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# Education, Culture, Biology, and Attitudes to the Foreign Accent

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## Abstract

Conventional attitudes and lack of information about the foreign accent can affect the culture and effectiveness of education. American colleges include large numbers of international and immigrant students who are likely to speak English with a foreign accent. These students often wrestle with negative attitudes to their non-native pronunciation, believing that it reflects upon their academic ability and their commitment to learning English. When insecurities about pronunciation inhibit students from speaking in class, they cannot become fully involved in the educational process. Non-native pronunciation of English may also influence students to underestimate their own academic potential. Using the orientation and methodology of Action Research, an intervention project was undertaken in a linguistics class in Bilingualism, with the purpose of encouraging students to develop a more realistic perspective on non-native speech. Students studied relevant facts and research information from linguistics, biology, and history. They learned how the foreign accent results from the integration of many first (native) language components into second language speech, and came to appreciate how normal language acquisition, in preparing the brain for the sounds of the native language, influences the pronunciation of new languages. This curricular intervention has provided students with a better understanding of the foreign accent and helped immigrant students to gain more confidence in their communicative skills.

*Keywords: Foreign Accent, Linguistics, Biology, Bilingualism, Culture*

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## 1 Introduction

Many United States colleges include large numbers of international and immigrant students, and often these students speak English with a foreign accent. According to student reports, their non-native pronunciation causes embarrassment, and many claim that they prefer not to participate in classroom discussions. When insecurities about pronunciation inhibit students from speaking in class, they cannot become fully involved in the educational process. Their reluctance to contribute to class discussions also deprives their peers of the opportunity to hear from immigrant students about their experiences and to appreciate their insights and ideas. Non-native pronunciation of English may also influence students to underestimate their own educational and communicative potential, motivating them to create a personal glass ceiling, limiting their educational and professional aspirations. Using the orientation and methodology of Action Research (AR), an informal intervention was done in a linguistics class in Bilingualism, focusing on the development of the foreign accent. The goal was to work with the designated curriculum, highlighting relevant facts from linguistics, biology, and history, to give students a more realistic perspective on the foreign accent. Class discussions and student journals indicate that an understanding of this information has helped immigrant students to gain more confidence in their communicative skills. It has also motivated their classmates who are native speakers to become more patient and supportive listeners.

## 2 Background

According to The National Center for Educational Statistics, eight to ten percent of United States undergraduates are immigrants. Of these students, 46% came as children, 20% as adolescents, and 34% as adults (Arbeit, Staklis, & Horn, 2016). About 85% of these students attend colleges in urban centers (Ruiz, 2014). Most of these immigrant students, excluding those who came at a young age, struggle with the implications of speaking with a foreign accent.

## 2.1 Attitudes of Students

Students with accents believe that their teachers have less respect for them, underestimate their academic potential, and fail to appreciate their commitment to learning English. These impressions are not incorrect. One student recently reported that an instructor suggested she drop his class because her accented English implied that her language skills were inadequate for the demands of the course. Moyer (2013) explains that sounding foreign influences others to judge speakers as less intelligent and economically disadvantaged. At the urban community college where I teach, students have used journals and essays to relate their experiences as immigrants in elementary and high school classrooms. In their writing, many reported that they were insecure about their oral language and described using various kinds of strategies to insure that they would not have to speak in class. In addition to accounts from student journals, I have visited other college classrooms and observed that second language (L2) college students often take seats in the back of the class, participating minimally or not at all.

Quotes from other researchers confirm the discomfort of students speaking with a foreign accent:

*I thought if I tried to speak I would say something wrong and pronounce a word wrong. They would laugh at me, tease me, whatever. So it took me a while before I could really use the language, just speak it (Ioga, 1995, p.83).*

*Actually I have a lot of very bad experience [sic] about my own pronunciation during school time.... I started to learn English when I was aged [sic] 11, ....., and my first English teacher forced me to pronounce one particular word in front of other students, but I couldn't, because that word is actually 'tree' t-r-e-e-, tree, and I pronounced it like 'teree' or something like that. I think it was quite okay, but he forced me to pronounce so many times....I was a child and I had just started to learn English. I lost motivation actually, and many students stared [sic] to laugh at me. It was quite a bad experience (Jenkins, 2005. p. 539).*

*...But if I ask questions the professor will say, 'I don't understand' and so that makes me very embarrassed. I don't ask questions anymore. I ask other students—I don't ask the professor---I just talk to the other students (Lee & Rice, 2007, p. 397).*

*I don't want to be thought as stupid or clumsy because of the way I pronounce English.... I always think of myself as very smart, but I sometimes I feel frustrated because I look stupid here, just because I can't speak fluently or speak with those, mm preferred pronunciation [sic] ...sometimes people are just impatient (Golombek & Jordan, 2005, p. 524).*

## 2.2 Attitudes in the Wider Community

These problems of the classroom are also seen in the wider community. According to some studies, immigrant professionals believe that possibilities for advancement are limited because of their oral speech. They cite experiences to illustrate that their non-native pronunciation and language identity affects their professional credibility (Harrison, 2013). The pervasiveness of accent reduction advertisements and business ventures also reflects concern about accented speech. A recent Google search yielded over six million entries for courses and online programs to modify the foreign accent. According to Derwing et al. (2014), this is a rapidly expanding but unregulated market which exploits a vulnerable population for financial advantage. Newman (2002) presents an example of how these services are described:

*(People) estimate the intelligence of others by the way they speak....Accents can hamper performance, can adversely influence advancement and promotion, and may be the source of concern and embarrassment (p.61).*

Another advertisement claims,

*Accents breed biases. Some people mistakenly hear laziness, or stupidity, in an accent (Solomon, 2000).*

The above quotes from advertisements are responding to the embarrassment and frustration of individuals who speak with a foreign accent. Students report their reluctance to ask questions or participate in class and describe worrying about being thought of as stupid or inarticulate. Individuals who underestimate their own communication abilities are reluctant to pursue higher levels of professional advancement (Harrison, 2013). L2 speakers are aware that knowledge of English provides social and economic advantages, sometimes referred to as Linguistic Capital, and are aware that their foreign accent diminishes the value of their language knowledge (Bourdieu, 1991; Heller 2010).

