Can the degree of the foreign accent be reduced?

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Abstract

This experimental study explores the possibility as well as the techniques of reducing the degree of the foreign accent of Albanian speaking students at the South East European University, Tetovo, Macedonia. The aim of the study is to find out whether the degree of the foreign accent of these students can be reduced by using different pronunciation improvement techniques involving segmental and supra-segmental pronunciation training. Among the other aims of the study, an additional purpose is finding out whether the level of performance/GPA (Grade Point Average) has a correlation with the reduction of the foreign accent. The experiment was carried out with second year BA/English Department students at the South East European University divided in two groups. Both groups of students (control and experimental) were pre- and post-tested by recording their initial and improved pronunciation at the beginning and the end of the semester respectively. The stress of the study is put on spontaneous speech pronunciation as well as reading pronunciation (paragraphs and tongue twisters). After a semester of accent reduction training the outcome of both groups shows significant improvement in the experimental group meanwhile the control group shows unexpected changes. On the other hand, the study shows that the GPA (Grade Point Average) had no correlation with the improvement of the pronunciation.

Key terms: pronunciation instruction, foreign accent reduction, foreign accent factors, improving pronunciation

Introduction

Most bilingual adults speak the L2 with a certain degree of foreign accent. However, some non-native speakers are struggling to get rid of their accent in order to sound more target-like and to avoid misunderstandings and misinterpretations. These people are actually the target group of this research project and their struggle is the main issue in this paper. On the contrary, some researchers like Dalton, (1997 cited in Liu, 2011) takes the stand that appropriate pronunciation might not always be the ultimate goal of learning a second language in the case of adult learners. In addition, Derwing&Munro (2005)

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state that according to Jenkins (2000,2002) learners of a second language should not be expected to adjust their pronunciation to native speakers but rather non-native speakers since they are the larger audience. Derwing&Munro (2005) also mention that Jenkins proposed the lingua franca core for pronunciation instruction focused on intelligibly rather than target-like pronunciation. Be this as it may, there are still learner who think of near-native pronunciation as highly important like the students in this study who chose a pronunciation course on purpose with the intention and desire to sound more native-like.

Furthermore, the main aim of this study is to review, examine and confirm the validity and reliability of the existing methods by analyzing them and by pointing out their strengths and weaknesses as well as to give suggestions for further research. In addition, this study reviews a number of research concentrated on identifying the factors affecting the degree of foreign accent as well as the question whether formal instruction can decrease the degree of accent. Also mentioned are various methodologies and techniques for identifying the existing degree of accent and determining the most effective teaching and testing regimes in improving non-native pronunciation. Lastly, a review of recent studies which made an attempt to improve segmental and supra-segmental elements of pronunciation using different training designs and approaches will be stated in this paper as well.

What causes accent?

As for the solution of most problems, in order to solve the problem of how and whether it is possible to decrease the degree of accent, it first has to be identified what exactly causes accent. In other words, the question here is why do some people have an accent when they speak a foreign language? A possible answer would be that the cause for this is the difference between the L1 and the foreign language. For example, the difference in individual sounds, sound patterns and sentence structures. However, different languages differ in different ways which might affect the degree of the L2 foreign accent differently. This instance raises another important question: Why do some people have a stronger accent than others? A plausible answer here could be that the degree of the L2 foreign accent varies because of the different factors affecting the new language. Moreover, previous research on L2 foreign accent pointed out a great variety of factors affecting the degree of the foreign accent. Some of them can affect accent independently and some can influence it depending on each other.

Gimson (1989, as cited by Brown, 1990) says that students will imitate bad pronunciation as good as they would imitate a good one. This indicates that the learners are able to become native-like provided the input is native-like. This means that the learners have to be given the correct or native-like pronunciation right from the beginning of learning the target language. Moreover, in classroom situations, the instructor is the one who can provide the correct pronunciation or authentic input allowing fewer or no shortcuts in order to achieve native-like production and fluency in cases where native-like pronunciation is the aim.

Factors affecting the degree of the foreign accent

Here is a list of some the factors that influence the degree of foreign accent considered in the past: the age of learning factor (AOL); the age of arrival factor (AOA); the length of residence factor (LOR); the L2 exposure factor; the L1/L2 use factor (Flege et al. 2001), (Flege et al. 1997); the L1 proficiency factor (Flege et al. 2001); The

L1 background factor; the formal instruction factor; the motivation factor; the aptitude/ language ability factor; the individual difference factor; the gender factor etc.

