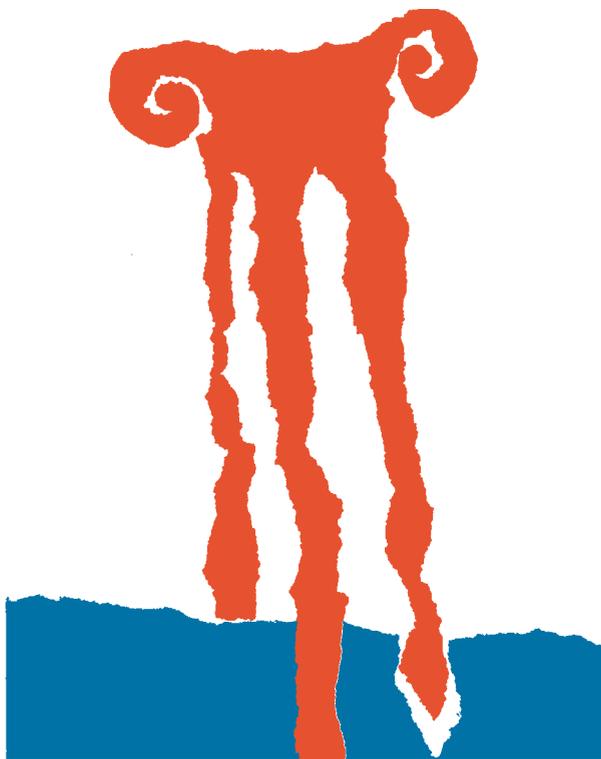


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**Can Pronunciation Be Taught?
A Review of Research and Implications for
Teaching**

Darío Barrera Pardo

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Can Pronunciation Be Taught? A Review of Research and Implications for Teaching

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Abstract

Pronunciation teaching has often been relegated to a subsidiary role of broader language performance skills such as speaking and listening, but in the past few years instruction on specific features of the spoken language have been reassessed and consequently fostered in many programs. Many teachers, nonetheless, remain skeptical about the teachability of pronunciation, and in consequence continue to consider explicit pronunciation instruction of relatively little importance in their practice. This paper offers a comprehensive review of twenty five empirical studies that explore the effect of pronunciation instruction, and their implications for teaching, in a reasoned attempt to reconsider the role of this area of the spoken language in the teaching practice.

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1. Introduction: The pronunciation paradox

For those committed to pronunciation teaching and research, it has become a commonplace topic to acknowledge the underdevelopment of pronunciation within the EFL profession. Thus, Brown (1991) opens his important anthology on pronunciation teaching as follows: “pronunciation has sometimes been referred to as the ‘poor relation’ of the English language teaching (ELT) world. It is an aspect of language which is often given little attention, if not completely ignored, by the teacher in the classroom” (p.1). A section of book reviews of pronunciation textbooks in the authoritative journal *TESOL Quarterly* was introduced very much in the same vein: “despite the best efforts of well-known pronunciation specialists such as Joan Morley, Judy Gilbert, and Rita Wong, the teaching of pronunciation can probably claim the dubious title of ‘most likely to fall between the cracks’” (Samuda, 1993: 757). This “sorry” attitude is prevalent among teachers and researchers of English as a Foreign or Second Language (abbreviated to EF/SL henceforward); in some cases, we even find ESL influential scholars like Teresa Pica (1994) expressing a more hostile view toward pronunciation teaching:

why do some students have less accurate pronunciation than others, and what can be done about this? [...] current research does not appear to validate such a view [placing a high premium on accurate pronunciation]. For the time being, *precise* pronunciation may be an unrealistic goal for teachers to set for their students and in their teaching (p. 73; emphasis mine)

The operative term here is ‘precise’, of course. Pica takes the strong view of those who deem pronunciation teaching basically a waste of instructional time, since accent, being a mechanical neurolinguistic process, is unteachable, and accent acquisition, when it happens, only takes place in communicative, real-life linguistic interaction. As a matter of fact, Pica appears to be subscribing to a harder position, denying the very possibility for students to attain precise (i.e., accurate, distinct) control of the L2 sound system. This is clearly a counter-intuitive statement, not supported, as we will see, by research done on pronunciation learning in formal contexts. Pica’s overstatement leads us to the crucial notion that I want to introduce here, which can be best summarized in what I like to call “the pronunciation paradox”.

The paradox could be formulated as the existing contradiction between the little attention devoted by L2 researchers to investigating pronunciation learning strategies, and the rich and complex nature of those strategies that learners must

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obviously engage in. One of the sources of this paradox is a dearth of data about the effect that formal instruction has in pronunciation learning; in this connection, it must be acknowledged to Pica's credit that when she wrote her article in 1994, many of the studies showing that instruction does change pronunciation behavior had not been yet published.