If non-native speakers of English are reluctant to express their perceptions and ideas, this creates a significant loss for all. Surely in the classroom, immigrant students should feel comfortable to participate in discussions, and their classmates should have the opportunity to hear their thoughts and opinions. Derwing, Rossiter, & Munro, (2002) have recognized this problem and have described programs where native-speaking students are given awareness training to change their judgments of accented speech. These initiatives are comparable to race-awareness and prejudice-awareness workshops presented to students and employees to improve race relations by diffusing implicit racist assumptions. The following discussion describes a different kind of intervention, using the methodology of Action Research in an educational environment, with the goal of creating a more realistic understanding of the foreign accent.

### **3 Methodology: Action Research**

Action Research (AR) developed in the 1950s, and was inspired by the social-psychology work of Kurt Lewin (Mills, 2018). Its goals are similar to those of Critical Action Research, which focuses on liberating individuals from barriers created by conventional ideas, and in the educational environment, to use knowledge to empower students and enhance their lives (Stringer, 2008). AR is often centered in the classroom, using the experience and expertise of teachers to find and share information to improve educational procedures (Bradbury-Huang, 2010). The basic methodology of educational AR is to identify a problem, and then to create a process to improve the situation. AR works well with small-scale and localized practices, and is well-suited to informal educational interventions such as the one described in this study (Mills, 2018).

#### **3.1 Classroom Intervention: Linguistics, Biology, and Historical Examples**

For several years, I have been aware that many immigrant students appeared uncomfortable speaking in class. Some confided in me that they were afraid to pursue certain majors because of their accent. These issues motivated me to develop an informal intervention as part of a linguistics class in Bilingualism, with the goal of improving bilingual students' attitudes to their language competence. For the intervention, we studied information from linguistics, biology, and a few historical examples to better understand why many L2 speakers have a foreign accent. This accent-focused curriculum has been in place for the last two years, with eight classes of 25 students, or a total of 200 students. Of these students, about half were immigrants, many speaking with accented speech. A large number of the others were children of immigrants, and so were very aware of the experiences of their parents and families when speaking with a foreign accent. Students responded with journals and essays, and also shared their personal experiences in the class.

The intervention was given as part of the curriculum and followed normal classroom procedures. Facts were presented and discussed, videos were shown to illustrate some of the linguistic and biological processes, and students shared responses in small groups and in the full classroom. Assigned journals and essays encouraged L2 students to discuss how the linguistic information reflected their own experiences in learning a second language and having a foreign accent. These were shared and discussed with other students, including those who were native or near-native speakers of English. Because this Bilingualism class is Writing Intensive (mandating extensive student writing), there were many opportunities for informal and formal writing, including personal reflections and responses to the academic material. As students became more comfortable with the writing assignments, they produced insightful descriptions of their own language acquisition, their feelings of insecurity and embarrassment, and how the information from the Bilingualism class curriculum had affected their attitudes to their own speech and to that of other immigrants.

The curriculum focused on several areas relevant to accented speech: Linguistic information about L2 phonological attainment; The effect of the first language on adult L2; Infant phonological flexibility; Pre-language brain reorganization to create sound categories; The perceptual magnet; Exceptional L2 success; and Shibboleth examples where accent becomes dangerous or fatal.

### **4 Linguistics Background: Information about L2 Development**

We know that accented speech is likely to be a factor in the development of any L2 adult, and will frequently remain as a characteristic of their speech. Although there is considerable variation in L2 achievement, research shows that most people who learn a L2 after puberty rarely sound exactly like a native speaker. If the L2 is acquired after the age of 15, there are generally noticeable pronunciation differences (Flege, MacKay, & Piske, 2002). According to Brown (2016),

*Virtually all the research shows that the chances of a person beginning a second language after puberty and achieving a scientifically verifiable authentic accent are slim (p.58).*

Moyer (2014) concurs,

*Beyond the age of about 9-10 years...it is particularly unusual to reach a level of pronunciation ability that qualifies as consistently "native" or "near native" (p.444).*

In fact, even children exposed to a L2 as young as age five or six may show some differences in pronunciation (Marinova-Tood, Marshall, & Snow, 2000).

#### **4.1 The Effect of the First Language**

Current research shows that the foreign accent results from the integration of many first language components into second language speech. The impact of the mother's language on an individual is very significant and is likely to persist for a lifetime. It starts before birth, in the last three months of pregnancy, when babies develop the ability to hear sounds and also to remember what they have heard. So, while still in the womb, the baby becomes familiar with the sounds of the mother's voice and the sounds of her language (Choi, Cutler, & Broersma, 2017; De Houwer, 2009; Moon, Lagercrantz, & Kuhl, 2013). As soon as babies are born, they show a preference for the mother's voice (Kisilevsky et al., 2003). They also prefer the mother's language, even when it is spoken by a person who is not their mother (de Boysson-Bardies, 2001; Moon, et al., 2013).

