

Becoming Language Policymakers in Science and Education

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Abstract

The present study considers how novice teachers become language policymakers in linguistically hegemonic schooling contexts. We used critical discourse analysis (Fairclough, 2010) for transcribed interviews and classroom observation data from preservice teachers, purposively sampled from three different university-based science teacher education programs in Arizona and California. At the time of our study, these states shared common hegemonic English-only instructional policies (California's Proposition 227, Arizona's Proposition 203), with Arizona most robustly enforcing its restrictive language policies. However, the English-only policies of both states racially marginalized Latinx students and created often insurmountable barriers to English learners' abilities to enroll in the advanced science coursework required for high school graduation and/or university admissions (Gamoran, 2017; Tolbert, 2018). Our analysis reveals paradoxes in how both teacher ideologies and institutional policies converge to systematically marginalize emergent bilingual students in science and schools. We focus our analysis on what this means for preservice teachers as they become language policymakers in linguistically diverse settings.

Introduction to the Study

...I don't like this [current student teaching] placement because I'm at Alpine High, which is 50%, um, like Hispanic. But for some reason the school doesn't really push a lot of Hispanic students to take biology. Instead they push them towards like just to environmental science or earth and space, which are the more remedial science classes and they just need two sciences to graduate. And then my class specifically, like my [mentor teacher] asked to have as few English learners as possible. So she wouldn't have to deal with them. -Sal

The present study considers how novice teachers become language policymakers in linguistically hegemonic schooling contexts. We used critical discourse analysis (Fairclough, 2010) for transcribed interviews and classroom observation data from preservice teachers, purposively sampled from three different university-based science teacher education programs in Arizona and California. At the time of our study, these states shared common hegemonic English-only instructional policies (California's Proposition 227, Arizona's Proposition 203), with Arizona most robustly enforcing its restrictive language policies. However, the English-only policies of both states racially marginalized Latinx students and created often insurmountable barriers to English learners' abilities to enroll in the advanced science coursework required for high school graduation and/or university admissions (Gamoran, 2017; Tolbert, 2018). Our analysis reveals paradoxes in how both teacher ideologies and institutional policies converge to systematically marginalize emergent bilingual students in science and schools. We focus our analysis on what this means for preservice teachers as they become language policymakers in linguistically diverse settings.

Theoretical Frameworks

Raciolinguistic Ideologies

In recent years, scholarship about the language practices of emergent bilingual, English learners and immigrant students has merged with discussions about racism in U.S. society. This work draws in part from a robust literature on language ideologies, which encompasses conscious or unconscious beliefs and ideas about the social and political role of language (and its speakers) in society (Schieffelin, Woolard, & Kroskrity, 1998). Conceptual connections between language and race have led to a new field – raciolinguistics – which seeks to analyze race “through the lens of language, and vice versa – in order to gain a better understanding of language and the process of racialization” (Alim, 2016, pp. 2-3). A raciolinguistic intersectionality interrogates the ways that language is judged deficient if it diverges from the language varieties used by middle class white speakers. Language practices are thus racialized for both white and communities of color (Flores & Rosa, 2015). As Rosa (2019) has astutely elaborated, the conflation of language and race results in the notion of “looking like a language and sounding like a race” (p. 2).

Raciolinguistics and the Political Reification of Paradox

The Oxford English Dictionary defines *paradox* as an argument, statement, or tenet “based on (apparently) acceptable premises and using (apparently) valid reasoning, which leads to a conclusion that is against sense, logically unacceptable, or self-contradictory.” In the state of Arizona, the presence and definition of paradox is useful for researchers who attempt to make sense of language policies in K-12 school settings. State policies are paradoxical in the way that language learning and teaching are ideologically framed, legislatively defined, and administratively implemented. In short, many of the language policies currently in place are illogical, atheoretical and socially unjust.

Arizona currently implements a restrictive language policy for designated English learners and emergent bilingual students. If these students score poorly on the state's language proficiency test (the Arizona English Language Learner Assessment, or AZELLA), they are classified as English learners. They are then placed into segregated "English Language Development" (ELD) blocks in which instruction overwhelmingly focuses on grammar, vocabulary development and reading.¹ The policy derived from three misinformed but authoritative declarations about language acquisition and teaching: (1) that young children learn English better than older students; (2) that immersion in an all English setting would help students acquire the language more rapidly; and (3) that such an approach would teach them enough English in one year to be academically successful in the mainstream classroom (Combs, 2012). These declarations may sound reasonable to elected officials, but their claims have little support in second language acquisition theory and in the research literature on emergent bilingual students in public schools.