I will in consequence offer in this paper a summary review of representative studies that deal specifically with the effect of instruction, and I will try to determine which outcomes of this research can be translated more directly into the teaching practice.

2. How teachers view pronunciation teaching

Pronunciation teachers are, logically, interested in finding out whether explicit teaching in this area has proven to be effective or not. The evidence presented in this paper, it has to be said at once, points clearly to a beneficial effect of training, with the necessary qualifications that will be made in due course at different parts of this review. It is also interesting to gain some insight into what teachers think about pronunciation teaching, and to this aspect of the pronunciation framework I turn my attention in this section. Most of the evidence collected in this respect consists of information gathered in surveys and questionnaires.

Using a questionnaire distributed in over forty institutions, Murphy (1997) found that teachers of phonology-oriented courses place greater emphasis in their courses first on the segmental level of analysis, second on the mastery of a system of transcription, and thirdly on the suprasegmental level of analysis. For enriching the course, these instructors suggested having at their disposal more recorded samples of L2 learners speech for analysis (84%), more access to improved software (65%), and more emphasis on suprasegmentals (60%). It is revealing that only 14% of the respondents requested more emphasis on segmentals.

Walker (1999), in a survey conducted in Spain among 350 primary, secondary, and adults teachers found that “less than 7% of teachers plan their pronunciation work” (p. 27). This in stark contrast with less than 2% stating that their students’ pronunciation was not important, and with the finding that 65% of those surveyed “claimed to be keen or very keen that their students pronounce well” (p. 25). In addition, 37% claimed to work on pronunciation regularly, and 45% did so occasionally. About 27% of all secondary teachers admitted to working on pronunciation on a “purely spontaneous basis” (p. 28). When asked “in which of the following areas would you most like to receive further training” only 3% sought help in planning. The

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survey seems to be conducted mainly in northern Spain, but the results can surely be extrapolated to teaching contexts in other areas of the country and across different levels of the educational system.

Roads (1999) conducted a survey among EFL practitioners showing that few of them thought that intonation is actually teachable. In fact, only an impressive 5% of the respondents stated that they were confident about teaching intonation.

The question of teachability and learnability has been addressed by Dalton and Seidlehofer (1994: 72-74); according to these authors, some things are fairly easy to describe and generalize, in other words they are teachable. Other aspects, notably the attitudinal functions of intonation, are “extremely dependent on individual circumstances and are therefore nearly impossible to isolate out for direct teaching” (p. 74). They conclude from this that there seems to be an inverse relationship between what is teachable (they refer to segmentals) and what is important for communication (especially intonation). Jenkins (1997) argues that lack of intonation teachability not only applies to attitudinal intonation but as well to “pitch movement in general” (p. 116). The research done by Jenkins suggests that when English is used by non-natives in international contexts, pitch movement quality does not affect

communication. She claims instead that nuclear stress placement is crucial for intelligibility, this aspect of pronunciation being subject to “clearly defined and thus teachable rules” (p. 116).

I will return to the issue of intonation and more global aspects of pronunciation later, but it is clear from these few surveys that many pronunciation teachers are, in the best cases, unsure of the effectiveness of instruction, either because the current methodological frameworks are not appropriate (the case of the instructors reported by Murphy, 1997) or because instructors pay only cursory attention in their classes to the phonetic and phonological aspects of spoken language, as the data collected by Walker (1999) illustrates. It should also be acknowledged that pronunciation is normally seen as a multifaceted experience, affected by biological, social, and psychological factors; this ‘complex’ outlook of this language skill contributes to the assumption, so often made by teachers, that it is to a considerable extent out of the teacher’s control.

3. How learners see pronunciation teaching

Learners, from their part, tend to consider pronunciation instruction as very beneficial. The only published evidence that substantiates this statement is provided in two studies.

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Edwards (1992) found in a questionnaire that 94% of the students taking an introductory course to English phonetics and phonology thought that phonology was useful for learning pronunciation, and that among the activities the learners did during the course, laboratory sessions and transcription at the word level were the most valued. Cenoz and García Lecumberri (1999), conducting a survey among their English Philology students, discovered that the factors these students regard as influential in the acquisition of pronunciation are aspects related to exposure but also to formal training, the first factor being residence in a English-speaking country, the second speaking to natives, the third specific training through phonetics, the fourth listening to radio and TV, and the fifth ear training. Although exposure factors are ranked higher than aspects related to formal training, as expected, these learners see training as a positive influence on pronunciation learning. The authors remark that “more than half of the participants (56.7%) think that pronunciation is better taught through phonetics in all cases” (p. 640).

