USING SOFTWARE TO IMPROVE FIRST-YEAR ENGLISH MAJORS' PRONUNCIATION: AN ACTION RESEARCH AT HONG DUC UNIVERSITY

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Abstract: *This is an action research project conducted in a speaking course for first-year English majors at Hong Duc university. Realizing that freshmen' poor pronunciation hindered their performance in speaking classes, the teacher/researcher designed a new teaching program to supplement the current syllabus with the hope to improve their English pronunciation. The program involved using computer software to provide students with explicit instructions on English sounds, word stress, sentence stress, and intonation. The data were obtained from audio recording, classroom observation, and informal interview with students. The findings show that the intervention helps improve English pronunciation for first-year English majors at Hong Duc university.*

Keywords: *Software package, sounds, stress, intonation.*

1. Introduction

During the last decades, one of the ultimate goals of teaching foreign languages in general and English in particular has been helping learners use spoken language effectively to establish successful communication. That is why the magnitude of speaking and pronunciation teaching has been paid special attention to. A number of research studies have dealt with pronunciation teaching and problems students face in English pronunciation. The research findings have revealed that pronunciation frequently interferes with communication. Mispronunciation of sounds and misuse of prosodic features are responsible for the listeners' failure to comprehend and interpret what the speaker means (Kelly, 2000).

While intelligible pronunciation may suffice for non-English majors at other departments of Hong Duc university, English majors at Foreign Language Department must go far beyond the intelligibility to the point that they should sound as native-like as possible. This is because these students will become teachers of English and their pronunciation will

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affect many generations to come. However, my observation in speaking classes in the first week of the semester showed that my students made many mistakes in their pronunciation. I tried to correct some of them. However, these students seemed so solidly stuck to their initial pronunciation that right after the teacher's feedback, they returned to their mistakes. Therefore, I decided to provide them with proper training using the software package that is vivid enough to change their fossilized mistakes.

2. The study

2.1. Subjects

The students participating in the research were thirty first-year English majors of Foreign Language Department at Hong Duc University. They come from different districts in Thanh Hoa province and have learned English for at least seven years. Freshmen at Foreign Language Department were put in different groups based on their results in the placement test. Therefore, it can be assumed that the participants who are in the same group are homogeneous in their level of English proficiency.

2.2. Instruments

In order to help me see the effects of my intervention, three different instruments were used, namely classroom observation, informal interviews with the students and audio-recording.

Audio-recording

This is the main instrument to collect the needed information in my research which was administered to students at the second and final week of the semester. The purpose of the first audio-recording is to find out current situation of students' pronunciation regarding sounds, stress, and intonation. The second audio-recording is aimed at investigating the effectiveness of using software in teaching pronunciation.

Classroom observation

My observation during the intervention program fell on the following aspects: Students' accurate pronunciation of sounds, word stress, sentence stress, and intonation. My observation was noted down in my teaching journals after each lesson.

Informal interview with students

Throughout the whole term, I conducted informal interviews with my students during class breaks. My major concerns are their opinions of the new way of presenting the pronunciation using the software, and how useful they think it is. Information obtained from my students was also included into my teaching journals.

2.3. Procedures

At the beginning of the semester, a pretest was conducted to the students to investigate into the current situation of their pronunciation. Then the intervention was provided with

focus on the aspects of pronunciation that most students have trouble with. During the speaking classes, the teacher used the software package named *Pronunciation Power* to give the students explicit instructions on how to pronounce sounds, put stress on words or in sentences, and speak with the right intonation in English. Then the students practiced with the help of the software which provides a variety of exercises. At the end of the semester, a post-test was administered to these students to discover whether the intervention had any positive effect on their pronunciation.

Furthermore, from the very first lesson of the course, the teacher kept records of the students' pronunciation in speaking activities in her teaching journals, which lasted for the whole term. At the end of the term, records of teacher observation were analyzed. In the class breaks during the term, informal interviews with the students were carried out and also kept in the teacher's teaching journals.