#### **4.2 Infant Phonological Flexibility: "Citizen of the World"**

In the first months of life, which can be thought of as the pre-language stage, the baby maintains a preference for the mother's language but is also prepared to learn to speak any of the world's languages. Newborns have the phonological flexibility to recognize, distinguish, and eventually learn to pronounce the phonemes (sound categories) of any of the human language (Kuhl, 2010a; 2010b; 2011). This is a remarkable talent, as the 7,000

world languages contain approximately 600 consonants and 200 vowels, organized into a set of 40 phonemes (Ladefoged & Disner, 2012). It is also remarkable because adults do not have this talent.

Every language is made up of a set of phonemes, which distinguish one word from another. For example /sh/ and /tch/ are different phonemes in English, providing a lexical contrast between the words *wash* and *watch*, which are different words with different meanings. Sound contrasts that are important in one language may not exist as separate phonemes in another language. For example, English phoneme distinctions enable speakers to contrast sounds like /v/ and /b/ or /r/ and /l/, making it possible to hear the difference between the words *vase* and *base* or *right* and *light*. On the other hand, the *v/b* distinction in the English *vase/base* example does not exist in Spanish, and so a native speaker of Spanish might not recognize the difference between these two words. Likewise, and the *r/l* distinction does not exist in Japanese and consequently a native speaker of Japanese would find it difficult to hear the difference between *right* and *light*.

There are also phonemes which occur in one language but are not a part of the category of sounds of a different language. An example would be the /th/ sound, which is ubiquitous in English, but is not a phoneme in some other languages, such as Russian. In the same way, other languages have sounds that are not phonemes of English. Some examples are the rolled /r/ in Spanish, the /u/ sound in the French word *tu*, the click sounds used in some South African languages, and the high and low tones in Chinese (Gleason & Ratner, 2016; Zhang et al., 2000). Babies can recognize the sound categories and phonemic distinctions of every language, regardless of the languages they hear in their environment. As a result of the special talent of recognizing sound categories and distinctions from any of the world's languages, Kuhl (2010a) describes babies as "Citizens of the World."

### 4.3 Sound Category Recognition: "Language-Bound Listener"

Unfortunately, it is not possible to combine "Citizen of the World" status with human speech, and after about six months, the child's brain begins to organize language input from the environment. A pattern-matching process is used to create the necessary phonetic speech categories for the child's language(s), and sound categories that are not relevant to the child's language(s) are ignored. This same pattern-matching process, essential for developing the child's language, will remain with the individual, and will later affect the perception and production of new languages, causing foreign-accented speech.

Patricia Kuhl (2010a) uses the term "Language-Bound Listener" to characterize the category-organizing stage of baby language development. After about six to eight months, babies begin to focus on the phonemes of their own language (or languages for bilinguals) and to ignore other language sounds and sound contrasts (Kuhl et al., 2006; Pakaluk & Neville, 2011). This has been described as a statistical process, in which infants build up statistical distributions of the language sounds they hear, eventually solidifying them into stable categories (Kuhl, 2010a; 2010b; 2011). In this process, their phonemic distributions stabilize, and neural connections for sounds not included in these categories weaken and eventually disappear (Strange & Shafer, 2008). Monolingual babies become "Language-Bound Listeners" in one language, and bilingual/multilingual babies become "Language-Bound Listeners" in their various languages (De Houwer, 2009; Sebastian-Galles & Bosch, 2005; Serratrice, 2012; Werker & Byers-Heinlein, 2008).

This brain reorganization from "Citizen of the World" to "Language-Bound Listener" is critical to the process of speech. Research shows that babies who show early evidence of narrowing their phonetic inventory will also show rapid success in learning to speak (Kuhl et al., 2005; White et al., 2013). However, this brain reorganization also becomes very relevant at a later time, when an adult wants to learn a new language. Most people assume that the foreign accent is about speaking and pronunciation, but in reality it is predominantly caused by the perception of language sounds. Older learners come to the new language after years of experience with established sound categories. Consequently, they may have a difficult time hearing and pronouncing sounds and sound contrasts that do not occur in their native language and will need to create new sound categories to process the new language.

### 4.4 The Perceptual Magnet: "The Magnet Effect"

As babies establish stable sound categories, they begin to recognize familiar sounds by the use of a process described as a native-language perceptual magnet (Kuhl & Iverson 1995), which is sometimes called the "Magnet Effect." Using the "Magnet Effect," babies attach the language sounds they hear to the closest sound category in their inventory of phonemes (Kuhl, et al., 2008). The "Magnet Effect," has been described as a pattern-matching process in which the child recognizes the familiar, generalizes to the similar, and adapts to the novel (Kleinschmidt & Jaeger, 2015). For the child who is beginning to talk, the "Magnet Effect" is an important resource for understanding different speakers, enabling them to accommodate individual language variations due to accent, style, dialect, gender, volume, affect, etc. (Kitamura, Panneton, & Best, 2013; Kleinschmidt, & Jaeger, 2015; Schmale, et al., 2010).

In learning any new language, adults will also employ the "Magnet Effect," which influences how they hear new sound categories. For example, when learning English, monolingual Spanish language adults will have difficulty in hearing the *v/b* distinction and, using the "Magnet Effect," to process new sounds with their established sound categories, are likely to hear the English words *vase* and *base* as the same word. The Japanese *l/r* difficulties present another listening example. In acquiring their native language, Japanese children develop a sound category which groups the phonetic units, /r/ and /l/, into a single phonemic category, called the Japanese /r/ (Kuhl, 2010b). Later, when learning English, Japanese language adults will have difficulty in hearing a difference between /r/ and /l/ and will probably hear the English words *right* and *light* as the same word (De Houwer, 2009; Zhang et al., 2000).

