

REIMAGINING BILINGUAL ACQUISITION AND THEORY: AN INSIDER PERSPECTIVE
THROUGH A TRANSLANGUAGING LENS

by

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A Thesis Submitted to the Faculty of the

DEPARTMENT OF SPEECH, LANGUAGE, AND HEARING SCIENCES

In Partial Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

In the Graduate College

THE UNIVERSITY OF ARIZONA

2022

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

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
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LAND ACKNOWLEDGEMENT

We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native Nations and Indigenous communities through education offerings, partnerships, and community service.

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Abstract

Purpose: This is an exploratory study evaluating the differences in findings when reinterpreting data that was once studied under a Dual Systems Model in a translanguaging approach as well as being interpreted by researchers representative of the communities being studied. Additionally, this study aims to improve the theoretical rationale for bilingual service delivery in speech-language pathology. **Methods:** Three papers studying bilingual phonology were selected. Interpretations of findings were pulled and reinterpreted following discussed parameters of translanguaging. **Results:** Differences arose between interpretations under a Dual Systems Hypothesis Framework and under a translanguaging approach. Furthermore, other implications were found as a result of viewing data as a research insider. **Conclusions:** Differences in data interpretation reveal that translanguaging may improve understanding of languaging in bilingual/multilingual communities and implications for research and service delivery are discussed.

Keywords: Bilingualism, bilingual phonology, Dual Systems Hypothesis, translanguaging

Introduction

Research in Bilingual Phonological Acquisition

Research in bilingual phonological acquisition is an area of study in speech, language, and hearing sciences that has not had as much discussion relative to research examining monolingual populations. According to Kohnert and Medina (2009), 64 articles, who studied topics in bilingualism, were published in the past thirty years. Of those 64 articles, only twelve studies included bilingual children with speech sound disorders in their study samples at the time the paper was published. Comparatively, roughly 150 articles regarding monolingual language research are published per year. Although Kohnert and Medina (2009) was completed thirteen years ago, the number of bilingual clinical research papers published has increased, but not at the same rate as publications of monolingual clinical research.

The rate at which papers are published is part of a multifaceted discussion on issues of bilingual research. In the 2020 ASHA Member and Affiliate Profile, 91.6% of the reported Speech-Language Pathology ASHA members identified as white while the remaining 8.4% are Black, Indigenous, Asian, Pacific Islander or multiracial. Looking at Latinx identity, only 6.2% of ASHA SLP members identified as Latinx. With this stated, only 0.4% of ASHA SLP members identified “researcher” as their primary employment. At face value, it could be strongly implied that the majority of researchers are white researchers, and, given how little bilingualism is studied is as a field, the majority of bilingual research is being implemented by white researchers.

This discussion extends beyond the speech and language variables studied in the papers examined here, and concerns itself with *who* exactly is designing, implementing, and interpreting these studies. In other words, are the researchers who study bilingualism bilingual themselves?

Does their research team include members from the community or speakers of the languages they study? Having what can be coined as “insider” individuals (i.e., individuals who share similar or same communities as the populations being studied) is necessary for culturally responsive research design, data collection, and interpretation (Dillard, 2010). In light of ASHA’s statistics, many researchers would most likely be deemed as “outsider” individuals, another coined term used in the scope of this study. In other words, outsiders are individuals who may or may not know the language, but do not have the lived experiences as someone in the communities being studied. Therefore, the presence of insider individuals on a research team provides insight as to what cultural and linguistic practices are shared and embraced in the participants’ communities. Moreover, this presence of insider researchers falls under the idea curated by disability activists of, “Nothing about us without us”; in other words, research with bilingual speakers, a motif that will be touched on throughout this study.

The Raciolinguistics of Bilingualism in Schools

Being bilingual in an educational setting involves a variety of labels that attempt to capture language exposure and use. Terms such as English as a Second Language (ESL), English Language Learner (ELL), Dual Language Learner (DLL), Long Term English Language Learner (LTELL), and Semilingual have been thrown around in discourse regarding bilingual education. What many of these labels have in common is that they put into question the abilities of many bilingual speakers, that is, these terms imply a sense of deficiency in English and their home language and the need to change the speaker’s languaging practices to reflect the standard (Flores, Kleyn, and Menken, 2015). This idea of deficiency is a brief definition of raciolinguistic ideologies which conceptualize these home language practices of racialized communities as inherently deficient (Flores, 2020).

According to the National Center on Education Statistics (NCES) (2015), 78.3% of ELL students are from racially minoritized backgrounds. Therefore, many bilingual students experience raciolinguistic ideologies that perpetuate linguistic deficiency, therefore modifying how people's language is the solution to racial oppression (Rosa & Flores, 2017). In other words, a raciolinguistic ideology enforces a push towards a “monolingual-likeness” in English. However, many researchers in the field of bilingualism know that bilinguals are not two monolingual speakers in one (Meisel, 2006), meaning that bilingual individuals engage in languaging practices much differently than their monolingual counterparts.

What is the connection between raciolinguistic ideologies and communication disorders? One point of discussion is the fact that many clinicians are either untrained or poorly trained in culturally responsive clinical service delivery. These clinicians may perceive certain differences in the speech and language of bilingual children (as compared to monolingual English speakers) as errors for remediation; better said, bilingual children who are evaluated by untrained clinicians may exhibit communication behaviors as a result of knowing multiple languages. Clinicians, however, may deem certain behaviors as clinical red flags (Przymus & Alvarado, 2019). For example, producing an approximant “r” in place of a trilled “r” on a single-word production assessment. This relates back to the raciolinguistic ideology in that, clinicians are viewing students as deficient in their languages resulting in overidentifying racially minoritized students for special education services (i.e., speech and language services). This ultimately pulls students from the curriculum, resulting in limited access to the general education curriculum, when it is not necessary. This process furthers educational disparities for racially minoritized students because the greatest single predictor of post-school outcomes is access to the general education curriculum (Test et al., 2009). To summarize the bigger picture, in the school system, there are

labels and special education practices that stigmatize bilingual students' languaging abilities presenting them as "deficient". Bilingual children, who are likely to identify as members of racially and ethnically minoritized communities, go through unnecessary services and lose out on curriculum which perpetuates educational disparities and puts these students at a disadvantage for academic achievement (Artiles et al., 2009).

In addition to the issue of misdiagnosis of speech and language disorders in bilingual children, the discourse of bilingualism in schools in the context of educational language standards is problematic. Discussing Latinx students specifically, many scholars and professionals describe individuals from this community, especially from lower socioeconomic levels, as being deficient in academic language (Flores, 2020). "Academic Language" refers to the language often used in the classroom and is deemed to be more complex. Furthermore, academic language is dichotomized, creating "academic language" and "non-academic language" or "social language" (Flores, 2020). It is important as speech-language pathologists to bring this discussion to light because the perception of language "strength" is currently based on mastery of academic language. Because academic language is believed to be more complex in structure, and contains more specialized vocabulary relative to non-academic language, it is a main area of focus in classrooms. However, in observations made in Flores (2020), the author highlights that even non-academic language is complex in nature and contains its own specialized, content-specific vocabulary. The point of this discussion is to acknowledge and make aware the influence the education system has on how school professionals (i.e., teachers and speech-language pathologists) perceive bilingual speech and language use and bilingual students themselves as communicators. Using academic language as the standard for language strength, or weakness, enforces the previously discussed raciolinguistic ideology which does not

acknowledge the languaging abilities racially minoritized bilingual students have in contexts outside of school. Moreover, this perpetuates a deficit model perspective (Harry & Klinger, 2007) of bilingual students and continues to stigmatize their languaging as insufficient in one or both languages.

Raciolinguistic perspectives and framing adds further context to the discourse on bilingual speech and language acquisition because, as is discussed below, translanguaging (Otheguy, Garcia, & Reid, 2015) highlights the entire student's languaging experience as a complex, lived experience. One analogy used in Flores (2020) is students as language architects. More specifically, students have the liberty and creative freedom to make decisions about their communication in a way that is unique to them but is still an effective communication attempt (Flores, 2020). In sum, bilingualism in the schools has been stigmatized through the years whether through labels, education practices, or language standards. This is the background needed to understand the context from which racially minoritized bilingual students come and how it might influence how educators or service providers, like speech-language pathologists, work with these students.

The Other Side of Misdiagnosis

With the lack of evidence in the area of bilingual research being performed through the lens of insider individuals, there is an overall lack of understanding of bilingualism which can impact decisions made in the special education process that leads to the disproportionate number of bilingual students in special education (Przymus & Alvarado, 2019). On the other side of the coin, students are also *not* being assessed due to their bilingual status or are under-identified as presenting with a speech or language disorder, because clinicians lack training and avoid assessment of bilingual children (Shakan, Watson, & Lof, 2007). Garcia (2009) outwardly states

that, “When officials and educators ignore the bilingualism that these students can-and must-develop through schooling in the United States, they perpetuate inequalities in the education of these children.” (P. 322) With this in mind, we begin to see that the lack of education on bilingualism (i.e., insufficient research) leads to different actions, all included in the category of misidentification, that in turn perpetuate inequality and increase disparities in the special education system.