Herein lies a principal paradox of Arizona language policy, the reification of folk theories about language learning and teaching as accepted truth, at least in the official state discourse. The (il)logic of this phenomenon can be expressed as follows: language policy declarations, even misleading or false, become codified in the Arizona Revised Statutes as law. Because these statements are ubiquitous in state policy documents and reports, press releases and professional development sessions, they ultimately become officialized as truth.

¹ Until relatively recently, English language development blocks constituted a major portion of each school day (four hours). After numerous research studies revealed that students in these blocks were not acquiring English in one year as the program had originally promised, state legislature in January 2019 reduced the blocks from four hours to two. Legislators were also persuaded by the dismal graduation rate of English learners in Arizona schools, approximately one student in four (Huang et al, 2016), as well as the fact that even when reclassified as fully English proficient -- typically after two, three, even four years -- English learners were so far behind in their academic content areas that they struggled to catch up (Milem et al, 2013).

At the same time the Arizona Department of Education was enforcing the state's English only policies, it was also promoted the learning and teaching of "World and Native Languages" as a means of engaging students in "21st century literacy skills" and building their "interpersonal, interpretative, and presentational skills" (ADE, 2015). The State Legislature unanimously passed an "emergency" measure to establish the Arizona Critical Language and Economic Development Pilot Program to incentivize schools and districts to develop courses in critical languages. Following the U.S. Department of State, the Arizona Legislature defined critical languages as those "less commonly taught languages that are crucial for the nation's foreign policy, national security and economic prosperity."² Arizona's critical language policy added Spanish, French, Portuguese and a general category called "Native American languages" to the State Department's list, but ultimately, settled on only two languages to pilot: Chinese and Spanish.

English language learners and emergent bilingual students are prohibited from enrolling in the pilot program to study critical language, which paradoxically, might be their mother tongue or heritage language.³ Legislators provided two justifications for excluding these students from the program. First was the concern that students were not cognitively able to learn a third language at the same time they were learning English. Indeed, because their "neural networking" capacity was incomplete, as one supporter of the policy argued, English learners would be confused if they added a critical language to their linguistic repertoire before becoming fully proficient in English. The deficit perspective of English learners as cognitively confused and incapable of acquiring multiple languages is clear, but their exclusion from the critical language

² These languages include Arabic, Azerbaijani, Bangla, Chinese, Farsi, Hindi, Indonesian, Japanese, Korean, Panjabi, Russian, Somali, Swahili, Turkish, and Urdu (<https://www.nsep.gov/content/critical-languages>).

³ Title 15, Section 216 of the Arizona Revised Statutes states explicitly, "Pupils who are classified as English language learners pursuant to section 15-756 and native speakers of the critical language being taught are not eligible to participate in the pilot program" (<http://www.azleg.gov/viewdocument/?docName=http://www.azleg.gov/ars/15/00216.htm>).

program is also counterintuitive. Native or heritage speakers of Chinese or Spanish are uniquely positioned to acquire these languages as well as or better than monolingual English speakers enrolled in these language courses. Again paradoxically, they would provide expert language models for English speaking students, an affordance seemingly ignored by state legislators.

The effect of Arizona language policy is to create a two-tiered system that racializes the categories of students (in)eligible for expanded language learning opportunities. Hence another paradox: the opportunity for white, affluent and middle-class English-speaking students to develop academic skills in Spanish or Chinese when their peers of color, with linguistic or cultural attachments to these languages, are prohibited from enrolling in immersion or bilingual programs if these students also happen to be learning English as a second language. As Ruiz (2017, in Hornberger, p 182) wryly noted about contradictory approaches to bilingualism in the United States, which apply to Arizona as well, “Other languages are to be pursued by those who don’t have them, but they are to be abandoned by those who do.”

The Language Ideologies of Pre-Service Teachers

Language policies in the state also are entangled with the language ideologies of pre-service science teachers, who hold deep ideologies about the role of language in multilingual classrooms. Teachers may enact liberatory or oppressive language policy decisions, whether consciously or not, in their own practice -- ‘policies’ which are constituted within their own linguistic histories, educational experiences and worldviews, as well as within local policy contexts (Heineke, 2015; Menken & García, 2010).