The "Magnet Effect" influences production as well as perception, and influences speakers to incorrectly pronounce certain words. When speaking a new language, the older brain compensates for the difficulty of processing new language sounds by resorting to the "Magnet Effect," which was so helpful in aiding young children to cope with speaker variability. As a result, instead of creating new accurate sound categories, older learners

recruit sounds from the L1 sound categories and attach them to similar sounds in the L2. In this way, *this* is likely to be pronounced as *dis* or *ziss*, *Washington* becomes *Vashington*, *when* becomes *ven*, *watch* becomes *wash*, and *yellow* becomes *jello*

The foreign accent results from the integration of many different L1 language components into L2 speech. Both the quality of certain phonetic entities and differences in prosody (rhythm, stress, intonation) contribute to these L2 characteristics (Keeley, 2016). However, the lack of the ability to recognize and produce critical sounds and sound contrasts, and the “Magnet Effect,” replacing L2 sounds with L1 substitutes, is a significant factor and one that can be extremely tenacious. Although some foreign language sounds are difficult to pronounce, frequently the “Magnet Effect” is more about hearing than speaking. As an example, Spanish speakers often pronounce *yes* as *jes* and *New York* as *New Jork*, in spite of the fact that these same speakers may have no difficulty in pronouncing the /y/ sound in other speech contexts.

#### **4.5 Current Information about Brain Research and Accented Speech**

As neuro-science and brain imaging techniques have become more sophisticated, they have been able to corroborate the research describing the development of the L2 accent, providing visual evidence for the processes described as “Citizen of the World”, “Language-Bound Listener”, and the “Magnet Effect.” In a study by Berken, Gracco, and Klein (2017), neuro-scientists describe how brain structures differ in early and late bilinguals, showing why older L2 learners have difficulties in hearing and producing new language sounds. Ramirez, et al. (2016) have studied the difference between the brains of monolingual and bilingual babies. Using brain imaging, they have shown the specific brain developments that account for the perceptual narrowing to exclusively accommodate the phonemic categories of the native language, which we have described as the “Language-Bound Listener.” They also show that these “Language-Bound Learner” brain developments are different for monolinguals and bilinguals. Bilingual babies take longer for the perceptual narrowing process, as they must be prepared to respond to a wider range of phonemes. Bilingual baby development also results in expanding this particular area of the brain, extending it into a different region. In a neural-processing study of L2 speech, Archila-Suerte, Zevin, and Hernandez (2015) produced images that depict the “Magnet Effect.” They have reported brain-imaging results illustrating that accented L2 speech is the result of errors in perceiving and producing new speech sounds, as well as mistakes with incorrect or overlapping phonemic categories.

### **5 Individual Variation and the “Magnet Effect”**

Information from linguistics and biology suggests that a foreign accent may be inevitable. However, we have counterexamples of exceptional bilingual achievement to suggest that what is true for many individuals is not necessarily the case for all. On the other hand, we also have examples of well-educated and successful individuals who have achieved a high level of English skill, but still retain accented speech. These differing examples illustrate the variability in L2 pronunciation acquisition. However, they ultimately reinforce the linguistic position that most L2 adults are likely to speak with some kind of a foreign accent. In fact, history shows us several Shibboleth examples where accented speech cannot be modified in spite of its dangerous or even fatal implications.

#### **5.1 Exceptional Achievers**

Most, though not all, linguists accept that biological realities imply that older non-native speakers will have some degree of accented speech. Generally, the accent improves with practice and experience in the new language, but there is a great deal of variability in how close the speech comes to native-like pronunciation. With good instruction and feedback, it is possible to get significant gains in intelligibility and comprehensibility, but in most cases the accent remains, and difficult pronunciation obstacles may persist (Derwing et al., 2002). In certain situations, special pronunciation training has been shown to be helpful, but there are many counter examples in which even intensive training has not been successful (Birdsong, 2006; Bongaerts, 1999; Rubin, 1992; Zhang et al., 2000). Moyer, in *Foreign Accent: The Phenomenon of Non-Native Speech* (2013), describes many methods used for accent reduction. She reports that most of these phonological interventions have mixed results, as they are still in the exploratory stage.

Nonetheless, there is a small but significant subset of linguists who reject arguments of biology. A few important research studies have found examples of highly successful language learners who have achieved near-native L2 acquisition, including a native-like accent (Birdsong, 2006; Ioup et al., 1994; Keeley, 2016; Marinova-Todd, 2003; Niklov, 2000). Birdsong (2006) cites studies in which non-native speaking subjects scored the same as native-speaking subjects in all areas, including pronunciation, grammar, vocabulary, and language use, and where from zero percent to 45.5 percent of the adults were able to perform equal to native speakers. Lastly, the existence of double agents and spies, who are able to learn languages well enough to pass as members of another group, presents another example of highly successful L2 phonological acquisition.

For older learners, there are three important requirements for success: Education, good ESL instruction, and a large amount of time with native speakers (Flege & Liu, 2001; Munoz & Singleton, 2011; Saviile-Troike, 2012). Highly successful adult L2 acquisition generally results from extensive practice and training, as well as significant exposure to native speakers (Bongaerts, 1999; Munoz & Singleton, 2011). Studies suggest that it may take 10,000 hours of practice to achieve a high level of expertise at complex skills like sports, music, and chess (Ericsson, Prietula, & Cokely, 2007). We can assume that this 10,000 hour requirement might also apply to perfecting a new language. Related studies also show that devoting time to improving the language is essential, but that time alone is not enough. Outstanding language acquisition also requires focused practice, with clear goals and good feedback to correct errors (Butler & Hakuta, 2004; Ericsson, 2006; Hernandez, 2013).