According to the United States Census Bureau, 68.4% of youth are enrolled in K-12 schools. 2.2 million self-reported as Hispanic/Latinx individuals and 4.4 million self-reported as white individuals. Yet, in a 2014 study, it is reported that Hispanic children are overrepresented in special education. This conclusion is drawn on the fact that the Hispanic/Latinx population is smaller in the US, relative to the white population, yet we see higher representation of Hispanic/Latinx children in special education. In addition, the National Center for Education Statistics (NCES) (2021) reported that speech and language impairments are the second most represented disability in special education after specific learning disability. Simply stated, the insufficient knowledge of bilingualism leads educators and school officials to ignore the bilingual status of a student, which in turn leads to inequalities that disproportionately affect racially minoritized communities. Further, in Przymus and Alvarado (2019), researchers reported that communication assessments are based on a monolingual paradigm which reinforces the idea that bilingual children can be "low" (e.g., performance, accuracy, etc.) in English or their heritage language. This is due to assessments used in educational settings that are often normed on monolingual speakers. Because of this, many programs that train individuals on bilingual language assessment are starting to move away from using standardized assessments and relying

on more informal (i.e., assessment with no referenced metric) and criterion-referenced (i.e., assessments with a referenced metric) forms of assessment (Fabiano-Smith, 2019).

Bilingual Phonological Research in Focus: Common Methods

Currently, in research examining phonological acquisition and identification of speech sound disorders in bilinguals, communication samples (e.g., conversation, play samples, story tell/retell) are a common tool to measure child phonology (e.g., Percent Consonant Correct (PCC), phonetic inventory, and phonemic inventory). Often, these recorded samples are used for language sample analysis (LSA), and while morphosyntax is the most commonly examined property of communication samples, there is growing evidence to suggest that using connected speech samples can be used as a tool to measure speech development in bilingual children (Glaspey et al., 2022). Shriberg and colleagues (1994; 1995) suggested the use of connected speech samples to examine the phonological abilities (i.e., PCC-R) of monolingual English-speaking children, and more recent research has suggested the same for bilingual Spanish-English speaking children (Fabiano-Smith & Goldstein, 2010a; 2010b; Fabiano-Smith & Hoffman, 2018; Fabiano-Smith, Privette, & An, 2021). Other options for phonological assessment may include protocols such as Glaspey Dynamic Assessment of Phonology (GDAP) (Glaspey, 2019), but have not yet been tested with bilingual children. Criterion referenced measures of phonological ability are also strongly recommended for bilingual phonological evaluation (Fabiano-Smith, 2019).

Static assessments for bilingual children are also utilized for data collection in bilingual phonological research, which evaluate the production of speech sounds across different word contexts (i.e., initial, medial, final positions) and target all sounds and phonotactics in the language's inventory (e.g., the Bilingual English-Spanish Assessment (BESA) phonology subtest

Peña, et al., 2013). Some formal assessments include the Goldman-Fristoe Test of Articulation – English and Spanish (GFTA; Goldman & Fristoe, 2000). The use of static assessments is supported by the fact that they are often highly reliable, feasible, have fast administration, and can assist with identifying error types (Glespy, 2019). Moreover, the use of static assessments, especially standardized assessments such as the GFTA and BESA, are frequently used in research examining bilingual children because of the ease of data collection. Furthermore, the ways in which these assessments are scored and analyzed have the tendency to delineate between languages and compare what the student can do linguistically with other children and not what they do within their own idiolect, a concept discussed in the next section.

In the framework of bilingual phonological research, and, by extension, clinical service delivery, both single word and connected speech samples are used in data collection procedures, and common measures such as PCC-R, phonetic inventory complexity, and accuracy of early-, middle-, and late-developing phonemes (Fabiano-Smith & Goldstein, 2010b; Shriberg, 1993) are used to measure speech sound abilities in young children. A point of discussion regarding speech and language assessment remains: the misdiagnosis of bilingual students. Many of the standard practices are still rooted in evidence that is becoming obsolete and does not represent the bilingual/multilingual population SLPs service. In the following section, conceptualizations of bilingualism are discussed; more specifically, what is the anchor for bilingual speech research and service delivery and a contemporary pedagogy used in other disciplines to better define and view bilingualism.

Defining the Dual-Systems Model.

The Dual-Systems Model (DSM) is the theoretical framework used in the published research on bilingual phonological acquisition re-examined in this study. The DSM postulates that, during development, languages are differentiated and maintained as two separate systems with points of interaction, or what Paradis and Genesee (1996) referred to as *interdependence*. The interdependence hypothesis marks three types of interdependence, or interactions: Transfer, acceleration, and deceleration.

Transfer is an interaction characterized by the transfer of speech sounds between linguistic systems, for example, using the English /ɹ/ in place of the Spanish trilled /r/ in “carro” /karo/→[kaɹo] (Fabiano-Smith & Goldstein, 2010). Acceleration refers to the rate of phonological development. Acceleration suggests speech sound development occurs at a faster rate as a result of the interaction between the two systems aiding the acquisition of the child’s language (Fabiano-Smith & Goldstein, 2010; Paradis & Genesee, 1996). The third interdependence, deceleration, is a foil to acceleration; it is defined as the slower rate of phonological development. Paradis and Genesee (1996) posit that deceleration occurs due to interference between languages during acquisition.

It is important to clarify that deceleration does not refer to bilingualism as a hindrance to overall language development. In a study by Gildersleeve-Neumann et al. (2008), researchers found that the English phonetic inventories of Spanish-English bilingual three-year-olds were within expected limits when compared to monolingual English groups but showed overall lower accuracy in production. The same result was found for the Spanish phonetic inventories of the bilingual children when they were compared to monolingual Spanish speaking children. Specifically, spirants, flaps, and trills were lower in accuracy while other manner classes were

within expected accuracy levels for the bilingual group. In other words, bilingual children demonstrated lower accuracy in production of speech sounds in both languages but had phonetic inventories that were commensurate with their monolingual peers in both languages.

Another point under DSM, as discussed in Paradis (2001), is the idea of interlanguage structural ambiguity (ISA). ISA refers to language structures that are ambiguous, or more open. For example, English has a fixed word order (e.g., verb-object) whereas German has a more variable word order (Paradis, 2001). Because of the variability in German syntax, German is the more syntactically ambiguous language. Keeping this in mind, Paradis (2001) suggest that ISA is a point of cross-linguistic influence for the linguistic system. Circling back to German and English, researchers found that, due to the ambiguity or “openness” of German syntax, they observed more instances of verb-object structures as a result (Döpke, 1998; Müller, 1998). With this, ISA supports the idea of interaction between systems because researchers have found that the more ambiguous language system received transfer of structures from the other system, albeit a less ambiguous structure, suggesting that systems do interact.

In phonological assessment, this framework may manifest as performing a contrastive analysis in which points of interaction (e.g., transfer), ones of which SLPs deem as typical, are not marked as errors but as cross-linguistic influence (Goldstein & Iglesias, 1996). Assessments like the *Bilingual English-Spanish Assessment* (BESA; Peña, Gutierrez-Clellen, Iglesias, Goldstein, & Bedore, 2013), utilize this framework to allow for test to be scored in tandem with expected cross-linguistic influences (e.g.,) Furthermore, bilingual assessment, and therapy as well, often try to separate each language; in other words, the idea of assessing and gathering data for each language to observe how each language performs. This is often supported by the DSM due to the fact that the DSM pushes the idea of separated systems with points of interaction and,

as an outcome, clinicians want to evaluate each system separately whilst taking into account these points of interaction.

Simply put, the DSM is a model that serves as a rationale for guiding many researchers and clinicians in their field of practice. It serves as a framework for describing how bilingual systems are arranged in the human mind and how those systems interact. Moreover, it informs SLPs on best practices for speech and language assessment of bilingual children and how the linguistic behaviors of bilingual children reflect the idea of two systems with points of interaction. However, this is a linguistic theoretical framework used to inform bilingual behaviors. In the next section, translanguaging is introduced which provides a novel lens through which phonological acquisition can be observed.

Defining Translanguaging.

Translanguaging is the novel theoretical framework through which the current study re-examined previous research on bilingual phonological acquisition. Translanguaging is defined as the deployment of an individual's linguistic repertoire, or idiolect, in communication (Otheguy, Garcia, and Reid, 2018). The "trans-" in translanguaging reflects this notion of moving beyond language (Otheguy et al., 2015). This framework, originating from the field of education, negates the bounded notions of named languages, that is, individuals deploy linguistic features without closely regulating the social and political notions curated by named languages (Otheguy et al., 2018).

