Enhancing Discrimination and Production of English Vowels Using Task-Based Training

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Abstract

The main purpose of this study was to investigate the effect of task-based training program on the discrimination and production of English vowels. It also examined the extent to which these two levels of pronunciation performance are correlated. The participants, consisting of 66, were selected from the first year English department students at the Faculty of Education Al Azhar University. A test of vowel discrimination and production, made up of two parts, was constructed for the study. The program, comprising 32 tasks recorded by a native speaker teacher of English, was administered in 10 weeks for the experimental group students, including pre and posttests. Results indicated that task-based training proved effective in the discrimination and production of vowels. Results also indicated that discrimination and production are positively correlated. The study called for adopting task-based training and explicit instruction of pronunciation to help learners be aware of the constituent parts of vowel sounds and develop acute discrimination that relates to enhanced production.

Keywords: Discrimination, Production, English Vowels, Task-based Language Teaching Training

تنمية تمييز وإنتاج الأصوات المتحركة الإنجليزية باستخدام التدريب القائم على المهام

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المستخلص

كان الغرض الرئيس من هذه الدراسة هو بحث تأثير برنامج التدريب القائم على المهام على تمييز وإنتاج الأصوات المتحركة في اللغة الإنجليزية. كما فحصت الدراسة مدى ارتباط هذين المستويين من أداء النطق، ألا وهما التمييز والانتاج. وقد تم اختيار ٦٦ مشاركاً من طلاب السنة الأولى قسم اللغة الإنجليزية بكلية التربية جامعة الأزهر. تم بناء أداة الدراسة المكونة من جزأين، اختبار تمييز وإنتاج الأصوات المتحركة . وقد استغرق البرنامج ، الذي يتألف من ٣٢ مهمة تم تسجيلها بصوت معلمة لغة انجليزية بريطانية، ١٠ أسابيع ، بما في ذلك الاختبارين القبلي والبعدي. أشارت النتائج الي أن التدريب له تأثير إيجابي على تمييز وإنتاج الأصوات المتحركة الإنجليزية. كما أظهرت النتائج أن هناك علاقة ارتباطية موجبة بين تمييز وإنتاج الأصوات المتحركة . وقد أوصت الدراسة إلى اهمية تبني التدريب القائم على المهام والتدريس الصريح للنطق حتي يمكن مساعدة المتعلمين على إدراك الأجزاء المكونة للأصوات المتحركة وتنمية مستوي التمييزالدقيق للأصوات المتحركة الذي بدوره يؤدي الي تحسين مستوي انتاجها .

الكلمات المفتاحية: التمييز ، الإنتاج ، الاصوات المتحركة الإنجليزية ، تدريب تعليم اللغة القائم على المهام

Introduction

The critical importance of the communicative competence as the ultimate target of FL learning has undervalued oral intelligibility in communication. The remarkable shift from accuracy to appropriateness and fluency has resulted in underestimating the role of phonetics in communicative language teaching.

A great number of researchers strongly oppose explicit instruction of phonetics due to- they argue – its difficulties and poor results. Lack of correspondence between English sounds and letters stand behind the varying degrees of accurate learning of pronunciation as regards age and everyday use rather than training (Saito, 2011). Recent research indicates that FL learners could both discriminate and produce sounds having an inherent ability to discriminate between the sounds but change their strategies and rely on phonetic rather than sensory perception (Rato & Rauber, 2015).

In spite of the varying views concerning the learning mechanisms in sound discrimination and production, speech models of learning FL speech agree that precise discrimination should precede production of sounds (e.g., Escudero, 2007; Flege, 1995, 2003). Current speech models do not only exclude the crucial effect of production on discrimination, they maintain that perceptual training plays a major role in determining production accuracy as well (Fledge, 1995; Nagle, 2021).

These ideas have significant consequences for learning phonetics since discriminating methods and psychomotor abilities may be more learned through training than other abilities. In fact, studies that show that training in many areas of phonetics improves discrimination and production seem to back up these claims (Bongaerts, 1999; M´enard et al., 2009).