All this seems to point toward a contradiction between teachers’ and learners’ perspectives on pronunciation teaching, again in a rather paradoxical fashion: teachers show a tendency to consider pronunciation instruction difficult and in some

respects impossible to teach, while students tend to have a more positive idea of pronunciation teaching. How could this contradiction be resolved? One answer to this question may come from a review of the time and effort invested in investigating the effect of explicit training on pronunciation, the focus of the next section.

4. A review of experimental evidence on the effect of instruction

This section presents the summarized findings yielded by 25 studies, related to different extents to the question posed at the end of the preceding section.

Catford and Pisoni (1970) devised an instruction program to teach exotic vowels and consonants. In their experiment two groups received instruction, one group with articulatory procedures and the other with purely auditory training. The first performed more than twice as well in the production test than the auditory group. In the discrimination test the experimental group also surpassed the performance of the auditory group (80% correct and 75% correct, respectively), their differences between means being significant ($p < .05$).

Although the apparent focus of the instruction is on individual segments, the articulatory training in the study seems to re-

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flect many of the speech production aspects involved in voice quality: “passing systematically from known to unknown articulatory postures and movements [...] [the subjects] carried out a good deal of silent practice [...] they arrived at the correct articulation purely by following articulatory instructions and procedures” (p. 479). This would mean therefore that instruction on more global aspects of speech resulted in better learner performance.

In a much-cited study, Purcell and Suter (1980) investigated the correlation between English pronunciation scores and a set of variables for 61 nonnative speakers of English, finding that only four variables correlated with accuracy: first language, aptitude for oral mimicry, a composite variable including years of residence in an English-speaking country and months residing with a native speaker of English, and finally strength of concern of pronunciation accuracy. Variables related to the formal language context, namely intensive classroom training in English, and formal classroom training in English did not correlate significantly with the dependent variable, English pronunciation accuracy. These results were accordingly taken by many subsequent researchers as evidence of the inefficacy of pronunciation instruction; as a matter of fact, Pica (1994) quotes this study in her denial of pronunciation teaching.

Thompson (1991) also investigated the relationship between a set of several factors and accent approximation to native norms, with a pool of 36 Russian-speaking subjects fluent in English. Of the instructional-related factors, measured in the variables “years of education in English”, and “use of strategies to improve pronunciation”, only the former was correlated with pronunciation accuracy.

De Bot (1983) set out to assess and compare the effectiveness of audio-visual and visual feedback in pronunciation learning. He designed a pretest-posttest experiment in which 63 Dutch learners of English were treated in a control group and 4 experimental groups, 2 of them instructed audiovisually for 45 and 90 minutes respectively, and 2 taught with audio feedback for 45 and 90 minutes each, showing that the learners instructed with audio-visual feedback did significantly better than the rest of the groups. Practice time, on the other hand, had no significant effect.

The effect of instruction may be measured not only as a score in pronunciation accuracy; two studies by Yule, Damico and Hoffman (1987) and Yule, Hoffman and Damico (1987) investigated the role played by teaching in the development of learners’ self-monitoring, defined by these researchers as “the ability to know when an accurate identification was being

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made and to recognize when a distinction was still not clear” (Yule, Hoffman and Damico, 1987: 765). The authors found that some of the learners that deteriorated in a phoneme identification task during the course (the subjects were tested at the beginning, in the middle and at the end) were on the other hand improving on their self-monitoring ability. Yule and his associates claimed to have identified a transition stage in which there is “improvement in the learner’s certainty about when he is making correct identifications and they’re not, yet the process of acquiring that ability leads to a deterioration in getting correct answers” (Yule, Damico and Hoffman, 1987: 519).

Perlmutter (1989) carried out a comparison of intelligibility ratings for pre- and post- intervention speech samples from ITAs. Samples rated by undergraduate students for overall intelligibility as well as the ability to identify the topic showed significant gains on both variables, leading the author to conclude that intervention correlates with improved intelligibility; however, information about the training program is not provided in the paper.

Stevens (1989) designed drama activities which include *stage voice*; in this the learners had to mirror or track the speech of American students (repeating words and imitating supraseg-

mental features as closely as possible). Pre- and post- SPEAK test scores showed a significant increase, a 36 point average increase, for the subjects who followed the course, probably because the program focused very precisely on aspects of English articulatory settings and suprasegmentals.

