

**SPECIAL ISSUE**  
**Navigating the Contested Terrain of**  
**Teacher Education Policy and Practice**

education policy analysis  
archives

A peer-reviewed, independent,  
open access, multilingual journal



Arizona State University

Volume 26 Number 36

March 12, 2018

ISSN 1068-2341

**Teacher Preparation for Emergent Bilingual Students:  
Implications of Evidence for Policy**

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**Citation:** López, F., & Santibañez, L. (2018). Teacher preparation for emergent bilingual students: Implications of evidence for policy. *Education Policy Analysis Archives*, 26(36).

<http://dx.doi.org/10.14507/epaa.26.2866> This article is part of the Special Issue, *Navigating the Contested Terrain of Teacher Education Policy and Practice*, guest edited by Elena Aydarova and David Berliner.

**Abstract:** Failure to adequately prepare teachers of emergent bilingual (EB) students could have devastating consequences for student achievement, EB reclassification, and eventually, high school and college completion. To enhance the policy discourse, we explore how teacher certification requirements relate to both EB student achievement and teacher self-efficacy in three states with

Journal website: <http://epaa.asu.edu/ojs/>

Facebook: /EPAAA

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Manuscript received: 12/13/2016

Revisions received: 1/11/2018

Accepted: 2/17/2018

similar EB student populations but disparate policies on ways to meet EBs' needs: Arizona, California, and Texas. To do this we ask: (1) How well do states prepare their teachers to meet the needs of EBs? (2) What knowledge specific to meeting EBs' needs do states require their teachers to demonstrate? (3) How are these requirements related to teacher perceptions of their preparedness to effectively teach EBs? We find that there are marked differences across the three states in terms of how well they prepare EBs, and these patterns can be discerned from their teacher preparation requirements. Although teachers' self-efficacy does not appear to be related to teacher training in the first three years of teaching, there is an advantage to more rigorous training over time. Implications for policy are discussed.

**Keywords:** English language learners; teacher preparation; teacher effectiveness

### **Preparación del maestro para estudiantes bilingües emergentes: Implicaciones de la evidencia para la política**

**Resumen:** La falla en preparar adecuadamente a los maestros de estudiantes bilingües emergentes (EB) podría tener consecuencias devastadoras para el rendimiento estudiantil, la reclasificación de EB y, finalmente, la terminación de la escuela secundaria y la universitaria. Para mejorar el discurso político, exploramos cómo los requisitos de certificación docente se relacionan con el rendimiento estudiantil y la autoeficacia de los docentes en tres estados con poblaciones estudiantiles EB similares, pero con políticas distintas sobre cómo satisfacer las necesidades de EBs: Arizona, California y Texas. Para hacer esto, preguntamos: (1) ¿Qué tan bien preparan los estados a sus maestros para satisfacer las necesidades de los EB? (2) ¿Qué conocimiento específico para satisfacer las necesidades de EBs requieren los estados que sus maestros demuestren? (3) ¿Cómo se relacionan estos requisitos con las percepciones de los docentes acerca de su preparación para enseñar eficientemente EB? Encontramos que existen diferencias significantes en los tres estados en términos de qué tan bien preparan los EB, y estas tendencias se pueden discernir de sus requisitos de preparación del maestro. Al tanto la autoeficacia de los docentes no parece estar relacionada con la formación del docente en los primeros tres años de enseñanza, existe la ventaja de una formación más rigurosa a lo largo del tiempo. Implicaciones para la política se discuten.

**Palabras clave:** Aprendices de inglés; preparación del maestro; efectividad del maestro

### **Preparação de professores para estudantes bilíngües emergentes: implicações de evidência para política**

**Resumo:** A incapacidade de preparar adequadamente os professores de estudantes bilíngües emergentes (EB) poderia ter consequências devastadoras para a realização dos alunos, a reclassificação do EB e, em última instância, a conclusão do ensino médio e da faculdade. Para melhorar o discurso político, exploramos como os requisitos de certificação dos professores se relacionam com a realização do aluno e a auto-eficácia do professor em três estados com populações similares de estudantes de EB, mas com diferentes políticas de como atender às necessidades de EBs: Arizona, Califórnia e Texas. Para fazer isso, perguntamos: (1) quão bem os estados preparam seus professores para atender às necessidades dos EBs? (2) Que conhecimento específico para atender às necessidades de EBs exige os estados que seus professores demonstrem? (3) Como esses requisitos se relacionam com a percepção dos professores de sua preparação para ensinar EB de forma eficiente? Achamos que há diferenças significativas nos três estados em termos de quão bem o EB se prepara, e essas tendências podem ser discernidas com os requisitos de preparação de professores. Embora a auto-eficácia dos professores não pareça estar relacionada à formação de professores nos primeiros três anos de ensino, existe a vantagem de um treinamento mais rigoroso ao longo do tempo. Implicações para a política são discutidas.

**Palavras-chave:** Aprendizes de inglês; preparação de professores; eficácia do professor

## Teacher Preparation for Emergent Bilingual Students: Implications of Evidence for Policy

The vast majority of teachers feel under-prepared to meet the needs of students who speak a language other than English at home (Ballantyne, Sanderman, & Levy, 2008; Faltis & Valdés, 2016). This is a significant concern because teachers' beliefs about their competencies are associated with both student (e.g., learning) and teacher (e.g., turnover) outcomes (see Klassen & Chiu, 2010). Emergent bilinguals (EBs)<sup>1</sup> are particularly vulnerable not only because they are disproportionately taught by less qualified teachers (Faltis & Valdés, 2016), but also because teacher education policy deliberations remain largely silent about their unique educational needs. Even organizations like the Association of Teacher Educators (ATE) and the American Association of Colleges for Teacher Education (AACTE) that “[advocate] for high-quality research-based traditional teacher education programs” neglect any mention of “the role of teacher education and teacher educators in the preparation of teachers for teaching linguistically diverse students, English language learners, or bilingual students” (Faltis & Valdés, 2016, p. 557) in their mission statement. When one considers that education reforms claim to provide answers to the “problem of teacher education” (Cochran-Smith & Power, 2013, p. 9), including a “deregulation agenda [that has] aimed to eliminate most requirements for entry into teaching and to dismantle state licensing/certification apparatus” (Cochran-Smith & Power, 2013, p. 12), the need to address the challenge all teachers face when teaching EBs is particularly urgent.

Failure to adequately prepare teachers of EBs could have devastating consequences for student achievement, EB reclassification, and eventually, high school and college completion (Callahan, 2013). Given that a significant share of teachers can expect to have EBs in their classrooms at some point in their careers and that “teachers always negotiate and enact educational policies, theoretical stances, and learned practices about English language learners” (Faltis & Valdés, 2016, p. 572), it is imperative to inform policy deliberations about the knowledge and skills teachers must develop to be effective with this growing student population. To enhance policy discourse on teacher preparation, we explore how teacher certification requirements—which are largely a function of state language instruction educational programs (LIEPs)—relate to both teacher self-efficacy and EB student achievement in three states with similar EB student populations (NCELA, 2013) but disparate policies on how they meet EBs' needs: Arizona, California, and Texas<sup>2</sup>. To do this we ask:

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<sup>1</sup>Although students who are acquiring English as a second language are more commonly known as English learners (ELs) or English language learners (ELLs), Garcia (2009) asserts that they are more accurately described as *emergent bilinguals* given their “potential in developing their bilingualism” (p. 322). Accordingly, even though this potential is most often undermined by U.S. policies (e.g., López et al., 2015) as well as “inadequate resources” and a lack of “institutional will” (Garcia, Jensen, & Scribner, 2009, p. 12), we use EB to more accurately reflect the kinds of policies that build on students' assets. We retain authors' terminology when quoting their work.

<sup>2</sup>We chose three states with very similar EB demographics to be able to eliminate (to the extent possible) issues with comparability across states. Arizona, California, and Texas are border states with similar histories (e.g., Treaty of Guadalupe Hidalgo, 1848) and contemporary dynamics. For example, the three states have a number of *twin cities* along the border “where deep economic, social, political and family ties belie the idea that the border should be a fortress” (Branson-Potts, 2017). These and other similarities have contributed to populations of EBs that are demographically very similar (e.g., approximately 90% of EBs speak Spanish in the three states [NCELA, 2013], and an overwhelming majority of EBs identify as having Mexican heritage

(1) How closely do minimum teaching credential requirements align with the extant research focused on preparing all new teachers for linguistically diverse classrooms? (2a) To what extent does self-efficacy of novice teachers differ across states? (2b) To what extent do teachers' satisfaction ratings differ based on the number of years taught and the proportion of EBs in their class? (3) To what extent does achievement of EB, former EB, and non-EB students differ across states, as measured by fourth- and eighth-grade<sup>3</sup> mathematics and reading National Assessment of Educational Progress (NAEP) scores<sup>4</sup>?

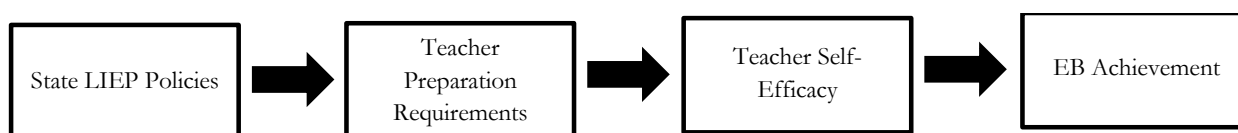


Figure 1. Conceptual framework representing teacher preparation and teacher self-efficacy as mediators of policy on EBs' achievement outcomes.

In the sections that follow, we provide an overview of the central domains of our conceptual framework (see Figure 1) that inform our research questions and analyses. We begin with a discussion of the federal policy context for EBs prior to detailing the specific LIEP policies in Arizona, California, and Texas that inform the minimum teacher preparation requirements in each state. We then turn to a brief review of the literature reflecting best practices for educating EBs. In consideration of concerns that teachers feel under-prepared to meet the needs of EBs (Ballantyne et al., 2008; Faltis & Valdés, 2016), we also review evidence of the relationship between teacher self-efficacy with teacher and student outcomes.

### Policy Context

In 1974, the Supreme Court decision in *Lau v. Nichols* held that the lack of language accommodations for students who did not speak the language of instruction constituted a violation of the 1964 Civil Rights Act. That same year, remedies were codified into the Equal Educational Opportunities Act (EEOA) and the amendment to the United States Bilingual Education Act

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[García & García, 2012]). Although the state shares much of the same history as the three states we did include, we excluded New Mexico because there are salient differences in New Mexico's EB population that would compromise analyses. Namely, in New Mexico, 15% of EBs speak Navajo (the second most spoken language among EBs; NCELA, 2013). We considered the sovereignty and heritage language nuances that have differentially contributed to the EB population in New Mexico in our decision to omit the state from analyses presented here.

<sup>3</sup> Grade 12 data are not available for the three states.

<sup>4</sup> Here, it is important to note that although numerous scholars have detailed inherent issues with the use of achievement scores (e.g., Valenzuela, 2005), we believe that the evaluation of overall achievement patterns that use a within-group approach are important to consider when examining teacher preparation for EBs for two key reasons. The first is to be consistent with scholars' assertions about the need to link teacher practices to achievement outcomes to more forcefully influence policy (see Sleeter, 2004). The other reason we include achievement outcomes is because ignoring the power of achievement scores denies marginalized students access to power (Delpit, 1988). In this spirit, we believe that variation of achievement across states reflects "opportunity gaps" (Ladson-Billings, 2004) that stem from inequitable policies. Accordingly, achievement here is a metric used to determine the extent to which states are failing to ensure equitable educational access to EBs.

(BEA), which provided increased guidance and federal funding<sup>5</sup> to ensure equitable educational opportunities for students who were not proficient in English. The EEOA holds state educational agencies (SEAs) and school districts accountable for meeting the needs of EBs, but does not require states to adopt a particular LIEP. LIEPs either use EBs' first language (hereinafter L1) in instruction to build content knowledge as students acquire proficiency in English (i.e., bilingual education and dual language approaches), or focus more explicitly on the acquisition of English with little to no L1 support (i.e., English as a Second Language [ESL] or Structured English Immersion [SEI]; see Table 1). To comply with the EEOA, SEAs and school districts are directed to implement LIEPs that are (1) empirically-supported, (2) implemented with adequate resources, and (3) evaluated for effectiveness<sup>6</sup>. Federal requirements also charge states with accurately identifying EBs, determining their need for linguistic support, and monitoring their progress.

Table 1

*Range of language instruction educational programs and their respective language of instruction and goals*

Language Instruction Educational Program	SEI	ESL	Transitional Bilingual Education	Dual Language
Language of instruction	English	English	Bilingual	Bilingual
Goal	Proficiency in English	Proficiency in English	Proficiency in English	Bilingualism Biliterycy

*Note:* Adapted from Scanlan & López (2014).

A review of state policies reveals wide variation in how states attempt to comply with federal requirements that require equitable educational access for EBs. Each state's requirements result not only in a myriad of LIEPs across contexts, but also stark differences in each state's minimum requirements for teacher certification. Given that essential knowledge is provided to preservice teachers through required coursework (Darling-Hammond, 2000; Darling-Hammond & Bransford, 2005) and that "states, through policies and regulations, continue to exert significant influence on the preservice training teachers receive prior to entering the classroom as the teacher of record" (Loeb & Miller, 2006, p. 8), it is necessary to understand the policies that inform the skills teachers are required to have to be effective with EBs in each state.