Recent research has underlined the importance of accurate pronunciation, maintaining that successful communication is rarely possible if FL speakers oral accuracy is below the minimum level required regardless of their lexical and grammatical competence (Derwing & Munro, 2015; Levis, 2018). Evidence-based research reveals that teaching phonetics explicitly facilitates learning numerous

aspects of FL pronunciation development (Lee et al., 2015; Saito & Plonsky, 2019; Thomson & Derwing, 2015). Nonetheless, it is not yet settled what particular technique can prove effective in attaining the target level of pronunciation accuracy.

Pronunciation is an indispensable component of learning oral skills in a foreign language, and research highlights the importance of exposure to high quality input to achieve successful pronunciation performance (Celce-Murcia et al., 1996). This may cause a difficulty for foreign language learners who have limited, if any, opportunities to be exposed to authentic input (Celce-Murcia et al., 1996; Muoz, 2008; Saito, 2015a).Owing to the limited exposure to target language interaction that may not exceed four hours a week, the FL learners opportunities for practice is confined to teachers' teaching which may be partially delivered in learners' mother tongue (Muoz, 2008).

Explicit pronunciation instruction usually involves identification practice taking the form of phoneme discrimination exercises followed by feedback. In practice, the technique of presentation vary from word reading to text reading or chanting songs with feedback varying from teacher-fronted drilling to separate feedback provided by acoustical analysis. The studies examining the benefit of instruction yield complex results and sometimes contradictory (Elliott, 2003; Piske et al., 2001; Kissling, 2013).

There are several strong reasons why pronunciation instruction should be paid special focus in the English teacher education program. It boosts accuracy of pronunciation of learners (Elliot, 1997; Kleber et al., 2011). Learners' poor pronunciation has a negative effect on their engagement in oral activities. The relationship between accurate pronunciation and comprehension is well-established (Arteaga, 2000). It is widely known that learning to discriminate and produce phonemes in a foreign language can be challenging and consequently, a considerable number of studies have been conducted to probe the effective methods to enhance sound discrimination and production among nonnative speakers (Nagle, 2021).

There has been a surge in interest in task-based language teaching (TBLT) in recent years (Maghsoudi & Golshan, 2017, p. 241).

Comprising key foundations of the Communicative Language Teaching, it has the advantage of helping learners get involved in authentic interactive language use. Resembling mother tongue acquisition, language learners are most productive if language is used as a means of communication rather than a subject for study (Ellis, 2013). An additional merit of task-based language teaching is the prominence given to meaning where learners are immersed in performing tasks and negotiating about the meaning for effective communication (Yildis, 2020).

Review of Literature

Phonetics instruction in foreign language classrooms has followed a variety of pedagogical trends. Due to the Grammar-Translation method's lack of emphasis on speaking, teaching pronunciation was considered as supplementary and was rarely incorporated into the curriculum. Pronunciation became more important with the introduction of the audio-lingual approach and the associated technologies of language laboratories.

The central component of pronunciation instruction lies in explicit presentation of FL sounds, stressing phonetic features related to isolated consonants and vowels such as place and manner of articulation. These are always accompanied with means of illustrations in the form of drawings or animated diagrams of the vocal tract (e.g. Lord, 2005). Several studies question the extent to which explicit instruction of pronunciation could be effective, viewing it as exaggerated form-focused that is antagonistic to meaning-focused method (Artiga, 2000; Morin, 2007). Along with this, Isaacs (2009) argue that instead of explicit instruction of pronunciation, it would be more effective to integrate teaching into communicative activities, targeted exposure, transcription, focused listening, and dictation.

