

Crossing the Disciplines: State of TESOL Teacher Education Programs in US Universities



Megumi Hamada and Ryan T. Miller 

Abstract The establishment of TESOL as a professional field in the 1960s was led by the Center for Applied Linguistics (CAL), where Dick Tucker played a crucial role in shaping its missions and strategies and deconstructing diverse boundaries for understanding the profession and supporting teachers (Crandall & Tucker, 1990; Tucker, 1993). Due to its origin, TESOL programs are traditionally closely tied with the fields of applied linguistics and second language acquisition, with an emphasis on language learning and teaching. Over the past few decades as the number of English learners in U.S. schools and the need for qualified teachers have increased, many TESOL programs have begun offering training and preparation for elementary and secondary school teachers. The curricula of such licensure programs are accredited by the Council for the Accreditation of Educator Preparation (CAEP) and structured according to TESOL standards such as the Standards for Initial TESOL Pre-K–12 Teacher Preparation Programs (TESOL International Association (TESOL) Standards for initial TESOL pre-K-12 teacher preparation programs. Alexandria, VA: Author, 2019). Although the standards integrate applied linguistics/SLA into the field of education, some licensure programs, compared with others, tend to have more emphasis on education and instruction than on learning and acquisition. In this chapter, drawing upon our own experience and professional engagement in TESOL, we evaluate the distinct focuses of TESOL programs in U.S. universities, in particular whether they are more applied linguistics/SLA-oriented or education-oriented, to provide insights into varied practices in TESOL teacher preparation and development in the U.S. In this evaluation, we consider factors such as home department (where the program is housed) and its faculty expertise, academic level (undergraduate vs. graduate), and licensure vs. non-licensure offerings. Based on the evaluation, we offer recommendations for twenty-first century TESOL programs that cross the disciplinary boundary between applied

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linguistics/SLA and education by incorporating research and practices from both fields.

Keywords English learners · Teacher education · Knowledge base · Applied linguistics · TESOL

1 Introduction

The number of culturally and linguistically diverse students in U.S. schools has been steadily increasing for many years. Between the 2009–2010 and 2014–2015 school years, the percentage of English learners (ELs) increased in over half of states, with increases of more than 40% in five states (US Department of Education, 2018). Over the past 30 years, the number of ELs has increased from 3.6 million (representing 6% of all K-12 students) to over five million (over 10% of K-12 students) (National Center for Education Statistics, 2021; Tucker, 1981).

This on-going increase in the prevalence of ELs has led to an acute need for teachers who are adequately and appropriately prepared to teach ELs. Universities have responded to this need by offering a variety of EL teacher preparation programs, such as add-on programs that lead to endorsement for teaching ELs or content-area teacher education curricula that are infused with coursework on teaching culturally and linguistically diverse students. However, even with these efforts, the majority of states in the U.S. have not been able to staff an adequate number of qualified EL teachers at schools (Office of English Language Acquisition, 2021) and there are concerns that content-area teachers may still be unprepared to effectively teach ELs (García et al, 2010; Villegas et al., 2018).

In the U.S., certifications or licenses for K-12 teachers are issued by individual states, according to the qualification requirements designated for specific grade levels or subject areas, including those for EL teachers. There is also a national-level accreditation instituted by the Council for the Accreditation of Educator Preparation (CAEP; formerly the National Council for the Accreditation of Teacher Education, NCATE) using standards developed by TESOL International Association. First published in 2001 and revised in 2010 and 2019, the TESOL/CAEP standards outline the content, pedagogical knowledge, and skills that are necessary for EL teachers to have, including knowledge of language structure, sociocultural context, methods of instruction and assessment, and professionalism and leadership (TESOL, 2019).

Institutionally, EL teacher education programs are housed in a variety of departments, including linguistics, language, or education departments. This reflects the various knowledge bases that language teaching and language teacher education draw on. Traditionally, applied linguistics formed the core of language teacher education, as the goal of instruction was primarily the learning of language (Crandall, 2000). However, the work of many EL teachers now includes not only teaching

language but making content-area information accessible to ELs, requiring knowledge and methods of teaching from outside of language teaching. As a result, theory and practice of education more generally (i.e., areas of education outside of language teaching) have exerted increasing influence in pre-service and in-service language teacher education (Crandall, 2000). In this way, language teacher education involves the crossing of disciplinary boundaries between two different knowledge bases: applied linguistics and education.

The goal of this chapter was to describe the current state of EL teacher education in the U.S. by examining the EL teacher education programs accredited by CAEP. In particular, we investigated the extent to which EL teacher education programs cross boundaries in terms of the knowledge bases that they draw on and how this boundary crossing is related to (1) the institutional home of EL teacher education programs and (2) programs' alignment with the TESOL/CAEP standards.