Using a similar framework, Anderson-Hsieh (1990) taught a course to International Teaching Assistants with materials that focused very specifically on suprasegmental aspects: stress, rhythm, and intonation. The author compiled a set of field-specific, self-study materials, devoting 12 hours to instruction of a forty-five-hour course the ITAs were taking. Suprasegmentals took up 10 hours, whereas 2 hours were devoted to segmentals. Class time was spent on presenting English suprasegmentals using examples from the learner's field of work, with a great emphasis on "providing clear targets for the patterns presented" (p. 202). The students were as well instructed to do self-study work using the prepared materials, including self-recordings on tape, with feedback from the instructor. Students responded very positively to the materials, rating them with a mean score of 4.86 on a 1 to 5 scale. SPEAK test scores from the beginning to the end of the semester showed an average gain of 33 points; although there is no control group, the author remarks that "it is worth not-

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ing that the students who made the greatest gain in SPEAK scores over the semester were the students who reported using self-study materials the most often” (p. 210). Impressionistic evaluation of the students oral presentations skills by the end of the semester seem to point to a significant improvement in these skills.

Champagne-Muzar, Scheneideran and Bourdages (1993) implemented a program focusing on both French segmentals and suprasegmentals, that consisted of 12 one-hour lessons. The lessons were presented in cassette tapes with accompanying workbooks. During the first half of the program no production was required from learners, the first 6 hours being devoted to “auditory sensitization” (p. 145). Discrimination and production (imitation task) posttests indicated that the experimental group surpassed the control, group, showing hence that instruction was beneficial in both discrimination and production. The results are however limited because discrimination was based on minimal pair discrimination, equal sentences containing different intonation and rhythmic contours, and the production tasks were restricted to imitation of seven-syllable sentences.

Macdonald, Yule and Powers (1994), compared the effect of four different types of pronunciation instruction, namely:

- (I) a teacher-directed vocabulary drill
- (II) a self-study session with tape recordings
- (III) a non-intervention control condition
- (IV) a modified interaction condition, prompted by requests for clarification (p. 83)

With the exception of condition (II), allotted 30 minutes, all other conditions were limited to 10 minutes. This might be congruent with the type of task required from learners, two “mini-lectures” (as the authors call them) on a topic of their area of work (the subjects were Teaching Assistants), each lasting 6 minutes. However, and perhaps not surprisingly given such restrictions, the results are inconclusive, a criticism partly acknowledged by the authors (e.g. p. 96). This may be considered an extreme case of ‘experimental reductionism’, but it is not infrequent in L2 speech research.

In a study of classroom acquisition of Spanish pronunciation, Elliott (1995) found that a experimental group of 43 intermediate-level learners, who received pronunciation instruction for 10 to 20 minutes over 21 class periods, focusing on Spanish vowel and consonant allophones, improved significantly their pronunciation ratings after 12 weeks of instruction. The test included the taught allophones in a number of tasks: mimicry at the word and sentence level, and pronunciation at word

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and sentence level. The control group, exposed to the same input but without explicit pronunciation training, showed no improvement. It should be noted that the methodology of pronunciation was multimodal: appealing to diverse learning styles (aural, visual, oral); drill and practice opportunities; immediate feedback.

Cenoz and García Lecumberri (1996) investigated the discriminatory skills of 52 Spanish-speaking learners enrolled in a sixty-hour semester of English Phonetics, who received 15 hours of specific discriminatory training in RP vowels during the course. The effect of instruction was measured in a comparison of pre- and post-test differences of means, which resulted in a higher average at the end of the course (29.53 points; max = 38) than at the beginning (22.72; max = 38), although the statistical significance between these means is not provided by the authors.

Bongaerts, van Summeren, Planken, and Schills (1997), in a very interesting study, found that 11 highly successful Dutch learners of English, who had acquired English mainly in an instructional setting, were rated on an accentedness scale from 1 (very strong foreign accent) to 5 (no foreign accent at all) with a mean score of 4.61, almost indistinguishable from a control group of British natives, who received a mean score

of 4.85, and another group of 20 Dutch speakers with varying degrees of English fluency, that received a mean score of 2.59 in the same scale of accentedness. The task all the groups were required to perform involved reading out 6 sentences 3 times, with English phones that ranged from very similar to very different from Dutch phones.