However, when talking about the factors affecting the degree of foreign accent a clear distinction has to be made, since the factors can affect accent in different ways. For instance, some of them can be referred to as factors that cause the degree of foreign accent and some can be considered as factors that can lower the degree of foreign accent. Moreover, some of the factors can still be ambiguous depending on the circumstances, which mean that they can cause the foreign accent, lower it or even prevent it. According to some researchers, an example of this would be the age factor which can cause accent if the L2 is learned after the critical period, but on the other side it can prevent accent if the L2 is learned when the subjects still have access to the language acquisition device.

In the current study, it has to be noted that only those factors which can influence the accent when the speech of the non-native subjects is already accented, will be considered. In other words, only those factors that can lower the degree of already accented speech of adult university learners will be paid attention to, in this paper.

Factors that can lower the degree of foreign accent

There are several factors that can reduce accentedness like: formal instruction factor (Flege et al. 2001; McClelland et al. 2002); the motivation factor (Flege et al. 2001); the aptitude factor; the length of residence factor (LOR) (Flege at al., 1988; Flege et al., 2001); the L1 background factor, among others.

Previous research has shown that the degree of the foreign accent may vary among groups and even within groups that have similar language experiences. This is due to the different factors that affect the accent of every group or every individual. For instance, the subjects in a particular group may be matched for many factors, in other words, they may have approximately the same age, gender, L1 background, L1 proficiency and the same age of arrival in a L2 speaking country, but they may still have different degrees of foreign accent due to other factors like motivation, formal instruction individual differences, aptitude etc.

The possibility for the factors to overlap as well as the omission of some of the presented factors caused some uncertainty in the results in previous research. Many studies did not consider the L1 background factors, whereas, some studies like Suter's (1976) and Purcell & Suter's (1980) emphasized the effect of L1 background on the degree of the accent of Arabic, Persian, Japanese and Thai subjects. In their study the Arabic and Persian subjects outperformed the Japanese and Thai subjects in terms of pronunciation, due to the L1 background factor which was found to have the most influence on the accent out or 20 factors considered by Suter (1976) and Purcell & Suter (1980). However, a certain degree of uncertainty is still present because of the fact that the groups and the subjects weren't matched for other factors like number and age. This means that the Arabic and Persian subjects may have performed better than the Japanese and Thai subjects due to other factors which were not considered in the study.

Once the factors that cause accented pronunciation are specified and once we know which factors can be used in decreasing the degree of foreign accent, we can concentrate on the methodology that will be used in the training for improving accented pronunciation.

Elicitation techniques for degree of foreign accent

Now that is clear which factors can, depending on the circumstances, cause

accented pronunciation and on the other side, which can reduce the accent, assumptions and predictions can be made about how and in which way some of the relevant factors can affect the target group that will be involved in the training of the actual experiment opting for appropriate pronunciation. Next, the subjects have to be matched for the factors intended to be or not to be influencing the degree of foreign accent so that only the factors that we want to affect the decrease of the foreign accent can be examined in isolation. This will illustrate whether factors like: formal instruction, motivation, L1 background etc, can actually lower the degree of accent.

But first, before the actual training takes place, it has to be known to what extent the subjects' speech is accented. Furthermore, the instructor has to know exactly what is it that the subjects have difficulties pronouncing. Once this is determined, then in the phase of training the main focus can be put on these particular sounds that are difficult for non-natives to perceive or produce.

Moreover, previous research used various types of elicitation techniques in order to test the adult subjects for the degree of their foreign accent. Reading is one way of eliciting accented speech and this can be carried out by reading individual words (Bongaerts et al., 1995; Elliot,1995; Moyer, 1999, as cited in Flege et al. 2001); reading sentences(Asher and Garcia, 1969; Flege, 1988, Thomson, 1991; Flege & Fletcher, 1992; Bongaerts et al., 1995, 1997; Moyer, 1999, as cited in Flege et al. 2001); or reading paragraphs (Oyama, 1976; Neufield, 1979, 1980; Tahta et al., 1981; Piper & Cansin, 1988; Bongaerts et al., 1995; Thomson, 1991; Moyer, 1999) (as cited in Flege et al. 2001). Next, free speech like personal experience narratives, describing pictures etc. is another technique which is more likely to elicit authentic non-native samples (Fathman, 1975; Oyama, 1976; Suter, 1976; Piper & Cansin, 1988; Thomson, 1991; Bongaerts et al.,1995, as cited in Flege et al. 2001). Moreover, direct repetition is a technique with which the examiner can control the content of the participants' speech by presenting sentences including the target words or sounds, which will be reproduced by the subjects (Snow & Hoefnagel-Hohle, 1977; Markham, 1997) (as cited in Flege et al. 2001). Delayed repetition, another elicitation technique has all the advantages of the direct repetition, and additionally, it offers a solution to the problem or tendency of imitating the native pronunciation by the participants (Flege et al., 1995; Flege et al., 1999).