2.4. The intervention

The whole program took place in eleven weeks of the semester excluding the first two weeks and the last one reserved for the researcher's preliminary investigation, pre-test, and post-test. The detailed intervention program involved teaching different aspects of pronunciation as shown in the following table.

Table 1. *Aspects of pronunciation to be taught using Pronunciation Power*

Week	Aspects of pronunciation
1	The researcher's preliminary investigation
2	Pre-test
3	Long and short vowel pairs
4	Vowels /æ/ vs. /e/ and /a:/ vs. /ʌ/
5	The consonants /θ/ and /ð/
6	The consonants /tʃ/, and /ʃ/
7	The consonants /dʒ/, and /ʒ/
8	Final consonants clusters
9	Word stress
10	Sentences stress
11	Intonation of statement
12	Intonation of wh-questions
13	Intonation of yes-no questions
14	Post-test

These aspects of pronunciation were taught by using *Pronunciation Power*, an interactive software program that focuses on developing students' individual sounds and basic

suprasegmental features. Three areas of study in the package are comprised of Lessons, Speech Analysis, and Exercises. The "Lessons" provides visual and auditory instructions for producing sounds. Audible sounds are accompanied by visual illustrations of real-time articulatory movements for the production of the sounds. A written description, and at times suggestions, for producing the sound is provided, which the user can access as an auditory clip. The "Speech Analysis" offers the users a look at graphic representations of the sound utterance as a waveform. The user is able to record their own production of the sounds, and then compare their waveform of the sounds with those of the instructor. The waveforms provide information concerning the amplitude and pitch of sounds, as well as duration. The "Exercises" includes a variety of exercises for students to practice.

2.5. Results and discussions

2.5.1. English sounds

In order to find out how students pronounced English sounds before and after the intervention, the researcher had her students read aloud a long passage which contains a variety of sounds. The audio script of this was used as the standard tool for the analysis of the students' pronunciation. The results are shown in the following table.

Table 2. *Students' mistakes in pronouncing English sounds*

Kind of Mistakes	Pre-test		Post-test	
	No. of students	%	No. of students	%
1. Producing long and short vowel pairs identically	26	86.67%	8	26.67%
2. Pronouncing /æ/ like /e/ or /a:/	25	83.33%	14	46.67%
3. Omitting final consonant clusters	26	86.67%	13	43.33%
4. Producing /θ/ like 'th' and /ð/ like 'd'	24	80%	5	16.67%
5. Having wrong pronunciation with /tʃ/	20	66.67%	6	20%
6. Having wrong pronunciation with /ʃ/	17	56.67%	5	16.67%
7. Having wrong pronunciation with /dʒ/	16	53.33%	8	26.67%
8. Having wrong pronunciation with /ʒ/	16	53.33%	8	26.67%

The figures in the table show that the intervention has made some changes with fewer students making mistakes related to individual sounds. While 26 students (accounting for 86.67%) failed to distinguish long and short vowel pairs in the pretest, only 8 students (accounting for 26.67%) had this problem in the posttest. The sounds /θ/ and /ð/ also seem

manageable for the students when the number of students making mistakes with these sounds sharply decreases from 80% to 16.67%. Moreover, the sounds /tʃ / and /ʃ/ also witnessed a positive change in the students' pronunciation. 20% of the total number made mistakes with the sound /tʃ/ and 16.67% with the sound /ʃ/ in the posttest in comparison with 66.67% and 56.67% respectively in the pretest. Similarly, the sounds /dʒ/ and /ʒ/ also witnessed improvement. Among 16 students (53.33%) who made mistakes with these sounds in the pretest, 8 (26.67%) could make progress, and the other 8 (26.67%) kept their initial wrong pronunciation. It appears that the sound /æ/ is the most problematic for the students. After the intervention, 46.67% of the students could not make any improvement with this sound. Final consonant clusters are also a problematic issue. 43.33% of the students kept omitting final consonants when speaking.