In a study by Saito (2011), the attempt was made to investigate the effects of explicit phonetic instruction on enhancing FL pronunciation as measured by a rubric of accentedness and comprehensibility. A total of twenty Japanese students learning English as a second language participated in the study and were randomly divided into an experimental and a control group. The experimental

group received a four-hour treatment on segmental features and were evaluated by four native speakers of English. Results revealed that explicit instruction had significantly proved effective in improving comprehensibility particularly in sentence-reading task.

Kisling (2013) was concerned with investigating the effects of explicit teaching of L2 phonetics on developing Spanish FL students' pronunciation. The treatment consisted of a variety of consonant sounds that represent difficulty for Spanish leaners. Participants, totaling 95, were divided into an experimental and a control group. Results of the posttest indicated that pronunciation of both groups equally improved, maintaining that the input, practice, and feedback incorporated in pronunciation treatment that enhanced participants' pronunciation.

The main concern of Carlet and Suza's study (2018) was to probe the effectiveness of explicit pronunciation instruction on the perception and production of five vowels of Spanish learners. Participants, consisting of sixteen second year English major students, received a period of pronunciation instruction that lasted for 8 weeks. Results revealed a significant improvement in the perception of vowels, attributing the findings to the explicit instruction that made the target sounds noticeable, and consequently, enabled students to perceive and produce vowels more accurately.

The aim of Nagle study (2021) was to explore the relationship between perception and production. Participants consisted of 30 students (22 females and 8 males) who learned Spanish in high school. Using picture description and delayed word repetition as tests to gather data, results revealed that there is a significant relationship between perception and production.

According to Gordon & Darcy (2016), explicit instruction of pronunciation is a requirement to enhance EFL learners' oral abilities. Current research assessing the outcome of formal instruction of phonetics on the discrimination and/or production of FL target sounds has reported positive results, despite the discouraging results of some early studies on the effect of pronunciation instruction on EFL learners' production of FL sounds (Gordon & Darcy, 2016; Kissling, 2013;

Saito, 2012; Thomson & Derwing, 2015). Saito (2012) examined the effectiveness of a four-hour FL explicit pronunciation class on the accentedness and comprehensibility of 20 native Japanese English learners. The class focused on English FL sounds that Japanese students frequently mispronounce. The students' pronunciation performance was evaluated by four native English speakers immediately before and after the pronunciation intervention. There was no perceived reduction in foreign accentedness as a result of formal instruction presented. The comprehensibility on the part of students , as judged by native English speakers, had increased remarkably.

Gordon et al., (2013) examined three treatment groups based on the type of pronunciation instruction they were administered. One group received segmental teaching, another received suprasegmental instruction, and the third group received a combination of both. A group of 12 non-native English speakers assessed learners' comprehensibility before and after a 3-week instruction period. Only the learners who received suprasegmental teaching were found to be considerably more comprehensible at the post-test.

Thomson and Derwing (2015) analyzed 75 different pronunciation studies and found that "pronunciation instruction is effective in improving the target form(s)" (p.7), with 82 percent of the studies reporting a substantial improvement as a result of the teaching. Furthermore, the authors recommended that "pronunciation research and training should focus on assisting learners to be aware of rules of pronunciation that promote accuracy" (p.2).

Current research reveals that both discrimination and production measures of intelligibility are correlated (Evans & Alshangiti, 2018; Flege et al., 1997; Flege et al., 1999; Inceoglu, 2019). Casillas (2020) examined English speakers' discrimination and production of Spanish stops on a weekly basis. Both discrimination and production improved but the changes in discrimination features occurred before changes in production features.

A number of studies have demonstrated that rigorous discrimination training combined with no explicit production instruction can boost production (Saito, 2015b; Saito & Wu, 2014).

According to learning models, it could be anticipated that the ability to produce sounds cannot surpass that of discrimination, some cases have been observed in which discrimination has increased without equivalent production advances (Aliaga-Garcia & Mora, 2009).

