

TEACHING TO SUPPRESS L1 PROCESSES in L2

Katarzyna Dziubalska-Kolaczyk¹, Anna Balas¹, Geoffrey Schwartz¹, Arkadiusz Rojczyk²

¹Adam Mickiewicz University in Poznań, Poland; ²University of Silesia, Poland

dkasia@wa.amu.edu.pl; abalas@wa.amu.edu.pl; geoff@wa.amu.edu.pl;
arkadiusz.rojczyk@us.edu.pl

ABSTRACT

Advanced second language learners in a formal setting can suppress many L1 processes in L2 pronunciation when provided with sufficient exposure to L2 and metacompetence. This paper shows how imitation in L2 teaching can be enhanced on the basis of current phonetic research and how complex allophonic processes such as nasal vocalization and glottal stop insertion can be suppressed using “repair” – a method of providing learners with adequate input, so that they can use the L1 processes to improve L2 pronunciation.

Keywords: suppressing L1 processes, imitation, metacompetence, “repair”, formal setting.

1. INTRODUCTION

Pronunciation has usually been taught by means of repetition after the model and explanation of the target language phonemic category compared to that of L1. This paper advocates improving the two methods on the basis of recent research on imitation and the idea that L1 processes can be used to enhance L2 pronunciation if learners are provided with appropriately modified context. Our proposals are formed as suggestions for pronunciation coursebook design and classroom use.

1.1. Processes in Natural Phonology

While phonetics deals with regularities in speech typical for a given language, phonology looks for phonemically meaningful regularities, and tries to explain them and determine why they occur in a given language. The phonology of a language organizes and changes its categories and processes within a system that serves speech production and speech perception. The task of a phonologist is then seen as a search for phonetic details that are crucial in a given language, the word ‘crucial’ referring to phonemic differences and phonetic details responsible for the characteristic of a given language or its accents.

1.2. Phonetic detail in L2

Phonology in second language acquisition has to incorporate phonetic detail, as reasoning based on phonemic categories only is not capable of accounting for second language speech phenomena. Haspelmath [9] emphasized: “an important consequence of the non-existence of pre-established categories for language typology is that comparison cannot be category-based, but must be substance-based, because substance (unlike categories) is universal.” Similar as L1 and L2 sounds might seem, phonemes in L1 and L2 do not reflect identical, pre-defined categories, but are specified by each language separately; the phonology of each language chooses from a wide range of options that phonetics offers [3].

Second language learners do not know how categories are specified in L2. At their disposal, correlated with the morphological and syntactic structures they have learned, in terms of L2 speech influence learners have only the acoustic signal, phonetic detail. In terms of the influence of their first language, they are used to paying attention to some details, but disregarding others. Second language learners do not have access to the phonological system of the second language otherwise than through phonetics. The acoustic signal is deciphered according to first language processes, and in doubtful cases universal processes apply. The application of L1 and universal processes to L2 acoustic signal leads to the determination of interlanguage underlying representations. What is produced by second language learners is produced on the basis of these often misperceived underlying representations. Pronunciation training or mastering consists in learning which phonetic detail to disregard, which L1 processes to suppress, and to which phonetic details attention should be paid. Thus teaching or learning L2 pronunciation consists in teaching or learning what L2 phonology chooses from phonetics.

1.3. The task of an L2 learner

L2 adult learners do not start learning L2 in a vacuum. It has long been suggested that L1 acts as a 'sieve' filtering out speech features which are not significant in the first language phonological system [11, 13]. A particular contribution of Natural Phonology to second language phonology research is that L2 learners are equipped with L1 categories, or to be more precise, underlying representations as specified by L1, and that L1 dynamic, preference-based, subconscious processes are used to shape sounds and sound sequences in interlanguage. In new contexts, universal processes, whose use is not evident in either L1 or L2, are used in second language acquisition. The use of universal processes, not used in either L1 or L2, is present when the process did not have a chance to emerge in L1 because of the lack of a specific context, its use is restricted or suppressed in L2, but L2 learners have not managed to limit the process in accordance with L2 phonology (e.g. as it often happens with Japanese learners of English who devoice final obstruents, although Japanese does not have final obstruents, so it is not a process transferred from L1) [13, 7]. With time, more universal and L2 processes come into play, as the learner notices that L1 processes are not sufficient to represent L2 sounds.

2. IMITATION

Repetition has long been used in pronunciation teaching. Phonetic research, however, has mainly been focused on L1. Nevertheless it uncovers certain tendencies which could successfully be used in teaching L2 pronunciation.