**Arizona LIEP Policy.** In 2000, 63% of Arizona voters repealed bilingual education with SEI, wherein EBs "shall be taught English by being taught in English... during a temporary transition period not normally intended to exceed one year" (A.R. S. § 15-752). The guidance originally provided to schools by the state was limited to an assertion that most instruction should be in English, but that all subject matter should be taught only in English (see Lillie, Markos, Arias, & Wiley, 2012). The limited guidance resulted in capricious implementation and teacher training (Combs, Evans, Fletcher, Parra, & Jiménez, 2005; Grijalva, 2009). In response<sup>7</sup>, HB 2064 (2006)

<sup>5</sup> Funding increased from \$7.5 million to \$68 million.

<sup>6</sup> The three factors for compliance stem from the Fifth Circuit Court of Appeals interpretation the EEOA provisions in *Castañeda v. Pickard* (1981).

<sup>7</sup> For a detailed review of policy developments contributing to HB 2064, see Lillie et al. (2012).

established the ELL Task Force charged with creating an operational definition of SEI that would include a minimum of four hours of English language development (ADE 2014). The SEI model that resulted required EBs to be grouped homogeneously by English proficiency where they receive a four-hour block of instruction focused on phonology, morphology, syntax, lexicon, and semantics delivered separately from subject areas (ADE, 2014).

To determine English proficiency for classification into SEI classrooms, students who have a language other than English reported on the Home Language Survey are assessed with the Arizona English Language Learner Assessment (AZELLA). The AZELLA is an English proficiency assessment that has four domains (listening, speaking, reading, and writing) and five proficiency levels (pre-emergent, emergent, basic, intermediate, and proficient) (ADE, 2011). Critiqued for its egregious validity issues that included inaccurate identification, as well as premature reclassification that eliminated EBs' access to support and continued progress (see US Department of Education, 2010), the AZELLA has since been revised, although technical information about the assessment remains elusive (ADE, 2011).

Although implementation of the ELL Task Force's four-hour block was delayed until the 2008-2009 school year, the model continues to be in flux. The state has recently introduced "refinements" that reduce the amount of time EBs are segregated from peers when EBs meet specific English language proficiency criteria. For example, EBs in their first year of instruction or who score below intermediate proficiency are required to receive two continuous hours of reading, oral English conversation, and vocabulary; and another continuous two hours of integrated writing and grammar (ADE, 2014). EBs who are at least in their second year and score at least at the intermediate proficiency level, however, can have the amount of instruction reduced from two hours per domain to 90 minutes (ADE, 2014). Despite the fact these refinements have been in place for several years, many teachers and administrators continue to be unaware of them (ADELEAC, 2016).

**Arizona Teacher Preparation Policy.** Once the ELL Task Force operationally defined SEI, all teachers<sup>8</sup> were required to have SEI endorsement to teach in any classroom. This requirement can be met with one semester hour of coursework related to the teaching of the English Language Learner Proficiency Standards, "completion of 45 clock hours of professional development in the teaching of the English Language Learner Proficiency Standards," or "a passing score on the Structured English Immersion portion of the Arizona Teacher Proficiency Assessment" (Arizona Department of State, 2016, p. 231). The SEI curricular framework that is used regardless of how teachers meet the requirements for SEI endorsement summarizes four domains that all teachers must understand (ASBE, 2011). The first three domains each require a minimum of three clock hours: ELL Proficiency Standards (e.g., Use ELL Proficiency Standards to plan, deliver and evaluate instruction"); Assessment (e.g., "Identify and use alternative methods of assessment"); and Foundations of SEI (e.g., "List language acquisition theoretical principles"). The last domain, SEI Strategies, requires a minimum of 24 clock hours and includes knowledge regarding "comprehensible input," "grouping structures and techniques," and "building vocabulary" (see ASBE, 2011).

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<sup>8</sup> All teachers must have content-area certification and SEI endorsement.

**California LIEP Policy**<sup>9</sup>. In 1998, Proposition 227 was promulgated as a response to the poor performance and high dropout rates among EBs that were blamed on bilingual education<sup>10</sup> (Rossell, 2002). Although Proposition 227 repealed bilingual education in California two years before Proposition 203 did the same in Arizona<sup>11</sup>, California policy allowed bilingual education in cases where at least 20 EBs who were in the same grade had parental waivers signed (an option not available in Arizona). In situations where the minimum of 20 students was not met, students with waivers still had to be provided opportunities to attend schools that provide bilingual education.

Students with a language other than English reported on the Home Language Survey are assessed with California English Language Development Test (CELDT)<sup>12</sup>, which reflects English proficiency skills in listening, speaking, reading, writing, and comprehension. The assessment is administered within the first month of EBs' enrollment in California schools, and annually thereafter until they are reclassified as English proficient. Proficiency levels are reported as beginning, early intermediate, intermediate, early advanced, or advanced. Although a minimum overall performance level on the CELDT that falls along the upper end of intermediate proficiency is used as the primary criterion for possible reclassification, California also includes teacher evaluation and parental feedback in reclassification decisions (see CDE, 2016).

**California Teacher Preparation Policy.** The California Education Code<sup>13</sup> explicitly states that for EBs

to have access to quality education, their special needs must be met by teachers who have essential skills and knowledge related to English language development, specially designed content instruction delivered in English, and content instruction delivered in the pupils' primary languages (EC Section 44253.1)

In addition to these considerations, authorization to serve EBs details the following:

There is no numerical trigger and no percentage of students needing particular English learner services that determines a misassignment. If one or more of the students in the class needs English learner services or requires specially designed academic instruction (SDAIE) in a subject area, the teacher providing the English learner services must hold an appropriate English learner certificate or authorization. (CCTC, para 9).

In 2001, the California Commission on Teacher Credentialing (CTC) established that authorization to teach EBs would be embedded within the basic credential.<sup>14</sup> All teachers who seek certification in California “earn an EL authorization based on their teacher preparation coursework” (CCTC, 2016, p. 17). This is sometimes referred to in the state as the *infused credential* model. To be compliant with requirements, teachers who earned certification prior to July 1, 2007, must “complete requirements for an English learner authorization” (CTC, 2016, p. 17), which includes the California Teacher of English Learners (CTEL) exam and a CTET preparation program. The CTET is the minimum

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<sup>9</sup> In November 2016, 74% of voters favored the Non-English Languages Allowed in Public Education that repealed Proposition 227 requirements.

<sup>10</sup> Gándara, Rumberger, Maxwell-Jolly, & Callahan (2003) found that 70% of the CA EBs who qualified for linguistic support were not receiving it. Accordingly, poor student outcomes were more a function of erratic programmatic participation than bilingual education itself.

<sup>11</sup> Both Proposition 203 and 227 were authored by the same individual, Ron Unz.

<sup>12</sup> The English Language Proficiency Assessment for California will replace the CELDT in 2017-2018.

<sup>13</sup> EC Section 44001, EC Section 44830(a), EC Section 44831, and particularly EC Section 44253.1.

<sup>14</sup> See <https://www.ctc.ca.gov/docs/default-source/commission/coded/2001/010010.pdf>

certification required<sup>15</sup> and reflects three core areas: language and language development; assessment and instruction; and culture and inclusion. Teachers who earn an English Learner Authorization or Crosscultural, Language, and Academic Development (CLAD) certificate demonstrate proficiency in Specifically Designed Academic Instruction in English (SDAIE) and instruction in English language development (SCCTC, 2016a). Teachers can also add a bilingual authorization to their infused credential. Bilingual authorizations are provided to teachers who have passing scores on certain sections of the CTEL, as well as either a passing score on the World Languages sections of the CSET (California Subject Examination for Teachers) or a CTC-approved bilingual program. Bilingual authorizations allow teachers to deliver content instruction in the student's L1.

**Texas LIEP Policy.** Texas requires each school district with an enrollment of 20 or more EBs in the same grade level to offer bilingual education that uses EBs' L1 as they develop proficiency in English. In cases where bilingual education is untenable, Texas explicitly requires ESL (TEC, §89.1201). Thus, unlike Arizona and California, Texas does not require all *teachers* to have the knowledge and skills to be effective with EBs, but does require that all *EBs* have access to a teacher certified to meet their needs.

To identify EBs, students with a language other than English reported on the Home Language Surveys are assessed within four weeks of enrolling in a Texas school with one of numerous approved assessments for identification. The assessments measure one or more of the following domains: listening, speaking, reading, language, and/or written expression. The proficiency levels depend on the particular assessment used. After initial identification, one of various annual assessments can be used for reclassification that reflect English proficiency in one or more of the following domains: listening, speaking, reading, and/or writing. To be reclassified, however, EBs must demonstrate proficiency across all four domains in addition to teacher feedback. For details on the various assessments, see TEA (2017).

**Texas Teacher Preparation Policy.** Due to Texas LIEP requirements for bilingual education or ESL, teachers of EBs are required to hold bilingual/ESL or ESL certification. These requirements include “appropriate subject matter requirements” and passing the appropriate bilingual education and/or ESL certification examination. The only difference between the two types of certifications is that to be certified as a bilingual/ESL teacher requires language proficiency (most often Spanish). For that reason, teachers who meet certification requirements for bilingual/ESL can teach in bilingual or ESL settings, whereas ESL certified teachers can *only* teach in ESL settings. For details on the types of bilingual education and ESL programs, waivers, and certification requirements, see TEA §230.31 (2017).

**Summary.** The amendment to the BEA in 1974 stemming from the *Lau v. Nichols* decision helped establish bilingual education in many states. By the late 1990s, however, inaccurate evidence that blamed the poor performance of EBs on bilingual education (e.g., Rossell, 2002) was used to convince voters in Arizona and California (as well as Massachusetts) to repeal bilingual education. This had a direct effect on the number of teachers seeking bilingual/ESL certification. As illustrated in Figure 2, prior to restrictive language policies implemented in California and Arizona, the three states had roughly the same proportion of teachers with bilingual training.<sup>16</sup> After the year 2000, the

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<sup>15</sup> Teachers who earn a Bilingual Authorization are also authorized to provide SDAIE and English language development, as well as instruction to develop EBs' primary language and deliver content in EBs' primary language (SCCTCb, 2016).

<sup>16</sup> We define specialist trained teachers as those with a bilingual education or ESL certification or endorsement, B.A. with bilingual education or ESL as major field of study, and/or M.A. in bilingual education or ESL.



proportion in the three states begins to clearly diverge. In Texas, there has been an upward trend in the proportion of teachers who are bilingual/ESL certified. In both Arizona and California, however, there has been an overall decline in the proportion of teachers trained in bilingual education after bilingual education was repealed. The drop was especially sharp in California, which coincides with the time in which the state began to embed EL-authorizations within basic credentials. In 1993-94 about 14% of sampled teachers in SASS reported having bilingual education training. By 2012, this figure had dropped to a little under 4%.<sup>17</sup> In Arizona the number declined less dramatically, from 12% to 10%. This illustrates the influence state policies have on teacher certification.

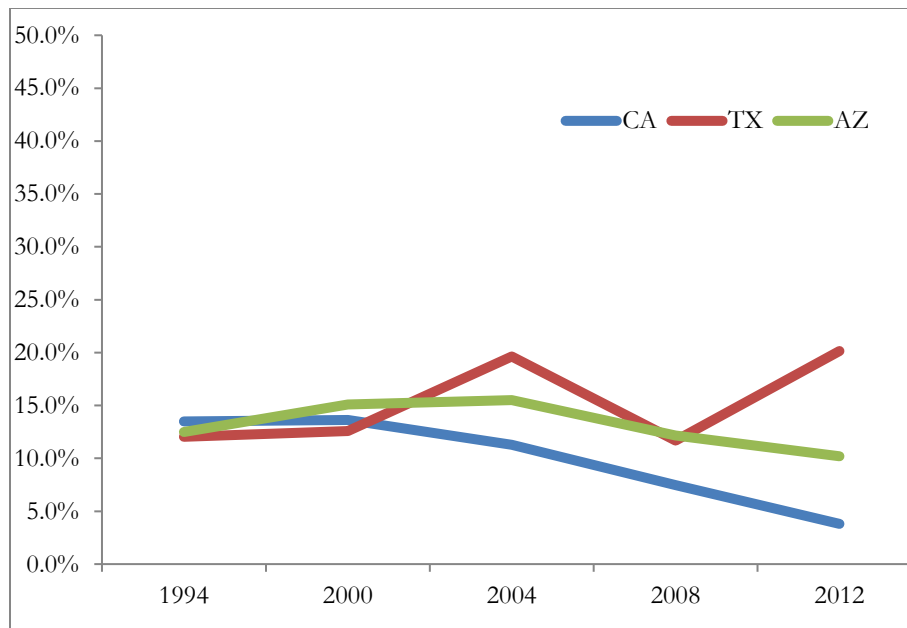


Figure 2. Percentage of new teachers with bilingual and/or ESL training over time.