In a meta-analysis study by Sakai and Moorman (2018), the attempt was made to address the disparity in results. Their findings revealed a minor to medium-sized relationship between perception and production. In other words, perception-only training improved not only discrimination (d =.92), but also production (d =.52). The authors ascribe the differences in auditory-to-articulatory mapping effects to a number of factors, including the target phoneme, training duration, learning context, ratio of exposure to FL, individual review/training, and the occurrence or lack of phonetic instruction.

Although training on formal instruction of pronunciation has contributed to enhancing learners' comprehensibility and intelligibility of FL speech, it has not received the attention it deserves in the FL classroom (Piske, 2008). According to Gilbert (2010), pronunciation is still either completely neglected in the FL classroom or is the language feature that receives the least attention (Fraser, 2000). According to Setter and Jenkins (2005), most language curricula do not include pronunciation instruction or training of perceptual and/or production abilities. This is because pronunciation teaching is frequently seen as a supplementary activity rather than a required component of the EFL curriculum (Cenoz & Garca-Lecumberri, 1999).

There are two types of theoretical frameworks for pronunciation instruction: discrimination-based and production-based. This broad classification is based on whether the source of acquisition is considered to be comprehension or articulation of the target feature (Shintani et al., 2013). This dispute has raged for a long time in the field of instructed foreign language acquisition (which addresses the effects of active interventions), as production-based instruction approaches date back to the Grammar Translation and Audiolingual Methods, both of which are still used today (Ellis, 2003; Heinz, 2013; Mart, 2013). Some research has found that production-based approaches like explicit feedback (Ellis, 2001) and prompts (Lyster et

al., 2013), which stimulate production from students in communicatively realistic circumstances, can improve students' mental representations and processing abilities of the target feature. Meanwhile, proponents of comprehension-based training approaches (i.e., discrimination) have published empirical research claiming that it is more beneficial.

The speech learning model was created with the FL learner in mind, and it attempts to describe the process by which a learner perceives and eventually produces FL speech sounds. If we accept the basic assumption of the speech learning model (that FL speech learning is perception-based), it is reasonable to believe that helping students to increase their discrimination rather than their production skills will maximize the process and product of acquisition in the classroom. The speech learning model, which claims that discrimination is a prerequisite to production, is possibly the most powerful of the perception-based models. Language users are required to identify novel sounds in the FL and develop a mental picture of them so as to be able to make an FL-specific sound (i.e., a phonetic category). The extent to which FL sounds can be created is limited by a learner's ability to do so (Flege, 2007).

Current research reveals that it is settled that discrimination and production reciprocally affect each other (Casserly & Pisoni, 2010). The features of these interactions in speech development and the learning of other languages is one of the primary issues in perception–production research. Recent research indicated that accuracy of discrimination is a requirement for accurate production (Flege, 1995, 2003). According to (Escudero, 2007; van Leussen & Escudero, 2015), discrimination plays a central role in helping learners produce sounds accurately. In their view, learning takes place through perceptual errors that urge the listener to associate phonetic and lexical tiers.

In brief, both the L1 and FL theories of speech learning propose that discrimination is closely related to production. The belief that FL learners may learn to discriminate the FL more accurately and that growing discrimination accuracy should lead to improvements in production is at the heart of all FL models.

Proponents of TBLT suggest that learners can acquire many aspects of communicative language use by including them in projects that require them to focus on both language form and use (Richards, 2015, p. 89). As a result, "TBLT is a teaching method that focuses on the use of meaningful real-life tasks in the target language" (Zareinajad et al., 2015, p. 537). Task-based learning is made up of five parts, namely, goals, input, processes, activities, and setting. "Tasks take different shapes and consist of multiple parts" (Saricoban & Karakurt, 2016, p. 446). As a result, in order to create an effective learning environment, teachers should prepare each task component. The value of task-based language teaching emanates from using authentic materials and activities that students encounter in everyday lives. Adopting real-life activities may have a facilitative effect on learners' ability to use language in relevant circumstances (Motallebzadeh, 2013, p. 26).