Named languages, often referred to as in translanguaging literature, are language labels used to distinguish one grammar, or code, from another. For example, some named languages include "Spanish", "Portuguese", and "Swahili". From a linguistic anthropology perspective, named languages are human made; anthropologists, linguists, and other individuals created

boundaries between languages and “boxed” them together. In other words, they observed individuals speaking to each other in a code and created a box to bind that code as “Language X”. With that, language has become something that can be quantified and separated, as we see in the Dual Systems Model. However, translanguaging takes a different perspective in that researchers suggest that individuals have a single, unitary system which composes the linguistic repertoire (Otheguy et al., 2018). Moreover, when suggesting a unitary system, the framework is a system that is unified and exists without boundaries; linguistic features exist in a pool, not separated by the bounded notions of named languages. For the purposes of defining translanguaging, a unitary model describes the unity of linguistic features, unbounded from one another, in a single repertoire. Researchers in bilingual research suggest that the separation of named languages is not a natural process for humans (Otheguy et al., 2018). Furthermore, language existing in a single, unseparated space has been recognized to be a more natural behavior for humans (Otheguy et al., 2015).

The main component of translanguaging is the concept of an idiolect. An idiolect is an individual’s own unique language composed of components, like phonology, and subcomponents, or systems of tenses (Otheguy et al., 2015). Additionally, Otheguy and colleagues add that the idiolect develops, and deploys, as a result of social and personal interactions which is another key idea of translanguaging. The deployment of a speaker’s own linguistic repertoire is a social behavior in that a speaker will deploy linguistic features that overlap with the repertoire of the other interlocutor. Comparatively, Otheguy and colleagues also reflect on Chomsky’s idea of an internal-language, or I-language (Chomsky, 2002). The difference between these ideas is that idiolects reflect the social nature of the individual’s own language whereas I-language reflects the generative nature of an individual’s grammar (Otheguy

et al., 2015). This discussion is important to highlight because it puts into question the use of monolingual groups as comparison groups for bilingual groups. With the assumption that idiolects exist, it may not be possible to compare an individual's languaging practices to that of their monolingual counterparts, a comparison made throughout the previously published research under examination here. In sum, translanguaging is the deployment of one's own unique linguistic repertoire, meaning that an individual can select between a variety of features (e.g., words and sounds) that they have present in their repertoire.

Translanguaging is not without opposition. MacSwan (2017) reviews and critiques translanguaging, as proposed by Otheguy, Garcia and Reid 2015. In MacSwan (2017), the author proposes what he calls the "multilingual perspective on translanguaging" which he further explains that it acknowledges the existence discrete language (i.e., named languages) as well as multilingualism in the social sense (e.g., language rights, codeswitching, etc.). Another point of argument for MacSwan was the idea of an undifferentiated, unified linguistic system. Under MacSwan's terms, languages exist in their own systems, but evidence for cross-linguistic interaction asserts an unseparated, unified system (MacSwan, 2017). In opposition, Otheguy and colleagues discuss and debunk some of the arguments against translanguaging. One rebuttal made in Otheguy et al. (2015) was regarding the existence of a unified system. Authors wrote that acknowledging points of contact between systems and labeling it as, "unified" does not negate the basic separation of the systems (Otheguy et al., 2015). This would suggest that there is not a presence of French truncation patterns in English, but rather there is a prosodic feature that can be deployed given the correct context. Moreover, additional evidence to support this claim was shown in psycholinguistic research where researchers found that when individuals used one named language, both languages activated to some degree based on brain scans of participants

(Kroll & Bialystok, 2013). MacSwan challenges the dismissal of code-switching in translanguaging by stating that it is an important aspect of languaging that may prove as a resource for speakers, as suggested in the literature. Relating back to phonology, code-switching may manifest as production of the English approximant “r” in positions of the Spanish trilled “r”. However, Otheguy and colleagues challenge this idea stating that because there is a unitary system, there is no switching that can occur because languages are undifferentiated in a single repertoire. Therefore, using the previous example, there is no “English” and “Spanish” “r”, there are just approximant and trilled features that may be selected and used. Otheguy and colleagues further discuss the social issue at hand which is having to prove the systematic and beneficial use of code-switching, and by extension the constant need for having to defend bilingual language behavior under the DSM, whereas translanguaging, under a unitary system, would not have the need to defend against asystematicity of languaging practices, essentially allowing bilingual speakers to language without needing constant validation for their languaging practices. In sum, translanguaging is a multifaceted discussion with proponents and opponents; however, much of what translanguaging captures is the speaker-centric view which allows speakers to reach a space of liberation to use their repertoire how they would like without being deemed “weak” or “low” in any of their languages.

Translanguaging considers the phonological repertoires of all language skills without ranking them against each other in terms of strength or weakness, perpetuating the linguistic discrimination that occurs with bilingual speakers. This rank order is often an outcome of how the DSM is interpreted by researchers. Recall that 78.3% of ELL students are from racially minoritized communities. Translanguaging works in tandem with the raciolinguistic perspectives to allow racially minoritized students to engage in their own individual languaging practice

without feeling policed by forces like “Standard American English” or “Academic Language”. In line is the perspective mentioned in Flores (2020) about students being “language architects”. Students know and understand their own languages around which they grew and can manipulate and make decisions to effectively complete tasks at hand. Translanguaging allows students to do so as there is now a liberation from standards and move towards framing students as knowledgeable in their languages. This ideology is the lens through which previous studies are re-interpreted with the hope of extrapolating deeper knowledge of phonological acquisition in this population.

Purpose

The purpose of the current study is to re-examine previously published studies examining bilingual phonological acquisition. The studies selected were interpreted using DSM as the main theoretical framework. The present study reinterpreted stated findings of selected studies through the lens of translanguaging. The research questions that framed this study included the following:

- 1. What linguistic phenomena can be uncovered when shifting data interpretation from a Dual-Systems Model framework to a translanguaging framework?*
- 2. Does an insider research lens uncover linguistic phenomena in the interpretation of findings?*

The current study hypothesized that the translanguaging approach would provide novel interpretations which would provide a deeper understanding as to how bilingual phonology is acquired, because the phonological organization and use of bilingual speech under translanguaging reflects the naturalistic way that bilingual communities use speech in context. Additionally, the current study hypothesized that insider researchers aiding in the interpretation of data could provide additional information that was missed by outsider researchers. Without

the personal experience of living and communicating in bilingual communities, phenomena that are easily identified by members within those linguistic communities may be unidentifiable to outsiders. The overarching goal of this study is trying to improve our theoretical rationale for bilingual service delivery to reduce misdiagnosis and disproportionality in bilingual children attending US schools.

Method

Article Selection and Reinterpretation Process

The purpose of this study was to reinterpret a selection of previously published research in bilingual phonological acquisition using a translanguaging lens. Previous studies were reinterpreted in terms of (1) theoretical framework and (2) insider lens.

Article Selection Criteria

Research articles were selected using the following criteria: (1) the topic area of bilingual phonology examined through the use of quantitative phonological measures of speech sound production; (2) the Dual Systems/Interactional Dual Systems Model as a theoretical framework for investigation and interpretation of findings, and (3) research studies conducted by white research teams in bilingual communities. The selected studies are not an exhaustive list of research on this topic, but rather studies that have originated in the Fabiano-Smith research laboratory over the past 12 years that employed the Dual Systems Model and supporting literature using the same theoretical framework (Paradis, 2001). As a result, the following three papers were selected: Fabiano-Smith and Goldstein (2010b), Fabiano-Smith and Bunta (2012), and Paradis (2001). Two of the studies investigated Spanish and English bilingual phonological acquisition (Fabiano-Smith & Goldstein, 2010b; Fabiano-Smith & Bunta, 2012) while the third

study investigated French and English acquisition (Paradis, 2001). It is worth noting that one paper (Paradis, 2001) clearly states the use of insider researchers while the other two disclose use of bilingual researchers, but there is no implication of their affiliation with the communities studied.

Review of Selected Literature

Fabiano-Smith and Bunta (2012).

Fabiano-Smith and Bunta (2012) investigated the role of Voice Onset Time (VOT) in the speech production of Latinx bilingual Spanish-English speaking preschoolers, within the theoretical framework of the Dual Systems Model (Paradis, 2001). Neither author was a member of the bilingual community within which this study was performed, and both identify as white. Bilabial and velar stops shared between Spanish and English were examined in order to understand acquisition of VOT as well as the role of between-language interaction. In the literature, evidence exists of differences in the acoustics of Spanish and English speech production. One difference is that singleton voiced stops in stressed syllables are pre-voiced while the same voice stops in English do not have pre-voicing (Lisker & Abramson, 1964). Another point of difference is that voiceless stops, in the same position as the voiced stops previously mentioned, have a shorter VOT whereas their English counterparts have a longer VOT. Along with this, the Speech Learning Model (SLM; Flege, 1995) and equivalence classification are also discussed. In Flege (1995), the SLM states that first language consonant or vowel categories may trigger assimilation of second language phone categories. If the formation of the second language phone is determined to be transferable to a pre-established first language phone category, a blockage in forming the new category may occur, also known as *equivalence*

classification. Clearly stated, equivalence classification implies that categories cannot be formed if there is an existing category into which that language feature can “fit” (Flege, 1995; MacKay, Flege, & Imai, 2006). In this study, authors assert that equivalence classification could yield undifferentiated categories across the languages of bilingual children by allowing a phonetic difference with counterparts in Spanish and English which appears in a phonetically different fashion. Within the DSM framework, the authors summarize that the focus of the paper was to investigate the acquisition of voicing contrast in bilingual Spanish-English speaking children and the impact of cross-linguistic influence will have on development between monolinguals and bilinguals. Two research questions were proposed:

1. Do bilingual children produce VOT like their monolingual peers?
2. Are bilingual children differentiating between VOT contrasts or are they using the same categorical difference?

