

Long Term Effect of Phonetic Instruction on the Production of /p/ by EFL Arab Learners: an Exploratory Study

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Abstract

Most previous studies, that have examined the effect of explicit pronunciation instruction on foreign language speech, have focused on the short term effect of explicit pronunciation instruction, usually measured immediately after instruction. For this reason, it is not yet clear whether the attested benefit from pronunciation instruction can be sustained for a long time after instruction. The current study attempted to explore the long term effect of phonetic instruction on the production of the English bilabial voiceless stop /p/ by Arab learners of English as foreign language (EFL, henceforth). Nine Arab EFL learners were assigned to two groups, control and experimental. The experimental group received phonetic instruction on how to produce the English sound /p/, whereas the control group did not. The production of the English sound /p/ was elicited from all the learners in both groups, once before the instruction and once after 11 weeks of the instruction. Two experienced native English instructors were asked to judge whether the students produced /p/ or /b/. The results generally showed no benefit from the phonetic instruction on the delayed production of /p/ by the EFL Arab learners. Although the results do not seem encouraging for pronunciation instruction, it is difficult to reach a conclusion with regard to pronunciation instruction due to the small sample size used in the current exploratory study, and to the difficulty to generalize the results on /p/ to all other sounds. Future studies may use larger sample sizes and include more sounds in their instruction methods.

Keywords: Arab EFL learners, instruction, phonetic, pronunciation, teaching

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Introduction

Among other language skills, pronunciation is usually given the least attention in foreign language classrooms (Saalfeld, 2012). This is probably the result of not giving pronunciation teaching enough attention in previous research in applied linguistics, which made it difficult for teachers and curriculum designers to integrate pronunciation teaching into language textbooks and classrooms (Derwing & Munro, 2005). In addition, pronunciation teaching has been viewed by many as ineffective (Derwing & Munro, 2009). However, a number of recent studies have shown that pronunciation instruction can be effective, and could improve the speech production of second/foreign language learners (Thomson & Derwing, 2015). However, there is still a need for more studies to show how pronunciation instruction can be effective. In addition, it is not yet known whether the benefit of pronunciation instruction can be sustained for a long time after instruction, as most previous studies have only examined the production of learners immediately after instruction.

The English voiceless bilabial stop /p/ poses a great difficulty for Arab learners of English (Flege & Port, 1981; Altaha, 1995). This is likely because /p/ does not exist in the phonemic system of Arabic, and thus Arab learners tend to substitute it with its similar Arabic phoneme /b/ (e.g., Altaha, 1995). As pronunciation receives little attention in English classrooms (Derwing & Munro, 2009; Foote, Trofimovich, Collins, & Urzúa, 2016), and given the fact that the English sound /p/ has been shown to be very difficult for Arab learners to produce (Flege & Port, 1981), it would be interesting to find out whether pronunciation instruction has any effect on improving Arab learners' production of /p/. The present study provides an exploratory attempt to examine this issue.

Literature Review

Pronunciation instruction

Explicit pronunciation instruction receives, relative to other language skills, little attention in English classrooms (e.g., Saalfeld, 2012). This is one of the consequences of the communicative language teaching method, where it is assumed that with enough exposure to input, learners' pronunciation would consequently improve (Thomson & Derwing, 2015). This may have led some teachers and curriculum designers to view explicit pronunciation teaching as ineffective (Foote, et al., 2016). Another reason that may have led to the lack of attention given to pronunciation teaching in English classrooms is that teachers and curriculum designers, due to the dearth of research on pronunciation teaching, find it difficult to blend pronunciation instruction into textbooks and classrooms (Derwing & Munro, 2005).