In spite of the importance attached to task-based language teaching, few studies related to pronunciation instruction were conducted (Maghsoudi & Golshan, 2017). As regards the Egyptian context, the use of task-based language teaching has not yet attracted attention of researchers in pronunciation instruction. The present study addresses this issue with a view to enhancing vowel discrimination and production among EFL majors.

Context of the problem

Though the phonetics course is an essential component in the education programs for student-teachers of English, a great number of students have difficulty discriminating and producing vowels and diphthongs. This is reflected in students' attempts to communicate in English with their professors, their teaching practice and conversation classes. Through the researcher's experience, it was noticed that:

- Students fail to discriminate vowels of different length and lip shape, classifying them as similar.
- The greatest difficulty students face lies in their inability to follow recorded voice of native speakers designed for low intermediate students.
- They confuse producing vowels similar in place of articulation.

- Being self-conscious of their poor pronunciation, the students are reluctant to participate in oral conversation.
- They fail to understand instructions, clarification requests and confirmation checks adequately pronounced by examiners.

The present study advocates a task-based training program in phonetics dealing with vowels and diphthongs, highlighting the common spellings and irregularities of each sound and requiring students to do a task following the explicit description and examples for each sound.

Statement of the problem

A considerable number of the English department students at the faculty of education have difficulty discriminating and producing vowels. The current content adopted focuses on theoretical aspects paying little attention to practice. The present study investigates the effects of a task-based training program on enhancing vowel discrimination and production, taking into account the extent to which the two levels are correlated.

Questions

To achieve the purpose of the study, these questions were posed:

1- What are the effects of a suggested task-based training program on students' discrimination of vowels?
2- What are the effects of a suggested task-based training program on students' production of vowels?
3- How does students' ability to discriminate vowels relate to their ability to produce vowels?

Hypotheses

In response to the questions raised, the following hypotheses were formulated:

1- There is a statistically significant difference between the mean scores attained by the experimental group and those of the control group in vowel discrimination in favor of the experimental group.
2- There is a statistically significant difference between the mean scores attained by the experimental group and those of the

control group in vowel production in favor of the experimental group.

3- There will be a positive correlation between the participant's score in discrimination and those of production in favor of the posttest score.

Purpose

The purpose of the study was threefold:

1- To examine the effect of a suggested task-based training program on students' discrimination of vowels.
2- To investigate the effect of a suggested task-based training program on students' production of vowels.
3- To determine the extent to which vowel discrimination and production of vowels are correlated.

Significance

The significance of the study may lie in the following aspects:

1- It may help-when integrated with other studies- give insight in planning the curriculum of teacher education so that it gives more room and focus to students' training on pronunciation accuracy.
2- The present study addresses the issue of correlation between discrimination and production of vowels.

Delimitations

This study is delimited to the following:

1- The treatment would be confined to the first year EFL majors at the Faculty of Education, Al Azhar University.
2- The content is delimited to vowels and diphthongs, being problematic for FL majors.

Definition of Terms

- **Task-based Language Teaching**

Task-based language teaching, as defined by Leaver and Willis (2004, p. 3), is a multidimensional technique that can be employed effectively with a variety of syllabus types and for attaining varied goals. In language teaching "tasks are the chief unit of designing and instruction" according to Richards and Rodgers (2014, p. 174).

Task-based language teaching is operationally defined in this study as utilizing varied tasks as a key component for training and enhancing vowel discrimination and production among EFL majors at the faculty of education.

- **Vowel Discrimination**

Strange (1995) defines it as the act of differentiating two or more vowels from each other. Cunnings & Finlayson, 2015 and Linck & Cunnings, 2015 define it as learning to hear and identify a sound or sound contrast when a native speaker produces it.

Vowel discrimination is operationally defined in the present study as learners' ability to recognize standard British oral or transcribed features of a vowel sound in terms of length, tongue positions and lip shape separately or in connected speech.