The profile of a good adult non-native speaker is someone who speaks the L2 regularly, using it so frequently that he or she is likely to become language dominant in the adopted language. These individuals have a strong sense of identity with the L2 language and culture, show a deep commitment to the target language, and have a strong desire to sound like a native speaker. Many aspire to linguistic and cultural assimilation, and may ultimately shift to the L2 for most of their linguistic activities (Hylestamm & Abrahamsson, 2001; Muñoz, & Singleton, 2011). Some may pursue L2 assimilation to the extent of losing connections to friends, family, or even the L1 community (Munoz & Singleton, 2008). Getting

married also appears to be helpful, and people who have a native-speaking husband or wife are often able to achieve high levels of L2 proficiency (Munoz & Singleton, 2011).

## 5.2 The “Magnet Effect” and High Achieving Non-Native Speakers

Aside from studies identifying gifted and highly-motivated language learners, we can also find many historical figures who have achieved impressive levels of L2 skill but have nonetheless retained foreign-accented speech. For example, Henry Kissinger, the former United States Secretary of State, speaks English with a heavy German accent (Brown, 2016). Roman Jakobson, considered to be one of the greatest linguists in the 20<sup>th</sup> century, read 25 languages and was said to be fluent in 6 languages—all in Russian. “Jakobson is a peculiar man,” an envious fellow linguist once remarked, “He speaks Russian fluently in six languages” (New York Times, 1982). Joseph Conrad is often recognized as the prototypical example, engendering the term, the “Joseph Conrad Phenomenon.” This renowned author learned English in his late teens, wrote with a perfect command of grammar and style, but still retained his Polish accent when speaking (Scovel, 1988). For these individuals, education and commitment to the target language did not result in unaccented L2 speech. They provide examples of the powerful influence of the “Magnet Effect.”

## 5.3 The “Magnet Effect” and History

History shows that the foreign accent and the “Magnet Effect” is a reality for many individuals, even when it can have fatal consequences. We can cite the biblical example of the Ephraimites, who did not have the /sh/ sound in their language and pronounced the word *shibboleth* as *sibbolith*. This pronunciation identified them as enemies, and they were slain.

*The Gileadites captured the fords of the Jordan leading to Ephraim, and whenever a survivor of Ephraim said, “Let me cross over,” the men of Gilead asked him, “Are you an Ephraimite?” If he replied “No,” they said, “All right, say Shibboleth: If he said, “Sibboleth,” because he could not pronounce the word correctly, they seized him and killed him at the fords of the Jordan. Forty-two thousand Ephraimites were killed at that time (Judges 12).*

The biblical example gave us the word *shibboleth*. We also have *shibboleth* examples in the 20<sup>th</sup> century, where accented speech was used to identify outsiders or possible enemies, sometimes with deadly results. In the Parsley Massacre (*el corte*) in the Dominican Republic in October, 1937, the dictator, Rafael Trujillo, promoting anti-Haitian sentiment, ordered and encouraged Dominicans to murder Haitians. During a five day period, Creole-speaking Haitians were rounded up and asked to pronounce the word *perejil* (Spanish for parsley). Those who could not trill the /r/ were identified as outsiders. The trilled /r/ is a difficult sound for Haitian Creole speakers (and many other non-native speakers of Spanish). When the Haitians did not pronounce the Spanish word properly, they were killed with machetes and bayonets. Historians have estimated that between 9,000 and 30,000 civilians lost their lives in this deplorable event (Langley, 2016).

There are also *shibboleth* stories from World War II, where foreign pronunciation was used to identify individuals trying to hide their identity. In Holland, people were asked to pronounce the name of a Dutch city, *Scheveningen*, to ferret out Germans posing as Dutch. Native Dutch speakers pronounce /sch/ with separate /s/ and /ch/ sounds while Germans pronounce it with a single /sh/ sound. It appears that Germans cannot even hear the difference between the two pronunciations, but for the Dutch, the mispronunciation was clear evidence that the person was a native speaker of German. It is also reported that Allied military intelligence used the word *lalapaloosa* to trap Japanese who posed as Chinese. Generally, native Chinese speakers will pronounce the /l/ sounds as /l/, whereas native Japanese speakers are likely to hear and pronounce the /l/ sounds as /r/ (Reid et al., 2010; Schmid, 2011).

## 6 Results and Discussion

The purpose of this intervention study was to use information from linguistics, biology, and history to give students a more realistic perspective on the foreign accent. Another goal, reflecting the focus of Critical Action Research, was to give students a broader appreciation of language and communication, and to empower immigrant students to use their L2 voices with confidence. The journal responses and student discussions indicate that most L2 students reached a better understanding of the reasons for the foreign accent, and as a result were more secure in speaking—at least in the Bilingualism class. In addition, group work and discussions revealed that the native-English speakers became much more understanding and respectful of their L2 classmates. In fact, several announced their desire to learn another language.

More people speak English as a second language than speak English as a first (native) language (Crystal, 2012). With globalization and global English, native-speaker norms may become less stringent and varieties of English spoken by non-native speakers will eventually become increasingly familiar and acceptable. It is now evident that native speakers can no longer be thought of as the exclusive owners of English. Biology suggests that accented speech is probably to be expected for most L2 adults. The argument is not whether there are fixed biological limitations which make native-like L2 speech impossible. It is instead that there are biological processes that make accented L2 speech more likely. It would be more realistic if educational, social, and cultural attitudes accommodated this information.

Examples of high achieving, near native-speaking individuals should not detract from the fact that accented speech is likely to be the norm for most L2 adults. In fact, examples of highly successful L2 acquisition, including unaccented speech, may be seen as ‘exceptions that prove the rule,’ as they require strenuous and specific circumstances that are not possible for most adult L2 individuals and are generally not available to students in our college classrooms. Moreover, they cannot prove that every L2 adult who is fortunate enough to have these opportunities will acquire unaccented L2 speech (Piske, MacKay, & Flege, 2001). Surely, they are not a realistic goal for students who may improve their pronunciation through the years, but have only a short window of time to participate in an educational environment. Moreover, the descriptions of the highly successful language learners do not fit the profile of the typical college student, who is unlikely to have the time for extensive practice and training,

and does not have the economic resources to hire a professional coach. In addition, many do not have outside opportunities to interact with native speakers and, in fact, may live with older relatives who do not speak English.