### Teacher Preparation Focused on the Needs of EBs

The most comprehensive theoretical framework we identified that represents the knowledge and skills teachers of EBs should develop was created nearly two decades ago with input from experts at AACTE, as well as the National Center for Bilingual Education; the Center for Research on Education, Diversity, and Excellence; and the Teachers of English to Speakers of Other Languages Pre-K-12 Teacher Education ESL Standards Committee (Menken & Antuñez, 2001). In their study, Menken and Antuñez examined the extent to which specialist (bilingual/ESL) teacher preparation programs required the essential knowledge identified in the framework because “teaching English language learners requires preparation above and beyond training required of teachers in an English-only setting” (Menken & Antuñez, p. 10). Due to evidence that “the body of teachers most qualified to accommodate [EBs’] needs has been unable to match their growth” (p. 3),

<sup>17</sup> These numbers closely match what is reported in the California Commission on Teacher Credentialing (CTC). Beginning around 2003, California no longer offers a bilingual certification (BCLAD), but offers a bilingual authorization that can be added to any credential. The proportion of bilingual certifications (authorizations) in 2012-13 per CTC data was 4.8%.

they also examined the extent to which mainstream teacher certification programs required knowledge represented in the framework.

The framework consists of 31 discrete categories<sup>18</sup> across three domains: *knowledge of pedagogy*, *knowledge of linguistics*, and *knowledge of cultural and linguistic diversity*. To identify the extent to which knowledge represented in each of the categories was required for teacher certification, AACTE disseminated surveys among member institutions. In their analysis of responses, Menken and Antuñez (2001) found that the discrete knowledge represented in the pedagogy domain (e.g., ESL methods and L1 literacy) and the cultural and linguistic diversity domain (e.g., policy and history) were often emphasized, but that was not the case for the linguistics domain. Menken and Antuñez also found that few programs across the US offered bilingual certification and even fewer required mainstream teachers to have requisite knowledge to be effective with EBs.

In addition to a paucity of specialist certification programs available, specialist certification often requires four or more additional courses than mainstream teacher certification (Menken & Antuñez, 2001). With the exponential increases in the cost of higher education (Mitchell, Palacios, & Leachman, 2014), these factors have exacerbated the shortage of specialist-certified teachers. To ensure EBs have access to teachers with at least some knowledge to meet their needs, some scholars have called for teacher education programs to require, at minimum, a one credit “course devoted to teaching [EBs] and one that all preservice teachers are required to take” (Lucas, Villegas, & Freedson-Gonzalez, 2008, p. 370). In their review of the literature, Lucas et al. identify six “essential understandings of second language learning for linguistically responsive teachers” (p. 363). These essential understandings are (1) knowledge about the differences between conversational language and academic language, as well as the time it takes for each of these to develop; (2) how comprehensible input and opportunities to produce output promote the development of language; (3) the role of social interaction in language development; (4) the role of L1 skills in the development of English language skills; (5) affective features of language learning; and (6) a formal focus on English. More recently, Santos, Darling-Hammond, and Cheuk (2012), as part of Stanford University’s Understanding Language Initiative, presented four principles reflected in the literature to meet the needs of EBs: language progressions, language supports, language demands, and language scaffolds. Most recently, Faltis and Valdés (2016) provided a comprehensive review (and critique) of scholarship focused on knowledge all teachers must have to be effective with EBs. Acknowledging that the vast majority of preservice teachers come from backgrounds that are dissimilar to the students they will serve and feel unprepared to meet EBs’ needs, Faltis and Valdés focus on scholarship that has been used to inform specialist-certification, but assert that the knowledge should be used “to prepare all new teachers for teaching in linguistically diverse classrooms, with English language learners, students with multiple English competencies, and varieties of language that may or may not be shared by teachers” (p. 552).

The essential understandings presented by Lucas et al. (2008), as well as Santos et al.’s (2012) principles, are reflected across several of the categories in Menken and Antuñez’s (2001) *knowledge of pedagogy* and *knowledge of linguistics* domains, but they lack essential knowledge about policy, history, and legislation found in the *knowledge of cultural and linguistic diversity* domain. In contrast, Faltis and Valdés (2016) include knowledge represented across all domains presented in Menken & Antuñez’s framework. Faltis and Valdés also raise issues, however, with some of the scholarship and empirical research that has frequently been used in teacher preparation, asserting that it is often extraneous to K-12 populations and thus not applicable to teacher preparation. Moreover, they assert that reliance on “research-based studies may be a shibboleth that needs replacing with the developing scholarship that advocates for and addresses language diversity using epistemologies untethered to scientific

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<sup>18</sup> The discrete categories are presented in the appendix.

research” (p. 552). They explain that there is a dearth of relevant empirical research that can inform teacher preparation, and yet, “[it] is morally bankrupt to wait for empirical research to inform teacher educators what to do to prepare teachers, when we are so clearly failing to appropriately teach many students” (p. 552). Instead, Faltis and Valdés point out that

there is sufficiently robust and promising scholarship that teacher educators can and should incorporate across the curriculum to prepare all new teachers for teaching in linguistically diverse classrooms, with English language learners, students with multiple English competencies, and varieties of language that may or may not be shared by teachers. (p. 552)

Faltis and Valdés not only detail the scholarship that should be incorporated across the curriculum for all teachers, but also raise issues with “much of the ‘foundational’ knowledge about teaching English language learners that has been used in teacher education programs, including bilingual education programs since the mid-1970s” (p. 570). Thus, after considering the robust approach used in developing the framework (Menken & Antuñez, 2001) and finding that the domains and categories still very much apply to the scholarship reviewed by Faltis and Valdés, we briefly summarize each of the framework’s domains below, updated with the essential knowledge and critiques raised by Faltis and Valdés<sup>19</sup>. With 31 discrete categories in the original framework, however, it was untenable to provide a review of the literature that detailed scholarship for each one separately. Although we represent scholarship within each of the three domains below (*knowledge of pedagogy*, *knowledge of linguistics*, and *knowledge of cultural and linguistic diversity*), we were selective in representing discrete categories in the review and analyses. To that end, we first considered Faltis and Valdés’ disclaimer, “we have purposefully left out issues of literacy and biliteracy, although they are of central importance to the teaching of English language learners” (p. 583). Thus, in our discussion of *knowledge of pedagogy*, we begin with a brief review of scholarship that underscores the knowledge teachers of EBs should have regarding L1 literacy. The remaining categories are aggregated in consideration of Menken and Antunez’s (2001) findings that teacher education programs typically aggregate knowledge across categories, the fact that bilingual education is most often transitional in nature (with an emphasis on English acquisition), as well as Faltis and Valdés’ discussion of the scholarship. What resulted was ESL/ELD as an aggregate of the original categories *ESL/ ELD Methods*, *Methods for Subject Matter Content in English*, *Methods for Subject Matter Content in L1*, and *Bilingual Methods*; Curriculum as an aggregate of *Materials Adaptation* and *Bilingual Curriculum*; Assessment as an aggregate of assessment in *Subject Content*, *English Literacy*, *L1 literacy*, and *Language*; and Practicum as an aggregate of practicum experiences in culturally and linguistically diverse settings and practicum experiences in bilingual settings. Using the same criteria, the other two domains themselves resulted as aggregates of the categories they represent (see Table A3 in the appendix for the full list of categories for each domain).

**Knowledge of pedagogy.** Faltis and Valdés (2016) review scholarship under the heading, *Pedagogical Language Knowledge*, attributed to Galguera’s (2011) language-related teacher practices. This includes scholarship focused on language acquisition and bilingualism, the particular language practices and language demands of different subjects, and “language as a medium for learning in all learning tasks” (Faltis & Valdés, p. 573). Also included is a focus on acquiring various scaffolding strategies to accommodate variability in EBs’ language needs with the goal of “[engaging] English

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<sup>19</sup> Our review of the essential knowledge is by necessity brief; however, readers can find summaries of recommended “key works that might be helpful to student teachers as an introduction to language and second language learners” in Faltis and Valdés (2016, pp. 580-583).

language learners in communicative interaction to build meaning (vocabulary and language practices), interpretation of talk and text, and performance using newly learned language and knowledge to show understanding of content” (p. 573).

**L1 literacy.** Although opponents of bilingual approaches claim that EBs fail to learn English in settings that promote literacy in students’ L1, ample research supports the notion that “knowledge and skills developed in the first language will transfer to the other” (Hakuta, 1990, p. 50). Indeed, researchers have found that EBs’ use of their primary language to process a second language, both in print and orally, is associated with EBs’ English literacy (August & Shanahan, 2006; Genesee, Geva, Dressler, & Kamil, 2008). Moreover, teachers with skills that allow them to nurture EBs’ L1 literacy, exposing them to *high quality* disciplinary language instruction and modeling not only prevent EBs from falling behind in content as they acquire English (August, Carlo, Dressler, & Snow, 2005), but also provide EBs with the academic advantages associated with bilingualism (Adesope, Lavin, Thompson, & Ungerleider, 2010; Peal & Lambert, 1962). Accordingly, teachers who understand the role of EBs’ L1 literacy in the development of a second language are more inclined to incorporate and/or accommodate bilingual strategies that reflect an asset-view of students’ L1 proficiency. Although there are many settings where teachers do not share EBs’ first language, this knowledge is instrumental in the ways in which they view language and the extent to which they can encourage literacy practices in students’ first language (Faltis & Valdés, 2016).

**ESL/ELD.** Scholars have found it takes EBs up to seven years to develop the academic English needed to be successful in school (see Hakuta, 2011). As such, teachers must possess the skills to deliver instruction that supports the development of subject matter understanding as EBs develop English proficiency. This requires that teachers have skills in the delivery of sheltered English approaches that emphasize English acquisition via content with support provided for students as necessary (Echevarria & Graves, 2010; Goldenberg, 2013). These skills, often described as scaffolding approaches, include awareness of the level of English that should be used with students to ensure comprehension, while supporting EBs’ “communicative interaction to build meaning (vocabulary and language practices), interpretation of talk and text, and performance using newly learned language and knowledge to show understanding of content” (Faltis & Valdés, 2016, p. 573). Some of this knowledge draws from the *Systemic Functional Linguistics* (SFL) literature, wherein the “job of the teacher is to broaden students’ ability to use language more expertly across a variety of social and academic contexts to accomplish specific kinds of work” (Gebhard, Willett, Pablor, Caicedo, & Piedra, 2011, p. 93). Faltis and Valdés (2016) assert that “because the acquisition of languages other than the first results in the condition known as bilingualism or multilingualism, teacher educators will gain much from engaging with this literature” (p. 570). Thus, like knowledge of L1 literacy, knowledge about the delivery of content in bilingual settings is instrumental in teachers’ dispositions and practices regardless of whether they are in bilingual settings.

**Curriculum.** This category represents knowledge teachers must have “to adapt the existing curricula and materials” to meet EBs’ needs (Menken & Antuñez, 2001, p. 10), but it has taken on new meaning with our current policy landscape. Faltis and Valdés (2016) explicitly mention the role both the Common Core State Standards (CCSS) and the Next Generation Science Standards (NGSS) play in English language proficiency development standards that are aligned with the language demands made by CCSS. These new standards require “a re-envisioning of curriculum, instruction, and assessment that supports English language learners’ access to grade-level content while they are still in the process of building their language proficiency” (p. 558). For states that have not adopted the CCSS, however, teachers must still be able to align both content and disciplinary language standards to ensure EBs meet the standards.

**Assessment.** Although scholars have long called for the importance of training on formative assessment strategies, few teacher preparation programs require said training (Black &

Wiliam, 2009; Stiggins, 1988, 2002). Assessment of student learning is critical for improving achievement outcomes not only because it provides teachers with information about content that needs to be retaught, but also because formative assessment (Black & Wiliam, 2009) places emphasis on “engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding” (p. 5), “activating students as instructional resources for one another,” (p. 5), and “activating students as the owners of their own learning” (p. 5).

For many EBs, assessment in their developing language often reflects more about where they are in their proficiency trajectory than what they know about content (Butler & Stevens, 2001). One of the most promising practices that reduces this kind of assessment bias involves the use of linguistic modifications (Abedi, 2002; Abedi, Hofstetter, Baker, & Lord, 2001), which are consistent with the kind of sheltered support teachers should provide in instruction. When teachers have this knowledge, teachers can assess students more accurately and inform their instruction to meet students’ needs.

**Practicum.** In their review of scholarship focused on the kinds of field experiences teachers of EBs should have, Faltis and Valdés (2016) noted that “As a general practice, teacher education programs place students where they have made agreements with school districts, where resident mentor teachers will accept them, and often where graduates of the teacher education program have found teaching positions” (p. 565). Despite this finding, the literature is explicit in the fact that teachers of EBs should have field experiences that help them develop and apply the knowledge they have acquired within culturally diverse settings (see Faltis & Valdés).

**Knowledge of linguistics.** Faltis and Valdés (2016) assert that all teachers of EBs must have knowledge of linguistics to prevent “misconceptualizations, misunderstandings, and contentious debates, as well as misclassification and mis-teaching of children” (p. 568). They explain that language is represented in a myriad of ways, varying as a function of the particular scholarship and theoretical orientation—and that teachers should be made “aware of the differences between these positions, of the implications that these different views have for teaching and learning in classrooms as social settings, and of the ways that they apply or do not apply to students who regularly use two languages in their everyday lives” (Faltis & Valdés, p. 567). At the very minimum, teachers of EBs require an understanding of sociolinguistics (see Valdés et al., 2005) as well as psycholinguistic and linguistic research to gain an appreciation of students’ affect toward their L1 and English, the role of L1 in acquiring English, and the ways teachers can promote students’ “full communicative repertoires” (Faltis & Valdés, p. 570).

