Pronunciationforteachers.com/ Key Concepts

Factors Affecting Pronunciation Development

As Derwing (2010) observed nearly ten years ago, one of the goals of pronunciation research is to identify how different aspects of second language (L2) speech develop over time, providing teachers with information on the pronunciation problems that will work themselves out, versus those that will likely pose an ongoing challenge. At the same time, research must account for the cognitive, socio-affective, and experiential variables that shape pronunciation learning outcomes (Moyer, 2014a, 2014b).

What is development and how is it measured?

Researchers generally take two approaches to measuring pronunciation development. One practical approach is to ask other L2 users (oftentimes native or advanced L2 speakers) to listen to speech clips and score the feature of interest. For example, in studies dealing with the intelligibility of individual sounds, listeners might be asked to identify vowels (Munro & Derwing, 2008) or consonants (Munro, Derwing, & Thomson, 2015) produced in individual words. Alternatively, in studies dealing with global speech features (e.g., comprehensibility, fluency, and accentedness), listeners are typically asked to rate short speech samples using 9-point scales (Derwing & Munro, 2013). However, these methods may not be sensitive enough to capture phonetic development that occurs below the threshold of listener perception. Consequently, another popular approach is conducting acoustic analyses of speech features known to vary cross-linguistically, such as the degree of aspiration (i.e., the burst of air that occurs on the /p/ in "Peter") present on L2 stop consonants (Nagle, 2017). The choice of one method over the other hinges on the purpose of the research, but both approaches provide complementary views of development in terms of listener perception and the phonetic characteristics of L2 speech.

How do various pronunciation features develop over time?

Theoretical accounts of pronunciation learning such as the Speech Learning Model (Flege, 1995, 2003) argue that sounds that are similar but not identical in the native language (L1) and target language will be challenging to perceive and produce because L2 speakers might assume that the two sounds are equivalent. This, in turn, could lead to accented L2 speech patterns that are difficult to understand. Thus, in discussing how particular L2 sounds develop over time, it is important to bear in mind their degree of similarity to L1 sounds. While similar sounds may be resistant to change, research indicates that even sounds typically considered to be problematic such as the vowels in "bit" (/ɪ/) and "bet" (/ɛ/) may not be problematic at all, or may be problematic for only some learners (Munro & Derwing, 2008). Thus, the value of a one-size-fits-all approach to pronunciation learning and teaching has been questioned (Munro et al., 2015). In general, some amount of "automatic" development can be expected for most L2 sounds, in that speakers' production will improve somewhat even in the absence of explicit pronunciation

instruction. This may be particularly true of high functional load sounds, or sounds that are communicatively important because they are frequent in the L2 (Munro & Derwing, 2006). Because of these complexities, it is especially important that teachers consistently evaluate and monitor students' pronunciation progress. Even in cases of "automatic" development, learners may not reach a level of production that is optimal for intelligibility, in which case targeted training could be beneficial.

In terms of global dimensions of L2 speech, research suggests that the greatest changes in comprehensibility, fluency, and accentedness occur immediately after L2 speakers relocate to an area in which the L2 is spoken (Derwing & Munro, 2013). This initial period of massive L2 exposure has been characterized as a window of maximal opportunity (WMO) for pronunciation development (Derwing & Munro, 2015). At the same time, studies indicate substantial variation in individual learning over time (Derwing & Munro, 2013; Kennedy, Foote, & Dos Santos Buss, 2015), which could be linked to individual differences in willingness to communicate (WTC) in the L2 (Derwing & Munro, 2013; Derwing, Munro, & Thomson, 2008). Pronunciation development in the foreign language classroom seems to exhibit even more variability. While some research suggests that university learners' comprehensibility and accentedness improve over the first two years of language study (Nagle, 2018), individual differences in L2 input and exposure, aptitude, and motivation may play an especially important role in determining development in an instructed context (Baker Smemoe & Haslam, 2013; Saito, Dewaele, & Hanzawa, 2017; Saito & Hanzawa, 2016).

How do individual differences shape development?