Methods

We draw on data from two studies, both investigating pre-service science teachers' views on teaching science with culturally and linguistically diverse students in culturally and linguistically hegemonic contexts. We analyzed transcripts from semi-structured interviews, and from video-recorded natural classroom discourse, using Critical Discourse Analytic methods (Fairclough, 2010). The pre-service science teacher (PST) participants were purposively sampled from three different university-based science teacher education programs in Arizona and California over a 5 year period. Though the studies focused on preservice science teachers, some observations took place in classes involving multiple single-subject cohorts, and some data we report come from preservice English language arts and social studies teachers. Our sample included 15 preservice teachers in all.

Language Policy Paradoxes

Our analysis revealed that preservice teachers also articulated a range of positionings in terms of language policy, ideology, and schooling with emergent bilingual students. One student explicitly referenced Arizona's policy of segregating emergent bilingual students into daily four hour grammar and reading blocks, acknowledging that this amount of time precluded instruction in other content areas. For instance, Monica, a Latinx Preservice science teacher in Arizona, recalled that some of her friends in the ELD blocks lagged behind her academically in science and other subjects: "I was way more (advanced) than they were ... They need more than just four hours of English." Monica herself had begun her schooling experience as an English language learner and felt strongly that current state language policies did not meet the needs of these students. She believed that English learners could learn science along with their English-speaking peers if teachers modified their teaching strategies. In fact, these strategies could help

the entire class acquire science vocabulary. “It’s not like regular English. It’s like a new language.”

Similarly, Margaret, a white preservice science teacher in Arizona, agreed that English learners at her school site were not provided with the kind of curriculum and instruction they needed. The school did not even implement the four hour blocks, instead combining ELLs in a “resource” classroom together with English-speaking children with Independent Educational Plans (IEP) or 504 status:

I asked, "Where are the ELL's? Where's your classroom?" [I was told], "Oh, we just put them together in a resource class." [I also asked], “How about the kids that are coming? Are there no middle-schoolers that have transferred into this district that do not speak English?" [I was told], "Yeah, we'll just buddy them up with a kid who's bilingual and just buddy him up and you just call him and follow him around." ... How uncomfortable ... That's how they do at least in that particular campus. I'd like to think it's done differently elsewhere.

Elizabeth, a white preservice social studies teacher in California, recognized the racialized positioning of non-native speakers of Spanish as exemplars of linguistic ability because they had acquired a second language, while native speakers were encouraged to abandon their mother tongue:

[T]here are so many upper middleclass white kids in America who speak Spanish pretty good because of the opportunity that they had to study it in school or study abroad. That dichotomy that it’s something that we've labeled whiteness as this achievable thing that immigrants need to work towards, and part of that has been de-Spanishizing Mexican immigrant. Then we relabel it as this privileged thing, like, “oh, you need to be able to

“speak Spanish if you want to be successful in your career, you know. It’s such a marketable skill, you have to learn to speak Spanish!” I mean it’s just a really gross thing that we’ve done, where we take [Spanish] and turn it into something marketable but at the same time, if Spanish is your primary language and it shows and it sounds like it’s your primary language, then you’re not a marketable person.

Similarly, Dominique, a Latinx preservice English language arts teacher in California, criticized state policies that prevented native speakers of Spanish from taking Advanced Placement courses in the language, especially if they were learning English as a second language. She reflected on this: “we don’t value the efforts of Spanish-speaking students... we treat them like they’re catching up instead of rewarding them for all of the extra work and achievements that they are doing. like I just think that’s racism.”

Not all preservice teachers were as introspective about oppressive educational structures as Monica and Margaret. Their comments reiterated several of the destructive ideological tropes reflecting white supremacist linguistic and cultural norms. In one of the teacher preparation class activities we observed, preservice teachers were asked to react to a video, Laura Simon’s *Fear and Learning at Hoover Elementary* (1997), which touches on topics of immigration, citizenship, American nativism, and white racial resentment. In a full-class discourse after watching the film, preservice teachers’ responses ranged from ambivalent to defensive, and paralleling our theoretical focus, paradoxical. For example, Max, a white preservice social studies teacher, struggled with intimations in the video and the class discourse that assimilation into an English dominant society could negatively affect one’s academic success or cultural identity. For him, learning and using English was a practical goal:

I'm wrestling with this because I feel like in this room right now there's a lot of negative emphasis on the process of assimilations and the process of having people learn English like that's a negative thing. That confuses me because America is an enormous country, and predominantly, we speak English. That's an indisputable fact, right? Like sure, there are groups that don't speak English, but the vast majority of ... people who live here do. I'm having a really difficult time trying to recognize the negatives. Like, I hear the cultural element, and this is true, but at the same time, you need to be able to communicate with the vast majority of the population.