In short, it can be concluded that the intervention has some positive effects on improving students' pronunciation of English sounds. Students made great progress with the distinction between long and short vowel pairs. Their pronunciation of the sound /θ/, /ð/, /tʃ/, /ʃ/, /dʒ/ and /ʒ/ also significantly improved. Nevertheless, little improvement is found for the pronunciation of the sound /æ/ and final consonant clusters.

2.5.2. Word stress and sentence stress

As regards word stress, students were required to read ten words with different stress patterns. The detailed results are shown in table 3 below.

Table 3. *Students' performance of word stress*

Word No.	**Pattern (*A small 'o' represents a syllable, the big 'O' represents the stressed syllable*)**	**Pre-test**		**Post-test**	
		No. of correct responses	**%**	**No. of correct responses**	**%**
1	Oo	10	33.33%	23	76.67%
2	oO	7	23.33%	20	66.67%
3	oOo	9	30%	24	80%
4	Ooo	11	36.67%	20	66.67%
5	ooO	12	40%	18	60%
6	ooOo	11	36.67%	17	56.67%
7	ooOo	7	23.33%	16	53.33%
8	ooOo	9	30%	19	63.33%
9	ooOoo	6	20%	18	60%
10	oooOo	8	26.67%	16	53.33%

The results in the table show that after the intervention, the number of students who put stress on the right syllable of the word increased although the rising rate was not as significant as the researcher had expected. It seems that the words with fewer syllables are easier for students than those with more syllables. The first four words with two or three syllables received more correct answers than the others in both the pretest and the posttest. Word No. 3 which has 3 syllables with stress on the middle syllable had the most correct answers (up to 80%) in the posttest.

In terms of sentence stress, students were required to read seven sentences with stress put on important words. To pronounce these sentences correctly, students have to identify both stressed words of the sentence and stressed syllable of each of these important words. The findings from the study are shown in table 4 below.

Table 4. *Students' performance on sentence stress*

Sentence No.	**Pattern** (***A small 'o' represents a word in a sentence, a big 'O' represents a stressed word)***	**Pre-test**		**Post-test**	
		No. of correct responses	**%**	**No. of correct responses**	**%**
1	OoOo	9	30%	22	73.33%
2	oOoOo	8	26.67%	19	63.33%
3	OooOo	7	23.33%	17	56.67%
4	oOoooO	6	20%	18	60%
5	oOooOoOoo	4	13.33%	17	56.67%
6	ooOoooOoOo	5	16.67%	16	53.33%
7	oooOOooOooO	6	20%	16	53.33%

The figures in table 4 show that, in the pretest, the number of students who put the right stress on the right important words in the pretest was not high. Sentence 1 received the most correct responses from students with 9 correct answers (accounting for 30%). The longer the sentences are, the fewer correct responses there are. Sentences 8, 9 and 10, which are the longest sentences, received the least correct answers, only 13.33%, for sentence 8, 16.67% for sentence 6 and 20% for sentence 7. In the posttest, the number of students who had correct responses increased significantly. Sentence 1 also received the most correct responses in the post test (73.33%). The next highest number is for sentence 2 which had 63.33% of correct responses. Sentence 5 and 6 witnessed the least correct responses (only 53.33%). Whatever, the number of correct responses in the posttest increased considerably in comparison with that in the pretest.

2.5.3. Intonation

As for intonation of statements, yes-no questions, and wh-questions, the results are shown in the table below.

Table 5. *Students' intonation of statements, yes-no questions, wh-questions*

Sentence		**1**	**2**	**3**	**4**	**5**	**6**	**7**
Pattern		↘	↘	↗	↗	↗	↘	↗
Pre-test	**No. of correct patterns**	25	20	16	16	11	19	14
	%	83.33%	66.67%	53.33%	53.33%	36.67%	63.33%	46.67%
Post-test	**No. of correct patterns**	30	27	25	26	22	27	26
	%	100%	90%	83.33%	86.67%	73.33%	90%	86.67%

As can be seen from the table, 25 students, which accounts for 83% of the total 30 students, could produce a statement - sentence 1 with the right patterns in the pretest. It means that most of these students did not have much trouble with the intonation of statements. However, when it comes to yes-no questions and wh-questions, the number of right patterns fell down. Only 11 students (36.67%) could produce the right pattern for sentence 5, a yes-no question. My informal interview with these students revealed that many of them knew the intonation pattern of yes-no questions but they could not put it into real speaking. The fact is that they produced yes-no questions with a flat intonation or with a rising tune but in an unnatural way.