The last decade has witnessed a growing body of research which examined the efficacy of pronunciation teaching. The results have generally shown a positive effect of explicit pronunciation teaching on the improvement of language learners' pronunciation (Saito, 2012; Lee, Jang, & Plonsky, 2015; Thomson & Derwing, 2015). Elliot (1997) studied whether the effect of pronunciation practice of some Spanish segments would lead to improvement in the production of these segments by native English speakers. The results yielded positive effects for only some of the sounds. Lord (2005) reported improvement in the production of some Spanish sounds taught to native English speakers. Saito (2007) examined the production of the English sound /æ/ by EFL Japanese learners before and after phonetic instruction. The results showed improvement in the production of this sound. Saito (2011) provides phonetic training to L2

Japanese learners on eight English sounds, and the results showed no effect of training on the overall perceived degree of foreign accent in the speech of the learners. Saito and Lyster (2012) examined the effect of explicit pronunciation instruction on the production of /r/ by L2 Japanese learners of English. Their findings showed that only when pronunciation instruction was combined with corrective feedback the learners' production improved. Kissling (2013) shows a positive effect of pronunciation instruction on the production of eight Spanish sounds by English learners.

The above studies generally indicate that pronunciation instruction can be effective in improving the production of speech sounds by second and foreign language learners. However, there is still a need for more studies to explore how explicit pronunciation teaching can be effective. In particular, it is not yet clear for how long the attested benefit of explicit pronunciation instruction can last. Most previous studies examined the short-term effect of explicit pronunciation instruction, usually immediately after the training session (Couper, 2006; Saito & Lyster, 2012). Therefore, the current study attempted to explore the long term effect of pronunciation instruction on the production of the English sound /p/ by EFL Arab learners.

The bilabial voiceless sound /p/ and Arab learners of English

Numerous observational and empirical studies have shown that Arab learners of English have great difficulty in producing the English bilabial voiceless sound /p/ (e.g., Flege & Port, 1981; Altaha, 1995; Buali, 2010). This is likely because Arabic does not have /p/ as part of its phonemic system (Newman, 2002; Watson, 2002). The difficulty to produce /p/ by Arab learners may also be attributed to the fact that Arabic has a very similar sound to it, its voiced counterpart /b/, which makes it difficult for Arab learners to perceive the difference between these two sounds, and consequently produce /b/ for both phonemic categories. This latter reason is based on the Speech Learning Model in second language phonology which posits that the greater perceived similarity between an L1 (first language) and an L2 (second language) sounds, the greater the difficulty for L2 learners to perceive the difference, and consequently the greater difficulty to produce the L2 sound (Flege, 1995). Given the difficulty for producing /p/ by Arab learners, it provides an interesting case for examining the efficacy of explicit pronunciation instruction.

The current study

To explore the long-term effect of pronunciation instruction on the production of English sounds by EFL learners, the current study used a quasi-experimental pre/delayed-post intervention design, where a number of EFL Arab learners of English were asked to produce the English sound /p/ before and after pronunciation instruction. Experienced native English teachers were then asked to judge whether the learners produced /p/ or /b/. Specifically, the current study aims to answer the following question:

Q. Does explicit pronunciation instruction has any long-term positive effect on the production of the English sound /p/ by Arab EFL learners?

Method

Learners

Nine Arab EFL learners ($N=5$ in the experimental group & $N=4$ in the control group) participated in the present study. All the participants were first year university students at Taif

University (Saudi Arabia) majoring in computer sciences. None of them reported any hearing or speaking problems, and none of them lived or studied in an English speaking country. They all attended Saudi public schools before enrolling at the University, where all course are taught in Arabic, except for English which is taught as part of the curriculum. They all attended a one-year preparatory course at the University before joining the computer science department. During their preparatory year, English was one of the core courses studied.

At the time of the experiment, all the learners were attending an English for Computing course (six hours spread over a week for a 15-week semester), which was part of their BSc degree in computer science designed mainly to equip them with the basic terminology used in computing. No explicit pronunciation instruction was included in this course.

During the second week of their English for computing course, the instructor, who is also the researcher of the current study, announced during class whether anyone would be interested in attending a pronunciation instruction course for a course credit of 10%. All students who chose not to attend the pronunciation course were given the chance of obtaining the 10% credit by asking them to translate 100 English computing words into Arabic. The 5 students who showed interest to attend the pronunciation course met with the researcher for an hour a week at a language lab in the English language center at Taif University.