When considering the outstanding results of the skilled group, Bongaerts and his colleagues remark that “[the highly skilled learners] had all received intensive training both in the perception and production of the speech sounds of British English. We suggest that this may have been one of the learning context factors that contributed to their success” (p. 463). This could be taken, then, as indirect evidence of the effect of specific pronunciation training; these learners had all received in their first year of university study intensive training in RP. It should be added that these pronunciation-skilled subjects were all except one college teachers of English, a population of language users that normally places a high value on target-like L2 speech, but still, when compared to the native speakers, their performance is nonetheless impressive. Of course, one has to further consider language relatedness: as is well-known, English and Dutch are West Germanic languages of the Low branch and, as a matter of fact, Dutch is one of the

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structurally closest languages to English, at least according to some accounts (e.g. McArthur, 1992). Finally, in the Netherlands there is a great amount of daily exposure to British English through the mass media, regular commerce, travel connections, and tourism. Learning and speaking English in a different local context, for example France, even for highly skilled learners with similar characteristics to the subjects of this study, would perhaps yield rather different results. These external factors have to be taken into account before accepting the results of this paper as evidence of training effectiveness.

Cenoz and García Lecumberri (1997), in an extension of their 1996 study, found that 46 learners of English Philology in their third year still retained the positive effects of vowel discrimination demonstrated in the test they took in their first year after 14 hours of discrimination training on vowels. The effect of instruction, however, is not the same for all vowels; the researchers observe that

with the exception of the diphthong /eə/, the perception of those vowels and diphthongs which obtained relatively low scores in the post-test improves in the follow-up while the vowels and diphthongs with relatively high scores in the post-test do not experiment an improvement and in some cases they even obtain lower scores in the follow-up (p. 59).

Which shows that perceptual learning of vowels is not a simple, rectilinear process, and there is complex interplay between instruction and pronunciation learning.

Matthews (1997) investigated the perception of 6 English segmental contrasts difficult for Japanese learners. The difficulty may have a perceptual basis, so the training focused on perception. In a pretest -posttest design, two experimental groups received careful articulatory training once a week for five weeks, with a control group that received no training. Each session included training on all 6 non-native segments, using only articulatory explanation and mimicking, silent articulation techniques and visual demonstrations of the sounds. Subjects received no perceptual training at all. Subjects were allowed and corrected in producing the sounds out loud, but never heard acoustic models. Matthews argues that “the motivation behind this somewhat radical approach was to avoid the development of stimulus-dependent representations that researchers using perceptual training have encountered” (p. 225). The results obtained indicate that the subjects receiving training demonstrated significant improvement in their ability to discriminate segments on which they received silent and visual feedback. However, not all contrasts improved alike; perception of the [b] / [v], [θ] / [f] and [s] / [θ] contrasts showed

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significant improvement, whereas the [l] / [ɹ] and [s] / [ʃ] did not. The researcher claims that the phonological system of the native language constrains the acquisition process.

Derwing, Munro, and Wiebe (1997) designed a clever experiment in which they had 12 adult advanced speakers of English with 10 years of residence in an English-speaking country take a 12-week speech course that had a global focus, rather than a segmental one. The authors argued, convincingly in my view, that any improvement in pronunciation performance should be directly attributed to instruction, since improvement could not be expected without instruction in just 12 weeks (recall that these learners had resided in an English-speaking context for 10 years, and using the language on a daily basis). Exposure factors were thus completely ruled out from the final outcome of the study. The researchers found that after just 3 months of instruction 8 of the 12 participants showed improvement in at least one of the three measures (intelligibility, comprehensibility, accent).

In an extension of this study, Derwing, Munro, and Wiebe (1998) distributed 48 adult ESL learners in three groups, treated with three different conditions: a group that was taught with a segmental focus in their regular ESL classes, for twenty-minutes a day; a group taught with a more global focus,

again for twenty-minute periods during their English classes; and a group taking a skills-based course that paid no specific attention to pronunciation. The subjects took a pretest at the beginning of the program and a posttest at the end, which required the learners to read out sentences as well as extemporaneous narratives (a task much closer to real-life speaking conditions).

The speech samples collected from the participants were rated by native listeners for accentedness, comprehensibility, and fluency (the latter only for the narratives). The results show a significant improvement on all measures (comprehensibility and accentedness in sentences; comprehensibility, accentedness, and fluency in narratives) for the group taught with a global focus. The group that received segmental instruction got better both in comprehensibility and accentedness in the sentences, but did not change in either of the measures for the narratives. Finally, the learners that received no specific pronunciation instruction showed a positive change only in the accentedness of their sentences. It should be noted that the group taught with a segmental focus improved the accentedness of their sentences significantly more than the learners taught with a global focus and the group that did not receive specific pronunciation training. In conclusion, then, the

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three aspects of oral production (comprehensibility, accent, and general fluency) showed positive changes as a result of instruction, which was particularly beneficial if it had a more global orientation.