In order to analyze whether the non-native samples would differ depending on the technique used, some researchers have used more than one elicitation technique in their studies (Oyama, 1976; Piper & Cansin, 1988; Thomson, 1991; Bongaersts et al., 1995; Markham, 1997; Moyer, 1999). Techniques that involve reading were found to elicit a more accented speech then types of elicitation that involved free speech. This difference is due to the limited reading skills and the little or no education in the L2 that the subjects received or did not receive (Thomson, 1991 and Oyama, 1978, as cited in Flege et al. 2001). This influenced the degree of the foreign accent when eliciting "non-native speech samples" and therefore read speech was found to be stronger accented than spoken speech. Both reading and free speech are used as elicitation techniques in the current study.

In order to guarantee authenticity of the accented samples some researchers suggest that further research should opt for the delayed repetition elicitation technique since it is effective in avoiding the problems that the other elicitation types have like the technique read speech which provides more accented samples that free speech elicitation. Other shortcomings of the read speech are avoidance of difficult to pronounce words

and imitation of the native samples by the participants. As a solution to this problems, delayed repetition does not only eliminate the above-mentioned problems but it also has the advantage of having the subjects focus on the meaning of the sentences rather than on the proper native pronunciation. In fact, when the subjects are told that the main aim of the task is to examine their retention of information, they will focus on the context of the sentences rather than proper production, which will result in eliciting authentic non-native samples of accented speech.

In addition, another variable that might affect the performance is the familiarity of the words used in the pre-test and in the post-test. According to Murakawa and Lambacher (1996) in the pre-test and post-test words should be used that are already familiar to the subjects because this might affect the improvement of the production and perception of the subjects. In other words, if the subjects are tested in the pre-test on words they have never heard before and then if they are tested on the same words in the post-test they might perform better in the post-test because they will have learned the words by then and they will feel more confident when reading or saying them. If this is the case, the improvement of the subjects' performance cannot be entirely based on the effectiveness of the training.

The General Problem with Pronunciation Instruction

Gilner (2008) outlines the general problem with teaching pronunciation. First, on page 93, she agrees with other researchers in that pronunciation has a crucial role in language use, development and learning. Derwing&Munro(2005:380) agree with other researchers and say that what is crucial when learning a second language is mutual intelligibility. However, part of the general problem with teaching pronunciation is that despite of the importance of pronunciation it still is not incorporated in all curricula (Gilner, 2008:93). What is more, Derwing&Munro (2005:382-3), Marks (2006 as cited in Gilner, 2008:94) and Silveira (2002 as cited in Gilner, 2008:94) explored the marginalization of pronunciation in applied linguistics by looking at textbooks and concluding that they lack a sufficient link to pronunciation research findings. This leads to the problem that ESL teachers do not have adequate materials at their disposal which offer a sound preparation for teaching pronunciation (p.389). (Gilner, 2008:94) consequently says that since pronunciation is not incorporated in the study program, it is left to the teachers to do this, and since the textbooks don't embrace research outcomes, it is left to the teachers to find out how to teach pronunciation. Because of the lack of materials and formal pronunciation teaching training, the teachers either do not teach pronunciation at all or use the materials they have and meet or do not meet the learners' needs.

Providentially, the South East University, (Tetovo, Macedonia) has secured a stable place for a pronunciation course called Phonetics and Phonology in the first semester for undergraduate students studying English Language and Literature. Even though Phonetics and Phonology focuses more on raising the awareness of segmental and supra-segmental features of pronunciation it still offers a sound ground for foreign accent reduction. Furthermore, the course in which the pronunciation training was carried out and which also served as a source for collecting the data for the current experiment was a second semester elective course called Improving Your Pronunciation. The elective course followed the Phonetics and Phonology course and made use of the previously gained awareness in the course of Phonetics and Phonology.

Previous studies on pronunciation instruction

Derwing&Rossiter (2003:2) state that previous studies focused on the prosody as a factor for comprehension; however, the influence of instruction has been neglected. Moreover, in studies like Derwing, Munro&Wiebe (1997) ESL learners attended a course which focused on improving stress, rhythm and intonation. The learners' speech samples were rated for intelligibility, comprehensibility and accentedness. The results showed improvement in reading pronunciation however in this study there was no focus on spontaneous speech pronunciation.

On the other hand, what was neglected by the previous study reviewed here (Derwing, Munro&Wiebe, 1997) was investigated in the study by Elliott (1997). In this study techniques like imitation, reading and picture narrative were done before and after the instruction. After the segmental instruction period, the results showed change in the imitation, reading and picture narrative activities but none in spontaneous speech.

