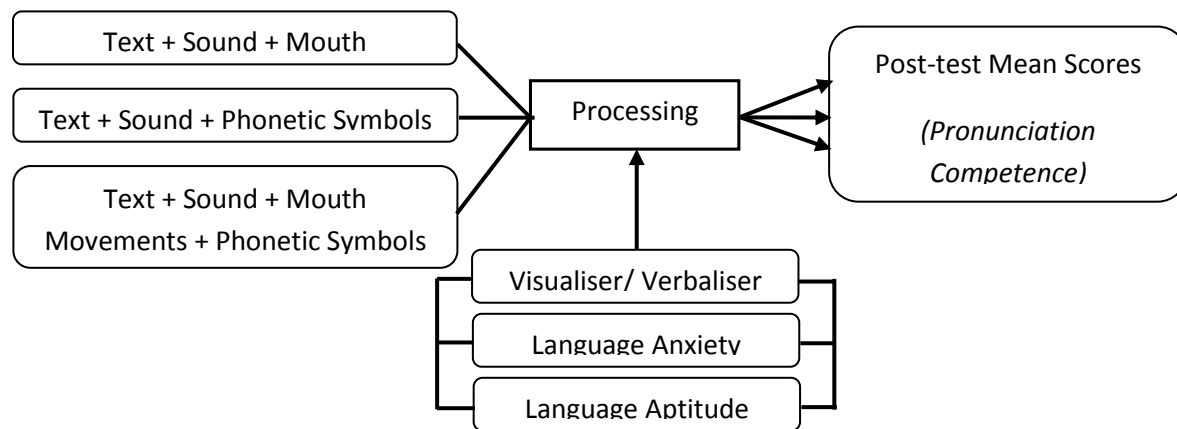

Figure 1. Conceptual Framework

The independent variables are the three presentation modes of the MPLMS. The moderator variables are visualiser/verbaliser, language anxiety and language aptitude. The dependent variable is the post-test mean scores of the students.

The three modes of interactive multimedia presentation to be developed for evaluation are as below:

1.   Text + Sound + Mouth Movements (TSMM) (Figure 2);
2.   Text + Sound + Phonetic Symbols (TSPS) (Figure 3);
3.   Text + Sound + Mouth Movements + Phonetic Symbols (TSMMPS) (Figure 4).
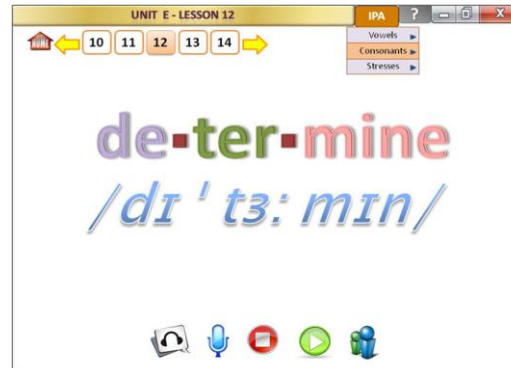

Figure 2. Text + Sound + Mouth Movements (TSMM)

Figure 3. Text + Sound + Phonetic Symbols (TSPS)

Figure 4. Text + Sound + Mouth Movements + Phonetic Symbols (TSMMPS)

4. The MPLMS (Multimedia Pronunciation Learning Management System)

In the light of the limitations of human teachers, the usage of the MPLMS is expected to be an effective complementary tool. Not only it provides high quality individualized instruction and interaction even with students working en masse, but also it is effort-saving to the human teachers and labour-saving to the students. As in the context of non-native English speaking environment, exposure to the interaction with native English speakers is rare. The intervention of MPLMS increases the contact with standard English pronunciation and, therefore, offers considerable promise to improve the competence of pronunciation of non-native English speakers.