The improvements in comprehensibility and fluency reported in the narrative task of this study were further analyzed by Derwing and Rossiter (2003), in an experiment that asked 6 listeners, all of them ESL teachers, to “identify errors and code them as to whether they interfered with comprehensibility, and whether they were bothersome or merely salient” (p. 5). The results indicate that although the group taught with a segmental focus had fewer phonological accuracy errors by the end of the instruction program, their overall performance did not improve; however, the group taught with a more global pronunciation focus, whose rating of comprehensibility and fluency were considered to be higher by the end of instruction. The authors conclude from these findings 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. 14).

Kendrick (1997) designed a nine-month pronunciation training program for 8 teenage subjects in an English boarding school, from different L1 backgrounds. They were following

a curriculum of immersion teaching. Training included several activities, discriminating and production of segments, awareness of weak syllables, rhythm exercises, prominent word stress, drama and role-play activities (for intonation and voice quality), and development of self-evaluation and self-correction through self-recorded tapes. The author claims significant gains on production of both segmentals and suprasegmentals, but no pretest scores are provided, and the testing procedures are not elucidated. Kendrick nevertheless claims that “there were highly significant correlations (>0.01) between pronunciation teaching time and improvement, as perceived by the raters” (p. 556).

Missaglia (1999) compared a group of inexperienced adult native Italian learners of German who had received “prosody-centered” phonetic training in the L2 to a group of inexperienced subjects who had received “segment-centered” phonetic training in German. The group who had received prosody-centered training was found to have improved its pronunciation of German significantly more than the group who had received segment-centered training. The group who had received prosody-centered training was found to perform better with regard to both suprasegmental as well as segmental production.

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In a study investigating the limits imposed by the Critical Period Hypothesis (CPH) on L2 phonological acquisition, Moyer (1999) chose 24 highly motivated learners of German, employed as college teachers of that language; Moyer's objective was to show that, under optimal circumstances, L2 learners are capable "of surpassing performance limits predicted by the CPH" (p. 86). The subjects read 24 words, 8 sentences, a passage, and did free a topic talk. All these materials included sounds typically difficult for English speakers of German. Participants also filled in a questionnaire eliciting information about biological, affective, and instructional variables. The recorded productions were evaluated by native judges, and Moyer reports that "those subjects who were given both suprasegmental and segmental feedback scored closer to native in a predictably constant relationship" (p. 95). Although these subcategories (range of phonological instruction and feedback) were not significant for the outcome per se, the author observes, interestingly, that those subjects who had had training and feedback in stress, rhythm, and intonation did score closer to the native range than those who did not. It seems then that the type of feedback more than the amount is significant for pronunciation achievement, at least in the case of these learners.

Again, as I noted for the experiment by Bongaerts, van Summeren, Planken, and Schills (1997), the target population of the study by Moyer is very exceptional, both in their phonological threshold and in their motivations to exhibit a more native-like L2 accent; the results of this experiment, while pertinent for an understanding of the CPH, should not be extended to more general ESL learner groups without some reservation.

Cenoz and García Lecumberri (to appear) increased the pool of subjects they had in their 1996 paper; in this study, 109 university students enrolled in an English Phonetics introductory course received aural discrimination training for 14 weeks. The format of the experiment is a comparison of pre- and post intervention tests on vowel discrimination, similar to the 1996 study. The results indicate a highly significant improvement from the pretest (mean 23.37; max = 38) to the posttest (mean 29.97; max = 38), t-test ($t = -17.11$, $p = .000$).

Interestingly, one-way analysis of variance (ANOVA) tests showed that the subjects who got the lowest scores in the pretest improved these scores by 9.27 points, the subjects with intermediate scores improved by 6.75 points, and those with high scores improved by 4.02 points. The authors comment that “training is bringing the different groups together and that the discrimination abilities of the highest group have

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reached a threshold and do not benefit from the training sessions as much as it could be expected” (p. 12).

5. Implications for teaching

The studies reviewed offer several implications for explicit pronunciation instruction that teachers and researchers should be aware of. I list five and discuss their potential applicability to the teaching practice.

5.1. Instruction changes learners’ pronunciation

There is a positive effect of instruction when this variable is measured empirically. As we have seen, of the 25 studies examined, only 2 do not support the claim that teaching improves learners’ pronunciation (Purcell and Suter, 1980; and Thompson, 1991). This finding is of great relevance for teachers who set out to instruct their learners in this language area, because they can be assured that well-planned, quality training is likely to have a positive impact, in stark contrast to dogmatic opinions like that of Pica (1994).