2 ELs in K-12 Schools in the US

Whether they are born in the U.S. or another country, ELs grow up in an environment where a language other than English is used as the primary language. Depending on the amount of exposure to English and their primary language, some ELs are able to use basic communicative English but may struggle with academic English (Cummins, 1979). Some ELs are fluent and literate in their primary language but may be new to English with very little knowledge. A few decades ago, the term *limited English proficient* (LEP) student was more commonly used to refer to an EL. However, this term (LEP) induced a negative connotation and did not acknowledge students' primary language ability as an asset. Although *EL* has a more neutral connotation than LEP, more recently, an alternative term, *emergent bilingual*, has been recommended, in order to acknowledge ELs' primary language background and their developing bilingualism (García, 2009). As expressed in the term, "bilingual," ELs are expected to maintain and develop language proficiency in both their primary language and English, rather than English only. In this chapter, we use the term *EL* to refer to any student who is enrolled in U.S. K-12 schools and is in the process of developing proficiency in English as an additional language (Wright, 2015).

Compulsory education in the U.S. starts at kindergarten, typically at age 5, and continues through the 12th grade. Per federal guidelines, schools identify ELs by conducting a home language survey and English proficiency assessment (Office of English Language Acquisition, 2016). Children who are identified as ELs receive additional educational support throughout the grade levels until they achieve adequate English proficiency. Because the administration of such education support varies across states and local educational agencies, the U.S. Department of Education Office for Civil Rights and the U.S. Department of Justice's Civil Rights Division published a "Dear Colleague" letter in 2015, pointing out legal mandates regarding EL education (Lhamon & Gupta, 2015). Under Title VI of the Civil Rights Act of

1964, state and local educational agencies are obligated to offer support to ensure that ELs can meaningfully participate in education programs and services. The Equal Educational Opportunities Act of 1974 also requires public schools and state educational agencies to take actions to overcome language barriers that impede equal participation by ELs and their families in their educational programs.

3 EL Teacher Education

EL teachers play an integral role in providing effective EL education at schools. Currently, there is no nation-wide certification requirement for EL teachers, although there are federal grants available for state and local educational agencies to offer EL-related professional development programs for teachers. Nevertheless, many states require EL teachers to be officially certified to teach at schools. According to the Education Commission of the States (2020a), 26 states require EL teachers to hold a certification or endorsement in ESL or bilingual education as a state statute or regulation. For instance, in the state of California, the Commission on Teacher Credentialing issues authorizations for teachers who provide specially designed content instruction delivered in English, content instruction delivered primarily in a primary (home) language, or instruction for English language development (Cal. Educ. Code § 44253.2 et.seq). Furthermore, California requires any content-area teacher who has one or more EL in their classroom to have a certificate or authorization (Cal. Educ. Code § 44253.7). In contrast, for example, in the state of Indiana, an EL certification requirement is not specified in statute or regulation, yet individual schools may require such a certification. The state assures that there are pre-service and in-service training programs for persons serving non-English dominant students as educational personnel (Ind. Code Ann. § 20–30–9–6).

EL teacher education has its roots in language teacher education, particularly the education of teachers of English as a second or foreign language (ESL/EFL), where the primary goal of instruction has typically been language learning. This focus on language is reflected in the teaching methods that are typically covered in undergraduate and graduate ESL/EFL methods courses (see, e.g., Larsen-Freeman & Anderson, 2011). For example, the grammar-translation method focuses on grammar learning through translation of literature in a second language, the audiolingual method uses repetition and memorization of dialogues as a tool for learning language patterns, and communicative language teaching focuses on speech acts and learning language for everyday communication (Larsen-Freeman & Anderson, 2011). These and other prominent ESL/EFL teaching methods draw largely on concepts and theories from applied linguistics and second language acquisition, which for many years formed the core of ESL/EFL teacher education (Crandall, 2000).

However, EL teachers in the U.S. K-12 context have unique responsibilities that differ from traditional ESL/EFL teachers who are primarily language teachers. EL teachers in U.S. schools need to be able to support students' knowledge and skill development in both language (linguistic and sociopragmatic) and content areas

(academic subjects) (Fradd & Lee, 1998). This content-based approach is grounded in sociocultural theory (Vygotsky, 1978), which argues that language, cognition, and learning are interconnected. Children learn by exercising cognitive thinking processes, which involves language. At schools, ELs are expected to not only learn the English language, but to use English to develop new knowledge in academic subjects. In other words, for ELs, language is both content (as linguistic knowledge and skills) and a tool for learning academic subjects (Lucas, 2010).