To answer these questions, they used a group of twenty-four 3- to 4-year-olds that were assigned into one of three groups: monolingual English (n=8), monolingual Spanish (n=8), and bilingual Spanish English (n=8), with a mean age of 3;4 across all groups. Researchers used a single word elicitation task and had a total of two tokens for initial /p/ and one for initial /k/ in English and a total of one token each for initial /p/ and /k/ in Spanish. They then analyzed VOT using WaveSurfer. VOT was measured from the beginning of the stop burst and ended at the initiation of voicing. In terms of statistical analysis, non-parametric statistical analyses were performed to control for assumption violations due to sample size. Additionally, between groups were examined using Mann-Whitney *U*-test, and, to examine within group differences, Wilcoxon signed-rank tests were performed (Fabiano-Smith & Bunta, 2012).

The authors communicated several findings. One of the findings was that the Spanish VOT values did not differ between the two groups suggesting that early Spanish influence on English had more influence on bilabial stops than velar stops. Authors also found no significant differences between the VOT for Spanish and English stops between bilingual students implying that bilingual children do not reliably differentiate the VOT of voiceless stops in Spanish relative to English (Fabiano-Smith & Bunta, 2012). On the topic of equivalence classification, authors found that between-language interaction did appear to influence the bilingual participants' English VOT values, except in the production of voiceless velar stops. Results indicated that a distinction formed between the voiceless velar stop in Spanish and English. However, authors noted that the categorical split was gradual. In general, there were implications that VOT was a site of cross-linguistic influence at the phonetic level. With this, Fabiano-Smith and Bunta (2012) concluded that their findings further support previous studies suggesting cross-linguistic influence in bilingual phonological acquisition (Paradis and Genesee, 1996; Paradis, 2001; Fabiano-Smith and Barlow, 2009; Fabiano-Smith and Goldstein, 2010b).

Fabiano-Smith and Goldstein (2010b).

Fabiano-Smith and Goldstein (2010b) investigated the interaction of phonological systems in preschool-aged, Latinx bilingual Spanish-English speaking bilingual children. Neither author was a member of the community studied and both identify as white. This study used the DSM as a theoretical framework and cited evidence of between-language interaction (also known as the interdependence) in the form of three hypotheses proposed by Paradis and Genesee (1996). As discussed, and defined above, these interactions were acceleration, deceleration, and transfer. In addition to these types of interactions, Fabiano-Smith and Goldstein (2010b) also discussed variations in acceleration. They argued that, in the literature, there was evidence to

suggest that bilingual children demonstrated rates of acceleration similar to that of the expected ranges for monolingual speakers of both languages. Another point of discussion raised in this study was the evidence to support that all three interactions can occur simultaneously. In combination with a study published by Fabiano-Smith and Barlow (2010), researchers identified that the same set of bilingual children demonstrated lower consonant accuracy for both languages relative to their monolingual counterparts, but at the same point in development exhibited an equivalent level of phonetic inventory complexity. This finding suggested that deceleration was occurring in tandem with a variation of acceleration and/or transfer (Fabiano-Smith & Barlow, 2010; Fabiano-Smith & Goldstein, 2011). The last key finding from this article was the concept of phonetic similarity. The study grouped sounds between Spanish and English as shared (i.e., found across both languages) and unshared (i.e., sounds only found in one of the languages). Much like in the first paper discussed in this section, researchers postulate that sounds that are phonetically similar across the two languages will fit into the same category. Under this prediction, phonetically similar sounds were more likely to be employed as they can be quickly accessed, but only if the sound did not carry more complexity into the other language. Finally, frequency of occurrence of shared sounds was an additional component of phonemic complexity examined. This variable was examined to observe the influence that frequency of occurrence of shared sounds had on the accuracy of the production of those same sounds. Fabiano-Smith and Goldstein (2010b) posed the following research questions:

1. Will bilingual children demonstrate evidence of interaction between their two languages as predicted by Paradis and Genesee (1996)?
2. Will bilingual children demonstrate evidence for a variation of the hypothesis of acceleration due to phonetic similarity (Flege, 1995)?

3. Does sound frequency predict high accuracy of shared sounds in the productions of bilinguals?

To answer these research questions, the authors recorded the speech of twenty-four children from a Head Start program and equally distributed into three groups: monolingual English (n=8), bilingual Spanish English (n=8), and monolingual Spanish (n=8), with a mean age of 3;4. Researchers used single word and connected speech samples as measures for this study. Single word elicitation samples were taken using the phonology subset of the BESA, a formal bilingual speech and language assessment for Spanish and English children (Peña et al., 2013). Connected speech samples were collected using a predetermined set of toys whose names targeted English and Spanish consonant sounds to elicit conversational speech. The connected speech samples were used to provide more context of the child's language skills as well as supplement the phonetic inventory analysis of the child. Authors reported the use of Latinx bilingual graduate students, but their involvement was limited to the phonetic transcription of Spanish samples (data processing only).

Interpretations on transfer, acceleration, deceleration, and accuracy of shared sounds were extrapolated from the data set. Researchers found that transfer did occur, and it was systematic as evidenced by the occurrence of stop consonant deaspiration; however, the frequency at which transfer occurred did not provide sufficient evidence for between-language interaction. They also observed that the bilingual group used the deaspirated stop consonant, which was considered the "Spanish stop" because it carries phonemic weight in Spanish, in English because deaspirated stops also occur in English, but it does not change the meaning of the word. In terms of deceleration, it was found that monolingual Spanish speaking children performed with higher accuracy relative to bilingual English-speaking children who performed with lower accuracy

suggesting slower acquisition of speech sounds in bilingual children. Furthermore, when broken down into manner of production, bilinguals showed slower rates of acquisition for glides compared to monolingual Spanish-speaking children but not when compared to monolingual English-speaking children. Moreover, bilingual children demonstrated lower rates of acquisition of fricatives compared to monolingual English-speaking children. Most importantly, under this topic, it should be noted that the rate of acquisition of bilingual children still fell within expected ranges for age matched monolingual children.

Moving to acceleration, there were unexpected findings that did not support the acceleration hypothesis predicted by Paradis and Genesee (1996). Fabiano-Smith and Goldstein (2010b) did not find evidence of accelerated acquisition, but a slower rate of acquisition in bilingual children. It was interpreted that phonetic similarity counteracts a full slowdown of acquisition keeping bilingual children within expected limits for monolinguals. Shifting to phonetic similarity, there was evidence to support the DSM. They found that there was a significant difference in the accuracy of shared and unshared sounds in the bilingual group as well as the monolingual Spanish group. They found differences in accuracy of unshared sounds in the monolingual and bilingual Spanish groups, but bilingual groups were found to have consistent lower accuracy on unshared sounds. When looking at shared sounds, it was observed that bilingual children might produce shared sounds with less accuracy relative to monolingual children but still perform within ten percentage points in terms of accuracy as compared to the monolingual groups.

The final topic analyzed, frequency of occurrence of sounds, did not yield any significant results. It was found that frequency did not in fact predict accuracy of shared sounds. This does not support previous evidence that found that frequency of occurrence of sounds was related to

accuracy of production (i.e., high frequency means high accuracy, low frequency means low accuracy).

In sum, the authors interpreted the data in support of the DSM, as all three hypotheses related to between-language interaction were observed. Their first research question was supported by evidence of interaction between English and Spanish on measures of consonant accuracy (e.g., deceleration). Their second research question was supported by evidence from the monolingual Spanish-speaking group, in that they produced consonant sounds with higher accuracy as compared to the Spanish productions of the bilingual group. Finally, to answer the third question, statistical analyses were completed and showed that frequency of occurrence of sounds in English was not a predictor for accuracy of production of shared sounds of the bilingual group.

Paradis (2001).

Paradis (2001), unlike the previously mentioned investigations, examined French and English bilingual phonology, with a focus on prosody, within the framework of the DSM. The author is a Canadian bilingual French-English speaker racialized as white, but it is unknown if she is a member of the community studied. The author sought to observe if bilingual two-year-olds have separated phonological systems, as is detailed in the DSM. The article also discussed the idea of full language autonomy if differentiation did occur (i.e., completely separated systems). This interpretation was achieved through analyzing truncation patterns of four-syllable nonwords between a bilingual group and two groups of monolingual children acquiring each language (Paradis, 2001). Two patterns are emphasized in this study: The first being a trochaic pattern, where the syllables follow a strong (S) weak (W) pattern like in “bottle;” The second

being an iambic pattern, where syllables follow a WS pattern like in “giraffe” (Paradis, 2001). Trochaic patterns are common in English whereas iambic patterns are common in French, providing the opportunity for between-language interaction to be observed if a language-specific prosodic rule was observed in the other language context. Truncation bias is defined as, “the selection of which syllables to omit and which to retain in a truncated production. (Allen & Hawkins, 1980; Gerken, 1994a, 1994b; Gerken, Landau, & Remez, 1990; Paradis, 2001; Schwartz & Goffman, 1995; Wijnen et al., 1994). Researchers hypothesized that the prosodic organization (e.g., primary stress patterns in words, and common syllable composition of words) between French and English indicated that truncation patterns may be an area of sensitivity to language-specific phonological characteristics which further assumes an area noting the extent of separation of phonological systems in French-English bilinguals (Paradis, 2001). Authors also made three specific predictions:

1. Monolingual English children would follow a trochaic truncation pattern in production while monolingual French children would follow an iambic truncation pattern in production.
2. Bilingual children would demonstrate the same language-specific truncation patterns identified for the monolingual children.
3. Cross-linguistic effects would occur at points of structural ambiguity between the two languages.