2.1. Word imitation

Goldinger [8] in a single-word shadowing task showed the effects of episodic traces in speech production. Stronger imitation effects were observed for low-frequency words than for high-frequency words and for subjects who were exposed to a higher number of repetitions. It is clear that the more students repeat the more accurate their pronunciation is likely to become. Nevertheless, it seems worth noticing that low-frequency words are better imitated than high-frequency words. Usually pronunciation coursebooks offer practice based on fairly basic vocabulary on the assumption that students should

focus their attention on pronunciation rather than on looking up the unfamiliar vocabulary items in a dictionary. It may be the case, however, that learners have fossilized pronunciation for more frequent words and it is difficult for them to substitute the erroneous pronunciation with an appropriate one. It may be easier to master a new sound, sound sequence or process using lesser-known words. Only then should we proceed to eliminating erroneous or fossilized pronunciations of frequent words.

Shockley, Sabadini and Fowler [12] showed a significant VOT imitation effect for voiceless stops with artificially extended VOTs. Artificial extension of VOT seems to be a good idea for L2 learners whose L1 does not employ aspiration and whose L2 does. Exaggeration is, certainly, only to be recommended in the beginning, so that students notice the difference between aspirated and unaspirated sounds.

2.2. Social aspects of imitation

Pardo [10] showed that phonetic accommodation takes place during conversational interaction. Babel [1] explored how social factors facilitate the process of phonetic convergence. There are conclusions to be drawn from these two papers for pronunciation teaching. Effectiveness of imitation is likely to rise when learners like the person or the voice they are expected to imitate and when they can identify with the model. This means that the model's voice needs to be perceived as friendly but also respectable (personal experience: 20 students ridiculed a model when asked to repeat the phrases after a model who sounded too girlish and naïve to them). Preferably the voice to imitate should be a peer's voice, as this will allow for student identification with the model, which should result in higher convergence. Students should also be motivated to accommodate more if they believe that the model is positively disposed to them. Imitation should be enhanced by the choice of a positive and friendly peer model.

2.3. Experiment

As a part of a larger project on sandhi in L2 speech, Schwartz, Balas and Rojczyk have examined how imitation reduces glottalization and devoicing in Polish-accented English. Our objective was to study the link between liaison, glottalization and devoicing. We analyzed acoustically C#V word boundaries in 35 sentences,

in which there were 20 tokens with final /d/ and 15 other tokens, including voiced clusters and voiced fricatives. 16 advanced Polish learners of English completed reading and repetition tasks. The assumption was that in Polish-accented English L1 interference in the form of glottalization reinforces the context for final devoicing. It was hypothesized that successful production of liaison should enhance native-like production of final voiced obstruents. In the imitation experiment 35 C#V tokens were excised from a sentence list read by native speakers of English and then we asked Polish subjects to imitate the English models.

English native speakers produced 27 liaised tokens out of 35, in six tokens a vowel was inserted, and two tokens were unliaised and glottalized. Liaison and vowel intrusion were conducive to voicing.

Table 1: The overview of task effects on the percentage of consonant voicing, vowel/consonant ratio, percentage of liaisons and percentage of intrusive vowels.

Parameter	Reading	Imitation	Native model
% voiced	46.5	64.6	76.2
10*V/C	23.2	27.8	43
% liaison	14	47	77
% intrusive	27	17	17

The results presented in Table 1 indicate that imitations were closer than read tokens to the native speaker model across all parameters. More detailed results showed that certain speakers did not improve on vowel/consonant ratio, but a closer analysis revealed that they employed much more vowel intrusion in the reading task and that they turned to liaisons in the imitation task. These imitation results show that acquisition is within reach.

3. “REPAIR”: EXPLOITING L1 TO ENHANCE L2 PRONUNCIATION

3.1. The idea of “repair”

The idea behind the “repair” strategy is that speech is actually in the ear of the listener. If we try to replicate the listener’s subconscious mental operations upon hearing a word in L2, we may understand how “repair” guides the listener from an unfamiliar intention to a familiar production (see [3] for details). When a native speaker of

English hears a Polish word *ptak* [ptak] ‘bird’ s/he tries to mentally map it on a familiar L1 string of sounds. The mapping fails, because there are no words beginning with [pt] in English. There appear certain near matches as *potato* or *potentially* in which the [pt] cluster is broken by an unaccented vowel. An English native speaker then assumes that the speaker of Polish must have deleted a vowel in the word *ptak* and in their careful speech s/he decides to suppress the deletion – this being a moment of repair, where deciphering an unfamiliar intention leads to a familiar production [pə'tak]. It is a suppression of a putative vowel deletion process of a second language – a putative lenition which actually manifests itself as a vowel insertion in the learner’s careful production a second language word, i.e. a case of fortition.

Supposedly, the learner suppresses the vowel deletion process since there is no vowel deletion or a /pt/ sequence in L1. Let us check if it is really the case. In fact, in casual speech *potato* is pronounced as [p'tertou]. Native speakers of English are not aware of it, because their underlying form contains a vowel /ə/ between /p/ and /t/.

A solution to an unwelcome “repair” should be looked for in the L2 learner’s native language. We should look for a process suppressed by “repair”, for example, in the learner’s casual speech phonology. To make the learner use the same process in the relevant context in a second language, we should provide him/her with an appropriate input to the process, i.e. an underlying intention different from the actual L2 output we want to achieve. In the case under discussion, the learner should try to say /pə'tak/, which would be expected to trigger the application of his/her native English unaccented vowel deletion to arrive at the target /p'tak/. To facilitate this procedure, adult learners should be made aware of the process applying in their own casual speech (cf. also [14]).