According to Moyer (2013, p. 81), those individuals achieving a near-native level in pronunciation “felt a deep connection to the target language.” However, not all immigrants identify strongly with the L2 culture and not all aspire to cultural assimilation. Many maintain close and valued relationships with friends and family in the L1 community. Students who choose to make a strong affiliation with the L2 culture may try harder, listen harder, and work harder, and may consequently arrive at a better pronunciation accuracy. We cannot discount the effect of motivation in the results of any learning endeavor. But as professors, we cannot teach this kind of commitment, nor can we expect a student to be eager to form a deep allegiance to the L2 culture.

One might also question whether accounts of exceptionally proficient individuals belong more to the realm of musical geniuses and Olympic athletes than to discussions about college students and other L2 individuals. In addition to the examples of double agents and spies, many actors also demonstrate accent-reducing expertise, and have learned to modify their speech for specific roles and performances. For such language learners, the commitment to speaking like a native is crucial to success in their careers. Notwithstanding what may be an innate linguistic talent, they devote strenuous efforts to immerse themselves in the L2 and receive frequent feedback about their pronunciation on a one-on-one basis from native language coaches. One wonders if those who reject arguments of biology have taken this into consideration.

Discussions emphasizing the importance of motivation or citing examples of high achieving individuals also reflect outdated ideas of bilingualism, as they are based on the concept of a “Monolingual Model,” which implies that successful bilinguals would have similar competencies in both (or all) of their languages, competencies which are evaluated using native-speaker norms. Contemporary linguists find this model to be an inaccurate description of how bilinguals actually use their languages, preferring the “Dynamic Model,” in which a speaker’s languages have various competencies and skills, depending on the situation and the individual (Baker & Wright, 2017; Garcia, 2011).

The “Dynamic Model” corresponds to the facts of linguistics, biology, and history. It is a better model for those highly educated and accomplished individuals who continue to speak with a foreign accent. It is surely the most convincing model for the Shibboleth examples, where individuals have lost their lives because of their inability to modify their non-native speech. It is also more suitable for L2 English speakers around the world, who currently outnumber native speakers. In terms of this intervention study, it is a superior model for college students. Looking at bilingual language through the lens of the “Dynamic Model” is the most appropriate way to validate the L2 college experience. It can change our assumptions about successful language acquisition and can encourage students to use their voices to participate in classroom discussions, sharing their ideas and wisdom.

## **7 Conclusion: Student Responses**

The goal of this intervention was to use linguistic, biological, and historical information to show both native and non-native speakers that foreign accents are the natural result of adult L2 acquisition. An additional objective was to encourage students to avoid thinking of bilingualism as a deficit and instead to regard it as an important cultural asset. As a result of this educational experience, students had a better understand of communication as a two-way process, with speakers who endeavor to be clear and comprehensible, but also requiring listeners who are patient, respectful, and actively trying to understand the message.

Linguistic, biological, and historical information about accented speech can be very liberating, and important to the self-esteem of L2 students. Armed with knowledge and facts, their pronunciation of English is no longer seen as a deficiency or as a sign of their lack of academic commitment. Moreover, an understanding of the biological processes influencing L2 language acquisition can help our native-speaking students to be more compassionate and supportive to their L2 peers. A more realistic understanding about the foreign accent can make a difference in the quality of classroom interactions, because when all students participate fully, everyone can share their ideas and experiences.

From student reports, we can see that the information and discussions helped to improve the confidence of L2 students, enabling them to understand their pronunciation of English as a natural development in their acquisition of a new language. They were also able to recognize their accented speech as part of their bilingual identity and evidence of their ability to speak more than one language.

*Being honest, at some point I was embarrassed of [sic] my accent but later on I did not care more [sic] about it. I understood that an accent does not define your capacity as a person and does not determines [sic] how smart or capable you are.*

*For as long as I learn a language I will always have my accent. Sometimes we can imitate the accent of other cultures, but there are some words that will always reveal our identity.*

*One of my greatest weaknesses in English is my speaking skills....It's difficult because I have an accent... ...When it comes to class I participate, I'm not afraid, I'm not intimidated by the fact that I have an accent and my English it's [sic] not perfect, I'm not ashamed of the fact that I'm an ESL student.*

*I believe accents are sort of a reminder of where a person comes from.*

*These stories show how determination and effort can help you to improve foreign accent, but it also shows how difficult it is to fit in society when you do not talk with the same phonetic [sic] as Caucasians do. People often tend to make you feel dumb or embarrassed about yourself because you have some kind of limitation in the new language.*

*However, thanks to this course I learned that I have to feel proud of my accent because it shows that I speak more than one language and my accent is part of who I am. Also, my accent is a reflection of a sophisticated and extraordinary job done by my brain. This is an [sic] extraordinary information that all people in the world should know.*