Authors used three groups of participants: monolingual French children (n=18), Monolingual English children (n=18), and bilingual French and English children (n=17), with an average age range of 24 to 35 across all three groups (Paradis, 2001). Furthermore, tasks including ten nonsense words in French and twelve nonsense words in English were used to

examine child sensitivity to word rhythm and syllable weight (Paradis, 2001). It should be noted that nonsense words were created with support from native speakers of the language (i.e., insiders). To conduct the study, two bilingual researchers saw each child individually; one researcher worked with the child while the other transcribed child responses. It was not made clear in the article if these research assistants were members of the community to which the children belonged. Nonsense words were presented in a naturalistic play setting using toys with the nonsense word on it. Children were provided a model from the first researcher and then asked to repeat it. Monolingual children were evaluated once, while bilingual children were tested twice, starting the session with their dominant language.

After analysis, Paradis (2001) found that monolingual French and bilingual French productions behaved as was predicted (i.e., following iambic truncation patterns), but monolingual and bilingual English productions did not. Specifically, researchers found that WS'WS strings found in the English task was an area of difference between monolingual and bilingual English where the second and third syllables were preserved differently (Paradis, 2001). They found that French dominant children truncated English stimuli in a similar manner as French stimuli suggesting that dominance could play a role in cross-linguistic influence. conclude that their findings ultimately support the idea that phonological systems are differentiated but are not entire. This finding suggested that this was further evidence of cross-linguistic influence in the direction they expected, in support of the DSM. This also furthers the approaching discussion regarding language dominance and rank ordering languages.

Reinterpretation Criteria

Original key interpretations of results within the DSM framework, and the racial and ethnic profile of the research teams, were identified from each paper and organized for each respective study. Results were then reinterpreted via the parameters of the translanguaging model and the insider researcher lens. To review, three parameters of the translanguaging model include:

1. Existence of a single, unbound repertoire/idiolect
2. Language choices are the result of feature selection
3. Repertoires may overlap between speakers

Interpretations using the insider researcher lens were guided using the following questions: (1) Were any members of the research team members of the communities being studied (and/or was there no mention of identity)? (2) Did the interpretations include information on the sociolinguistic context of the community? (3) Did evidence of between-language interaction take into consideration pragmatic aspects of bilingual language use? (4) Were any productions counted as “errors” indicative of acceptable phonological productions by members of the community (even if outside the parameters considered “errors” by researchers, the research literature, or speech-language pathologists)?

Results

Summary of Reinterpretations

Data were organized on tables by both the original study interpretations under a Dual Systems Model (DSM) lens as well as the reinterpretations under a Translanguaging lens (Table

1; Table 2; Table 3). To reiterate, one key difference between both frameworks of bilingualism is the idea of system interaction; one framework dictates a separation of systems, with some interaction, and the latter dictates a unitary system making up a linguistic repertoire containing features from which speakers can deploy. As a result, reinterpretations highlighted several differences of the findings that are discussed for each paper.

Paper I: Fabiano-Smith and Bunta (2012)

Fabiano-Smith and Bunta (2012)	
Original Interpretations	Reinterpretations Under Translanguaging
Spanish VOT did not differ between monolingual Spanish and bilingual Spanish, but Spanish influence on English is more evident on the bilabial plosive than the velar plosive.	Phonetic cues, such as VOT, are the same between individuals who share the same feature in their linguistic repertoire, but hybridization can occur between two features to create a novel feature that can be deployed.
The less marked (i.e., less complex) feature will be more easily transferred and persist longer in development.	Features that are less marked may be deployed more often because of their reduced complexity relative to the other features that can be selected to fit within the same phonemic parameters. Because of an increased deployment of this less marked feature, the child may utilize this phone selection for efficiency before acquiring a new phone that could be added to the repertoire and deployed.
Monolingual English VOT closer to adult than bilingual English, so bilingual acquisition of VOT might be slower than monolingual in this aspect.	In translanguaging, we focus on the idiolect therefore there is no function of a monolingual standard comparing VOT as a feature. Due to the nature of the preexisting VOT features that can be deployed, a bilingual child may deploy a hybrid, preexisting, or better represented feature.
MS and BS demonstrated little variability for /p/ and /k/ due to preference for shorter lag time that tends to characterize early VOT	The little variability is due to the overlap of features both groups share in their repertoires. Categories were not "blocked" and

development. This is evidence of cross-language influence due to equivalence classification.	categorized into single groups, but rather, shorter lag times are a feature that exists in the bilingual Spanish group as well as the monolingual Spanish group, so it is likely to be deployed
VOT is different in ENG but not in SPAN, therefore phonetic level of speech production site of cross-language influence	VOT is going to be different across stop sounds and the existence of two features can result in a blend, or hybridization of a novel feature.

Table 1: Summary of Fabiano-Smith and Bunta (2012) Interpretations and Reinterpretations

Table 1 summarizes the original interpretations along with the reinterpretations via a DSM framework and then our reinterpretations using a translanguaging framework. One finding in Fabiano-Smith and Bunta (2012) was that there was evidence to suggest that Spanish VOT did not differ between the Spanish of the monolingual and bilingual children. Additionally, they found that the production of bilabial plosives was evidence of Spanish influence on English. In the reinterpretation, it was extrapolated that phonetic cues, like VOT, are the same between individuals who share overlapping sets of features (i.e., VOT is a feature shared between both monolingual and bilingual groups). Furthermore, the evidence of differing productions of bilabial plosives suggests that features may interact within an idiolect to form a novel feature. Similarly, researchers found that monolingual English VOT was closer to monolingual adult productions compared to bilingual English VOT. This was originally interpreted as a slower rate of acquisition in terms of VOT. In a different light, translanguaging suggests that there cannot be a comparison to a monolingual standard (i.e., the adult production). This is rooted in the fact that translanguaging emphasizes an individual's unique linguistic repertoire, or the idiolect. The difference in VOT, much like that of the previous interpretation, is due to a hybrid feature being formed, there preexists a feature that can be used, or there exists a better represented feature.

Moreover, Fabiano-Smith and Bunta (2012) found that monolingual and bilingual Spanish productions of voiceless bilabial and velar plosives had little variability due to preference for shorter lag time. For some context, English voiced and Spanish voiceless plosives both have shorter lag time. As a result, researchers find that this is evidence for equivalence classification because lag times were categorized in a single category as evidenced by sparse variability. Interpreted differently, translanguaging reveals that the lack of variability is due to the overlap in repertoire of both groups. Additionally, shorter lag times are a feature within the child's idiolect and are therefore more likely to be deployed.

Moving towards findings on markedness, researchers interpreted findings to reveal that less marked (i.e., less complex) features, like stop sounds, are more likely to be transferred and persist longer in development. This original interpretation implies separation of systems as it discusses a transfer of features in the child's phonological system. Applying a translanguaging lens, could be interpreted that less marked features are deployed more frequently due to the reduced complexity compared to other features that can be selected to fit within the same phonemic parameters (i.e., to not change meaning). Because these fewer complex features are used more frequently, the child may utilize this phone selection for efficiency before acquiring a new phone that could be added to the repertoire and deployed. Relative to adults, children may use this less complex feature more frequently because it is earlier acquired during development therefore present in the repertoire before developing more marked (i.e., more complex) sounds in an adult repertoire.