As the researcher had expected, the students performed strikingly well after the intervention. 30 students (100%) could produce sentence 1, which is a statement, with the right pattern. This is explainable because up to 25 students (83%) could pronounce a statement correctly in the pretest. Futhermore, sentences 2 and 6, which are wh-questions both received 27 correct patterns which made up 90%. For yes-no question - sentences 3, and 7, the students also made progress with 25 correct patterns for the former and 26 for the latter in comparison with 16 and 14 respectively in the pretest. All in all, the students' intonation of statements, yes-no questions, wh-questions, has greatly improved at the end of the research program.

It can be concluded that, as a result of the intervention, the students' pronunciation has considerably improved. The results of the study support the view by Stenson, Downing, Smith, & Smith (1992) that the use of software with visual displays of language learner speech and the opportunity to visually and aurally compare output to that of a native speaker can improve target language pronunciation. Furthermore, the findings of this study fairly correspond with the assumption Derwing, Munrol and Wiebe (1998) have made, that is, explicit instruction is essential in teaching pronunciation. Explicitly teaching learners about the features of pronunciation will help them master the features faster than letting them pick up the features through exposure to the language, particularly in a foreign language context.

Therefore, it is necessary for ESL teachers to draw learners' awareness to these features and to provide them with explicit training. On the other hand, the results of the study are also consistent with the findings in my related investigations (Levis, 2005; Saito, 2007) that segmental should be taught prior to suprasegmental features. This result does not mean that students do not have the ability to perceive the suprasegmental features at the initial stage, but that they need to have basic understanding of sounds before moving into the more complicated issue of prosody.

2.5.4. Further findings from the teacher's class observation and informal interviews with the students

Further findings from the teacher's observation during class hours and informal interviews with the students during breaks are as follows.

Firstly, the students held the new way of teaching pronunciation in high regard. They acknowledged that the use of software in teaching and learning pronunciation did a great help in improving their pronunciation. Secondly, during the class hour with the exploitation of software, the students were highly-motivated. They took part in the lesson actively and enthusiastically. All the students held a positive attitude towards using software in pronunciation lessons. The informal interviews with the students revealed that the reasons for their high motivation consisted of their interest in vivid images and sounds.

On the other hand, using the software *Pronunciation Power* in teaching pronunciation also reveals some disadvantages. At the beginning of the project, the students complained about some difficulties which are mainly related to technical issues such as being unfamiliar with some computer functions, or being unable to run the software. However, these problems were easily solved by the teacher's instructions.

3. Conclusion

An action research project was conducted in a speaking course in the first semester for thirty first-year English majors of Foreign Language Department at Hong Duc university. The project involved exploiting the computer software entitled *Pronunciation Power* to provide students with explicit instructions on English sounds, word stress, sentence stress and intonation and relevant exercises for them to practice. The instruments used for obtaining the data consisted of audio recording, classroom observations, and informal interviews with students. The researcher's initial investigation and the pretest results showed that the students' difficulties concerns long and short vowel pair distinction, and the sounds that do not exist in Vietnamese such as /æ/, /θ/, /ð/, /tʃ/, /ʃ/, /dʒ/, and /ʒ/. Furthermore, stress and intonation are also the students' weaknesses. The intervention took place from week 3 to week 14 of the semester. The findings from the posttest results, teacher's observation and informal interview with students showed that the intervention helps improve English pronunciation for first-year English majors at Hong Duc university.

The findings of the study implicate that software packages should be integrated in teaching and learning English pronunciation in order to increase the quality of EFL education in general and English pronunciation in particular.

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