In addition, teachers should be aware of the differential effects of instruction; the research reported by Yule and his colleagues shows that while performance may eventually deteriorate during the course of instruction, other critical skills

like the ability to self-monitor (and hence self-correct) one's pronunciation may be at that same time developing.

5.2. Type of instruction is a determining factor

Training on suprasegmentals leads to improved performance in communicative aspects of spoken language. In particular, fluency-oriented training is clearly more helpful than a more segmental focus on individual, specific sounds, as suggested by several studies (Stevens, 1989; Anderson-Hsieh, 1990; Derwing, Munro and Wiebe, 1997, 1998; Derwing and Rossiter, 2003; Missaglia, 1999; Moyer, 1999). Pronunciation teachers should adapt their pedagogical approaches to include a substantial suprasegmental component, since work in these global aspects of L2 speech are more likely to result in better learner performance.

5.3. Learners' needs may play a stronger role than attitudinal factors

It seems that their real or perceived needs, perhaps more than motivation, drive learners' efforts toward accuracy in L2 speech. One of the outcomes of the study by Bongaerts, van Summeren, Planken, and Schills (1997) is that the subjects of the experiment, being all except one college teachers of English, must have placed a high value on accurate and na-

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tivelike pronunciation. The subjects of the experiment reported by Moyer (1999) were as well college teachers. This may indicate that learners, perhaps involuntarily, set a performance threshold with respect to the accuracy level they want to attain in the L2. A widespread conceptualization of learner needs in communicative language teaching is “the real-world communicative requirements [of the learners]” (Tudor, 1996: 66). Teachers should obviously encourage learners to go as far as they are capable of going, but pronunciation instructors should also be realistic about their expectations, especially with respect to individual achievement in their classes; some learners will seem to refuse to make the effort toward more advanced levels of performance.

***5.4. There are specific teaching techniques,
pronunciation is not simply ‘picked up’***

There is a wide range of techniques used in the studies reported, from the silent articulation procedures developed by Catford and Pisoni (1970) and Matthews (1997), to the more traditional laboratory sessions found in the training program implemented by Cenoz and García Lecumberri (1996; 1997). The idea that pronunciation is ‘acquired’ in input-rich environments, promoted by communicative approaches to L2 teaching, is not supported by the research in this area.

5.5. *Input and access to input may play a more significant role than previously assumed*

The studies by Bongaerts, van Summeren, Planken, and Schills (1997), Kendrick (1997), and Moyer (1999) reveal that success in pronunciation learning may be closely linked to exposure factors. The participants in these studies were learner populations who experienced immersion or a good deal of contact with native models. Pronunciation teachers should encourage their learners' involvement in real-life language situations (for example, interaction with native speakers) where the students are exposed to input-rich contexts.

Works Cited

- Anderson-Hsieh, Janet (1990): "Teaching suprasegmentals to International Teaching Assistants using field-specific materials". *English for Specific Purposes* 9: 195-214.
- Bongaerts, Theo, Chantal van Summeren, Brigitte Planken and Erik Schills (1997): "Age and ultimate attainment in the pronunciation of a foreign language". *Studies in Second Language Acquisition* 19: 447-465.
- De Bot, K. (1983): "Visual feedback of intonation I: Effectiveness and induced practice behavior". *Language and Speech* 26: 331-350.
- Brown, Adam (ed.) (1991): *Teaching English Pronunciation: A Book of Readings*. London: Routledge.

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- Catford, J., and David Pisoni (1970): "Auditory vs. articulatory training in exotic sounds". *Modern Language Journal* 54: 477-481.
- Cenoz, Jasone, and María García Lecumberri (1996): "The acquisition of phonetics: Factors determining the discrimination of English vowels". In J. Pérez, T. Caneda, M. Dahlgren, T. Fernández Colmeiro, and E. Varela, eds, *Proceedings of the XIXth International Conference of AEDEAN*. Vigo: Universidade de Vigo, 189-193.
- (1997): "The acquisition of English vowels: A longitudinal study". In J. Leather and A. James, eds., *New Sounds 97: Proceedings of the Third International Symposium on the Acquisition of Second Language Speech*. Klagenfurt: University of Klagenfurt, 55-60.
- (1999): "English phonetics and learners' metacognitive knowledge". In F. Toda, M. J. Mora, J. A. Prieto, and T. López, eds., *Actas del XXI Congreso Internacional AEDEAN*. Sevilla: Universidad de Sevilla, 637-643.
- (to appear): "The effect of training on the discrimination of English vowels". *International Review of Applied Linguistics*.
- Champagne-Muzar, C., E. Scheneiderman and J. Bourdages (1993): "Second language accent: The role of the pedagogical environment". *International Review of Applied Linguistics* 31: 143-160.
- Dalton, Christiane and Barbara Seidlhofer (1994): *Pronunciation*. Oxford: Oxford University Press.