**Knowledge of cultural and linguistic diversity.** In the third domain of their matrix, Menken and Antuñez (2001) include policy, history, legislation, and other foundations on EB instruction, as well as multiculturalism and parent involvement, as essential knowledge for teachers of EBs. These dimensions are consistent with prior work that has established the importance of developing: (1) teachers’ foundational understanding of the sociohistorical context of traditionally marginalized youth (Gay, 2005; Hollins & Torres-Guzman, 2005; Milner, 2010; Morrison, Robbins, & Rose, 2008; Valenzuela, 2016); (2) cultural competencies of teachers so they are able to bring the diversity of students’ and families’ experiences into the learning and teaching process (Butvilofsky & Sparrow, 2012; Moll, González, & Amanti, 2005); and (3) an understanding their own cultural, class, and linguistic identities (Faltis & Valdés, 2016; Pray & Marx, 2010). Notably, coursework that covers these dimensions has been shown to reduce teacher biases (Kumar & Hamer, 2013), which have a marked influence on marginalized student achievement (López, 2017; McKown & Weinstein, 2002; Tenenbaum & Ruck, 2001).

**Prior Studies Examining Teacher Preparation and EBs’ Achievement.** Although Faltis and Valdés (2016) assert that “[no] solid research exists on the impact of knowledge about

bilingualism on preservice teachers' advocacy, understanding, or practice in linguistically diverse classrooms" (p. 551), we identified two studies that provide evidence on the importance of specialist certification and EBs' academic outcomes. In one study, researchers found that specialized teacher training contributed to almost  $.10 SD$  gains in mathematics achievement for EBs compared to non-EBs (Master, Loeb, Whitney, & Wyckoff, 2012). In another study, researchers examined the relationship between state-level certification requirements and EBs' achievement on the fourth-grade reading NAEP<sup>20</sup> (López, Scanlan, & Gundrum, 2013). In that study, a state requirement that *all* teachers to have *some* knowledge about teaching EBs, but no requirement for specialist certification, was negatively associated with EB achievement. In contrast, states that require *both* specialist certification and all teachers to have some knowledge to be effective with EBs had the highest EB achievement outcomes. The study also found that states with the most stringent requirements that teachers demonstrate knowledge of L1 literacy, how to teach English content to EBs, and/or knowledge of ELD/ESL were each associated with approximately  $0.25 SD$  to  $.40 SD$  higher achievement for EBs "when compared to their peers in states without such a requirement for specialist teachers" (p. 15). To understand why more rigorous instruction is associated with better academic outcomes among EBs, we now turn to one of the factors that is directly associated with the kind of preparation teachers receive: teacher self-efficacy.

### Teacher Self-Efficacy

Teacher self-efficacy is conceptualized as the extent to which teachers feel prepared to teach (Klassen & Chiu, 2010). Researchers often examine teacher self-efficacy because it is related to several meaningful teacher outcomes such as enthusiasm for teaching, commitment to and persistence in teaching, and more positive interactions with students (see Tschannen-Moran & Hoy, 2001). The strong relationship between teacher self-efficacy and satisfaction with teaching is particularly of interest because it is related to job performance (Caprara, Barbaranelli, Borgogni, & Steca, 2003; Judge, Thoresen, Bono, & Patton, 2001; Klassen & Chiu, 2010). In addition to consequential teacher outcomes, there is also a solid research base linking teacher efficacy constructs to student motivation (Caprara, Barbaranelli, Steca, & Malone, 2006; Skaalvik & Skaalvik, 2007) and student achievement (Capara et al., 2006; Klassen & Chiu, 2011; Tschannen-Moran & Hoy, 2001).

Teacher self-efficacy is grounded in Bandura's (1977) work on self-efficacy that examines how people develop beliefs about their capacity to perform at a given level. It is defined as "a judgment of his or her capabilities to bring about desired outcomes of student engagement and learning" (Tschannen-Moran & Hoy, 2001, p. 783). Teacher self-efficacy appraisals, however, are highly context specific (Bandura 1977, 1997). For example, a teacher may feel competent to teach mathematics, but not feel the same way about science. Similarly, teachers may feel more competent to teach some students, such as those who are not identified as EBs. Teachers make self-efficacy appraisals after they evaluate the complexity of the task and understand what skills are required to succeed in performing each task (Knoblauch & Woolfolk-Hoy, 2008). Teacher appraisals of self-efficacy also vary over time. Novice teachers usually experience a decrease in self-efficacy beliefs relative to their pre-service experiences, particularly when they enter school environments where they don't feel well supported (Hoy & Spero, 2005). Over the first two decades of a teaching career, however, self-efficacy tends to increase—but it then gradually declines (Klassen & Chiu, 2010).

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<sup>20</sup> Covariates included the number of years students had received instruction in English, whether they were participating in the school's free or reduced lunch program, and whether they had an Individual Education Plan (López et al., 2013).

Many scholars have argued that teachers are not currently being adequately prepared to meet the needs of EBs (Faltis & Valdés, 2016; Menken & Antuñez, 2001). This is a particularly salient concern not only because teachers report being significantly less confident about teaching EBs compared to non-EBs (Ballantyne, 2008; Gándara, Maxwell-Jolly & Driscoll, 2005; Karabenick & Noda, 2004), but also because teachers often develop negative attitudes towards EBs when they have not received specialized training to be effective with EBs (Walker, Shafer, & Iiams, 2004). Although low self-efficacy among teachers of EBs is often attributed to the absence of specialist certification, even specialist certified teachers report feeling “inept in meeting the needs of bilingual learners” (Flores, 2001, p. 269) when certified through alternative routes. The lack of teaching experiences in diverse communities is yet another factor that contributes to a low self-efficacy for teaching EBs (Ballantyne et al., 2008; Rushton, 2000).

Specialist certification, as well as ongoing learning opportunities through professional development focused on the needs of EBs, are associated with higher levels of teacher self-efficacy and student achievement outcomes (Master et al., 2012). Notably, teachers with these additional experiences who report higher preferences to work with EBs are also markedly more effective (Master et al.). Taken together, preservice and inservice training are paramount in teacher self-efficacy, as well as teachers’ satisfaction and teachers’ desire to work with EBs. All of these factors have important implications for EBs’ outcomes, and must inform policy deliberations surrounding the kind of training teachers of EBs should have.

## Methods

### Certification Requirements for Teachers of EBs

To evaluate the extent to which Arizona, California, and Texas require minimum teaching credential requirements that align with the extant research focused on preparing teachers for EBs, we conducted a qualitative content analysis (Schreier, 2012) of text from documentation detailing teacher requirements from the Arizona Department of Education (ASBE, 2005), the State of California Commission on Teacher Credentialing (2016a, 2016b), and the Texas Education Agency (2011). In our analysis, we focused on the extent to which each state’s requirements are consistent with the domains and categories reflected in our review of the literature focused on teacher preparation for the needs of EBs. We anticipated that because there are problems with “much of the ‘foundational’ knowledge about teaching English language learners that has been used in teacher education programs, including bilingual education programs since the mid-1970s” (Faltis & Valdés, 2016, p. 570), state requirements would likely identify essential knowledge that was out of date. Accordingly, we used the original categories and domains from the framework presented by Menken and Antuñez (2001), but analyzed the content with the updated scholarship reviewed by Faltis and Valdés. Three doctoral students independently reviewed two states’ requirements in their entirety and coded requirements against the domains and categories represented in the framework. The resulting pairs of codes were then compared, which initially reached 95% agreement. In the 5% of cases where discrepancies in coding were found, coders discussed coding until agreement was reached. The resulting codes thus reflect 100% agreement across the matrix dimensions and state requirements (see Appendix).

### Teacher Self-Efficacy, Satisfaction, and Related Factors

To examine the differences in teacher self-efficacy and teacher satisfaction across Arizona, California, and Texas, we used restricted data from the Institute of Educational Sciences Schools and Staffing Survey (SASS) from 1993/94, 1999/00, 2003/04, 2007/08, and 2011/12. The original

public school teacher sample (with no filters) includes 1,020<sup>21</sup> teachers in Arizona, 2,130 teachers in California, and 1,510 teachers in Texas.<sup>22</sup> Our filtered sample restricts to full-time teachers and those with 20 years of experience or less. The analysis sample thus has 780 teachers in Arizona, 1,590 teachers in California, and 1,200 teachers in Texas.<sup>23</sup> We included the following variables: percentage of teachers' students who are EB; the extent to which teachers perceived professional development focused on meeting the unique needs of EBs to be useful (1 = *not at all useful* to 4 = *very useful*); the extent to which teachers believed that they had the necessary preparation to deliver instruction (1 = *not at all prepared* to 4 = *very well prepared*); the extent to which teachers believed that they had the necessary preparation to differentiate instruction (1 = *not at all prepared* to 4 = *very well prepared*); the extent to which teachers believed that they had the necessary preparation to assess students (1 = *not at all prepared* to 4 = *very well prepared*); the extent to which teachers believed that they had the necessary preparation to handle a range of classroom management and discipline (1 = *not at all prepared* to 4 = *very well prepared*); and the extent to which teachers believed that they had the necessary preparation to assess students (1 = *not at all prepared* to 4 = *very well prepared*). We aggregated the various self-efficacy variables into a composite index of *preparedness self-efficacy* using factor analysis. Given that teacher self-efficacy variables are limited to novice teachers with three years of experience or less, we also conducted separate multiple regression analyses to examine how teachers' years of experience and the percentage of students who are EB are related to teachers' satisfaction in teaching (1 = *very satisfied* to 4 = *not at all satisfied*) in each state.<sup>24</sup> We use regression analysis and hypothesis testing to examine the magnitude of the difference across states for all variables.

### Achievement Trends

To examine how well states prepare their teachers to meet the needs of EBs, we examined achievement patterns of EBs, former-EBs, and non-EBs across Arizona, California, and Texas between 2005<sup>25</sup> and 2015. To be able to compare achievement across states, we used performance on the fourth- and eighth-grade reading and mathematics NAEP that are available through the National Center for Education Statistics Data Explorer. The Data Explorer provides overall NAEP achievement disaggregated by states and EB status for students in grades 4 and 8 on a biennial basis. For the purposes of the present study, we disaggregated achievement by EB status (currently labeled EB and formerly labeled EB) and included achievement of non-EB students for the three states.

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<sup>21</sup> IES requirements for reporting include rounding sample sizes to the nearest 10.

<sup>22</sup> This is the sample size for 2011/12. Sample sizes for the other years are similar. Using SASS sample weights, these sample sizes represent 62,000 teachers in Arizona; 285,000 teachers in California; and 351,000 teachers in Texas.

<sup>23</sup> When sample weights are applied, this analysis sample includes 47,000 teachers in Arizona; 205,000 teachers in California; and 273,000 teachers in Texas.

<sup>24</sup> There are several questions in the 2011-12 SASS relating to teacher satisfaction and dissatisfaction with teaching. However, only one question was common across survey waves in 1994, 2000, 2004, 2008 and 2012: "I am generally satisfied with being a teacher at this school." We use this question for panel analyses. For 2011/12 we use factor analysis to summarize various satisfaction questions into one factor: teacher dissatisfaction with teaching.

<sup>25</sup> Although NAEP data are available for earlier years, 2005 is the first year EB-status is disaggregated into EB and formerly-EB categories.



## Results

### Teacher Certification Requirements

An examination of the extent to which each state requires teachers of EBs to demonstrate knowledge reflected in the extant literature reveals stark differences across contexts, which are consistent with the disparate LIEP policies that have informed the minimum teacher preparation for EBs in each state. The explicit language used by each state to describe minimum competency requirements are presented in full in the Appendix.

**Arizona.** Our content analysis of Arizona SEI endorsement requirements, which are required of all teachers due to the state's LIEP policy, suggests that teachers are at best required to have only cursory and superficial knowledge about the specific needs of EBs, which is in part an artifact of the lack of empirical evidence reflected in Arizona's definition of SEI. Specifically, there is no requirement that teachers understand the role of EBs' L1 literacy, linguistics, L1 acquisition, nor do teachers have to have teaching experiences with EBs during their preparation. Notably, despite the fact that EBs are required to be segregated for up to four hours for grammar instruction that would involve knowledge reflected in the linguistics domain (see ADE, 2014), this knowledge is not specified in the SEI curriculum for teacher education and in actual practice, is decontextualized from settings known to promote language acquisition (see Martinez-Wenzl, Perez, & Gándara, 2012; Rios-Aguilar, Canche, & Moll, 2012). Our content analysis findings are also consistent with other issues raised in the extant literature. Namely, teachers are required to have only superficial understanding of second language acquisition; no understanding of the role of EBs' L1 in the development of English; and an understanding of SEI, which is unsubstantiated by the extant literature.