4 EL Programs and Integration of Language and Content

Responding to the need for both language and content learning, EL instruction in U.S. schools adopts content-based language teaching approaches. Content-based language teaching can be defined as “an integrated approach to language instruction drawing topics, texts, and tasks from content or subject matter classes, but focusing on the cognitive, academic language skills required to participate effectively in content instruction” (Crandall & Tucker, 1990, p. 83). Content-based and language-based approaches are two ends of the continuum regarding the role of language in instruction (Met, 1999). Content-based approaches integrate language skills into the teaching of content knowledge and have as their goal the teaching of both content and language, whereas language-based approaches focus on teaching language skills with some aid from context and have as their primary goal the teaching of language. Thus, an EL teacher’s role is different from that of traditional ESL/EFL teachers who are primarily language teachers.

The integration of language and content learning is not a new concept, of course. The need for such integration was one of the main findings of early bilingual education research, such as the 12-year longitudinal study of French immersion conducted by Lambert and Tucker (1972). This and subsequent research has found that integrating language instruction with content instruction (rather than teaching language and content separately) can facilitate second language acquisition while simultaneously resulting in content learning that is similar to that of students taught in their native language (Tucker & Crandall, 1989).

EL teachers’ roles vary widely depending on the needs of schools and communities. In some models of instruction, the EL teacher has primary responsibility for instruction while in others the content-area teacher has primary responsibility or the two share responsibility (Crandall & Tucker, 1989). Table 1 summarizes EL program models that are commonly offered in U.S. schools, based on Lindahl and Baecher (2019). The programs include submersion, ESL pull-out, co-teaching (or ESL push-in), sheltered English or structured immersion, transitional or maintenance bilingual, and dual immersion bilingual programs. These programs differ in terms of setting and instructional language used; however, all involve some degree of integration of content and language.

Table 1 EL program models

Program	Characteristics
Submersion	ELs are educated in the content-area classroom with their English-speaking peers. Instruction is in English.
ESL pull-out	ELs are educated in a small group or one-on-one setting, separated from the content-area classroom and their English-speaking peers. Instruction is in English.
Co-teaching (or ESL push-in)	ELs are educated in the content-area classroom. An EL teacher co-teaches with the content-area teacher. Instruction is in English.
Newcomer	ELs are educated in a school or program with all other ELs who have been in the US less than 2 years. All subjects are taught with sheltered content techniques. Instruction is in English
Sheltered English or structured immersion	ELs are educated in the content-area classroom with their English-speaking peers. The teacher uses techniques for “sheltering” ELs that specifically foster language development. Instruction is in English.
Transitional or maintenance bilingual program	ELs of one primary language group in the elementary grades (K-3) are educated apart from their English-speaking peers or L2 learners from other backgrounds. Instruction is in English and their primary language.
Dual immersion bilingual programs	ELs are educated in a bilingual environment with their English-speaking peers, usually grades K-6. Instruction is in English and their primary language.

4.1 *EL Teacher Knowledge Bases*

In order to provide EL teachers with the knowledge and skills necessary to integrate language and content, EL teacher education must draw on diverse knowledge bases (Fradd & Lee, 1998; Mullock, 2006). For example, Day (1993) describes second language teaching (in general, not just EL teaching) as drawing on both domain-specific knowledge from TESOL and applied linguistics as well as general pedagogic knowledge from education more broadly. Domain-specific knowledge includes content knowledge (knowledge of the English language), pedagogical content knowledge (the specific ways of teaching second or foreign languages), and support knowledge (knowledge from disciplines that support language teaching such as psycholinguistics, sociolinguistics, and second language acquisition), while general pedagogic knowledge includes knowledge of general teaching strategies, beliefs, and practices, regardless of the specific subject being taught (such as classroom management strategies, motivational strategies, and pedagogical decision making strategies).

Existing EL teacher education frameworks also encompass multiple knowledge bases as core components. For instance, Lucas and her colleagues (Lucas & Villegas, 2010, 2013; Lucas et al., 2008) propose the following components in their EL teacher education framework: (1) the orientation of linguistically responsive teachers and (2) pedagogical knowledge and skills of linguistically responsive teachers. The first category addresses sociolinguistic consciousness and advocacy for ELs and linguistic diversity. The second category addresses application of second language learning theories to instructional strategies.