Phonetic Instruction

The phonetic instruction course was spread over 11 weeks, and designed to teach the learners a number of English sounds (a sound each week), of which /p/ was taught in the first week. The course was delivered by the author of the current study, who has a PhD in linguistics with a main focus on second language speech. Because the instructor of the pronunciation course is a non-native speaker, one may argue that this is not the ideal person to teach pronunciation. However, it has been found that both native and non-native English teachers can be similarly competent in teaching English pronunciation (Levis, Sonsaat, Link, & Barriuso, 2016). In addition, as the majority of English language teachers world-widely are non-native speakers (Selvi, 2014), it would be interesting to examine the efficacy of teaching pronunciation by non-native English teachers. It is also worth mention that the multimedia used in the course featured native English speakers to provide an exemplar for the students to follow.

The instruction for the sound /p/ took place in the first week, and lasted one hour. It started with introducing the sound /p/ by illustrating the grapheme-phoneme correspondence between the sound phonemic symbol /p/ and its orthographic representation. Then, an articulatory phonetic description of how the sound is produced was presented to the students. The phonetic description included an illustration of the sound's place and manner of articulations, as well as its phonation type (i.e., voiceless). The description also included the aspirated phonetic variant of the sound /p/ at the beginning of stressed syllables. To make the description more effective, I made use of the online version of the phonetic software Sound of Speech (developed by the University of Iowa, see web references below). This software demonstrates a graphic motion of the vocal tract showing how the sound is articulated. It also features a clip of a native speaker of English providing a careful pronunciation of the sound in isolation and in context. The phonetic description was then followed by listening and discrimination practices, where the students were asked to carefully listen to the sound, along with its voiced counterpart /b/, as produced by a

native English speaker in isolation and in context. This was followed by a repetition practice in which the students were asked to repeat the sound in isolation and in context after a native English speaker model, and they were given feedback on their production. For the listening and repetitions practices, two sources were used: *English Pronunciation in Use Intermediate* book (Hancock, 2012), and the BBC English pronunciation website (see web references below) which features video clips for each English phoneme (description, word examples listening & repetition) by a native English phonetician. These two sources also provide listening discrimination practices between /p/ and its voiced counterpart /b/. This was followed by a cross-linguistic comparison between tArabic and English with regard to the sounds /p/ and /b/, where it was explained that the Arabic phonemic system lacks the sound /p/, and Arab learners of English tend to frequently substitute it with /b/. The class finished with a communicative practice of the sound /p/. The students were presented with a sentence (proposition) containing key words which have /p/ as one of their segments. They were asked to give their opinions on the proposition and discuss them with the whole class. The instructor provided recast feedback on the learner's mispronunciation of the sound /p/.

Stimulus and native listeners' judgements

Five sentences were elicited from all the students in both groups (experimental and control) before (week 3) and after (week 15) the phonetic instruction, which was spread over 11 weeks. The five sentences were used in another study (under revision).

For the current study, only the word 'page', as produced in one of the sentences (*He is reading the page about the story of the van*), was chosen as the stimuli for the current study. The time between the phonetic instruction for /p/ (week 4) and the post-test production was ten weeks. No instruction was given to the students on the pronunciation of /p/ during this period. This delayed post-test production (after ten weeks) provides us with the chance to test the long term effect of pronunciation instruction on the production accuracy of speech sounds. It should be noted that no immediate post-test production was elicited from the students; however, it was observed that after repetition and practice, the students were able to produce the sound /p/.

The word 'page' was then presented separately to two experienced native English teachers for an identification test. The word, as produced by all the students before and after the instruction, was randomly presented to the listeners using Praat's Experiment-MFC interface (Boersma & Weenink, 2016). The listeners were asked to decide whether the speakers produced /p/ or /b/. They were also given the chance to choose 'not sure' in case they were not able to decide. The listeners agreed on the judgment of all words, except for two cases. In these two cases, the author checked the voice onset time (VOT), which is the main acoustic cue that distinguishes between the production of /p/ and /b/ in word-initial position (Lisker & Abramson, 1967), to decide whether the speaker produced /p/ or /b/.