Arizona does, however, require teachers to be provided with an understanding of how to "use proficiency standards in all content areas" and "examine the format and the alignment of ELL Proficiency Standards to the Arizona Language Arts (Listening & Speaking, Reading and Writing) Academic Standards" (see Appendix). This is consistent with the importance of aligning language and content standards in the curriculum category (see Faltis & Valdés, 2016). That said, it is untenable to expect that teachers will have the requisite knowledge to do this without a robust understanding of L1 literacy and linguistics. Accordingly, Arizona standards do little more than align with the language of best practices in some categories (e.g., ELD/ESL, assessment, and curriculum), without providing teachers with the requisite knowledge to carry out those practices with high levels of fidelity.

**California.** Our review of California's minimum teacher training requirements (for both single subject and multiple subject) required of all teachers reflects adherence to all three domains represented in the extant literature. Although many of the categories were aggregated across domains, California requires knowledge about L1 literacy (e.g., "how first language literacy connects to second language development"); ESL/ELD, curriculum, and linguistics (e.g., "Candidates learn how to implement an instructional program that facilitates English language acquisition and development by effectively using materials, methods, and strategies so that students acquire listening, speaking, reading and writing skills in English in order to progress to the grade level reading/language arts program for English speakers"); assessment (e.g., "Candidates acquire and demonstrate the ability to use initial, formative, and summative assessment information to diagnose students' language abilities, and to develop lessons that promote students' access to and achievement in the state-adopted academic content standards"); practicum (e.g., "Each Multiple and Single Subject Internship program must include a minimum of 120 clock hour [or the semester or quarter unit equivalent] pre-service component which includes foundational preparation in general

pedagogy, including teaching English Learners); and the knowledge of cultural and linguistic diversity domain (e.g., “Candidates learn and understand the importance of students’ family and cultural backgrounds and experiences in planning instruction and supporting student learning”). Though presented as a summary that encompasses all domains, California’s minimum requirements reflect a commitment to ensuring teachers can meet the needs of EBs—though it is unclear from their requirements to what extent the knowledge will be presented in such a way that considers issues with traditional foundational knowledge (see Faltis & Valdés, 2016).

**Texas.** Our content analysis revealed that Texas requirements have a markedly higher degree of correspondence with all of the domains and categories reflected in the review of the extant literature focused on best practices for teachers of EBs. This is an artifact of teacher requirements for specialist certification as minimum criteria due to the state’s LIEP policy that requires teachers of EBs to have either bilingual or ESL certification. In terms of knowledge of pedagogy, Texas requires knowledge about students’ L1 and English language acquisition trajectories, as well as skills to promote bilingualism and biliteracy (found in the L1 literacy, as well as the ESL/ELD categories). Namely, embedded in this competency are the requirements that teachers use “effective, developmentally appropriate methodologies and strategies for teaching English as a Second Language (ESL) and for supporting ESL development across all areas of the curriculum...” (TEA, 2011, p. 14). Teachers are also required to have deep content knowledge, and if they are certified in bilingual education (as opposed to ESL), they must also have deep content knowledge in both students’ primary language and English.

Teachers are expected to be able to gauge language development and content understanding, which informs teachers’ instruction as both a language and content teacher. This is consistent with the curriculum category given the explicit expectation that teachers “[know] strategies for integrating language arts skills in L1 and L2 into all content areas” (p. 16). The assessment category is also reflected given that teachers are expected to have knowledge in formative assessment to build students’ L1 literacy and use said literacy to foment English literacy. For example, Texas requirements explicitly reflect the expectation that teachers have “comprehensive knowledge of the development and assessment of literacy in L1 and the development and assessment of biliteracy” (TEA, 2011, p. 15), and that teachers demonstrate knowledge about “formal and informal literacy assessments in L1” (p. 15), as well as the reading and language arts standards in both English and Spanish in such a way that they can be used to “promote bilingual students’ literacy development in L1” (p. 15). Within this competency, teachers must also demonstrate that they have the skills to “help students transfer literacy competency” from their primary language to English (p. 15). In terms of practicum, Texas requires a practicum that is in a setting with EBs as reflected in the statement that training must be “directly aligned to the state standards for the applicable certification class” (TEA, 2015, p. 5).

In the linguistics domain, Texas requires that teachers demonstrate a competency in “[applying] knowledge of linguistic concepts and theories/models of language acquisition to select and implement linguistically and developmentally appropriate instructional methods, strategies and materials for teaching L1 and L2” (p. 14). To meet the knowledge of cultural and linguistic diversity domain, Texas requires an understanding of “the foundations of bilingual education and the concepts of bilingualism and biculturalism and applies this knowledge to create an effective learning environment for students in the bilingual education program” (p. 13). This competency includes knowledge of pertinent history, federal and state legislation and court cases, global perspectives on multilingualism, an “additive educational program that reinforces a bicultural identity” (p. 13), and a deep knowledge and ability to apply research on best practices (Texas Education Agency, 2011).

## Teacher Self-Efficacy

To evaluate differences in novice teacher perceptions of their preparedness to effectively teach EBs, we examined teacher-reported self-efficacy using a preparedness self-efficacy factor for Arizona, California, and Texas. Analyses reveal that in Arizona and California, bilingual training is significantly and substantively related to self-efficacy, but years of teaching experience and the proportion of minority students are both *negatively* related to self-efficacy.<sup>26</sup> These patterns, however, do not appear in the Texas sample. The full regression results are presented in Table 2.

Table 2

*Preparedness Self-efficacy in Instructional Methods, by State 1993/94, 1999/00, 2003/04, 2007/08, 2011/12*

	CA	TX	AZ
Teacher is female	-0.03 (0.059)	-0.11 (0.091)	-0.06 (0.084)
Total years of teaching experience	-0.07*** (0.021)	-0.03 (0.025)	-0.07** (0.031)
Teacher has bilingual training	0.35** (0.154)	0.08 (0.196)	0.27* (0.139)
Minority student enrollment (%)	-0.01*** (0.001)	-0.00 (0.001)	-0.00* (0.002)
EBs in classroom (%)	-0.00 (0.001)	-0.00 (0.003)	-0.00 (0.002)
School is in urban center	0.07 (0.069)	0.07 (0.095)	-0.01 (0.085)
Teacher is White	0.01 (0.074)	0.24** (0.099)	0.11 (0.132)
Teacher is Latino/a	-0.03 (0.089)	-0.31*** (0.106)	-0.20 (0.129)
School enrollment	0.01 (0.013)	0.00 (0.015)	0.02* (0.012)
Year=2012	0.03 (0.102)	0.17 (0.111)	0.14 (0.124)
Year=2008	0.01 (0.092)	0.04 (0.109)	-0.02 (0.127)
Year=2004	0.14* (0.077)	0.14 (0.097)	0.00 (0.097)
Observations	1,583	1,540	1,027
R-squared	0.061	0.041	0.044

Preparedness self-efficacy is a composite index of the various questions regarding self-efficacy of teachers with under 3 years of experience: "In your first year of teaching, how well prepared were you to: use a variety of instructional methods; teach your subject matter; handle a range of classroom management and discipline; assess students; differentiate instruction in the classroom (2011/12 only); and select and adapt curriculum and instructional materials" (all other years). The factor is standardized to have mean zero and SD of 1 by state. Greater values mean greater preparedness reported by teachers. 1999/00 is reference year.

Standard errors in parentheses, estimated using BRR weights provided by SASS.

<sup>26</sup> These questions are only asked of teachers with 3 years of experience or less.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

We also examined teachers' self-efficacy in different years for the three states (see Figure 3). In 2000, teachers with at least one EB in their classrooms and bilingual training reported higher feelings of preparedness compared to teachers without this training in the three states, but the differences were most pronounced in Arizona and California<sup>27</sup>. In general, however, specialist trained new teachers with at least one EB in their classrooms felt substantially (and significantly) more prepared than non-specialist trained teachers. That is, specialist trained teachers report preparedness ratings that are about 0.33 *SD* higher than those of non-specialist trained teachers (see Table 3).

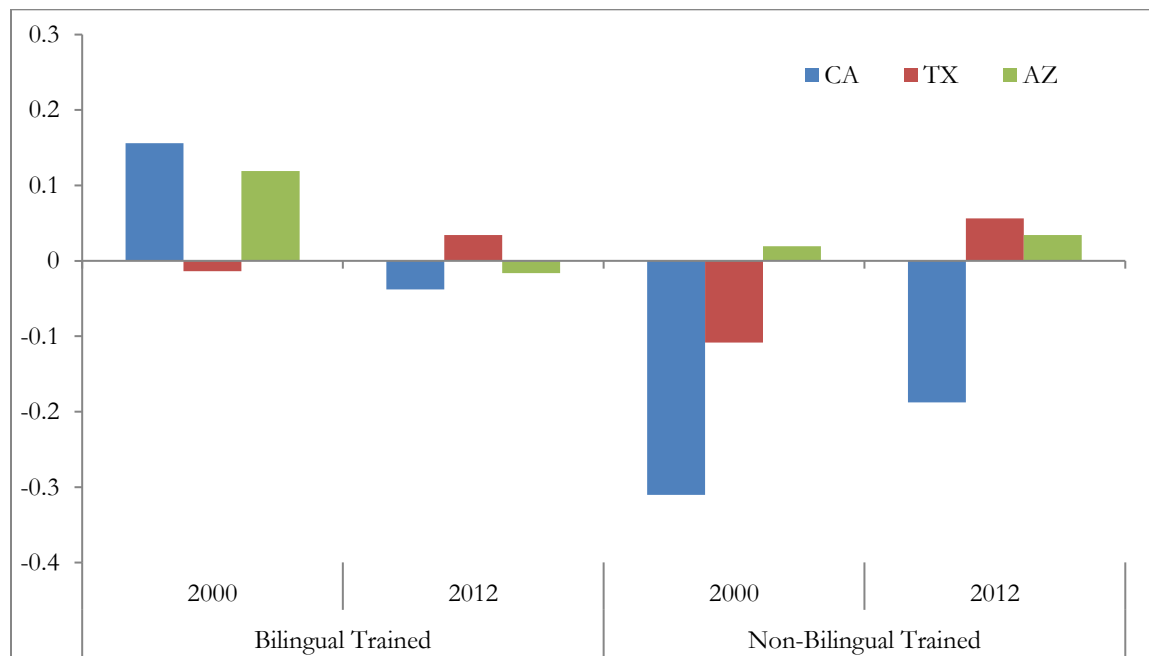


Figure 3. Preparedness self-efficacy of teachers with at least one EB, by type of training and year.<sup>28</sup>

<sup>27</sup> Due to reduced sample sizes, the differences are not statistically significant.

<sup>28</sup> The preparedness self-efficacy factor is a composite index of the various questions regarding self-efficacy of teachers with three years of experience or less: "In your first year of teaching, how well prepared were you to.... use a variety of instructional methods; teach your subject matter; handle a range of classroom management and discipline; assess students; differentiate instruction in the classroom (2011/12 only); select and adapt curriculum and instructional materials" (all other years). The factor is standardized to have a mean of zero and SD of 1. Greater values mean greater preparedness reported by teachers. All estimates are weighted using weights provided by SASS. Bilingual training includes: bilingual or ESL certification, BA major field bilingual education or ESL, MA in bilingual education or ESL.

Table 3  
*Differences in Self-efficacy (Preparedness) Across States and Time*

	Specialist Trained		Non-Specialist Trained		All
	2000	2012	2000	2012	2000 & 2012
Teachers is female	-0.48 (0.311)	-0.63 (0.765)	-0.16 (0.103)	0.17 (0.121)	-0.06 (0.079)
Total years of experience	-0.02 (0.114)	0.11 (0.275)	-0.01 (0.030)	-0.05 (0.039)	-0.02 (0.028)
Teacher has bilingual training	-	-	-	-	0.33** (0.133)
Minority enrollment (%)	-0.00 (0.005)	-0.01 (0.015)	-0.01*** (0.002)	-0.01** (0.003)	-0.00*** (0.002)
Percent EBs in classroom	0.00 (0.003)	-0.00 (0.013)	-0.00 (0.002)	-0.00 (0.003)	-0.00 (0.002)
School is in urban center	0.03 (0.293)	0.29 (0.594)	-0.16* (0.084)	0.05 (0.161)	-0.05 (0.085)
Teacher is White	0.25 (0.342)	-0.01 (1.240)	0.17 (0.141)	0.09 (0.148)	0.15 (0.089)
Teacher is Latino/a	-0.16 (0.281)	-0.43 (0.636)	-0.40*** (0.117)	-0.12 (0.153)	-0.30*** (0.092)
School enrollment	0.07 (0.069)	0.09 (0.145)	0.02 (0.016)	0.01 (0.019)	0.02 (0.012)
CA	0.28 (0.323)	-0.61 (1.040)	0.06 (0.095)	-0.17 (0.143)	0.11 (0.091)
AZ	0.03 (0.329)	0.16 (0.902)	0.02 (0.123)	-0.04 (0.179)	0.01 (0.107)
y2012					0.18 (0.160)
y12_bil					-0.28 (0.458)
CA12					-0.26 (0.186)
TX12					0.05 (0.207)
CA12_bil					-0.05 (0.571)
TX12_bil					-0.04 (0.472)
Observations	103	49	764	740	1,656
R-squared	0.125	0.190	0.120	0.083	0.086

All results are weighted using svy commands in STATA and SASS replicate weights.