Max's consternation about challenges to linguistic assimilation surfaces a raciolinguistic perspective that relies on what Flores and Rosa (2015) call the "white gaze." Max's white gaze prevents him from developing a more nuanced analysis of the language practices of multilingual communities. For him, linguistic assimilation is both logical and necessary because "true" communication invariably occurs in English. Max acknowledges the presence of "groups that don't English" but perhaps assumes that this circumstance will pass. That public schools have functioned historically to eradicate the first languages of generations of immigrant students and thereby expedite the shift to English seems not to have occurred to him.

Some of the language ideologies of the pre-service teachers in our studies were more ambivalent. For example, Sal, a Latinx preservice science teacher, expressed complicated attitudes about his own bilingualism:

[I] was never considered a language learner, and I don't even know what to say when someone asks what my first language is. I went into Kindergarten speaking English fluently and Spanish fluently, and I've spoken English for as long as I can remember

without an accent. And it has made me more marketable because I can speak in both. But it's also, like, my Spanish is very formal, which does kind of separate me a little bit. Like there's some slang that my partner's mom uses that I just don't know because my Spanish is like a city Spanish. And it's a little bit of a disequilibrium ... people look at me differently depending on which kind of Spanish I speak, depending on where I am.

Sal reported that he was completely bilingual in English and Spanish when he entered Kindergarten and did not know which language he had learned first. Sal indicated that he had been able to maintain his Spanish as a marketable skill, though he characterized the variety he spoke as “very formal city Spanish.” His own idiolect set him apart from other Spanish-speakers in the area, he said, including his partner’s mother, who used slang expressions that he did not understand. Paradoxically, it was a point of pride for Sal that he had spoken English for as long as he could remember “without an accent.” Sal’s comments embed at least three hegemonic ideologies about language and its role in both public and private spaces. First, his self-described variety of Spanish as formal, or at least more formal than the Spanish spoken by others, implies that *his version* remains untainted by the informal colloquial use he encounters in community or extended family interactions. Sal’s city Spanish may intervene in his ability to participate in everyday language practices, but he seems relatively unconcerned about this. Finally, Sal echoes an ideological perspective that promotes English as a public language and Spanish as a private one (Rodriguez, 1982).

Second, Sal’s statement that his English was unaccented biases the standard language ideology that some English speakers have no accent. All speakers of any language have an accent of some kind. But what is an accent? Or as Lippi-Green (2012, p. 46) notes, the social construction of non-accent is “just shorthand for variable language.” In the process of learning

English as a second language, oral production is commonly marked by phonological interference from the first language. Learners may or may not acquire native or near-native regional pronunciation, though their English may be fluent and grammatical. However, if they speak English with an accent, native speakers – like Sal perhaps – may perceive it as incorrect or inappropriate. Linguistic hegemonic ideologies are not always conscious, but they are often deep. Sal is aware of the concept of accent because he believes he does not have one. For him, the correct or acceptable form of English is one that is formal and unmarked. Put another way, accented English is informal and socially marked. If speakers of accented English also happen to be Black or Brown, their variety is raciolinguistically stigmatized (Alim, Rickford & Ball, 2016).

Later in the interview Sal revealed some of the contradictions we often see with pre-service teachers trying to make sense of their own evolving attitudes about language. Although he maintained that learning English was necessary for school success, he also acknowledged that acquiring English should not occur at the expense of losing their first language. Sal also argued that English learners were capable of more learning more challenging content than they currently received in the English language development blocks:

I don't think of learning English as a negative either. I learned it passively. I don't know how I did, but I think the main issue comes from learning it [but not] from forgetting Spanish... I think it's more like making English learners look like infants, instead of challenging them. Because I do agree with you, I think English is necessary, and I think it's important to learn it as someone who comes into this country. But I think it's important to not learn it by erasing Spanish.

The findings from our studies reveal that a focus on preparing preservice teachers to shelter content instruction such as science for emergent bilingual students without attention to

the racialized policy contexts in which they teach does little to dismantle racist and hegemonic language ideologies in science and/or schooling. Our analysis also reveals the language ideology paradoxes held by some of these teachers.

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