## References

- Arbeit, C. A., Staklis, S., & Horn, L. (2016). New American undergraduates: Enrollment trends and age at arrival of immigrant and second-generation students. *Stats in Brief*. NCES 2017-414. *National Center for Education Statistics*
- Archila-Suerte, P., Zevin, J., & Hernandez, A. E. (2015). The effect of age of acquisition, socioeducational status, and proficiency on the neural processing of second language speech sounds. *Brain and language*, *141*, 35-49.
- Baker, C. & Wright, W.E. (2017). *Foundations of Bilingual Education and Bilingualism* (Vol. 106). Multilingual matters.
- Berken, J. A., Gracco, V. L., & Klein, D. (2017). Early bilingualism, language attainment, and brain development. *Neuropsychologia*, *98*, 220-227.
- Birdsong, D. (2006). Age and second language acquisition and processing: A selective overview. *Language Learning*, *56*(s1), 9-49.
- Bongaerts, T. (1999). Ultimate attainment in L2 pronunciation: The case of very advanced late L2 learners. *Second Language Acquisition and the Critical Period Hypothesis*, 133-159.
- Bourdieu, P. (1991). *Language and Symbolic Power*. Harvard University Press.
- Bradbury-Huang, H. (2010). What is good action research? Why the resurgent interest? *Action Research*, *8*(1), 93-109.
- Brown, H. D. (2016). *Principles of Language Learning and Teaching*. White Plain, NY: Pearson Education.
- Butler, Y. G., & Hakuta, K. (2004). Bilingualism and second language acquisition. *The Handbook of Bilingualism*, 114-144.
- Choi, J., Cutler, A., & Broersma, M. (2017). Early development of abstract language knowledge: Evidence from perception-production transfer of birth-language memory. *Open Science*, *4*(1), 160660.
- Crystal, D. (2012). *English as a Global Language*. Cambridge University Press.
- de Boysson-Bardies, B., & DeBevoise, M. B. (2001). *How Language Comes to Children: From Birth to Two Years*. MIT Press.
- De Houwer, A. (2009). *Bilingual First Language Acquisition*. Multilingual Matters.
- DeKeyser, R. M. (2000). The robustness of critical period effects in second language acquisition. *Studies in Second Language Acquisition*, *22*(04), 499-533.
- Derwing, T. M., Rossiter, M. J., & Munro, M. J. (2002). Teaching native speakers to listen to foreign-accented speech. *Journal of Multilingual and Multicultural Development*, *23*(4), 245-259.
- Derwing, T. M., Fraser, H., Kang, O., & Thomson, R. I. (2014). L2 accent and ethics: Issues that merit attention. In *Englishes in Multilingual Contexts* (pp. 63-80). Springer, Dordrecht.
- Ericsson, K. A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. *The Cambridge Handbook of Expertise and Expert Performance*, 683-703.
- Ericsson, K. A., Prietula, M. J., & Cokely, E. T. (2007). The making of an expert. *Harvard Business Review*, *85*(7/8), 114.
- Fllege, J. E., & Liu, S. (2001). The effect of experience on adults' acquisition of a second language. *Studies in Second Language Acquisition*, *23*(04), 527-552.
- Fllege, J. E., MacKay, I. R., & Piske, T. (2002). Assessing bilingual dominance. *Applied Psycholinguistics*, *23*(04), 567-598.
- García, O. (2011). *Bilingual Education in the 21st Century: A Global Perspective*. John Wiley & Sons.
- Gleason, J. B., & Ratner, N. B. (2016). *The Development of Language*. Pearson.
- Golombek, P., & Jordan, S. R. (2005). Becoming "black lambs" not "parrots": A poststructuralist orientation to intelligibility and identity. *Tesol Quarterly*, *39*(3), 513-533.
- Harrison, G. (2013). "Oh, you've got such a strong accent": Language identity intersecting with professional identity in the human services in Australia. *International Migration*, *51*(5), 192-204.
- Hernandez, A. E. (2013). *The Bilingual Brain*. Oxford University Press.
- Heller, M. (2010). Language as resource in the globalized new economy. *The Handbook of Language and Globalization*, 347-365.
- Ioga, C. (1995). *The Inner World of the Immigrant Child*. New York: St. Martins Press.
- Ioup, G., Boustagui, E., El Tigi, M., & Moselle, M. (1994). Reexamining the critical period hypothesis. *Studies in Second Language Acquisition*, *16*(01), 73-98.
- Jenkins, J. (2005). Implementing an international approach to English pronunciation: The role of teacher attitudes and identity. *Tesol Quarterly*, *39*(3), 535-543.
- Keeley, T. D. (2016). Is a native-like accent in a foreign language achievable? Examining neurological, sociological, psychological, and attitudinal factors. *九州産業大学経営学会経営学論集*, *26*(4), 59-92.
- Kisilevsky, B. S., Hains, S. M., Lee, K., Xie, X., Huang, H., Ye, H. H., ... & Wang, Z. (2003). Effects of experience on fetal voice recognition. *Psychological Science*, *14*(3), 220-224.
- Kitamura, C., Panneton, R., & Best, C. T. (2013). The development of language constancy: Attention to native versus nonnative accents. *Child Development*, *84*(5), 1686-1700.
- Kleinschmidt, D. F., & Jaeger, T. F. (2015). Robust speech perception: Recognize the familiar, generalize to the similar, and adapt to the novel. *Psychological Review*, *122*(2), 148.
- Kuhl, P. (2010). The linguistic genius of babies. *TED Talks*.
- Kuhl, P. K. (2010). Brain mechanisms in early language acquisition. *Neuron*, *67*(5), 713-727.
- Kuhl, P. K. (2011). Early language learning and literacy: Neuroscience implications for education. *Mind, Brain, and Education*, *5*(3), 128-142.
- Kuhl, P. K., Conboy, B. T., Coffey-Corina, S., Padden, D., Rivera-Gaxiola, M., & Nelson, T. (2008). Phonetic learning as a pathway to language: New data and native language magnet theory expanded (NLM-e). *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, *363*(1493), 979-1000.
- Kuhl, P. K., Conboy, B. T., Padden, D., Nelson, T., & Pruitt, J. (2005). Early speech perception and later language development: Implications for the "critical period". *Language Learning and Development*, *1*(3-4), 237-264.
- Kuhl, P. K., & Iverson, P. (1995). Linguistic experience and the "perceptual magnet effect". *Speech Perception and Linguistic Experience: Issues in Cross-Language Research*, 121-154.
- Kuhl, P. K., Williams, K. A., Lacerda, F., Stevens, K. N., & Lindblom, B. (2006). Linguistic experience alters phonetic perception in infants by 6 months of age. *Foundations of Pediatric Audiology*, 71
- Ladefoged, P., & Disner, S. F. (2012). *Vowels and Consonants*. John Wiley & Sons.
- Langley, E. (2016). Performing postmemory: Remembering the parsley massacre in "nineteen thirty-seven" and song of the water saints. *The Latin Americanist*, *60*(1), 63-77.
- Lee, J. J., & Rice, C. (2007). Welcome to America? International student perceptions of discrimination. *Higher education*, *53*(3), 381-409.
- Marinova-Todd, S. H. (2003). Native, near-native or non-native: Comprehensive analysis of the linguistic profiles of highly proficient adult second language learners. *Unpublished manuscript, Harvard Graduate School of Education*.
- Marinova-Todd, S. H., Marshall, D. B., & Snow, C. E. (2000). Three misconceptions about age and L2 learning. *TESOL Quarterly*, *34*(1), 9-34.
- Mills, G. E. (2018). *Action Research: A Guide for the Teacher Researcher*. Prentice-Hall, Inc., One Lake Street, Upper Saddle River, New Jersey 07458.
- Moon, C., Lagercrantz, H., & Kuhl, P. K. (2013). Language experienced in utero affects vowel perception after birth: A two-country study. *Acta Paediatrica*, *102*(2), 156-160.
- Moyer, A. (2013). *Foreign accent: The Phenomenon of Non-Native Speech*. Cambridge University Press.