Derwing, Munro&Wiebe (1998) pre- and post-tested learners instructed in three ways (segmental, global and no special pronunciation instruction) in order to test the effect of the different ways of instruction on the oral production. The recorded read aloud and picture story samples were rated for comprehensibility and accentedness. The segmental and global groups showed improvement in comprehensibility, all three groups showed decrease in the degree of accentedness but the segmental group outperformed the learners in the other groups in this area.

Derwing&Rossiter (2003) did a follow-up study in which they had 45minutes of the picture description recording rated for accentedness, comprehensibility and fluency. The results show that the ratings of the global instruction group were significantly higher than the other two groups (segmental and no specific pronunciation). Because the Segmental group paid more attention to accuracy, the authors say that this group focused less on the other two factors. With this, they claim that "if the goal of pronunciation teaching is to help students become more understandable, then this study suggests that it should include a stronger emphasis on prosody" (p.13).

Gilner (2008) outlined pronunciation teaching approaches starting with Morley's (1992) program with the aim to raise adults' awareness by gradually guiding the learners from controlled production to speech rehearsal and finally internalization into spontaneous speech. The last was achieved through a self-recording and analysis of the recording activity.

This task is similar to the Noticing-Reformulation model outlined by Smith&Beckmann (2005) where the participants in 9 steps are recorded, analyze their own production, listen to the native recording, analyzed it, are recorded again with their improved pronunciation and finally are involved in speech analysis by comparing the pre- and post-recording.

Kjellin (1999, as described by Gilner, 2008:96-7) proposes the Accent Addition Method focused on prosody. The prosody perception training has three steps: identification of phonetic and phonological structures, automatization by repeating chorus followed by feedback and transfer of these skills in new contexts.

Neufeld (1987, as described by Gilner, 2008) proposes a delayed production pronunciation instruction in which the learners are asked to refrain from production up to the point of successful acquisition of the prosody features. Native-like pronunciation has been achieved after 15 hours of nonproductive followed by 3 hour productive training.

Aufderhaar (2004) involved the participants in sessions which consisted of listening to authentic audio materials of different genre, instruction to identify supra-segmental features followed by performance of the text. Participants also imitated authentic speech recordings and compared their pronunciation with the native for which they got feedback. The students' reports from the final interviews show that the students increased their awareness of new words, and helped them to develop a feel for the spoken English language in different contexts. Ramirez Verdugo (2006) conducted a computer-assisted study in which was tested whether a multi-sensory training (including auditory, visual and productive speech) would have any effect on the prosody of controlled and spontaneous utterances. The comparison of the pre- and post-recordings of the Spanish students showed improvement in the awareness of the intonation as well as the production of the intonation.

Current Research at South East European University
Participants

The participants in the experiment were second year students enrolled at the South East European University, Macedonia, doing English Language and Literature undergraduate studies. The students were divided in two groups: experimental and control group. Moreover, the participants were matched for the factors that can lower the degree of foreign accent namely: age, level of performance, the same type of instruction and materials as well as believes about the reduction of the foreign accent. Furthermore, none of them had resided abroad and the participants' L1 was Albanian as well as all participants had attended the course Phonetics and Phonology prior to the experiment.

Experimental Group

The experimental group was pre- and post-recorded in order to test their degree of accentedness. They took a course called Improving Your Pronunciation which lasted one semester. In the course, they were involved in different kinds of awareness raising activities, pronunciation coaching and English exposure activities. In addition, it should be stated that the participants in the experimental group were motivated to improve their pronunciation since they voluntarily enrolled in the elective course offering pronunciation training.

Control Group

The control group consisted of students who attended another course taught at the university called Discourse Analysis and were pre- and post-tested using the same materials for the experimental group, without receiving any pronunciation training between time 1 and time 2. The participants in this group were also matched for most of the factors crucial for the experimental group like: age, level of performance, stay abroad, the participants' L1 as well as the attendance of the course Phonetics and Phonology prior to the pre- and post-recordings.

Pronunciation Training Instruction Design

The treatment group was involved in awareness raising activities, pronunciation coaching and authentic language exposure activities. More specifically, the experimental group took part in peer presentations and role play, series quiz, segmental and suprasemental teaching and activities, pronunciation training with native speakers, reading activities. More

specifically, the experimental group took part in peer presentations and role play, series quiz, segmental and suprasemental teaching and activities, pronunciation training with native speakers and reading activities. For the peer presentations, two or three of the learners had to prepare a role play based on a chapter situation from the book "Speak English Like an American" using audio files and imitating the pronunciation of the recording of the native speakers. For the series quiz taken in class, the learners were required to watch an episode of the first season from Desperate Housewives at home and take a quiz when they come in class with the purpose to make sure that they have watched the episode. This activity also quarantined that the students were involved in extra-curricular exposure to authentic American English. The pronunciation training took part with native speakers who did a number of activities with the experimental group and coached their pronunciation. The segmental and suprasegmental activities were carried out by using the book "Pronounce it perfectly in English" among other books, by doing activities accompanied with the recording provided with the book. The reading actives were also done in class for which the students were put in groups and practiced by reading given paragraph with the help of the accompanied recording.