Paper II: Fabiano-Smith and Goldstein (2010b)

Fabiano-Smith and Goldstein (2010b)

Original Interpretations	Reinterpretations Under Translanguaging
<p>When transfer occurred, as evidenced by stop consonant deaspiration, it was not random, it was systematic therefore there is a maintained separation of language and interaction at this level hardly occurs.</p>	<p>There was a selection of a feature that occurred because the child has available within their repertoire a deaspirated stop consonant. This suggests that the child can deploy a feature that still fits in appropriately (i.e., does not deploy a trilled “r”) suggesting the systematicity of feature deployment.</p>
<p>Bilingual children can use Spanish stops in English because those stops occur in English and can use them without changing meaning, producing a range of different phonetic variants for a single second language.</p>	<p>Bilingual children are deploying the correct linguistic feature as evidenced by the fact that they aren't changing the meaning of the word. These are not variants of a named language, rather this feature fits in the phonemic parameter enough to keep the same intended meaning. There are no "variants".</p>
<p>Monolingual English children had higher accuracy on stops and fricatives than bilingual English children, supporting hypothesis of deceleration</p>	<p>Under translanguaging, the idea that deceleration of one language relative to the other would not be considered valid. We cannot compare the linguistic abilities to a monolingual standard because that assumes a "monolingual-likeness" which then separates out the named languages. Rather, we focus on the idiolect, the child's individual language and patterns of deployment. The bilingual child deploys features from their own linguistic repertoire that cannot be compared to that of a monolingual. Bilingual children may have formed a hybrid feature between stop sounds and fricative sounds or may deploy a different stop and fricative sound that still fits within the phonemic parameters of the intended target.</p>
<p>25% of bilingual children demonstrated transfer at a lower frequency between both languages therefore they maintain separation between their two phonological systems; how often transfer occurred provided little support for interaction between both languages</p>	<p>Bilingual children deploy linguistic features at a lower frequency because of the nature of the feature deployed. They may deploy one feature over another not because of separation, but because it may be more appropriate to use within the speaker condition. In other words, given the communication environment the child is in, the deployment of certain features at a lower frequency occurs because the other possible</p>

	linguistic feature that could be selected may not be appropriate for the given interaction and not because there is a separation of systems.
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Table 2: Summary of Fabiano-Smith and Goldstein (2010b) Interpretations and Reinterpretation

Table 2 organizes findings of Fabiano-Smith and Goldstein (2010b) along with reinterpretations. One finding presented in this study was that the observed transfer of stop consonant deaspiration was not a random behavior, but rather a systematic aspect of production which authors suggest is evidence for a maintained separation of language. The key points of this interpretation of findings were that there was a systematic transfer of phonetic cues which assumes a separation of systems that still interact. Under translanguaging, transfer, and even deceleration and acceleration, cannot occur because separate language systems are implied. Therefore, through a translanguaging lens, it was interpreted that this phonetic feature (i.e., unaspirated stop consonants) occurred because it is a feature that exists within the child's linguistic repertoire. Furthermore, the child has the ability to deploy a linguistic feature that fits within the given phonology. This suggests that deployment of linguistic features is systematic. In other words, the child deploys an unaspirated stop consonant because it is a feature within their repertoire. Moreover, the manner of which features are deployed is systematic as evidenced by deploying the feature in a phonologically appropriate environment. In addition to phonologically appropriate environments, authors originally interpreted findings that bilingual children used "Spanish" (i.e., unaspirated stop consonants) in "English" because English also uses unaspirated stops in an allophonic manner. More specifically, in a way that does not change meaning which produces a range of different phonetic variants for the second language. This interpretation assumes separation of named languages and the interaction that occurs whereas translanguaging asserts that bilingual children are deploying linguistic features that are different in production,

but do not change the meaning of the word. Moreover, regarding variants, these would not be considered variants of a named language as these are features that already exist within the linguistic repertoire and fit in the given phonemic parameter. Thus far, we see that what was interpreted as transfer under the Dual-Systems Model could possibly be the deployment of an already existing feature that the child deploys in a systematic and efficient way.

In the realm of transfer, authors also interpreted the frequency of transfer to be lower (less frequent) between both languages which they discuss to be maintenance of separated systems; however, frequency of transfer was not a strong indicator for interaction between languages. In a translanguaging context, the lower frequency is due to the nature of the feature being deployed. One feature may be selected over the other because it may be a more appropriate feature to deploy given the communication environment. The deployment of certain features at a lower frequency occurs because the other possible linguistic feature that could be selected may not be appropriate for the given interaction and not because of a separation of systems. From the perspective of a research insider, features tended to be chosen when pronouncing certain words based on sociolinguistic contexts.

Paper III: Paradis (2001)

Paradis (2001)	
Original Interpretations	Reinterpretations Under Translanguaging
Bilingual truncation patterns are not the same as monolingual so it can be concluded that phonological systems are not entirely autonomous	Truncation patterns are evidence for prosodic features that can be selected and deployed. The bilingual's ability to produce different truncation patterns suggest that there are prosodic features that can exist in the idiolect that can be deployed.

Dominance could be responsible for the directionality of the crosslinguistic effects in the structurally ambiguous forms	In translanguaging, there is no proficiency or dominance because features all belong to one idiolect and named languages do not exist to be rank ordered relative to one another.
Both groups process and produce target words according to language-specific phonological principles	Children process and produce target words according to the features that exist within their repertoire that still fit within the appropriate phonemic parameters
Bilingual children may not have attended to heavy syllables like monolinguals because they are acquiring a quantity-insensitive language in addition to (?) English	They may not have attended to heavy syllables because that is not the only feature within their repertoire.
English WS'WS words was a source of difference; Being treated like French words suggesting an influence from French in the bilingual children's truncation of WS'WS' words (CLE)	The child may have more experience with one feature over the other thus deploying it more often than the other phonologically appropriate feature.

Table 3: Summary of Fabiano-Smith and Goldstein (2010b) Interpretations and Reinterpretation

Table 3 organizes original findings of Paradis (2001) and reinterpretations. An original interpretation from Paradis (2001) was that the truncation patterns exhibited by the bilingual group was not the same as the monolingual group therefore bilingual phonological systems do interact. In this reinterpretation, it considered that truncation patterns themselves are a prosodic feature that can be selected and deployed. The bilingual children's ability to deploy varying truncation patterns suggests that there are prosodic features in their repertoire and can be selected and deployed given the sociolinguistic context much like a sound feature can. Additionally, a translanguaging approach would deem comparison to a monolingual standard (i.e., a monolingual group) as invalid as there is focus on the child's individual language and not their language compared to monolinguals.

Another interpretation from Paradis (2001) is that dominance could influence the directionality of the cross-linguistic effects in the structurally ambiguous forms. In other words,

when children were deemed French dominant, English stimuli were treated more like French words as it was more structurally ambiguous. When there is a dominant language, it is assumed that there is a less dominant language further suggesting a separation of systems. The new interpretation suggests that proficiency and dominance cannot exist because all features exist in the child's single repertoire. Furthermore, because translanguaging challenges the notion of named languages, being "French/English dominant" cannot occur because these are named languages that cannot be rank ordered (e.g., strong, weak, etc.) as it assumes separation of linguistic systems. Furthering the discussion on separated systems, another original interpretation from the study was that monolingual and bilingual children process and produce stimuli within their language-specific phonological principles. A translanguaging lens would reinterpret these findings as children processing and producing stimuli according to the phonological features that exist in their idiolect. These features can be deployed as they still fit within the appropriate phonemic parameters. In other words, there are no language-specific phonological principles but rather phonological features that reside in the child's idiolect that the child deploys given the phonemic parameters.

Finally, original interpretations focused on the prosodic behaviors of the bilingual group. Evidence suggested that bilingual children may not have attended to heavy syllables relative to monolinguals. This was the result of acquiring a quantity-insensitive language (i.e., French) with English. However, after reinterpretation, it was found that bilingual children may not have attended to heavy syllables because that was not the only feature in their idiolect. Moreover, bilingual children may have selected other features from their idiolect that are functional and do not interfere with communication. In essence, inattention to heavy syllables was not the result of

interaction from another phonological system; it was the result of having prosodic features in their repertoire that was just as functional for communication.

From the Insider Perspective

Given that the author would be considered an insider for the first two papers, the following interpretations were focused on Fabiano-Smith and Bunta (2012) and Fabiano-Smith and Goldstein (2010b). As previously mentioned, authors of the two papers disclosed that they utilized bilingual research assistants to help complete transcription and analysis. However, the connection to the communities was not made clear. Upon review of these papers, the author of the present study interpreted findings through the lens of an insider researcher.

Across both papers, sociolinguistic contexts were not taken into account for both studies in their interpretation. Both studies did not discuss the effects that could have occurred as a result of the social context of the communication exchanges. For example, in the interpretations and reinterpretations of the Fabiano-Smith and Goldstein (2010b), the insider perspective noted that certain sounds may have been produced given the social context (i.e., with whom the child was working). For example, the author of the present study may pronounce the area in Tucson known as “Tanque Verde” as [tʌŋkə vɜːdi] when speaking with individuals that share one set of features, as it is a closer production to the word in the language of origin, whereas [tɛŋkə vɜːdi] is what the author could select when speaking with individuals with different set of features.

Furthermore, this selection based on communication partner may have been a reason to have seen a “deceleration” in acquisition, but really could have been attributed to deployment of one set of features as the result of the child recognizing the overlap in features. This was most likely missed due to the lack of awareness of language being used as a social tool, more of an insider

perspective, versus as an occupational (research) tool, more of an outsider perspective. This will be further discussed in the next section.

Another finding made by an insider researcher is that the use of monolingual groups provides harmful comparisons for bilingual groups. For example, support for the hypothesis of deceleration as evidenced by monolingual English speakers producing stops and fricatives at higher accuracy relative to bilingual English speakers (Fabiano-Smith & Goldstein, 2010b). As an insider, this can be seen as monolinguals having better production accuracy than bilinguals therefore bilinguals are slower to acquire sounds than they would if they spoke only English. Another example from Fabiano-Smith and Bunta (2012), is that monolingual English VOT was closer to the adult production than the bilingual English VOT similarly suggesting lower accuracy. Once again, there is the assumption that acquisition of these phonetic features is “better” if the child spoke only English. Albeit there is still emphasis on still being within expected limits of acquisition, this then raises questions surrounding the need for comparison to a monolingual standard if bilingualism does not cause delay, as emphasized by many researchers, and implications continue to set prestige to monolingualism. This question is further discussed in terms of raciolinguistic ideologies and language standards below.