Individual differences in cognition, aptitude, and affect shape how we experience the world, including how we interact with and process the L2. Recently, scholars have advocated for an integrated approach to individual differences, within which cognitive and socioaffective systems are seen as dynamic, interconnected, and context-sensitive (Dörnyei, 2009). It is easy to imagine how constellations of individual differences might interact to catalyze pronunciation learning. For instance, learners with greater phonological awareness (Kennedy, Blanchet, & Trofimovich, 2014; Venkatagiri & Levis, 2009) and superior self-perception skills (Trofimovich, Isaacs, Kennedy, Saito, & Crowther, 2014) may benefit more from a particular experience or instructional approach. Feelings of success and self-efficacy associated with learning might then enhance motivation, WTC, and other affective variables, resulting in a self-reinforcing cognition-affect loop that could facilitate high levels of attainment. Although this type of integrated, system-level research is still in its infancy (Serafini, 2017), there is evidence that certain motivational orientations, such as a desire to use the L2 in an imagined future career, are associated with improved comprehensibility (Saito et al., 2017). Likewise, in a narrative review of research examining individuals capable of passing as native speakers, Moyer (2014a) suggests that in these exceptional cases, a network of factors are at play, especially a high level of motivation and self-reflective learning strategies. The question that arises out of this body of

work is "How can language teachers leverage this information to support students' long-term pronunciation learning?" In this regard, a few concrete recommendations can be made.

First, teachers should devise assignments that help students notice the gap between similar L1 and L2 sounds while simultaneously promoting more accurate self-perception. Olson and Offerman (Offerman & Olson, 2016; Olson, 2014a, 2014b) provide a learner- and teacher-friendly approach to using Praat acoustic analysis software in the lower-level language classroom. The results of their research demonstrate that students gain better awareness of challenging L2 sounds and improve their pronunciation of those sounds by comparing their speech to a model using the visual representation that Praat provides. Moreover, the pronunciation activities that they provide were carried out in the target language (Spanish) and avoided technical terminology, both of which likely contributed to students' positive response to the software. There are also publicly available online platforms that facilitate a more individualized, autonomous approach, such as English Accent Coach (Thomson, 2018), a game-based platform that allows users to create an account and monitor their progress over time.

Second, in addition to these technology-enhanced approaches, teachers should strive to integrate into their daily lessons communicative activities that focus on pronunciation while creating opportunities for meaningful language use. Recently, researchers have proposed interactive alignment as a potentially valuable tool for pronunciation teaching (Trofimovich, 2016; Trofimovich, McDonough, & Kennedy, 2014). Interactive alignment is predicated on the notion that speakers accommodate one another, and that the extent of the accommodation (verbal and nonverbal) depends on a variety of linguistic, social, and contextual factors. In terms of pronunciation, if speakers converge on common speech patterns, then they will likely be more intelligible to one another, facilitating communication. Preliminary work on this topic indicates that convergence is more likely to occur on complex tasks that require a more balanced information exchange between participants (Trofimovich & Kennedy, 2014), and that alignment can lead to more accurate pronunciation output (Trofimovich, McDonough, & Foote, 2014). Regarding the latter, Trofimovich, McDonough, and Foote found that when a speaker produced a correct stress pattern for a multisyllabic word, the interlocutor was more likely to produce a correct stress pattern for the same word or a word bearing the same stress pattern.

Beyond the interactive alignment framework, many other pronunciation studies underscore the value of an interactive, task-based approach. For instance, Solon, Long, and Gurzynski-Weiss (2016) asked pairs of intermediate L2 Spanish learners to complete simple and complex map tasks in which invented street names were minimal pairs targeting Spanish vowels. Results suggested that the tasks encouraged interactional exchanges related to pronunciation (more so when learners were dealing with the simple map) and that the vowels produced during those interactions were closer to nativelike values. Overall, these studies demonstrate that students clearly benefit from pronunciation instruction. Nevertheless, an optimal approach requires a diverse pronunciation toolkit, a firm understanding of how pronunciation develops, and continuous assessment of students' abilities and needs.

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