Methodology

Both groups were pre- and post recorded over a period of one semester which is approximately 4 months at this university. The participants were recorded before the semester started using a test consisting of three parts; spontaneous speech, for which they answered three questions, reading a paragraph out loud and reading tongue twisters. Among the techniques used for improving the participants' pronunciation, an activity regime similar to the Noticing-Reformulation task was used by Smith&Beckmann (2005). In other words, the participants were recorded, heard the native model input, analyzed it and made an effort to improve their own pronunciation accordingly. Additionally, attending the course "Phonetics and Phonology" in the first semester provided the participants with the required phonological and phonetic knowledge prior to using this technique as a prerequisite (Smith&Beckmann, 2005:2).

Furthermore, what the authors identify as a drawback of the model in their study, is the lack of spontaneous speech production since it would affect the focus. On the other hand, in my study spontaneous speech is one part of the research and though it is subjective and varies (Smith&Beckmann, 2005) the post-test still shows significant improvement of several elements among which are: pronunciation, content and coherence.

Towards the end of the training, the participants were post-recorded using the same testing regime. The pre- and post recordings were rated by native speakers of American English using a 1 to 6 rating judgment scale (1=extremely accented, 6=native). The native speakers used an evaluation sheet for each single participant and rated the following elements: fluency, appropriateness, stress, intonation, rhythm, pace, coherence and cohesion as well as context.

The rating was carried out in this was in order to avoid the selective and biased data collection as stated by Derwing&Munro (2005). They refer to Schachter (1974) who claims that the learners are observed in their natural production environment they could use avoidance strategies. This would affect the data in a negative way. The data collection or the "ratings are frequently biased on…subjective judgments" Rubin&Babbie (2011:7) which can be caused by the "desire to see the students improve" of the researcher according to

Derwing&Munro (2005:381). Since, objectiveness is crucial the raters were unfamiliar with the participants and the teaching situation.

Results
Pre- and Post-Test Results

The rating judgments done by the native speaking raters show that there is significant improvement in the degree of foreign accent in the experimental group , while they also show some improvement in the control group.

Table 1: Results of Pre- and Post-Tests of the Experimental Group

	pre-test			post-test		
	part 1	part2	part3	part1	part2	part3
Subject 1	3	2	1.8	3.6	3.6	3.5
Subject 2	2	2	2.5	3	3.6	2.3
Subject 3	2.4	2	2	3.4	3	3
Subject 4	2	2	2	3	4	3
Subject 5	2.6	2.6	2	3.6	3.6	3
Subject 6	3.2	2.6	2.3	4	2.8	3.3
Subject 7	2.4	2	2	2.4	3.4	3
Subject 8	2	2	2.5	3	3	3.5
Subject 9	2	2	2	2.6	2.4	2.5
Subject 10	3.6	3	2.5	4	3.6	3
Subject 11	2	2.2	3	2.6	3.2	3.5
Subject 12	4.6	3.6	4.3	5.6	5	5.5
Subject 13	2.8	3.4	3.3	3.6	3.6	3.8
Subject 14	3	3.4	2.3	3.8	4.2	3.5
Mean	2.68	2.48	2.46	3.44	3.5	3.31
SD	0.75	0.61	0.67	0.81	0.64	0.75

Note: Part 1 spontaneous speech; Part 2 paragraph reading aloud; Part 3 tongue twisters reading aloud.

Table 2: Results of Pre- and Post-Tests of the Control Group

	pre-test			post-test		
	part 1	part2	part3	part1	part2	part3
Subject 1	2.8	3.6	3.3	4	4.6	3.8
Subject 2	3	3.2	3.3	3.4	3.4	4
Subject 3	3.6	3.6	4.2	5	4.4	4.5
Subject 4	2.6	2.8	3.2	4	3.6	3.7

Subject 5	2.6	2.8	2.5	3.2	3.4	3.5
Subject 6	2.6	2.6	2.8	3	3.2	3.5
Subject 7	2.4	2.6	2.3	2.4	2.6	2.7
Subject 8	2	2.6	2	2.4	3.4	2.8
Subject 9	3.6	3.6	3.5	4.4	4.4	4.1
Subject 10	3	2.4	2.5	3.4	3.2	3
Subject 11	3.2	2.6	2.5	4.2	4	3.1
Subject 12	2.8	2.6	2.7	3.8	3.2	3
Subject 13	4	3.6	3.4	4.6	4.2	4.2
Subject 14	3	2.8	2.3	3.4	3.4	3
Mean	2.94	2.95	2.89	3.65	3.64	3.49
SD	0.52	0.46	0.6	0.77	0.58	0.57

Note: Part 1 spontaneous speech; Part 2 paragraph reading aloud; Part 3 tongue twisters reading aloud.