\*\*  $p < 0.05$ , \*  $p < 0.1$

There is also an interesting trend over time related to self-efficacy. Figure 4 shows the trend over time from teachers' responses to one key self-efficacy question: how prepared do you feel to use a variety of instructional methods. In both Arizona and California, specialist trained new teachers felt considerably more prepared in 2000 than they reported feeling in 2012 (see Figure 4). That is, the relative advantage of specialist trained new teachers in these states appears to drop between 2000 and 2012. Descriptive statistics for the self-efficacy variables across states are available in the Appendix (Table A1).

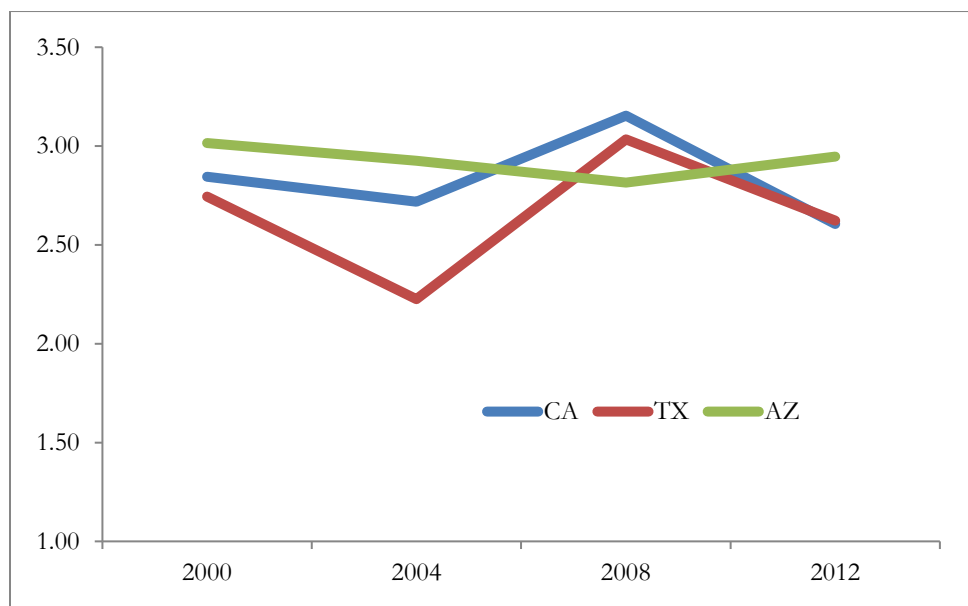


Figure 4. Self-efficacy of teachers with bilingual training 1999-2012

### Teacher Satisfaction

We conducted multiple regression analyses with the most recent wave of data (2011/2012) for each state to examine the extent to which the number of years teachers had taught and the percentage of students who were classified as EBs predicted teachers' general satisfaction with teaching (a variable that has been found to be related to self-efficacy; see Klassen & Chiu, 2010), but these variables did not predict teacher satisfaction (see Table 4). We expanded these analyses with panel data across 1999-2012. In these analyses, the number of years a teacher has taught was again not a significant predictor of their general satisfaction with teaching across the three states. Few variables, in fact, were significantly related to teacher satisfaction in these models, with the exception of percentage EB enrollment in Arizona. In terms of effect sizes, for each 1 *SD* increase in EB enrollment in the school, there is about 0.13 *SD* increase in dissatisfaction with teaching. The full results are presented in Table 4. Determinants of the percentage of EBs in classrooms are presented in the Appendix (Table A2).

Table 4

Teacher Satisfaction in CA, TX and AZ, 2011/12 and Panel Years (1993/94, 1999/00, 2003/04, 2007/08, 2011/12)

	CA 2012	TX 2012	AZ 2012	CA 2012	TX 2012	AZ 2012	CA Panel	TX Panel	AZ Panel
	Satisfaction Factor	Satisfaction Factor	Satisfaction Factor	Teacher is Satisfied	Teacher is Satisfied	Teacher is Satisfied	Teacher is Satisfied	Teacher is Satisfied	Teacher is Satisfied
Teacher is female	0.05 (-0.06)	-0.16 (-0.10)	-0.18 (-0.12)	-0.04 (-0.08)	-0.16 (-0.10)	-0.13 (-0.09)	0.04 (-0.04)	-0.04 (-0.05)	0.03 (-0.05)
Years of teaching experience	0.01 (-0.01)	0.00 (-0.01)	0.00 (-0.01)	0.00 (-0.01)	0.01 (-0.01)	0.01 (-0.01)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Teacher has specialist endorsement	0.04 (-0.16)	0.03 (-0.23)	0.07 (-0.27)	0.00 (-0.30)	-0.07 (-0.26)	-0.09 (-0.14)	-0.05 (-0.08)	-0.03 (-0.12)	0.04 (-0.11)
% EBs in classroom	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00* (0.00)
School is in urban center	0.02 (-0.10)	-0.28** (-0.11)	0.00 (-0.13)	-0.02 (-0.07)	-0.16 (-0.12)	-0.04 (-0.10)	-0.06 (-0.04)	-0.16*** (-0.05)	0.04 (-0.05)
Teacher is White	0.17 (-0.11)	0.02 (-0.16)	0.12 (-0.17)	0.11 (-0.08)	0.19 (-0.18)	-0.01 (-0.12)	0.05 (-0.04)	0.12 (-0.09)	-0.06 (-0.07)
Teacher is Latino/a	-0.04 (-0.11)	0.17 (-0.13)	-0.17 (-0.22)	-0.03 (-0.10)	0.12 (-0.14)	-0.12 (-0.24)	0.03 (-0.05)	0.04 (-0.07)	0.01 (-0.09)
School enrollment	0.01 (-0.01)	0.00 (-0.02)	-0.01 (-0.02)	0.00 (-0.01)	-0.01 (-0.01)	0.01 (-0.01)	-0.01* (-0.01)	-0.01* (-0.01)	0.01 (-0.01)
Year							0.00 (-0.00)	0.00 (-0.01)	0.00 (-0.01)
Observations	1,508	1,053	694	1,508	1,053	694	4,756	4,209	2,705
R-squared	0.01	0.04	0.03	0.01	0.03	0.03	0.01	0.02	0.01

Notes: Satisfaction factor includes answers to the following questions: T0465-The stress and disappointments involved in teaching at this school aren't really worth it; T0468- If I could get a higher paying job I'd leave teaching as soon as possible; T0469-I think about transferring to another school; T0470-I don't seem to have as much enthusiasm now as I did when I began teaching; T0471- I think about staying home from school because I'm just too tired to go.

"Teacher is Satisfied" variable includes answers to the following questions: "I am generally satisfied with being a teacher at this school."

All results are weighted using svy commands in STATA and SASS replicate weights.

\*\*  $p < 0.05$ , \*  $p < 0.1$ , standard errors in parentheses.

## Teacher Professional Development

Given that professional development focused on the needs of EBs has been found to be associated with higher levels of teacher self-efficacy and student achievement outcomes (Master et al., 2012), we also examined teachers' perceptions of the usefulness of professional development. Analyses revealed that teachers' perceptions of the usefulness of professional development focused on the needs of EBs were similar across states (see Table 5). The number of hours teachers reported attending professional development, however, are inversely related to the rigor of each state's requirements for teacher preparation. Namely, Arizona's teacher preparation requirements are substantively less rigorous than California's, but teachers reported attending significantly more professional development hours (a standardized mean difference of 0.56). California's teacher preparation requirements are also less rigorous than Texas' (due to the state LIEP policy that requires specialist certification), but teachers reported attending a standardized mean difference of 0.13 more professional development hours (this difference is not statistically significant). Thus, although there is little difference in the perceived usefulness of professional development among teachers across states, increased rigor in certification requirements is inversely associated with professional development focused on EBs, at least in the case of Arizona. In other words, despite the perceived ineffectiveness of professional development, Arizona supplants rigorous specialist training among preservice teachers with inservice professional development.

## Achievement Variation Across Arizona, California, and Texas

To appraise how well states prepare their teachers to meet the needs of EBs, we examined achievement trends in Arizona, California, and Texas on fourth- and eighth-grade reading and mathematics NAEP. Results, which are presented in Figures 5 – 8, reveal consistencies in state rankings in terms of EBs' performance. In both fourth- and eighth-grade reading and mathematics, Arizona EBs have the lowest achievement trends (with an exception of eighth-grade scores in both mathematics and reading in 2005<sup>29</sup>); California EBs outperform EBs in Arizona; and Texas EBs outperform EBs in both Arizona and California. Although differences between California and Texas are more pronounced in mathematics than in reading, Texas EBs consistently outperform EBs in the other two states. It should be noted that the similar performance of non-EBs in the three states across subjects and grade levels suggests that each state's curriculum is not a likely source of the differences in EBs' performance across states. Thus, the consistency in trends across grade levels and subjects suggests that Texas requirements for teachers of EBs are more aligned with best practices than either California or Arizona, but California requirements appear to be more effective in preparing teachers of EBs than Arizona. The magnitude of the differences (*SD*) in EB achievement across the three states in 2015 is also presented in Figures 5-8.

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<sup>29</sup> In 2006, AZ HB 2064 created a Task Force charged with implementing a program that had explicit guidance in contrast to the nebulous formulation of SEI that had existed up to that time. As a result, since 2006, AZ policy has expressly required the segregation of EBs given its self-appointed status as an "English first" state. Namely, the new SEI model used in AZ requires that EBs are grouped homogeneously to the extent possible based on English proficiency, and that they receive explicit English instruction in four-hour blocks (ADE, 2014). Thus, NAEP scores after 2005 reflect the segregation of EBs with different English proficiency levels as well as from academic content that is covered while they attend the four-hour block of English instruction.



Table 5  
*Teacher Professional Development Taking, Hours and Usefulness*

VARIABLES	PD /1	PD_hours /2	PD_use /3
Teacher is female	0.10	0.03	0.02
	-0.14	-0.11	-0.09
Total years of teaching experience	-0.02	0.01	0.01
	-0.01	-0.01	-0.01
Teacher has bilingual training	0.72**	0.10	0.02
	-0.30	-0.16	-0.15
% of EBs in classroom	0.02***	0.00*	0.00**
	-0.01	0.00	0.00
Minority enrollment (%)	0.00	0.00**	0.00
	0.00	0.00	0.00
School is in urban center	0.29*	-0.05	0.03
	-0.17	-0.11	-0.07
Teacher is White	0.05	-0.09	-0.29**
	-0.23	-0.14	-0.13
Teacher is Latino/a	0.21	-0.02	0.11
	-0.19	-0.12	-0.10
Total school enrollment	0.03	0.01	-0.02
	-0.03	-0.02	-0.02
CA	-0.35*	0.13	-0.13
	-0.20	-0.09	-0.09
AZ	-0.52**	0.56***	0.06
	-0.22	-0.12	-0.12
Observations	3,255	1,450	1,450
R-squared		0.06	0.06

*Notes:*

PD = teacher has taken PD in past 12 months.

PD Usefulness = PD taken in the past 12 hours, categorized as follows: 1-not useful, 2-somewhat useful, 3-useful, 4-very useful.

PD hours = participation in PD activities in the past 12 months. Categories are as follows: 1-8 hours or less, 2-9-16 hours, 3-17-32 hours, 4-33 hours or more.

All results are weighted using svy commands in STATA and SASS replicate weights.

\*\*  $p < 0.05$ , \*  $p < 0.1$

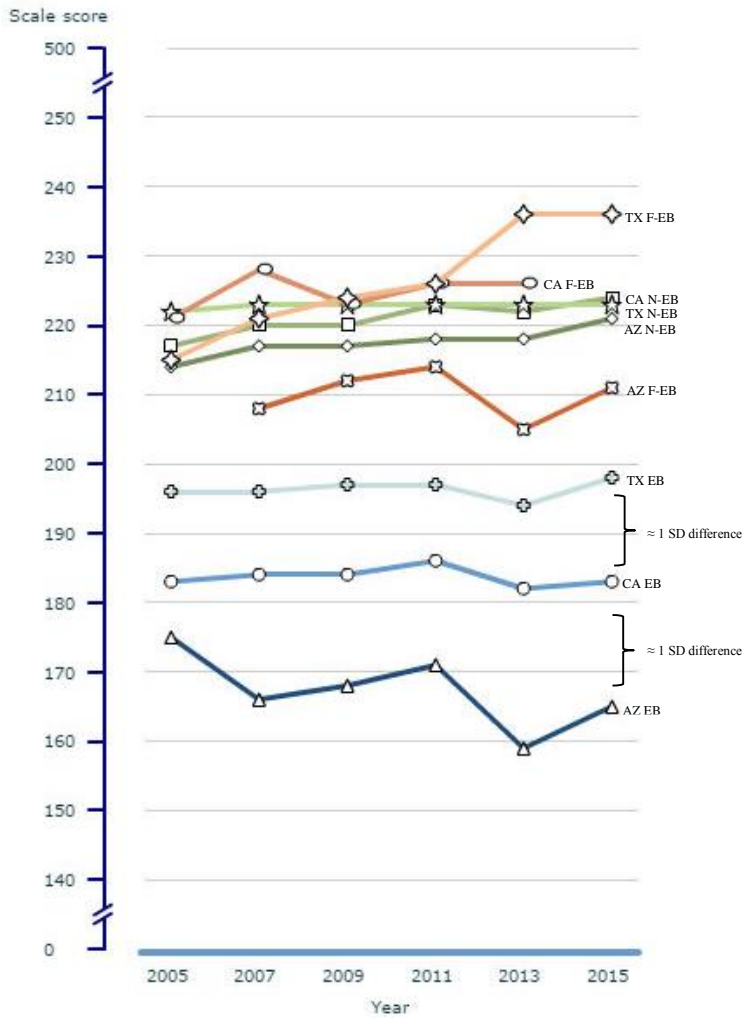


Figure 5. Average scale scores for reading, grade 4 by status (EB, formerly-EB, and non-EB) for state and years available. Data points that do not meet reporting standards are not displayed. Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress.