Coady et al. (2015) suggest that EL teacher education should be built on three dimensions: teachers' background and experience, teachers' knowledge about ELs, and teachers' knowledge of teaching and learning for ELs. The third dimension, which is about knowledge related to instruction, is further categorized into three components: (1) linguistics, (2) culture and SLA, and (3) instructional practices. The first component includes teachers' knowledge of the structure of languages. The second component includes understanding of the role of culture in ELs' learning of English language and academic content. The third component refers to the ability to provide differentiated instruction to meet ELs' various language learning needs. The Coady et al. framework describes more explicitly the connection between English language learning and content learning.

The framework by TESOL International Association (2019), which is used by CAEP for EL teacher education program accreditation, describes the standards for Pre-K-12 grade teacher preparation programs in the following five domains: (1) knowledge about language, (2) ELs in the sociocultural context, (3) planning and implementing instruction, (4) assessment and evaluation, and (5) professionalism and leadership. This framework is designed to prepare teacher candidates to effectively serve linguistically and culturally diverse students at U.S. K-12 schools. The first domain addresses the knowledge of linguistic systems and second language acquisition processes. The second domain addresses the role of identity and socio-cultural context in supporting ELs and their families. The third domain addresses the knowledge of culturally and linguistically supportive lessons to support the learning of language and content. The fourth domain addresses knowledge of various tools to assess language development. The fifth domain addresses the knowledge of effective collaboration with other educators and personal growth as reflective teachers. Similar to the framework by Coady et al. (2015), the TESOL standards aim to prepare EL teachers to be competent in teaching language and content for ELs with various proficiency levels.

4.2 Challenges in Teaching both Language and Content

Although the goal of EL teacher education programs is to prepare teacher candidates to become able to teach language and content, researchers have warned that teachers may face difficulty identifying language features specific to academic content (e.g., Schleppegrell, 2001, 2007; Turkan et al., 2014). For instance, in teaching the Pythagorean Theorem (e.g., $c^2 = 25$, $c = 5$), teachers would first need to notice that "taking the square root of 25" and "squaring 5" are the key linguistic features and explain to ELs that those two expressions refer to inverse operations. Then, the teachers need to model for the ELs how to use the expressions orally and in writing in the context of mathematics. Each academic discipline has its own unique context in which a linguistic register operates. Unless EL teachers are knowledgeable about such discipline-specific linguistic demands, including the lexicon, morphosyntax, and pragmatics of the discipline, it is not possible to teach language and content effectively in an integrated manner.

Content-language integrated models, such as the Cognitive Academic Language Learning Approach (CALLA; Chamot & O'Malley, 1994) and the Sheltered Instruction Observation Protocol (SIOP; Echevarría, et al., 1999), have been developed in response to the instructional needs specific to academic subjects. Nevertheless, such models are primarily for the purpose of shaping instructional approaches, rather than specifying language features. Accordingly, EL teachers need to be able to identify specific linguistic features (e.g., vocabulary, grammar, etc.) that are necessary for teaching specific academic concepts, based on EL teachers' own experience and discretion. EL teachers who are primarily trained to be experts in English language, including linguistics and second language acquisition processes, are tasked with a responsibility that may be beyond their capacity. For instance, Kong (2009) found a stark difference between teachers primarily trained in content (science) instruction and teachers primarily trained as language teachers in eighth grade classrooms. The language-trained teachers were unable to provide in-depth content knowledge during the class, which resulted in a lesson in which the students discussed content they already knew using language they already knew.

Similarly, Tigert and Peercy (2017) found that language-trained teachers were not adequately prepared for teaching content at K-12 schools. In their qualitative study, four teacher candidates in graduate-level TESOL programs with K-12 ESL teaching credentials were tracked over one semester, during which they taught as interns in content classes at secondary schools. Because none of the teachers had an adequate background in the content areas, they struggled to understand the content when they planned lessons. The analysis of the lesson observations and interviews demonstrated that the teacher candidates were well trained to teach English, with their solid understanding of linguistics and second language acquisition, but they found it difficult to teach concepts in the content areas, due to a lack of content knowledge. These findings underscore the challenge of EL teacher education programs. EL teachers are expected to be experts in TESOL with a wealth of knowledge in language, diversity, and second language learning processes. However, when they start teaching, they are also expected to understand how that TESOL-specific knowledge base can be applied to the teaching of academic content, such as mathematics, social studies, and science, and assessing students' conceptual understandings. This clearly suggests that the traditional approach in TESOL of primarily training language teachers may not be sufficient for EL teachers without content-area knowledge or certification, and it underscores the necessity of crossing this boundary between language teaching and content instruction in EL teacher education.