3.2. Examples of L1 processes modified to be used in L2

Nasal vocalization in sequences of vowels, nasals and fricatives and glottal stop insertion are transferred from Polish to English even by advanced learners [2]. Apart from telling learners not to vocalize nasals in English and asking them

to imitate native speech, we can suggest using processes from Polish in a modified context. Nasal vocalization in Polish requires a fricative after the nasal. Having localized a problem with an English word *sense* which has its Polish counterpart *sens* [sɛw̃s], we can ask learners to say *sen* [sen] ‘sleep’, then we add a consonant after the nasal *sen Basi* [sen baçi] ‘Basia’s sleep’, then we add a fricative [sen swabi] ‘weak sleep’. In English we try to split the word *sense* into [sen.s] and then we gradually shorten the pause between the nasal and the fricative, ensuring that the nasal is pronounced.

When trying to eliminate glottal stop insertion in the beginning of words starting with a vowel, we first need to make sure that learners know what a glottal stop is, as many Polish speakers are not aware of its existence, because it does not have a phonemic status in Polish or a letter corresponding to it. We ask students to say *panna* [panna] ‘maiden’ and then to say [p.anna] slowly and then we compare [p.anna] to *Anna* [ʔanna] ‘Ann’ where a glottal stop is inserted by Polish native speakers, as it is usually the case before word-initial vowels. Emphasizing correspondences between L1 and L2 processes, even if applied in different contexts, can help students use the processes in L2.

4. CONCLUSIONS

The paper has proposed imitation and “repair” methods for enhancing pronunciation teaching to second language learners in a formal context, in accordance with current research in phonetics and phonology.

Imitation tasks for pronunciation practice should be consciously designed by pronunciation coursebooks’ authors and teachers so that they maximally enhance phonetic accommodation by using less frequent words, exaggeration, and employing friendly peer models with whom learners will be eager to identify.

The notion of “repair” has been proposed to account for the way in which listeners subconsciously react to second language speech. Upon hearing foreign speech, the listener tries to decipher the signal using their own native language processes. When “making up what has gone wrong in L2,” the listener suppresses processes which “must have happened in L2” to result in the output s/he hears. The suppressed processes can often be found in the listener’s native casual speech. If so,

we can make learners aware of these processes, and exploit them in a prepared context which is challenging in L2. Similarly to conscious learning of syntax and morphology, conscious knowledge of grammar is advocated on the level of phonetics and phonology.

Enhancing imitation and enabling students to use L1 processes in L2 should result in more effective L2 pronunciation training.

5. REFERENCES

- [1] Babel, M. 2012. Evidence for phonetic and social selectivity in spontaneous phonetic imitation. *J. Phon.* 40, 177-189.
- [2] Balas, A. 2007. Repopulating vowel space. Unpublished PhD thesis, Poznań: Adam Mickiewicz University.
- [3] Dziubalska-Kołaczyk, K. 2003. How learners “repair” second language phonology and whether they may become native speakers. In: Waniek-Klimczak, E., Sobkowiak, W. (eds.). *Dydaktyka Fonetyki Języka Obcego. Neofilologia*, vol. 5. Płock: Zeszyty Naukowe PWSZ w Płocku, 31-64.
- [4] Flege, J.E., Davidian, R.D. 1984. Transfer and developmental processes in adult foreign language speech production. *Applied Psycholinguistics* 5, 323-347.
- [5] Goldinger, S. 1998. Echoes of echoes? An episodic theory of lexical access. *Psychological Review* 105, 251-279.
- [6] Haspelmath, M. 2006. Pre-established categories don’t exist – consequences for language typology and description. In: DGfS Annual Conference, Bielefeld, 22-24.02.2006.
- [7] Pardo, J. 2006. On phonetic convergence during conversational interaction. *J. Acoust. Soc. Am.* 119, 2382-2393.
- [8] Polivanov, E. 1932. La perception des sons d’une langue étrangère. *Travaux du cercle linguistique de Prague* 4, 79-86.
- [9] Shockley, K., Sabadini, L., Fowler, C.A. 2004. Imitation in shadowing words. *Perception & Psychophysics* 66, 422-429.
- [10] Stampe, D. 1969. The acquisition of phonetic representation. In: Binnick, R. et al. (eds), Papers from the Fifth Regional Meeting of the Chicago Linguistic Society Chicago: Chicago Linguistic Society, 443-454.
- [11] Trubetzkoy, N.S. 1939/69. *Principles of Phonology*. Berkeley: University of California Press.
- [12] Wrembel, M. 2005. Metacompetence-oriented model of phonological acquisition: implications for the teaching and learning of second language pronunciation. *Proc. PTLC 2005*, London, 1-5.

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