The MPLMS is a Learning Management System implemented in online website portal, and hence it is accessible through the Internet anytime, anywhere by unlimited number of people all over the world synchronously and asynchronously for quality sustainable learning. The online resources and databases can be maintained, modified, edited and upgraded easily according to the current needs. Users will always have the latest information. The MPLMS turns the web to a dynamic user-centric collection of consistent and timely information (Strauss, 2002) in the learning of pronunciation. It is also able to manage and keep users' progress, activity and performance. This is a breakthrough compared to the existing pronunciation learning software in the market where the learning contents and interactive practices are presented in CD format in which information is hardly revised and the progress of individual user is difficult to be tracked in detail. For further enhancement, the MPLMS allows instructors and/or parents to review the learning records and analyse the record data to determine the strengths and areas needed for improvement (Brown & Johnson, 2007).

The addition of multimedia elements and dynamic information systems in the MPLMS encourages self-paced, self-enhanced and self-monitored learning. It is designed by allowing the learners to make mistakes and keep on practising for improvement at their own pace. This provides opportunities for autonomous practice. The learners make the decisions about when, where, what and how quickly to learn. Control of the learning process encourages active learning and is highly motivating for the learners (Sullivan, 2001). Under formal classroom setting, learners are reluctant to practise their pronunciation in front of others as the mistakes made causing them to feel embarrassed and intimidated. This situation hinders learners from practising and improving, and they gradually become more and more passive. In this sense, the MPLMS has the capacity to overcome the problem and makes learning pronunciation effective and also a fun experience.

5. Method

In view of the practical situation of being less possible to assign individual participants to groups randomly, this study adopts quasi-experimental design as illustrated in Figure 5 below:

$O_1 \longrightarrow X_1 \longrightarrow O_2$			O_1 - Pretest	X_1 - TSMM mode
$O_1 \longrightarrow X_2 \longrightarrow O_2$			O_2 - Post-test	X_2 - TSPS mode
$O_1 \longrightarrow X_3 \longrightarrow O_2$				X_3 - TSMMPS mode

Figure 5. Research Design

This study employs a 3 x 3 x 2 quasi-experimental factorial design which refers to experimental design that involves two or more independent or grouping variables to study the effects of the variables individually and in interaction with each other (Gay, et al., 2009). The factors of the design in this study are the three presentation modes (TSMM, TSPS, TSMMPS) and visualiser/verbaliser, three levels of language anxiety and language aptitude. The factorial design of the study is depicted in Table 1.

Table 1. Study Design

	TSMM	TSPS	TSMMPS
Visualiser/Verbaliser			
Language Anxiety			
Language Aptitude			

ANOVA is to be used to determine the significant differences of the pretest scores among the three groups. Analyses of covariance (ANCOVA) and Post hoc will be carried out to examine the main effects as well as interaction effects of the independent variables on the dependent variables. Simple and Multiple Regression Analysis will be used to determine the relative contribution of each factor to the changes in the dependent variable.

6. Conclusion and Further Work

Taking advantages of mouth movements and phonetic symbols, the learners are able to receive individual and instantaneous feedback by comparing the sounds of model pronunciation and their pronunciation, and approximate the pronunciations with the displayed mouth movements and phonetic symbols. Through this provision of personalised and immediate feedback, learners are able to self-assess their mispronunciation and do quick repair. Therefore, the MPLMS integrated innovatively with mouth movement video and digitized phonetic symbols is beneficial to learners by allowing them to practise their pronunciation infinite times independently, actively and critically until they are satisfied with the newly-acquired sounds without total dependence on sound imitation via aural-oral drills. On this basis, the inventive MPLMS can help improve learners' pronunciation competence and build their confidence while developing skills in sound discrimination.

The exciting design of the MPLMS (Multimedia Pronunciation Learning Management System) is presently being developed. To empirically verify the effectiveness of mouth movements and phonetic symbols integrated into the MPLMS, more data need to be collected and analyzed. It is expected that the results of empirical research will support the efficacy of MPLMS and its place as the premier pronunciation learning system.

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