Note: EB = emergent bilingual; F-EB = formerly emergent bilingual; N-EB = non-emergent bilingual.

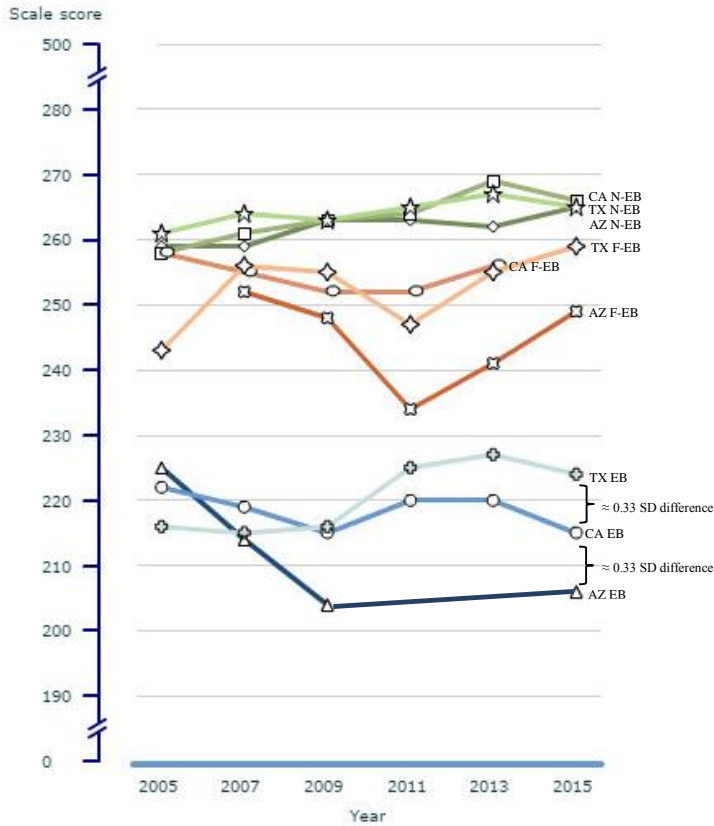


Figure 6. Average scale scores for reading, grade 8 by status (EB, formerly-EB, and non-EB) for state and years available. Data points that do not meet reporting standards are not displayed. Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress.

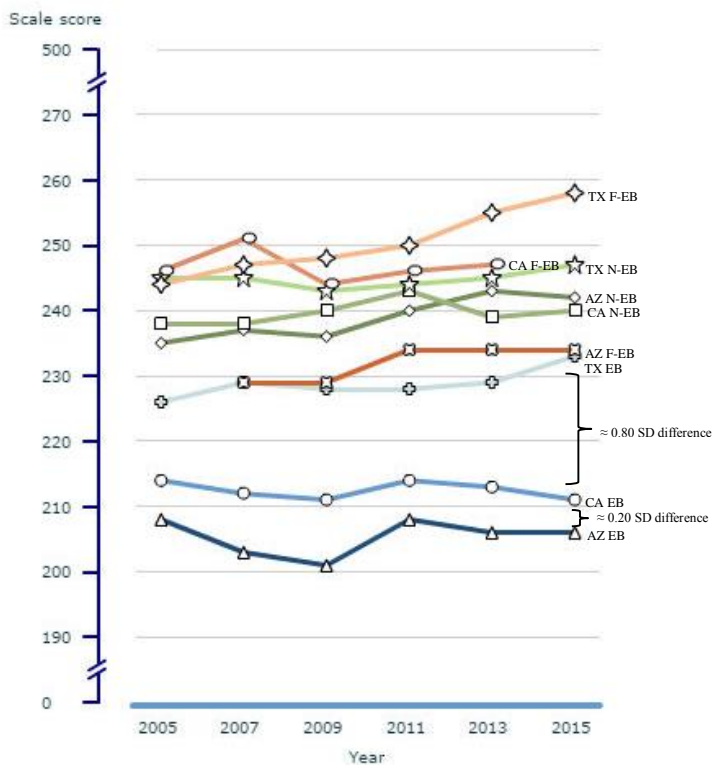


Figure 7. Average scale scores for mathematics, grade 4 by status (EB, formerly-EB, and non-EB) for state and years available. Data points that do not meet reporting standards are not displayed. Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress.

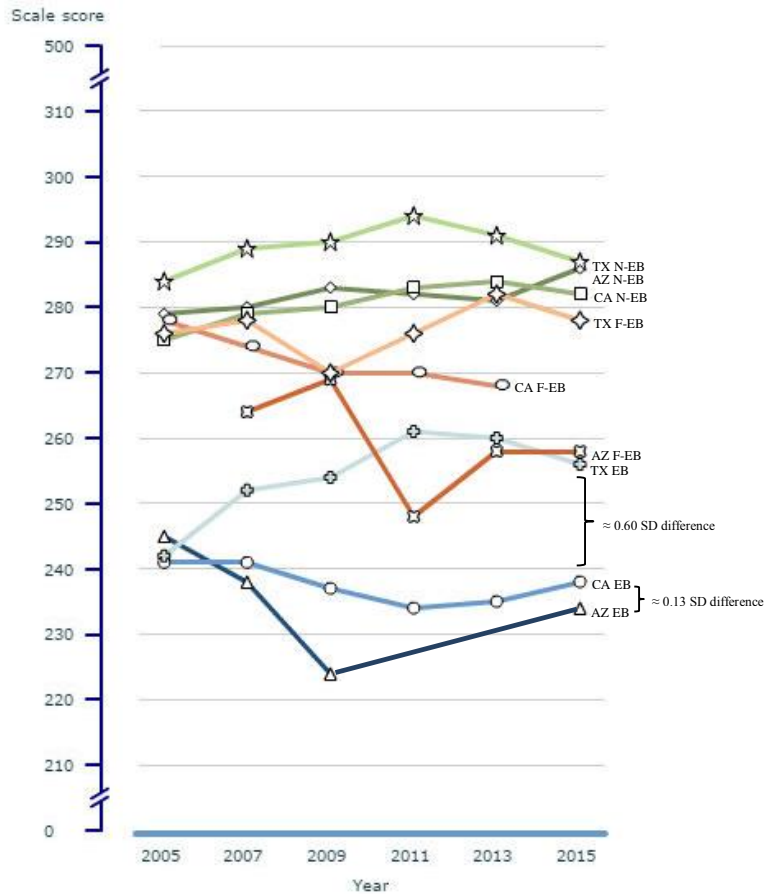


Figure 8. Average scale scores for mathematics, grade 8 by status (EB, formerly-EB, and non-EB) for state and years available. Data points that do not meet reporting standards are not displayed. Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress.

Students in Arizona who were once labeled EB (former-EB) also consistently underperform compared to California and Texas former EBs, and are not performing commensurate with their other English-proficient peers even though reclassification to former-EB, by definition, suggests that students have reached English proficiency (although there is ample evidence that this is not the case<sup>30</sup>). Generally speaking, former-EBs in Texas outperform former-EBs in both California and Arizona, once again suggesting that requirements for teachers of EBs in Texas are more aligned with best practices than those in either California or Arizona. Notably, Texas fourth-grade former-EBs not only markedly outperform Arizona and California former-EBs, they also outperform students in

<sup>30</sup> The AZ Department of Education was found to be in violation of Title IV of the Civil Rights Act by the U.S. Department of Education, Office of Civil Rights (OCR) and the U.S. Department of Justice (DOJ) by exiting EBs from receiving language services prematurely. The 2012 Agreement required a new language proficiency assessment to be implemented in 2012-2013 and reading and writing interventions provided to the more than 28,000 EBs who were identified as having been exited prematurely from services. Figure 5, however, illustrates a drop in performance for both EBs and former-EBs the year of the implementation. It should be noted that 2012-2013 was also the first full implementation of a four-hour SEI block of language services for EBs that lacks empirical support (see Gándara & Orfield, 2012). Moreover, the OCR and DOJ found AZ to continue to be out of compliance with the 2012 Agreement.

all three states who have never been labeled EB. These achievement patterns are substantiated by the dramatic differences across states in terms of graduation rates (see Table 6), with Arizona's EBs experiencing almost a 60% decline in graduation since the ELL Task Force's SEI block. In contrast, Texas graduation rates have markedly increased whereas California's graduation rates remained stable.

Table 6

*Percentage of EBs who graduated in Arizona, California, and Texas*

	2006-2007	2013-2014	% change
AZ	44	18	-59
CA	68	65	-4
TX	48	72	48

*Source:* NCELA Demographics and State Data: Sources for English learner data.

## Discussion

Although evidence that specialist certification is beneficial to EBs is not new, few teachers receive the requisite skills to be effective with EBs. This issue is particularly salient given that a growing number of states have witnessed surges in the number of EBs they serve. Alabama, Arkansas, Kentucky, South Carolina, and Tennessee, for example, are all states with substantial growth in their EB populations ranging from approximately 300 to 700% over the past decade (see López, McEneaney, & Nieswandt, 2015). As such, deliberations on teacher preparation for the needs of EBs is an urgent consideration for all states. To that end, here we focus on three states with a relatively long history of substantial EB populations to draw inferences about policies that can inform teacher preparation.

Arizona, California, and Texas all consider bilingual/ESL teacher certification to meet the minimum requirements to teach EBs, but the states' LIEP policies promote this more rigorous training disparately (see Figure 2). At one end of the continuum is Arizona, with a LIEP policy that precludes EBs from accessing bilingual education. California's LIEP policy limits access to bilingual education, but not to the extent of Arizona. Texas LIEP policy is on the opposite end of the continuum, promoting bilingual education to a much greater extent than California. Despite the differences in LIEP policies, teacher preparation requirements in both California and Texas reflect similar rigor in terms of the skills teachers must have. That is, both states require that teachers have skills in English language development or English as a second language, assessment of content knowledge, and culture/biculturalism—skills associated with improved student outcomes in prior studies (López 2017; López et al., 2013). Despite the similarities in teacher preparation, Texas LIEP policy supports L1 approaches to a much greater extent than California<sup>31</sup>. When one considers the variation in state LIEPs (and in particular, EBs' limited access to bilingual education in Arizona and California), the findings that bilingual training is significantly and substantively related to self-efficacy for novice teachers in Arizona and California (see Table 2) suggest that the more rigorous training potentially attenuates obstacles in meeting the needs of EBs (see Lillie et al., 2012). That is, teachers in Arizona and California are likely to have to differentiate instruction to a greater degree when compared to teachers in Texas due to LIEP policies. Teachers in Arizona (and in many cases,

<sup>31</sup> There have been recent changes in California with the Multilingual Education Act (Senate Bill 1174), which repealed the SEI and waiver provisions introduced by Proposition 227.

California) must also use English instruction to comply with state policy regardless of certification, often eliminating L1 as a resource to scaffold instruction. Researchers have found, however, that teachers with bilingual/ESL certification possess skills that enable them to navigate LIEP restrictions to address their EBs' needs in these more complex situations (Lillie et al., 2012).

Unlike California and Texas teacher preparation requirements, Arizona requirements are lacking considerably in all the areas reviewed here. In comparison to the more robust teacher preparation requirements in California and Texas, Arizona standards reflect some terminology that reflects best practices, but fail to require the necessary knowledge teachers need to be effective. Indeed, when Arizona replaced bilingual education with SEI in 2000, the SEI terminology had not been "in current use in the language education profession but [was] a confusing combination of terms" (Krashen, 1997). Thus, Arizona's requirement that teachers "know the basic SEI terminology" (ASBE, 2011) is an improvement from the lack of guidance provided when Proposition 203 (2001) passed, but it remains insufficient to ensure teachers develop best practices for EBs. Given that SEI lacks a foundation in the applied linguistics literature (Combs et al., 2005), improving guidance to teachers with questionable terminology is hardly a robust approach to meet EBs needs.