- **Vowel Production**

Strange (1995) defines it as the act of constructing vowel sounds. Cunnings & Finlayson, (2015) and Linck & Cunnings, (20150 define it as learning to supply a sound or sound contrast in a manner identical or similar to a native speaker.

It is operationally defined in the present study as learners' ability to supply standard near British oral or transcribed features of vowel sound in terms of length, tongue positions and lip shape separately or in connected speech.

Method

Participants

A total of 66 first year students majoring in English at the Faculty of Education, Al Azhar University participated in the study. Thirty three students represented the experimental group and thirty three represented the control group, during the academic year 2020/2021.

Instrument

The vowel discrimination and production test

a. The vowel discrimination section

A test of oral and transcribed discrimination was used in order to measure the participant's discrimination of English vowels at the beginning of the course and after receiving 16 hours of training in

phonetic discrimination. The discrimination part consisted of two sections, the first included eleven vowels and eight diphthongs, that is all the sounds in the Received Pronunciation (RP) vowel system. The stimuli had been recorded by a native speaker of British English and participants were given the phonetic symbols for all the stimuli presented and were asked to identify the sound they had heard. The second section required students to match the phonetic vowel symbols with the letters they represent.

b. The vowel production section

A test of oral vowel production was used to measure the participants' ability to supply standard pronunciation of vowels at the beginning of the course and after receiving 16 hours of training in vowel production. The production section consisted of two sections, the first for dialog reading and the second for spontaneous speech.

Dialog Reading

The participants read a 171-word English prose intended to elicit a speech sample of a higher degree of monitoring than spontaneous speech.

Spontaneous Speech

Participants were asked to describe to their lecturer an embarrassing moment in their life or a happy moment they remember with pleasure.

Participants were randomly assigned to task sequences with a short rest period between the two tasks. The two samples were recorded on separate tapes.

Treatment

Description of the Vowel Discrimination and Production Program

The program was designed adopting the task-based format. According to Nunan (2004), task-based design should take into consideration the following elements:

1- **Goals**: they represent the vague intentions behind any learning task. Rarely there is a simple one-to-one relationship between goals and tasks. A complex task involving varied activities might be simultaneously moving learners towards several goals. By the end of the program, first year EFL majors should be able to:

a. Identify the English vowels uttered by a native or near-native speaker.
b. Contrast the vowels and diphthongs of overlapping features.
c. Demonstrate skill-getting in reading with accurate vowel articulation.
d. Produce accurate vowel sounds in a communication task.

2- **Input**: it refers to the data presented for learners to work on. The input students were required to work on is characterized by:
   a. Formal instruction of pronunciation for 15 minutes focusing on vowel description, the organs of speech used, place and manner of articulation.
   b. Using a facial diagram to show and enable students to compare their descriptions with actual articulation of the sound.
   c. Vowel discrimination tasks.
   d. Vowel production tasks.
   e. Overlapping sound contrasts.

3. **Activities**: they specify what learners will actually do with actually do with the input. They were characterized by the following:
   a. Describing vowels and manner of articulation in their own words.
   b. Performing a series of practice exercises, repetition exercises of words and short phrases after a tape recording or the lecturer.
   c. Listening to vowel discrimination and production exercises recorded by a native speaker.
   d. Providing feedback to partners guided by recorded material on tape.

4. **Learners' Role**: it refers to the part students play in carrying out the learning tasks as well as the social and interpersonal relationships between the participants. The roles assumed by the experimental group were active and nogotiative in which they contributed to the learning task as well as received training. The following roles were assumed:

a. Drawing facial diagrams on board while explaining where they thought tongue would hit when producing the sound.
b. Co-working with partners to carry out tasks concentrating on their pronunciation.
c. Providing feedback where necessary.