Analysis and Discussion

The pre- and the post-test were conducted at the beginning of the semester and at the end of the semester accordingly. The scores of the pre-test: part 1 spontaneous speech, part 2 paragraph reading aloud and part 3 reading tongue twisters are compared to the scores of the post-test: part 1 spontaneous speech, part 2 paragraph reading aloud and part 3 reading tongue twisters for the experimental group in Table 1 and for the control group in Table 2 above. The mean of the pre-test part 1 for the experimental group M=2.68 in comparison to the post-test part 1 result M=3.44 shows significant increase in performance hence reduction in accentedness. This is also apparent when comparing the mean of the pre-test part 2 and part 3 of the experimental group with the post-test part 2 and part 3. When the mean of the pre-test part 1 for the control group M=2.94 is compared to the post-test part 1 result M=3.65 that also shows increase in performance hence reduction in accentedness.

This shows that the treatment group performed better in the post-test, namely, the reduction of the foreign accent was greater than the one of the control group. Nonetheless, the statistical significance indicates that both groups have improved in the post-test and it also shows that the statistical significance for the treatment group for reduction of the foreign accent is more evident than the one of the control group.

One way ANOVA results showed that there is some difference in significance between the control and experiment group in the pre-tests illustrated in the table below:

Table 3: control and experiment group

Pre-Test					
Part 1		Part 2		Part 3	
F	p	F	p	F	p
1.08	0.308	5.27	0.03	3.12	0.089

Note: Part 1 spontaneous speech; Part 2 paragraph reading aloud; Part 3 tongue twisters reading aloud.

One way ANOVA results showed that there is no significant difference between the control and experiment group in the pre-test part 1 $F_{(2.26)}=1.08$, $p>.308$. The ANOVA results showed that there is a significant difference between the control and experiment group in the pre-test part 2 $F_{(2.26)}=5.27$, $p<.030$. Finally, the results showed that there is no significant difference between the control and experiment group in the pre-test part 3 $F_{(2.26)}=3.12$, $p>.089$.

When looking only at the pre-test results of the treatment and control group it can be noted that there is no significant difference between the ratings in parts 1 and 3, however there is a significant difference in the second part which is the reading part. This means that the control group in the part reading a paragraph aloud performed better than the experimental group.

Table 4: control and experiment group

Post-Test					
Part 1		Part 2		Part 3	
F	p	F	p	F	p
0.511	0.481	0.381	0.543	0.5	0.486

Note: Part 1 spontaneous speech; Part 2 paragraph reading aloud; Part 3 tongue twisters reading aloud.

One way ANOVA results showed that there is no significant difference between the control and experiment group in the post-test part 1 $F_{(2.26)}=.511$, $p>.481$. The results showed that there is no significant difference between the control and experiment group in the post-test part 2 $F_{(2.26)}=.381$, $p>.543$. Finally the results showed that there is no significant difference between the control and experiment group in the post-test part 3 $F_{(2.26)}=.500$, $p>.486$.

When looking only at the post-test results of the treatment and control group in table 4, it can be noted that there is no significant difference between the ratings in all three parts. This means that both groups performed similarly well in the post-test.

Furthermore, one way ANOVA results showed that there is significant difference between the pre- and post-test in the experiment group for parts 1,2,3.

Table 5: pre- and post-test in the experiment group

Pre-Test vs. Post-Test					
Part 1		Part 2		Part 3	
F	p	F	p	F	p
6.492	0.017	18.22	0.001	9.91	0.004

Note: Part 1 spontaneous speech; Part 2 paragraph reading aloud; Part 3 tongue twisters reading aloud.

The results showed that there is significant difference between the pre- and post-test in the experiment group for part 1 $F_{(1.26)}=6.492$, $p<.017$. They also showed that there is significant difference between the pre- and post-test in the experiment group for part 2 $F_{(1.26)}=18.22$, $p<.001$. Finally, the results showed that there is significant difference between the pre- and post-test in the experiment group for part 3 $F_{(1.26)}=9.91$ $p<.004$. This means that the improvement of the pronunciation for the treatment group was statistically significant in all three parts.