- Derwing, Tracey, Murray Munro and Grace Wiebe (1997): "Pronunciation instruction for "fossilized" learners: Can it help?" *Applied Language Learning* 8: 217-235.
- (1998): "Evidence in favor of a broad framework for pronunciation instruction". *Language Learning* 48: 393-410.
- Derwing, Tracey and Marian Rossiter (2003): "The effects of pronunciation instruction on the accuracy, fluency, and complexity of L2 accented speech". *Applied Language Learning* 13: 1-17.
- Edwards, Marion (1992): "Modelos lingüísticos de la enseñanza-aprendizaje de segundas lenguas: la enseñanza-aprendizaje del sistema fonológico del inglés en hispanohablantes". In F. Etxeberria and J. Arzamendi, eds., *Bilingüismo y adquisición de lenguas: Actas del IX Congreso Nacional de AESLA*. Bilbao: Universidad del País Vasco, 219-229.
- Elliott, Raymond (1995): "Foreign language phonology: Field independence, attitude, and the success of formal instruction in Spanish pronunciation". *The Modern Language Journal* 79: 530-542.
- Jenkins, Jennifer (1997): "Teaching intonation for English as an international language: Teachability, learnability and intelligibility. In P. Grundy, ed., *IATEFL 1997 Brighton Conference Selections*. Kingsdown Chambers: IATEFL, 116-117.
- Kendrick, Helen (1997): "Keep them talking! A project for improving students' L2 pronunciation". *System* 25: 545-560.

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- Macdonald, Doris, George Yule and Maggie Powers (1994): "Attempts to improve English L2 pronunciation: The variable effects of different types of instruction". *Language Learning* 44: 75-100.
- Matthews, John (1997): "The influence of pronunciation training on the perception of second language contrasts". In J. Leather and A. James, eds., *New Sounds 97: Proceedings of the Third International Symposium on the Acquisition of Second-Language Speech*. Klagenfurt: University of Klagenfurt, 223-229.
- McArthur, Tom (ed.) (1992): *The Oxford Companion to the English Language*. New York: Oxford University Press.
- Missaglia, F. (1999): "Contrastive prosody in SLA: An empirical study with adult Italian learners of German". *Proceedings of the XIVth International Congress of Phonetic Sciences*. vol 1, 555-558.
- Moyer, Alene (1999): "Ultimate attainment in L2 phonology: The critical factors of age, motivation, and instruction". *Studies in Second Language Acquisition* 21: 81-108.
- Murphy, John (1997): "Phonology courses offered by MATESOL programs in the U.S.". *TESOL Quarterly* 31: 741-764.
- Perlmutter, Marilyn (1989): "Intelligibility ratings of L2 speech pre- and postintervention". *Perceptual and Motor Skills* 68: 515-521.
- Pica, Teresa (1994): "Questions from the language classroom". *TESOL Quarterly* 28: 49-79.
- Purcell, Edward and Richard Suter (1980): "Predictors of pronunciation accuracy: A reexamination". *Language Learning* 30: 271-287.

- Roads, Judith (1999): "Teachers' beliefs and practices in the teaching of intonation in English". *Speak Out! (Newsletter of the IATEFL Pronunciation Special Interest Group)* 25. 18-25.
- Samuda, Virginia (1993): "Pronunciation textbooks". *TESOL Quarterly* 27: 757-758.
- Stevens, Scott (1989): "A 'dramatic' approach to improving the intelligibility of ITAs". *English for Specific Purposes* 8: 181-194.
- Thompson, Irene (1991): "Foreign accents revisited: The English pronunciation of Russian immigrants". *Language Learning* 41: 177-204.
- Tudor, Ian (1996): *Learner-centredness as Language Education*. Cambridge: Cambridge University Press.
- Walker, Robin (1999): "Proclaimed and perceived wants and needs among Spanish teachers of English". *Speak Out! (Newsletter of the IATEFL Pronunciation Special Interest Group)* 24: 25-32.
- Yule, George, Jack Damico and Paul Hoffman (1987): "Learners in transition: Evidence from the interaction of accuracy and self-monitoring skill in a listening task". *Language Learning* 37: 511-521.
- Yule, George, Paul Hoffman and Jack Damico (1987): "Paying attention to pronunciation: The role of self-monitoring in perception". *TESOL Quarterly* 21: 765-768.