5 EL Teacher Education for all Teachers

Although EL teachers may assist content teachers as resource staff or co-teach with the content teachers, it is not likely that EL teachers can always be present in every classroom where there is an EL. EL teachers may be able to teach ELs in pull-out

sessions, but it is usually not possible to meet with them every day. Because of the shortage of EL teachers, in reality, for most of the school day, ELs are placed in classrooms taught by content-area teachers who may or may not have any specialized training in TESOL. Studies suggest that content-area teachers' lack of TESOL training can lead to a range of misconceptions about EL teaching, such as having stereotypes and biases toward minority or diverse students (Kumar & Hamer, 2012) and mis-placing ELs in special education classrooms (Stein, 2011). The misconception also affects content-area teachers' teaching approaches. Teachers tend to view EL-specific instruction as equivalent to that for any other diverse students (e.g., approaches in multicultural education) and consider good teaching of ELs as simply the same as good teaching for native-speaking students (Harper & de Jong, 2004; Pass & Mantero, 2009).

Responding to the growing need for all teachers to be equipped with TESOL-specific training, federal guidance encourages states to provide personnel to effectively facilitate EL programs, including content-area teachers who have received training to support ELs in their classroom (Office of English Language Acquisition, 2016). According to data from the Education Commission of States (2020b), 27 states require or provide TESOL training for all teachers, although the extent of the training varies greatly. Only a few states require an EL certification or endorsement (e.g., California), and the majority require TESOL training by means of the inclusion of TESOL in content-area teacher education programs, the inclusion of TESOL in the states' teacher qualification standards, or TESOL-specific professional development. Responding to the need, many teacher education programs have taken action to include TESOL-specific training in the existing curriculum. There are four commonly used approaches to implement such changes: (1) add a course, (2) modify existing courses and fieldwork to infuse attention to teaching ELs, (3) modify prerequisites, and (4) add a minor or additional certification (Lucas & Villegas, 2010).

For instance, de Jong and Naranjo (2019) report the efforts and struggles in teacher education programs in Florida, where elementary preservice teachers are required to have an EL endorsement. This requirement can be met by completing five courses in TESOL (through an endorsement program) or through an infused model with a minimum of two TESOL courses with additional general education courses that include EL-specific knowledge (FDOE, 2001). The TESOL courses are taught by faculty with expertise in TESOL, applied linguistics, bilingual education, or related fields, while the infused courses are taught by general education faculty who have completed 45 hours of professional development in TESOL. Based on an analysis of the infused courses, de Jong and Naranjo concluded that the general education faculty would need more professional development to effectively infuse their courses. Likewise, the data from de Jong et al. (2018) demonstrated that 74% of TESOL faculty considered the general education faculty at their institutions to be either not prepared or not well prepared to infuse EL knowledge and skills into their courses even after the state-required professional development.

Although there are findings that recognize the benefit of the infusion approach on teacher candidates' perception and instruction (e.g., Coady et al., 2011; Hutchinson, 2012; Lavery et al., 2019), teacher education faculty need to more strongly commit

to making changes to their existing courses and pedagogy in order to make infused courses more meaningful to teacher candidates (e.g., Costa et al., 2005). In addition, Baecher and Jewkes (2014) argue that collaboration between general education and TESOL faculty is crucial. The researchers implemented a semester-long collaboration between an early childhood education (ECE) class and a TESOL practicum class in which the ECE and TESOL faculty and their student-teachers collaborated in joint class sessions and discussed EL-specific strategies using sample lesson videos. The student-teachers from both classes expressed the benefit of such collaboration. In particular, the collaboration had a clear impact on the ECE student-teachers' perception about ELs and EL pedagogy.

6 Boundary Crossing in EL Teacher Education and the Present Study

From the research described earlier, it is clear that effective EL teachers necessarily cross boundaries between disciplinary knowledge bases, particularly applied linguistics and language teaching on one hand, and general and content-area education on the other. We see that teachers whose preparation focused on one without the other may be underprepared to integrate content and language for teaching ELs in U.S. schools today (Coady et al., 2015; de Jong & Naranjo, 2019; de Jong et al., 2018; Kong, 2009; Tigert & Peercy, 2017). It is, thus, important to investigate the extent to which EL teacher education programs facilitate such boundary crossing.

In order to examine boundary crossing in EL teacher education programs, we analyzed curricula/coursework of EL teacher education programs. To our knowledge, there have not been any studies that evaluated EL teacher education programs specifically, although several studies have evaluated curricula in MA TESOL programs. For instance, Ramanathan et al. (2001) investigated the cultures of two MA TESOL programs in universities in different parts of the U.S. and found that each program's identity and coursework was influenced by the culture and priorities of its home department. More recently, Stapleton and Shao (2018) conducted a curriculum survey of MA TESOL programs in 16 countries, including the U.S. They categorized the courses offered in the programs according to 15 knowledge bases and found that courses in three knowledge bases, teaching methods, linguistics, and SLA theories, were the most frequently covered in the programs. However, they found that, overall, the programs varied widely in their coursework and knowledge bases. In particular, the practicum/internship knowledge base appeared to be more popular among MA TESOL programs in the U.S. that also offered a K-12 EL license.