Discussion

Research Questions Revisited

After completing the reinterpretations of the three research studies, researchers were able to identify possible implications for each of the research questions asked.

Question 1: What differences arise when shifting between a Dual Systems Model lens to a translanguaging approach? To reiterate, one key difference between the DSM and a translanguaging approach is the construct of linguistic systems. DSM states that two separated,

but interacting systems, exist in the bilingual child (Paradis & Genesee, 1996; Paradis, 2001; Fabiano-Smith & Bunta, 2012; Fabiano-Smith & Goldstein, 2011). A translanguaging framework states that there exists a single, unified system as an idiolect where individuals can deploy linguistic features out of their unique repertoire (Otheguy et al., 2018). With this in mind, one major difference in interpretations was the concept of interaction across all the papers in this study.

In Fabiano-Smith and Bunta (2012), there was evidence of interaction between Spanish and English as it appeared that Spanish's influence on English manifested as observable differences in production of bilabial plosives. However, after reinterpretation, it was found that "influence" could not occur being that all features existed in an unbound repertoire. Furthermore, VOT was no longer viewed as "Spanish" and "English" VOT, but rather variations of a phonetic feature. As a result, re-interpretation of findings could not explain these phenomena as interaction between languages, but rather explained as sets of features that speakers can select and deploy when they find appropriate (e.g., does not change meaning, overlap of features with interlocutors, etc.). Another finding that arose from this study was the idea of hybridization. Once more, because interaction of two systems cannot exist being that there is a single idiolect, differences in VOT were better understood as interactions between features in a given repertoire. This is important as it better accounts for differences in acquisition of VOT than under the DSM. The original interpretations suggested that the differences in acquisition were the result of a slower acquisition process.

Similarly, in Fabiano-Smith and Goldstein (2010b), concepts of transfer, acceleration, and deceleration were brought to light. The series of interdependence hypotheses suggests cross-linguistic influence between the phonological systems of developing bilingual children.

However, for this to occur, two systems need to be present. The translanguaging approach revealed that, much like in Fabiano-Smith and Bunta (2012), these specific types of interaction do not exist, but do manifest in the form of feature selection. For example, one finding was that transfer was a systematic process. Moreover, in the re-interpretations, this was challenged by the fact that phonetic features could not “transfer” between systems because there only exists a single idiolect. Instead, it was proposed that the speakers simply selected another feature in their repertoire that still fit within phonemic parameters as to not disrupt the communication signal. Another example that challenges deceleration is the finding that differences in monolingual and bilingual accuracy is evidence for a slower rate of acquisition for bilinguals. This is challenged by the fact that bilinguals did not have lower accuracy as a result of slower acquisition, but the lower accuracy was attributed to selection of features in the speaker’s repertoire. In other words, the lower accuracy for bilingual groups was not because of slow acquisition, but it was because multiple options for feature selection existed, they could select. This strategy would support efficient and effective communication across sociolinguistic contexts.

What was found in Paradis (2001) also suggested that interaction was merely evidence of feature deployment. One interesting finding after reinterpretations were completed was that features can take a lot of forms. In the Paradis (2001) study, prosodic features were found within the participants’ repertoire. Paradis (2001) stated that differences in truncation patterns were evidence of interaction, but, knowing that prosodic features exist, these interactions were better described as further evidence of feature deployment. Bilingual children behaved differently compared to their monolingual counterparts because they had more prosodic features from which they could select. Furthermore, these different prosodic features were identified to have still

carried the same communicative function as the other features they may have shared with other groups.

It is important that translanguaging moves beyond the notion of named languages (Otheguy et al., 2015), hence why translanguaging interpretations did not include discussion of “French prosody”, “English plosives”, “Spanish VOT”. This was another difference noted in reinterpretations that changed the implications of the findings in that there is focus on the feature itself and not the named language. Otheguy et al. (2015) wrote that linguists and language researchers study the parts of language (i.e., features) and not the named language itself, so it is logical that translanguaging, in a more research context, does not refer to named languages, but simply the features under investigation.

Question 2: How does an insider lens impact the interpretation of findings? As stated above, an insider researcher is an individual who shares a cultural connection with communities being studied. Therefore, it should be stated that simply being bilingual in the named languages studied is not enough to achieve accurate and culturally representative interpretations. As an insider, two key notions were missed across these three papers: Sociolinguistic context and reference to a monolingual standard.

In terms of sociolinguistic contexts, the reinterpreted papers did not acknowledge the role of sociolinguistics in these studies. Speakers who are bilingual and carry strong cultural ties to the communities with which their language is also associated, often utilize their repertoire in a social manner. Insider speakers can identify where an overlap in repertoires may occur in conversation and may use additional features (Otheguy, Garcia, and Reid, 2015). Many differences that occurred between monolingual and bilingual groups may have been influenced

by the contexts of the data collection process. These contexts may have been the child's perception of the researcher, the child's readiness to participate, and other factors that can impact how children language.

One example presented by the author of the present study is their own personal experience. From the perspective of the outsider, there is a lack of understanding of the role languages has in communities. White researchers are missing the sociolinguistic context, and raciolinguistic context by extension, by which communication is impacted. Very rarely is there ever questioning of the extent of the researcher's cultural knowledge; there is a pass so long as outsider researchers know how to speak the language, not if they understand the community tied to the named language. This underscores the importance of insider perspectives in research. Insiders provide the cultural knowledge and further detail the sociolinguistic contexts in which communication occurs. For example, using feature selection, insiders may better highlight the idea that when speaking to individuals outside of their community, community members take on prosodic and phonological features that are better understood with the other interlocutor like slower rate of speech and aspiration across consonants. However, when speaking to individuals inside their community, features switch as a result of a change in the sociolinguistic context; for example, faster rate of speech, deaspiration across consonants, and use of a more melodic cadence. Furthermore, the deeper cultural connection to different communities helps to understand the social use of language whereas individuals who are bilingual but carry no cultural ties to these communities may see language more as a tool for them to use to complete these studies.

On the topic of completing bilingual studies, another common practice that occurs is the use of monolinguals as comparison groups. Insider interpretations found that the use of

monolingual groups stigmatizes bilingual groups. This conclusion is drawn on the basis that, oftentimes, verbiage like, “when compared to monolinguals” often insinuates that monolinguals are the standard which bilingual speakers must achieve. Since they must achieve this standard, it means that they must behave as monolinguals to not be “slower in acquisition” or “lower in accuracy”. Once more, many researchers state that bilingualism does not cause harm during language acquisition; however, utilizing language like “slower/lower than monolingual groups, but within normal limits.” This impacts member of bilingual communities in that their languaging practices are deemed less than a monolingual standard which continues to stigmatize bilingualism and favors monolingualism. In essence, the constant comparison to monolingual groups assumes that bilinguals will function below the standards set up by monolingual groups therefore pushing the notion that there is prestige in monolingualism (e.g., faster acquisition relative to bilingualism, better accuracy of speech production, etc.).

In terms of raciolinguistic ideology, there is the notion of a language deficit occurring and, to combat the deficit, individuals must achieve speaking at monolingual norms in their languages. Providing more context, in the United States, there is a push for Latinx students labeled ELL to achieve a monolingual-likeness in English. In doing so, this modification may solve further stigmatization and racial oppression of these racially minoritized students. Monolingual standardization of bilingual languaging is apparent in bilingual research. It enforces the idea that bilingual speakers are below standards as a result of being deficient in English (in this context), which perpetuates the deficit model in that we view only the deficits of bilingual students rather than the richness of their repertoire.

In general, the findings for this question were heavily related to the sociolinguistic aspect of language and languaging. Oftentimes, there was a lack of acknowledgement and

understanding of how the social context of communication can impact how bilingual individuals utilize their repertoire. Moreover, because of the dynamic nature and robustness of their idiolect, it does not make sense to use monolingual groups as “controls” for bilingual studies. Without a doubt, bilingual speakers are not two monolinguals in one, but continuing to compare bilingual languaging to monolingual languaging and using monolingual groups as ultimately says that monolingualism is the standard for bilingualism; if accuracy, phonological patterns, acquisition do not meet what we expect for monolingualism, then there is “slower” and/or “lower” bilingual abilities.

Languaging in the Schools

As mentioned prior, translanguaging is a framework stemming from the field of education. This approach is not attempting to support language acquisition or expand language, but it instead attempts to embrace and celebrate idiolects of all speakers without discrimination. In the classroom, there is often restriction and language policing that occurs even with monolingual speakers. This policing is carried through the expectation of speaking at the standard level, and when that is not achieved, students are often penalized in one form or another (Otheguy, Garcia, & Reid, 2015). Penalization due to use of a bilingual student’s repertoire further silences and marginalizes bilingual students and has long term effects with respect to their years in education.