5. **Teachers' Role**: the role assumed by the lecturer of the experimental group was as follows:
   a. Practice director, counselor or model.
   b. Developer of interactional patterns that grow between him and students.
   c. Supervisor of the learning tasks in progress.
   d. Facilitator of learning by providing different means for learning the material (aural, verbal, visual and eventually oral practice.)
   e. Provider of feedback to errors in pronunciation which were corrected immediately and consistently by the lecturer and occasionally by partners.
6. **Setting**: it refers to the arrangements for the learning environment specified in the task where individual, pair or group work might be adopted. Pair work was more suitable for program instruction to cater for pronunciation monitoring, control accuracy and ease of implementation.

Procedures

The experiment lasted 10 weeks, during which time both the experimental and control groups met once a week in their classes. Each class was two hours long. The researcher taught the experimental group students based on a proposed task-based programme, accompanied with the audio-taped material prepared by the researcher and recorded by a native speaker. The control group, on the other hand, received the regular theoretical content with little practice. Unlike the experimental group, the control group students were not provided with any tasks to help them examine or reflect on their own performance. The two groups were given a pre-post vowel discrimination and production test before and after the treatment.

Results and Discussion

Analysis of variance was used to find the differences between the experimental and control group students in vowel discrimination and production.

Descriptive statistics were used to attribute the differences, if any, to the higher mean group. Pearson correlations were also used to determine the extent to which students' ability to discriminate vowel sounds relate to their ability to produce vowel sounds. Correlations were also used to identify the relationship between vowel discrimination and production.

Table (1)

Means and Standard Deviations for the Experimental and Control Groups in Vowel Discrimination

Group		Control		Experimental	
Discrimination	**N**	**Mean**	**Std. Deviation**	**Mean**	**Std. Deviation**
Pretest	33	13.62	4.14	16.41	12.49
Posttest		19.84	4.74	32.41	3.38

Table (2)

One-way Analysis of Variance Comparing the Posttest Scores the Experimental and Control Groups in Vowel Discrimination

Source of Variation	SS	Df	MS	F
Between Groups	2444.92	1	2444.92	153.38
Within Groups	988.95	64		
Total	3433.86	65		

The above table shows that there is a significant difference between the experimental and the control groups at .01 level in the discrimination of English vowels. With reference to table (1), the difference is attributed to experimental group. This means the first hypothesis was verified.

Table (3)

Means and Standard Deviations for the Experimental and Control Groups in Vowel Production

Group		Control		Experimental	
Production	**N**	**Mean**	**Std. Deviation**	**Mean**	**Std. Deviation**
Pretest	33	67.88	21.66	78.95	19.84
Posttest		96.43	19.53	122.26	9.77

Table (4)

One-way Analysis of Variance Comparing the Posttest Scores the Experimental and Control Groups in Vowel Production

Source of Variation	SS	Df	MS	F
Between Groups	10904.82	1	10904.82	47.34
Within Groups	14313.32	64	230.96	
Total	25218.11	65		

Inspection of the above table reveals that there is a significant difference between the experimental and the control groups at .01 level in the production of English vowels. With reference to table (3), the difference is attributed to the experimental group, which means that hypothesis 2 was accepted.

Table (5)

Correlation Between Participants' Scores in Vowel Discrimination and Production

Variable	Pretest	Posttest
Discrimination & Production	147	593

Inspection of the above table reveals that there is a positive correlation between the subjects' scores in vowel discrimination and production in the posttest, but no correlation was found between the scores in vowel discrimination and production in the pretest, which means that hypothesis 3 was also accepted.