The national data indicate that ELs often underperform in academic achievement and are more likely to drop out of school than their native English-speaking peers (Sheng et al., 2011). To ensure all ELs succeed at school, EL teachers need to be able to provide effective instruction of both language and content. Based on the literature reviewed earlier, this study focuses on two knowledge bases that are integral in EL teacher education programs: applied linguistics and education. The applied linguistics

knowledge base refers to a repertoire of knowledge typically included in a TESOL or second/foreign language teaching program, such as linguistics, sociolinguistics, second language acquisition, and language teaching methodology. The education knowledge base refers to a repertoire of knowledge necessary to teach academic subjects in content areas. The question that motivated this study regards the extent of coverage and integration of the two knowledge bases in EL teacher education programs.

7 Method

7.1 Data Collection

We modeled our data collection and coding procedures after Stapleton and Shao (2018). The basic procedures were to collect curriculum information for EL teacher education programs and code the courses according to the knowledge base of each course. As a way to sample EL teacher education programs for this study, we collected information about the programs accredited by the Council for the Accreditation of Educator Preparation (CAEP) based on the standards developed by TESOL International Association. At the time of data collection in April of 2021, there were 103 programs listed on the CAEP website (<http://caepnet.org/provider-search>). For each program, two research assistants visited the university website and recorded the home department where the program was housed and the curriculum (total required credit hours and course titles and their credit hours). Unfortunately, ten of the programs did not have information available on their university website. Accordingly, the total number of programs submitted for coding and analysis was 93 (18 endorsement, 17 post-baccalaureate, 3 post-masters, 12 baccalaureate, and 43 masters programs).

A few programs listed different track options (e.g., an elementary school track vs. a secondary school track). For those programs, we chose only the first track shown on the program website to avoid duplication. The average credit hours for the program types were 17.50 for endorsement, 18.12 for post-baccalaureate, 20.00 for post-masters, 74.67 for baccalaureate, and 35.09 for masters. Because the endorsement, post-baccalaureate, and post-masters programs were all non-degree programs and had similar credit hour requirements, we decided to group them together in the subsequent coding and analysis. Table 2 summarizes the number of programs coded

Table 2 Number of programs by home department

	Masters	Endorsement & Post-Bacc/Masters	Baccalaureate	Total
Education	31	25	6	62
Language	6	11	6	23
Other	6	2	0	8
Total	43	38	12	93

and analyzed in this study, categorized by home department. The programs housed in “education” departments included departments, colleges, and schools of education and related disciplines (e.g., teaching and learning, curriculum and instruction). The education departments were by far the largest group with a total of 62 programs. The programs housed in “language” departments included departments and programs in linguistics, world languages, language education, English, or TESOL, comprising a total of 23 programs. The programs housed in “other” departments included those that did not belong in either the education or language category (e.g., literacy, graduate school), comprising only 8 programs.

7.2 Data Coding

All of the credit-bearing courses were coded for each program, totaling 1159 courses. The mean number of courses were 13.65 ($SD = 4.35$) for the Masters programs; 6.63 ($SD = 1.85$) for the endorsement, post-baccalaureate, and post-masters programs; and 26.67 ($SD = 5.63$) for the baccalaureate programs. Some programs included electives in the curriculum, in which students needed to complete a required number of courses from a set of course options. Because course choice could affect results, instead of making arbitrary choices, we decided to code all of the elective options in order to capture the range of knowledge covered in the curriculum.

Each course was coded in two categories, knowledge base (applied linguistics, education, both, or other) and the domains in the TESOL/CAEP standards. As for knowledge base, the courses coded as “applied linguistics” (AL) were the courses in applied linguistics or TESOL without specific reference to K-12 education or content-area instruction. Some example courses were SLA and Teaching, SLA and Assessment, Introduction to Linguistics, Bilingualism, Analysis and Structure of English, and Methodology of TESOL. The courses coded as “education” (ED) were courses in education without specific reference to TESOL, ELs, or bilinguals. Some example courses were Curriculum Theory and Instruction, Cultural Diversity and Education, Assessment of Learning, and Ethical and Moral Foundations of Educational Leadership. The courses coded as “both applied linguistics and education” (Both) were courses that integrated the applied linguistics/TESOL-specific knowledge into K-12 education or content-area instruction. It is these courses (those coded as Both) that we see as demonstrating the kind of boundary crossing that is most necessary in EL teacher education in the U.S. Some example courses were Language Arts and ESL Instruction, K-12 ESL Curriculum and Materials across the Content Areas, Assessment of Bilingual Students, Linguistics for Language Teachers, and Supervised Student Teaching in TESOL Grades K-6. The courses coded as “other” were courses that were outside of the TESOL or education disciplines (e.g., Political and Cultural Geography, Introduction to Psychology).