The present study begins to unravel the use of standard languages. Studies of bilingual phonological acquisition, like the sample of studies reviewed in this paper, often hold bilingual languaging to a monolingual gold standard. This mirrors behaviors reported in bilingual classrooms – that there is use of both languages in some classrooms, but in a separated and standardized manner (Otheguy, Garcia, & Reid, 2015). How does this affect bilingual students?

Often, when bilingual students are perceived as “weak in English”, they are often given labels such as ELL, LTELL, or DLL and moved to ESL services. The students’ idiolect is no longer supported and being stigmatized as to further achieve the “standard” English. This standard English, as Flores (2020) points out, is the academic language used in schools.

In the previous discussion, it was acknowledged that notions of standard English manifest as understanding and utilizing academic language. In a time where we hold the DSM with higher regard, the separation of languages occurs as a result of prestige and strength ranking languages. In other words, deeming one language as better or stronger than the other. However, allowing students to be in control of their own language has shown to be more beneficial in understanding the complexity and uniqueness of repertoires. For example, when viewing children as in charge of their repertoire, as evidenced by their ability to select features to use effectively rather than suggesting they are slower in acquisition compared to monolingual children, you highlight their unique abilities as their own group and not a branch of a main group (i.e., bilingualism as a branch of monolingualism). Furthermore, insider perspectives reinforce the importance of understanding communication as a function rather than a standard. Translanguaging opens the door to view languaging as a function, whether it is social, occupational etc., rather than a standard. The present study revealed that selection of targets, which would have been deemed as “cross-linguistic interaction”, did not impede the communication signal. Moreover, these selected targets were deemed to have caused lesser performance compared to the monolingual standard, something supported under the lens of the DSM.

Rejecting monolingualism as the standard allows bilingual students to language as their own lived experience. This allows speakers to engage with language as social beings and use their repertoire as a vehicle for expression of identity, social status, etc. Furthermore, as

discussed later, it allows for equal opportunities for bilingual individuals to use their full repertoires, much like how monolingual speakers can utilize their full idiolect constantly. The findings of the present study suggest for languaging in schools that language standardization leads to further stigmatization of languages other than English. Moreover, this continues to perpetuate raciolinguistic practices in that bilingual students using languages other than English are deemed as deficient and are in need of special education services, with the end goal of meeting monolingual norms. However, there is a double standard that exists in which monolingual students are not held to the linguistic standards of bilingual students. It is at this point where translanguaging pushes aside language standardization and embraces language liberation as it celebrates individual linguistic differences as a lived experience and not just a tool for communication.

Translanguaging: Speech and Language Pathology

Clinical Service Delivery

In the current state of speech and language service delivery and research, the DSM is the rationale for completing evaluations and therapy services. This study challenges how we assess bilingual children and how we provide therapy services. Applying a translanguaging lens to assessment will allow for children to access their full linguistic repertoire to demonstrate language competence. By limiting the child to the use of their repertoire is to analyze incomplete data of the child (Otheguy, Garcia, and Reid, 2015). When SLPs allow for the full deployment of the child's repertoire, the child is given the opportunity to display fully what they know and can allow the SLP to identify where there are areas of concern. Moreover, Otheguy and colleagues (2015) point out that it does not make sense to ask a bilingual child to deploy only a portion of

their repertoire where the monolingual students can deploy their fullest repertoire. Better said, monolingual students can utilize their full repertoire in assessments, but when assessing by separately named languages, children do not and cannot utilize their full repertoire. Therefore, how can SLPs decide qualification, and prevent misdiagnosis, if bilingual children are at a disadvantage at the start of the assessment?

In the previously cited study by Przymus and Alvarado (2019), the effects of student growth using dynamic assessment approaches was examined, allowing the full deployment of the student's repertoire. They found that dynamic assessment and translanguaging was sensitive to the growth the students made in the test-teach-retest model (Przymus & Alvarado, 2019). The same authors also suggested that translanguaging during dynamic assessment allowed for comprehensible output that better framed language general and language specific knowledge. What the Przymus and Alvarado (2019) paper demonstrates is the further necessity to allow students to fully utilize their repertoires. Translanguaging gives students the opportunity to demonstrate their abilities to the fullest capacity and at a fair advantage.

With this knowledge, SLPs need to have a better understanding of the psycholinguistic reality of bilingual speakers. Time after time in research and in practice, it is emphasized that bilinguals are not two monolinguals in one, which is half the battle. The next step towards better understanding and servicing bilingual students is understanding that the psycholinguistic reality of bilingualism is a system that is always active to some degree. The complete activation of an idiolect suggests that bilingual individuals should not be using a portion of their repertoire. Instead, they should be given the freedom to use their repertoire as it provides SLPs with a better and fuller picture of the individual's languaging. Moreover, this also allows for further separation from monolingual norms as it looks at the individual as an individual and not as an

individual compared to a group of individuals. In all, the field of speech and language pathology must accept that separating languages during evaluation is in fact limiting for a bilingual individual and that accepting the full deployment of a repertoire is an advantage for bilingual individuals.

Bilingual Phonological Research

The purpose of the present study was twofold: How do we incorporate a translanguaging framework into speech and language pathology and how does having insider representation in research impeach speech and language science research? Translanguaging is speaker-centric, meaning that it takes the point of view of the participant rather than the researcher. Insider representation essentially serves as a proxy for that speaker point of view. Insiders provide cultural knowledge and expertise when studying languaging.

As mentioned in the “Results” section was that of a social and tool sense of languaging. The social sense of languaging is the idea that language is a social behavior; it is humanistic and varies by sociolinguistic behaviors. Insiders bring forth this social sense of languaging because, as speakers, they perceive bilingualism as a social behavior that they use to communicate with those in their communities. On the other hand, a tool sense of languaging is often taken by those who are bilingual, carry no deep-rooted ties to these communities (i.e., the outsider perspective). These individuals view language as a tool to complete their research and as a quantitative variable. The insider perspectives portion of the present study found that studies that did not report using insider researchers as part of their interpretation process, frequently missed the importance of sociolinguistic contexts of their bilingual participants. Researchers, and often the majority white researchers, will continue to make claims of “slower” or “lower” language performance of these racially minoritized bilingual groups. This is where this question ties in:

why does there need to be a comparison to a monolingual standard if bilingualism does not cause delay, as emphasized by many researchers, and implications continue to set prestige to monolingualism?

The answer is related to raciolinguistic ideologies that are perpetuated in research. Once more, raciolinguistic ideologies frame racial oppression based on language. When using monolingual groups as comparisons to bilingual groups, there is a prestige being set. In other words, monolingualism is the prestige that bilinguals are expected to strive for. Additionally, given that many bilingual individuals are from racially minoritized communities, they do not fare well in comparisons when one of the monolingual groups is English. Already, there exists stigmatization of languages other than English, so by using a monolingual group and for predominantly white speech-language pathology researchers to make implications that bilingual groups are “slower” and “lower”, this will uphold raciolinguistic ideologies adding barriers for languages to be embraced and ultimately perpetuating stigmatization and linguistic oppression.

From the insider perspective, there is understanding of how languaging functions in communities being studied. There is understanding behind why certain language choices were made and contexts that influence those choices. However, the speech-language pathology researchers investigating these groups frequently do not see the true social nature of a bilingual/multilingual communities and how repertoires interact. By shifting to a translanguaging approach to research, we may begin to understand how data manifests and what it means for individuals. Moreover, the necessity of having monolingual comparisons may decrease, thus strengthening the idea that there does not need to exist the idea of language standards. As an insider, languaging is dynamic and changes often; language standards do not reflect the dynamic nature of language for both bilingual and monolingual speakers.

Conclusion

The purpose of the present study was to organize interpretations made using the Dual Systems Model and reinterpret them using translanguaging as the approach to understand data. In addition, the present study attempted to understand the impact that insider perspectives have on the interpretation of data in bilingual phonology research. This study showed that translanguaging truly embraces the idea of individual languages, or the idiolect, and challenges language standardization. Moreover, it was found that many of these studies using the DSM made interpretations that were perceived as harmful but were better explained using a translanguaging approach. Translanguaging emphasizes the uniqueness of bilingualism/multilingualism, but also emphasizes the uniqueness of monolingualism. It reinforces the idea that speakers have their own individual repertoire from which they select features. With that, the insider perspectives brought to light the social, humanistic nature of feature selection during communication that outsider researchers missed during interpretation of data. Individuals select different features based on the sociolinguistic contexts along with making sure that the communication signal is not impeded. Translanguaging as a practice in speech and language assessment was also reviewed, and there was evidence to suggest that speech-language pathologists must consider the full deployment of an individual in order to provide equitable opportunities during assessment as well as accurate diagnostic information.

Translanguaging offers linguistic liberation. It challenges the use of language standards allowing for individuals to take language as their own lived experience, incomparable to any other experience. One final point to the discussion echoes throughout the discourse of linguistic diversity and translanguaging and that is not using translanguaging as the means to view

bilingualism/multilingualism as “good”, but rather to view bilingualism/multilingualism as the standard.

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