- Moyer, A. (2014). What's age got to do with it? Accounting for individual factors in second language accent. *Studies in Second Language Learning and Teaching*, 3(4), 443-464.
- Newman, Barry. (2002). Accent. (Short Story). *American Scholar*, 71(2), 59-69.
- Muñoz, C., & Singleton, D. (2011). A critical review of age-related research on L2 ultimate attainment. *Language Teaching*, 44(01), 1-35.
- Nikolov, M. (2000). The critical period hypothesis reconsidered: Successful adult learners of Hungarian and English. *IRAL-International Review of Applied Linguistics in Language Teaching*, 38(2), 109-124.
- Pakulak, E., & Neville, H. J. (2011). Maturational constraints on the recruitment of early processes for syntactic processing. *Journal of Cognitive Neuroscience*, 23(10), 2752-2765.
- Piske, T., MacKay, I. R., & Flege, J. E. (2001). Factors affecting degree of foreign accent in an L2: A review. *Journal of Phonetics*, 29(2), 191-215.
- Reid, S. A., Zhang, J., Giles, H., & Harwood, J. (2010). Chapter twenty-two. *The Dynamics of Intergroup Communication*, 8, 277.
- Roman Jackson (Jackobson), A Scholar of Linguistics, is Dead, Obituary, 1988, July 23, p. B00008. Retrieved from <https://www.nytimes.com/1982/07/23/obituaries/roman-jackson-a-scholar-of-linguistics-is-dead.html>
- Rubin, D. L. (1992). Nonlanguage factors affecting undergraduates' judgments of nonnative English-speaking teaching assistants. *Research in Higher Education*, 33(4), 511-531.
- Ruiz, N. G. (2014). The geography of foreign students in US higher education: Origins and destinations. *Global Cities Initiative: A Joint Project of Brookings and JPMorgan Chase*
- Saville-Troike, M. (2012). *Introducing Second Language Acquisition*. Cambridge University Press.
- Schmale, R., Cristià, A., Seidl, A., & Johnson, E. K. (2010). Developmental changes in infants' ability to cope with dialect variation in word recognition. *Infancy*, 15(6), 650-662.
- Schmid, M. S. (2011). *Treacherous shibboleths: Language as an indicator of origin*. Rijksuniversiteit Groningen, Faculteit der Letteren.
- Scovel, T. (1988). *A Time to Speak: A Psycholinguistic Inquiry into the Critical Period for Human Speech*. Newbury House Publishers.
- Sebastián-Gallés, N., & Bosch, L. (2005). Phonology and bilingualism. *Handbook of Bilingualism: Psycholinguistic Approaches*, 68-87, Chapter 4.
- Serratrice, L. (2012). The bilingual child. *The Handbook of Bilingualism and Multilingualism, Second Edition*, 85-108.
- Strange, W., & Shafer, V. L. (2008). Speech perception in second language learners: The re-education of selective perception. *Phonology and Second Language Acquisition*, 36, 153-192.
- Stringer, E. T. (2008). *Action Research in Education*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Solomon, Chris. (2000). Speech classes place the accent on understanding. *The Record* (Bergen County, NJ), Dec. 12, 2000, A32.
- Werker, J. F., & Byers-Heinlein, K. (2008). Bilingualism in infancy: First steps in perception and comprehension. *Trends in Cognitive Sciences*, 12(4), 144-151.
- White, E. J., Hutka, S. A., Williams, L. J., & Moreno, S. (2013). Learning, neural plasticity and sensitive periods: implications for language acquisition, music training and transfer across the lifespan. *Frontiers in Systems Neuroscience*, 7, 90.
- Zhang, Y., Kuhl, P. K., Imada, T., Iverson, P., Pruitt, J., Kotani, M., & Stevens, E. (2000). Neural plasticity revealed in perceptual training of a Japanese adult listener to learn American/ir/contrast: a whole-head magnetoencephalography study. In *Interspeech* (pp. 953-956).