The courses coded as either AL, ED, or Both were also coded into the five domains of the Standards for Pre-K-12 Teacher Preparation Programs developed by

TESOL International Association (2019). Coding was based on the core domain sought in each standard as follows: (S1) linguistic systems and SLA theories/processes, (S2) diversity and sociocultural roles, (S3) teaching methods, curriculum, and materials, (S4) assessment and evaluation, (S5) supervised teaching, EL education policies, and leadership. The courses that did not belong to any of the standards (e.g., Introduction to Special Education, Philosophy of Education) were coded as “not applicable (n/a).”

For the course titles that were unclear (e.g., Culture), we looked up the course description on the program website to determine the coding. After initial discussion of the coding criteria, both authors coded 21 programs (3 endorsement, 3 post-baccalaureate, 1 post-masters, 4 baccalaureate, and 10 masters programs) independently and compared the coding results. At this initial stage, we were able to obtain 75% agreement. We discussed and resolved each of the courses where there were coding discrepancies and established more detailed criteria. The remaining programs were coded by the first author using the updated version of the criteria.

8 Results and Discussion

8.1 Knowledge Base

Table 3 summarizes the mean percentages of the courses within each knowledge base for each program type. The knowledge bases for the masters programs and for the endorsement and post-baccalaureate/masters seemed to follow a similar pattern, with AL and Both covering a large proportion of the courses (together accounting for 73.34% in the master’s programs and 89.24% in the endorsement and post-bacc/master’s programs). The small proportion of ED courses may reflect the nature of add-on programs, which are often designed for those who already have K-12 licensure in another subject and need more EL-specific coursework. It is also worth noting that the Both category represented the largest portion of courses in both the masters programs and add-on programs. This may reflect efforts to integrate EL-specific content into education courses. However, we see that the knowledge bases for the baccalaureate programs were more evenly distributed between AL and ED (37.83% and 31.89%, respectively), with a smaller percentage of courses including both knowledge bases (approximately 20%) and other (approximately 10%).

Table 3 Mean percentages of courses by knowledge base and program type

	AL Knowledge	ED Knowledge	Both Knowledge	Other
Master’s	33.35 (20.41)	26.66 (17.09)	39.99 (17.88)	0
Endorsement & Post-B/M	43.58 (22.24)	10.85 (18.67)	45.66 (20.91)	0.38 (2.32)
Baccalaureate	37.83 (14.06)	31.89 (15.06)	19.12 (12.64)	11.16 (7.26)

Note. Numbers in parentheses are standard deviations

The distribution of the AL and ED knowledge bases may be due to the influence of home department, which we examine in the next section.

8.2 Home Department and Knowledge Base

Table 4 provides a breakdown of the mean percentages of the curriculums that draw on each knowledge base according to the program type and home department. For the masters programs, the course coverage in programs housed in education departments was almost identical between the AL and ED knowledge bases (approximately 30% each) with about 40% coverage in the Both knowledge base. However, the course coverage of programs housed in language departments leaned more towards the AL knowledge base (52.21%), followed by 30% for the Both knowledge base and only 15% for the ED knowledge base. Similarly, in the endorsement and post-baccalaureate/masters programs, language departments had more than 60% of the courses in the AL knowledge base, with only 10% in ED and 25% in Both, while education departments had approximately 40% in AL and 50% in Both knowledge bases. Collectively, these data seem to suggest that among EL teacher education programs offered by language departments, more than half of the curriculum draws on the traditional applied linguistics and TESOL knowledge base with less exposure to general education knowledge or integration of K-12 EL teaching contexts. On the other hand, the fact that programs housed in education departments had a higher proportion of courses that incorporate both AL and ED knowledge bases may suggest that more courses in these programs are purposely designed to cross the boundary between these two disciplines by integrating applied linguistics and TESOL-specific knowledge into K-12 EL contexts in order to prepare EL teachers to integrate language and content instruction. Examples of such course titles include K-12 Bilingual and TESOL Teaching Practices and Assessment in the Content Areas, Learning Content Through Language in Multilingual Classrooms, and Infusing Content Language Instruction into TESOL/Bilingual Programs.