One way ANOVA results showed that there is significant difference between the pre- and post-test in the control group for parts 1,2,3.

Table 6: pre- and post-test in the control group

Pre-Test vs. Post-Test					
Part 1		Part 2		Part 3	
F	p	F	p	F	p
8.23	0.008	11.97	0.002	7.24	0.012

Note: Part 1 spontaneous speech; Part 2 paragraph reading aloud; Part 3 tongue twisters reading aloud.

The results showed that there is significant difference between the pre- and post-test in the control group for part 1 $F_{(1.26)}=8.23$ $p<.008$. They also demonstrate that there is significant difference between the pre- and post-test in the control group for part 2 $F_{(1.26)}=11.97$ $p<.002$. Lastly, there is also a significant difference between the pre- and post-test in the control group for part 3 $F_{(1.26)}=7.24$ $p<.012$. This means that the improvement of the pronunciation for the control group was statistically significant in all three parts.

Discussion of the control groups' statistically significant improvement

There are several reasons which can explain why both groups' improvement was statistically significant. Namely that, both groups could have made use of the authentic language input at the university, extracurricular exposure to the language, autonomous, independent, self-corrective and self-initialized pronunciation training, interactions with native speakers on campus both teachers and students. Taking all these factors into account the conclusion is that formal instruction can decrease the degree of the foreign accent and in addition, this can happen for non-treatment subjects due to the environment and the authentic input in this particular case at the South East European University and lastly, the self-initiated autonomous interest and initiative on the side of the students in improving their pronunciation.

Another explanation as to why both groups improved their pronunciation could be their previous knowledge, since all participants had attended the course called Phonetics and Phonology prior to the experiment. This course and the fact that they knew that they would be recorded at the end of the semester again could have encouraged the learners to work on their pronunciation autonomously which lead to reduced accentendess.

GPA (Grade Point Average) correlation

In order to identify the correlation of GPA and post-test performance a bivariate

correlation regression (r) test was done which showed the following: p>0.591 for the experimental group and p>0.216 for the control group. When comparing the GPA to the participants' reduction of the degree of the foreign accent the results show that there is no significant correlation between the students' GPA and the reduction of the accentedness.

Motivation factor correlation

Since this was an elective course the students chose the course "Improving Your Pronunciation" consciously and on purpose, expecting to improve their pronunciation as the name of the course itself states.

Shortcomings and limitations to the study

As a shortcoming or limitation of the study could be considered the fact that CALL was not integrated in the instruction itself with might have had a significant influence on the results. Another limitation to the study is the small number of participants. Meaning that, a bigger group would offer more reliable results and provide a sound group for making generalizations about the degree of foreign accent. In addition to this, more consistent results could have been obtained with more homogeneous proficiency level groups. Finally, the L1 influence could have been explored more in depth and as a result present the identified typical and atypical pronunciation problems of these participants in this particular experiment.

Recommendation for further studies

Further studies could consider whether the results would be significantly different if one experimental group received classroom instruction and another experimental group received computer assisted language learning (CALL) by using different pronunciation programs like Pronunciation Power, Eye Speak etc.

Conclusion

The aims of this study were to determine which factors affect the degree of foreign accent and moreover, which of these cause it and which of them can be used to lower the degree of accent when speaking a foreign language. From the variety of factors that can affect accent, the age of learning factor was found to affect the degree of accent or the phenomenon of accent in general, more than other factors. On the other side, formal instruction was one of the major factors considered to lower the degree of foreign accent and therefore it was one of the most applied factors in previous research.

From reviewing the other studies suggesting pronunciation instruction models as well as the studies which have empirically tested the reduction of foreign accent using different pronunciation trainings, it can be concludes that formal instruction is a very important factor and depending on the training regime it can improve segmental and supra-segmental features of the pronunciation for non-native speakers.

What can be concluded from the current study by looking at the Means of Table 1 and Table 2 is that the treatment groups performed better than the control group to a certain degree. When looking at the ANOVA results it is apparent that both the treatment group and the control group have significantly improved their pronunciation between time 1 and time 2. It can be concluded that the reason the treatment group reduced the accentedness due to the formal instruction. In addition, there are numerous reasons

that one can speculate on explaining why the control groups also showed a significant improvement between time 1 and time 2 elaborated in the discussion part like: applying and making use of previously gained knowledge, authentic input and exposure to the target language among others.