Results

For both pre- and post-instruction productions, all speakers in the control group were judged by the native listeners to produce /b/ instead of /p/. The results for the speakers in the experimental group only yielded positive result for one learner, as it was found that in the pre-instruction test he produced /b/ and in the post-instruction test he produced /p/. Another learner in the experimental group was found to produce /p/ in both the pre- and post-instruction tests.

The remaining three learners produced /b/ in all their productions of the test-word “play”. Figure 1 illustrates the findings of the current study.

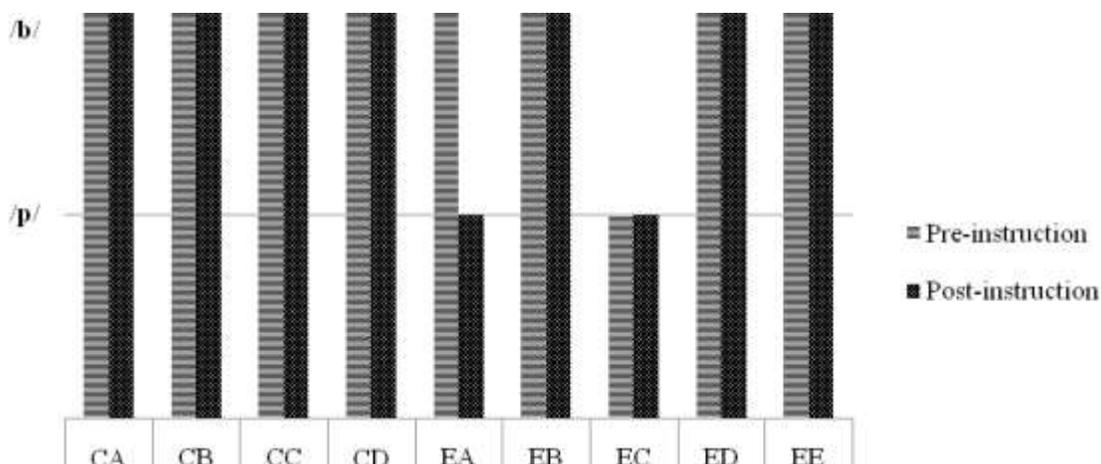


Figure 1. All learners' productions of /p/ before and after instruction (the two-letter set in the graph above indicate the random code given to represent the name for each speaker).

Figure 1 shows that only one learner (EA) benefited from the pronunciation instruction. Except for learner EC, who in both pre- and post-instruction productions produced /p/, learners EB, ED and EE did not exhibit any improvement in their productions of /p/.

Discussion and conclusion

The results of the current study did not find a long term effect of pronunciation instruction on the production of /p/ by Arab EFL learners. This is unlike the results found in Couper (2006), which showed that learners were able to sustain their pronunciation improvement in a delayed post-test (one semester after instruction) production. On other hand, similar to the current study, Ruellot(2011) did not find a long term (one week after instruction) effect of pronunciation instruction. It should be noted that due to the methodological differences between these studies, it is difficult to compare their results and reach a conclusion about the long term effect of pronunciation instruction.

Given the exploratory nature of the current study, the small sample size used, and the fact that one of the learner has actually learnt to produce /p/ accurately, it is difficult to draw any strong conclusions regarding the long term effect of instruction on the production of /p/ by EFL Arab learners. Future research with larger sample size is needed to further substantiate the results of the current study or shed a different perspective on the long term efficacy of pronunciation teaching, in particular with regard to the production of /p/ by Arab learners. It may be worth mentioning that one needs to be careful not to extend the results for /p/ to all other English sounds, as different sounds may respond differently to pronunciation instruction. Therefore, future studies also need to examine more than one sound to find out if pronunciation instruction affects sounds differently.

About the Author:

Dr Ghazi Algethami is an assistant professor of linguistics in the Department of Foreign Languages at Taif University in Saudi Arabia. He is interested in second and foreign language speech production and perception, as well as in the factors that affect them, such as phonetic and pronunciation instructions.

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