Notably, in a review using various sources of evidence to determine the extent to which Arizona's SEI implementation was addressing the needs of EBs, Martinez-Wenzl et al. (2012) found that

SEI as implemented in Arizona carries serious negative consequences for EL students stemming from the excessive amount of time dedicated to a sole focus on English instruction, the de-emphasis on grade level academic curriculum, the discrete skills approach it employs, and the segregation of EL students from mainstream peers. (para. 4)

A separate study examining teachers' perceptions of SEI was consistent with these concerns, finding that SEI strategies restrict EBs' access to academic content and inclusion among peers (Rios-Aguilar, 2012). Moreover, regardless of Arizona's LIEP policy, teachers acknowledge that they are both content and language teachers, and as such, desire the training that can better prepare them to meet the needs of their students (Lillie et al., 2012). Thus, researchers and practitioners agree that more than is currently required is necessary, but the state remains woefully ineffectual. This claim is substantiated by the performance of EBs in Arizona, who markedly underperform compared to their EB peers in both Texas and California even when they are no longer labeled EBs. When the significant relationship between bilingual training and self-efficacy for teachers in Arizona and California are considered with the qualitative differences in LIEP policies across the three states (as well as the fact that these differences align with the academic outcomes of EBs, with students in Texas generally outperforming EBs in California and markedly outperforming EBs in Arizona), there are numerous indicators of support for LIEP policies that reflect the approaches used in Texas. This evidence, when considered with other more nuanced examinations of EBs' achievement across states (see López et al., 2015), suggests that EB teacher preparation in Texas promotes contexts that address EBs' unique needs to a greater extent than its counterparts in Arizona or California.

Our findings also illustrate self-efficacy to be a complex phenomenon. Namely, whereas novice teachers with bilingual training have moderately higher perceptions of self-efficacy than their non-specialist trained colleagues in both Arizona and California in 2000, the advantages of bilingual training appear to have waned for novice teachers in both Arizona and California by 2012 (see Figures 3 and 4). In the case of Arizona, the benefits of bilingual training may have been insufficient to overcome the ELL Task Force requirements that remove EBs from content area instruction for

large segments of the day. In California, changes to the credentialing requirements may have also had the unintended consequence of reducing novice teachers' self-efficacy. Certainly, there are numerous other factors that could have also influenced the mitigation of the advantage bilingual training offered in Arizona and California. When considered with the EB achievement outcomes reviewed here, however, more rigorous bilingual training has marked advantages despite changes in novice teachers' self-efficacy over time.

There were additional findings that point to inadequacies in Arizona that did not apply to California or Texas. First was that the percentage of EB enrollment was negatively related to teachers' satisfaction, which aligns with the highly contested LIEP policy in the state. That is, teachers with less rigorous training are increasingly dissatisfied when the proportion of EBs in their classroom increases. The substandard rigor in certification requirements is also inversely associated with professional development focused on EBs in Arizona. This suggests that the state's attempts to supplement the meager policy with a substantial amount of professional development is ineffective given Arizona's poor achievement trends among EBs. It may be worth investigating who benefits financially from professional development in Arizona, particularly since the state has recently lowered teacher preparation requirements even further with SB 1042, which eliminates requirements of any formal teacher training altogether.

Taken together, the analyses discussed here have implications not only for revisions to Arizona's LIEP, but for all states with EBs. Our analyses substantiate Menken and Antuñez's (2001), as well as Faltis and Valdés' (2016), assertions that preparation to teach EBs requires specific knowledge that is reflected in rigorous specialist certification. Results suggest that incorporating some of the foundational knowledge, as in the case in Arizona, has not resulted in favorable outcomes for EBs even before the more deleterious four-hour segregation practices were implemented. Rigorous knowledge is particularly necessary given that the vast majority of preservice teachers come from backgrounds that are dissimilar to the students they will serve. Although specialist training may seem untenable given the numerous languages represented in schools, it is important to keep in mind that hypersegregation has resulted in 70% of EBs—most of whom share the same primary language—to be represented in just 10% of schools (Faltis & Valdés, 2016). Thus, states without rigorous requirements for teachers of EBs are compelled to revise their LIEP policy. States should consider adopting requirements similar to those in Texas, which require bilingual/ESL certification in situations where a critical mass of EBs share a primary language, and ESL in other situations. In examining the various analyses for Arizona, where specialist certification is related to better self-efficacy among novice teachers and certainly mitigates the dissatisfaction associated with a higher proportion of EBs, the importance of specialist certification is evident. Indeed, Arizona's attempt to address diluted teacher preparation requirements with professional development appears to have failed to promote better achievement trends among EBs. Accordingly, the policy implications are clear. States should require rigorous specialist certification to ensure EBs have access to teachers with the requisite knowledge to meet their needs. In cases where bilingual/ESL certification is not plausible, EBs should at the very minimum have access to ESL certified teachers that have the expertise to scaffold their language and content development simultaneously. Considering that EBs may still require some support after reclassification, however, it makes sense to ensure *all* teachers have some knowledge about the particular needs of EBs, consistent with the arguments put forward by Lucas et al. (2008) and Santos et al. (2012). This approach, however, cannot replace more rigorous training that does require more time and resources.



## Limitations

The present study capitalizes on large-scale data that allows us to make comparisons of achievement and teacher self-efficacy across states. The advantage of using NAEP and SASS, however, introduces many limitations. One limitation is that we were only able to focus on achievement in grades 4 and 8 due to limitations with the available EB sample for 12<sup>th</sup> grade. Accordingly, although achievement trends generally favor Texas policy, we are unable to document whether this is the case for EBs at the secondary level. Given that achievement in elementary school grades predicts high school achievement (e.g., Cunningham & Stanovich, 1997; Siegler, et al., 2012), there is reason to believe our findings would extend to EBs in high school. Another limitation introduced by the large-scale data is that we are limited to analyzing questions that are asked in the survey. Unfortunately, SASS has very few questions that are specifically designed to gauge practices and teacher behaviors directed at EBs. To attenuate this issue, we used any questions that reflect a plausible relationship to the specific needs of EBs as described in the extant literature. Yet another limitation is that while SASS teacher data are representative at the state level, they are not necessarily representative by teacher subgroup (i.e. specialist trained teachers). In the case of Arizona and California, it is difficult to ascertain exactly how many specialist credentialed teachers are working in schools each year since the California Department of Education, the California Teacher Credentialing Commission, and the Arizona Department of Education do not publish these data. There are indications, however, to suggest that the samples are adequate. Arias (2012) reports that in 2009, approximately 36% of teachers held a specialist endorsement. This is similar to SASS 2011-12 estimates of 30%, especially after considering the incremental decline in the number of teachers seeking specialist endorsement in Arizona (see Arias, 2012). In a paper published in 2005, Gándara, Maxwell-Jolly and Driscoll report that according to data from the California Basic Educational Data System (CBEDS), 9% of the teacher workforce in 2005 had a specialist certification. This number matches closely to our SASS-estimate of 11% of specialist trained teachers. In Texas, SASS 2011-12 estimates of 20% of teachers with bilingual training, compare to a figure of 23% reported by the Texas PK-16 Public Education Information Resource for 2012.<sup>32</sup> These numbers give us a modest level of confidence that SASS data closely reflect the numbers of bilingual teachers in each state. In addition to these limitations, there is also a need to consider that teaching efficacy (as well as EB achievement) is likely to be influenced by a large number of factors. The examination of teacher self-efficacy in instructional methods between 1999 and 2012 suggests that teacher self-efficacy in this domain has been generally stable over time, although there may be factors that contributed to a slight decline from 1999-2004, a steady increase thereafter, and then another decline. Whether it is factors associated with the increase in accountability and testing or not is beyond the scope of this paper. Nevertheless, the fact that numerous factors influence how prepared a teacher feels—from policies that deal with teaching preparation to those that support the very students teachers will teach—it is untenable to untangle the various factors with the analyses we conducted here. These limitations must be considered with the findings, lest we contribute to the notion that teaching EBs is simply a matter of specialist (bilingual/ESL) certification. This is not the case—but we certainly believe that policies that nurture the assets students have are much more advantageous than those that do not.

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<sup>32</sup> See the Texas Education Agency report on teachers certified persons statewide by certification program. These numbers refer to all programs. Available at: <http://www.texaseducationinfo.org/Home/Topic/Teacher%20Certification?br=Educators>

## Conclusion

Although state-level language instruction education policies and teacher preparation requirements vary substantially, the findings we review here suggest clear advantages to teachers in states that ensure knowledge of best practices for EBs. When teachers are required to have knowledge reflected in the framework, there are advantages to both EBs' achievement and teachers' self-efficacy and satisfaction. Accordingly, although EBs are often ignored in policy debates, state policies should reflect the assets that EBs introduce into classrooms and ensure that teachers can capitalize on their potential throughout compulsory schooling. Although some states are moving in the right direction by repealing policies that have failed to fully meet the needs of EBs, others remain woefully behind. The evidence we review here can inform debates about teacher preparation—particularly because EBs often have access to teachers who are under-prepared to meet their needs. To that end, the findings across teacher preparation requirements, self-efficacy, and achievement trends point to the importance of rigorous teacher preparation for *all* teachers of EBs, aligned with the framework reviewed here.

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Appendix

Table A1  
 Descriptive Statistics for Public School Teachers, 2011-12

	AZ			CA			TX		
			AZ/CA			CA/TX			TX/AZ
	<i>M</i>	<i>SD</i>	<i>d</i>	<i>M</i>	<i>SD</i>	<i>d</i>	<i>M</i>	<i>SD</i>	<i>d</i>
Teachers with ESL/Bilingual Certification	10%	30%	6%	4%	19%	-16%	20%	40%	10%
Students in classroom who are EB	25%	32%	-4%	29%	27%	6%	23%	30%	-1%
<i>Teachers with at least one EB in class</i>									
Professional development on EB useful	2.86	0.91	0.15	2.71	0.82	-0.11	2.81	0.76	-0.04
Professional development on EB hours categories	2.03	1.21	0.36	1.67	0.98	0.18	1.49	0.75	-0.54
Self-efficacy instructional methods	2.80	0.85	0.10	2.70	0.77	-0.09	2.79	0.81	-0.01
Self-efficacy differentiation	2.65	0.85	0.22	2.43	0.84	-0.16	2.59	0.85	-0.06
Self-efficacy assessment	2.77	0.80	0.15	2.62	0.71	-0.21	2.83	0.79	0.06
<i>Teachers with at least one EB in class and bilingual certification</i>									
Professional development on EB useful	2.83	1.05	-0.08	2.92	0.80	0.05	2.86	0.78	0.03
Professional development on EB hour categories	2.16	1.26	0.14	2.02	0.94	0.36	1.66	0.87	-0.50
Self-efficacy instructional methods	2.95	0.56	0.34	2.61	0.58	-0.02	2.62	0.72	-0.32
Self-efficacy differentiation	2.87	0.53	0.49	2.39	0.58	-0.19	2.58	0.93	-0.30
Self-efficacy assessment	2.12	0.72	-0.36	2.49	0.54	-0.22	2.71	0.85	0.59

Notes:

PD Usefulness refers to PD taken in the past 12 hours, and is categorized as follows: 1-not useful, 2-somewhat useful, 3-useful, 4-very useful.

PD hours are for the participation in PD activities in the past 12 months. Categories are as follows: 1-8 hours or less, 2-9-16 hours, 3-17-32 hours, 4-33 hours or more

Self-efficacy variable scales are as follows: 1 - Not at all prepared, 2 -somewhat prepared, 3 -Well prepared, 4-Very well prepared

Data come from Public Teacher File, Schools and Staffing Survey, 2011-12.

All results use teacher population weights and teacher replicate weights. Standard deviations are computed from BRR standard errors.



Table A2  
*Determinants of Percentage of EBs in Classroom, 2011-12*

	CA EB %	TX EB%	AZ EB%	CA, TX, AZ EB%
Teacher is female	5.27*** (1.37)	-1.10 (1.86)	4.45*** (1.41)	2.54** (1.06)
Total seniority	0.09 (0.15)	0.07 (0.18)	-0.01 (0.15)	0.06 (0.10)
Teacher is new (experience $\leq$ 3 years)	-1.35 (2.06)	0.27 (2.37)	-2.38 (1.98)	-0.37 (1.46)
Teacher has bilingual training	14.49*** (2.37)	21.18*** (3.00)	14.42*** (2.69)	17.56*** (1.98)
Minority enrollment (%)	0.40*** (0.03)	0.16*** (0.03)	0.35*** (0.03)	0.28*** (0.02)
School is in urban center	1.20 (1.41)	2.94* (1.69)	4.51*** (1.71)	1.89* (1.01)
Teacher is White	-2.27 (1.79)	3.25* (1.80)	-0.86 (2.74)	0.36 (1.40)
Teacher is Latino/a	12.77*** (1.73)	15.25*** (2.46)	6.18** (2.56)	13.32*** (1.55)
School enrollment	-1.58*** (0.27)	-0.57*** (0.20)	-0.10 (0.21)	-1.04*** (0.17)
CA				12.56*** (1.09)
AZ				5.68*** (1.20)
Observations	4,756	4,209	2,705	11,670
R-squared	0.26	0.27	0.29	0.28

All results are weighted using svy commands in STATA and SASS replicate weights. \*\*  $p < 0.05$ , \*  $p < 0.1$

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**SPECIAL ISSUE**  
**Navigating the Contested Terrain of**  
**Teacher Education Policy and Practice**

education policy analysis archives

Volume 26 Number 36

March 12, 2018

ISSN 1068-2341



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