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References

- Aufderhaar, C. (2004). Learner Views on Using Authentic Audio to Aid Pronunciation: "You Can Just Grab Some Feeling". *TESOL Quarterly,* 38(4), 735–746.
- Derwing, M. J., Munro, M. J., & Wiebe, G. E. (1997). Pronunciation instruction for fossilized learners: Can it help? *Applied Language Learning*, 8, 185-203.
- Derwing, T. M., Munro, M. J., & Wiebe, G. (1998). Evidence in favor of a broad framework for pronunciation instruction. *Language Learning,* 48, 393-410.
- Derwing, T., & Rossiter, M. (2003). The effects of pronunciation instruction on the accuracy, fluency, and complexity of L2 accented speech. *Applied Language Learning*, 13(1), 1-17.
- Elliott, A. R. (1997). On the teaching and acquisition of pronunciation within a communicative approach. *Hispania*, 80, 95-108.
- Derwing, T. M.,& Munro, M. J. (2005). Second language accent and pronunciation teaching: A research based approach. *TESOL Quarterly,* 39, 379–397.
- Flege JE, Munro MJ, Mackay IRA, (1995). Factors Affecting Strength Of Perceived Foreign Accent In A 2nd Language. *Journal Of The Acoustical Society Of America,* 97 (5): 3125-3134 Part 1
- Flege Je, Frieda Em, Nozawa T (1997), Amount Of Native-Language (L1) Use Affects The Pronunciation Of An L2, *Journal Of Phonetics* 25 (2): 169-186
- Flege JE, (1988). Factors Affecting Degree Of Perceived Foreign Accent In English-Sentences. *Journal Of The Acoustical Society Of America,* 84 (1): 70-79
- Flege JE, Piske T, Mackay IRA, (2001). Factors affecting degree of foreign accent in an L2: a review. *Journal of Phonetics,* 29, 191-215
- Gillett, A. (2004). *Speak English like an American*. Language Success Press
- Gilner, L. (2008). Pronunciation Instruction: A Review of Methods and Techniques. *Journal of School of Foreign Languages*, 35, 93-108.
- Ladefoged, Peter (1993). *A Course in Phonetics*. New York: Harcourt Brace Jovanovich College Publishers.
- Liu, Q. (2011). On Current Conditions of Pronunciation Teaching and Learning under Occupation- Related Criterion. *English Language and Literature Studies*, Vol.1,No.2. pp2-7
- McClelland, Fiez J.A.&McCandliss B.D. (2002), Behavioral and Neural Aspects:

Teaching the /r/-/l/ discrimination   to Japanese adults. *Physiology & Behavior* 77 (4-5): 657-662

- Murakawa H., & Lambacher, S.(1996). Improving Japanese pronunciation of American English [r] using electronic   visual feedback. In *Center for Language Research 1995 Annual Review*. University of Aizu, Japan.
- Purcell ET, Suter, (1980) Predictors of Pronunciation Accuracy - A Reexamination. *Language Learning* 30 : 271
- Raifsnider, B. 1999. *Living language-Easy pronunciation*. Living Language, A Random House Company
- Ramirez Verdugo, D. (2006). A study of intonation awareness and learning in non-native speakers of English.   *Language Awareness*, 15(3), 141-159.
- Rubun, A and Babbie, E. 2001. *Research Methods for Social Work*. Brooks/Cole, Cengage Learning
- Suter RW (1976) Predictors of Pronunciation Accuracy In 2nd Language-Learning. *Language Learning*, 26, 2, pp.253-233
- Smith, J & Beckmann, B. 2005. Improving Pronunciation through Noticing-Reformulation Tasks. *PTLC*, pp.1-4
- Tohkura Y, Lively Se, Pisoni Db, Yamada Ra, et al. (Oct 1994) Training Japanese Listeners To Identify English Vertical-Bar-R-Vertical-Bar   And Vertical-Bar-L-Vertical-Bar .3. Long-Term Retention Of New Phonetic Categories. *Journal Of The Acoustical Society Of America* 96 (4): 2076-2087
- Tohkura Y, Iverson P, Kuhl PK, Akahane-Yamada R, et al. (2003) A Perceptual Interference Account Of   Acquisition Difficulties For Non-Native Phonemes. *Cognition* 87 (1): B47-B57
- Werker, J. F.&Tees, R.C. (2005). Speech Perception as a Window for Understanding Plasticity and Commitment in   Language Systems of the Brain. *Wiley Periodicals, Inc. Dev Psychobiology* 46:233–251,
- Werker, J. F., & Tees, R. C. (1984). Phonemic and phonetic factors in adult cross-language speech perception.   *Journal of the Acoustical Society of America*, 75, 1866–1878
- Yates, J. (2005). *Pronounce it Perfectly in English*. Barron Educational Series.