The major concern of the present study was to find out the extent to which formal training of pronunciation yields a positive effect on vowel discrimination and production. Results indicate that the training

was effective in enhancing learners' ability to discriminate and produce vowel sounds and diphthongs, confirming the findings attained by relevant research on the benefit of training in enhancing vowel learning (Saito & Plonsky, 2019; Thomson & Derwing, 2015). The results reached by Thomson & Derwing provide further support to those of the present study maintaining the importance of training for FL pronunciation. The participants who had achieved native-like pronunciation in Thomson & Derwing and Saito & Plonsky's studies had received extensive training in the discrimination of speech sounds. The implications of previous studies results are limited by the fact that the speech sample elicited from the participants are reduced to a single sentence production task, whereas the speech samples elicited for the present study depended on dialog reading and spontaneous speech related to an embarrassing or a happy moment remembered with pleasure, a state characterized by excitement which exposes inaccurate pronunciation. The participants in the present study had to read the dialog from a sheet of paper, after having been allowed to look it over briefly. Therefore, the task required construction at least as far as phonological representations and phonetic specifications are concerned.

The results reached by the present study are consistent with those reached by (Plonsky & Oswald, 2014) confirming that explicit instruction of pronunciation resulted in significant gains in the discrimination and production of English vowels favor of the experimental group participants. The significance of these findings lies in the fact that they give further evidence to the effectiveness of explicit teachability of pronunciation.

The results reached support those reached by Gracia (2017) maintaining that training on vowel discrimination and production helped students focus attention on subtle phonetic contrasts between the different vowels and diphthongs. Such training could have helped to develop the finely tuned motor control required for accurate pronunciation resulting in significant differences in favour of the experimental group.

Though the control group students have studied the same topic (vowels and diphthongs), the nature of their input was mainly theoretical with few examples illustrating the manner of articulation of each vowel. The feedback they received was reduced to the errors detected by the lecturer with no oral or listening tasks.

It could be reasonable to attribute the results reached to what Kissling (2013) suggested as the input, practice, and/or feedback included in pronunciation instruction provided by either the lecturer or partner in the experimental group that could have helped to raise learners' awareness of their own learning process in relation to phonological acquisition, their own pronunciation patterns and problem, and the effects these factors have on pronunciation accuracy. Through such instruction and feedback, adult language learners can become more responsive to change in their phonological patterns and more able to make changes in them as desired or required for successful communication.

The positive correlation between vowel discrimination and production reached by the present study suggest a close link between speech discrimination and production which might indicate that tuning the trainee's speech discrimination will facilitate speech production. This is consistent with the results found by (Lee et al., 2019) yielding positive results in both levels of discrimination and production suggesting that discrimination-based training could enhance oral accuracy in both segmental and suprasegmental features.

Conclusion

In the context of FL teacher education, accurate pronunciation is paid added attention, as a model to be imitated by the students. The results obtained maintain that adopting a task-based program in pronunciation proved effective in enhancing vowel discrimination and production of the experimental group students. Moreover, the results shed light on the positive correlation between these two levels, namely, discrimination and production of vowels. In addition to making use of task design of the proposed program, explicit instruction of pronunciation was the crucial factor to which the results could be attributed. The results reached are not confined to recognizing the

critical features of the vowel sounds to be identified, but the ultimate target is the higher level in which students produce the vowel in spontaneous speech or text reading as is the case with the experimental group students.

Recommendations

In the light of the results reached and the above mentioned conclusion, the following recommendations seem pertinent:

1. Explicit training on vowel discrimination should be accorded adequate attention in phonetics instruction. This is justified by the fact that recognizing the constituent parts of vowel sounds develops acute perception that relates to enhanced production.
2. The present study focused on the segmental level (simple vowels and diphthongs). Further research is needed to investigate the effect of suprasegmentals and affective variables on communication.
3. Subsequent studies should attempt to explore which type of instruction (e.g. aural, oral, verbal, visual, deductive or inductive) best facilitates the acquisition of target language pronunciation by adult FL learners.
4. More work should be carried out in the area of ultimate attainment of pronunciation to determine the psychological and contextual correlates of exceptionally successful foreign language learning.
5. Future investigators might wish to identify the combinations of learner, learning context and language variables (mother tongue – FL pairings) that make the feat of native-like pronunciation possible.
6. Pronunciation self-monitoring is crucial to improve students' accurate speech production through comparison and contrasts with native speech.

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