For the baccalaureate programs, the percentages of the combined (Both) knowledge base are only about 10% and 25% in education departments and language departments, respectively. The percentage distribution between the ED and AL

Table 4 Mean percentages of courses by knowledge base and home department

	Department	AL Knowledge	ED Knowledge	Both Knowledge
Masters	Education	29.74 (19.36)	29.57 (17.92)	40.68 (17.58)
	Language	52.21 (21.82)	14.71 (7.35)	33.08 (22.70)
Endorsement &	Education	36.19 (16.81)	11.80 (15.69)	52.49 (16.84)
Post-Bacc/masters	Language	62.86 (23.45)	10.75 (25.75)	25.73 (15.64)
Baccalaureate	Education	30.03 (11.42)	42.27 (13.96)	13.32 (9.65)
	Language	45.63 (12.59)	21.50 (6.71)	24.92 (13.34)

Note. Numbers in parentheses are standard deviations

knowledge bases seemed to follow the home department, with programs in education departments having a higher percentage in the ED knowledge base (42.27%) than the AL knowledge base, whereas those in language departments had a higher percentage in the AL knowledge base (45.63%) than the ED knowledge base. This may suggest that baccalaureate programs tend to focus more on developing a foundational knowledge base in the department's field, with less emphasis on integrating the knowledge bases.

Overall, these findings suggest that home department has a substantial influence on the distribution of courses in a program. This echoes the findings of Ramanathan et al. (2001), who compared two MA TESOL programs in universities in different parts of the U.S. and found that each program's identity and coursework were influenced by its home department. They found that each of the programs conformed to the ideologies prevalent in the department. More specifically, in that study, a program that was housed in a linguistics department was oriented toward linguistic structure in order to fit into the department, and a program housed in an English department focused less on pedagogy in order to fit into its home department. In the present study, we see a similar pattern with language departments and education departments.

8.3 Knowledge Base and TESOL Standards

The mean percentages of courses by knowledge base and TESOL standard domain are shown in Table 5 for programs in education departments and in Table 6 for those in language departments. Note that the percentages in the tables include only the programs that had courses coded for either AL, ED, or Both knowledge bases. Some programs included no courses in one knowledge base, and, consequently, the total percentages are lower than 100% in some of the knowledge bases.

Standard 1 addresses teachers' knowledge about language and language acquisition, including knowledge of English language structures, English language use, second language acquisition and development, and language processes that help ELs acquire language specific to various content areas (TESOL, 2019). In general, programs drew heavily on the applied linguistics knowledge base to meet Standard

Table 5 Mean percentages of knowledge base in TESOL standards for the programs housed in education departments

	S1	S2	S3	S4	S 5	n/a
AL knowledge	38.48 (24.82)	6.56 (12.78)	33.55 (27.13)	10.45 (20.40)	1.77 (7.51)	5.97 (13.17)
ED knowledge	0.49 (2.42)	18.57 (32.17)	16.31 (21.68)	4.32 (10.52)	4.53 (14.42)	31.59 (35.44)
Both knowledge	17.55 (18.95)	6.30 (12.76)	33.63 (25.23)	9.35 (12.44)	30.71 (21.26)	0.85 (3.43)

Note. Numbers in parentheses are standard deviations

Table 6 Mean percentages of knowledge base in TESOL standards for the programs housed in language departments

	S1	S2	S3	S4	S5	n/a
AL knowledge	54.28 (20.80)	9.77 (11.24)	24.04 (16.00)	6.82 (7.83)	0	5.08 (9.72)
ED knowledge	0.87 (4.17)	12.80 (24.97)	12.01 (22.72)	6.24 (21.04)	2.17 (10.43)	22.43 (38.12)
Both knowledge	9.76 (17.75)	3.10 (9.59)	34.15 (32.61)	6.34 (21.68)	46.66 (35.58)	0

Note. Numbers in parentheses are standard deviations

1, regardless of the department where the program was housed (38.48% of the AL knowledge base in programs housed in education departments and 54.28% in programs in language departments). Nevertheless, the proportion of courses that met Standard 1 was noticeably higher in programs in language departments than those in education departments. This may suggest that the curricula offered by language departments tend to be more focused on linguistic systems and SLA theory, with less integration of applied linguistics/TESOL knowledge specifically in K-12 EL contexts. This again resonates with the findings of Ramanathan et al. (2001) regarding the influence of home department. Examples of AL knowledge-base courses that address Standard 1 are Structures of English, Second Language Acquisition, and Applied Linguistics. Programs housed in education departments tended to include more courses that integrated the AL and ED knowledge bases in order to address Standard 1; examples of these include Linguistics for PreK-12 ESOL Teachers, Applied Linguistics for Exceptional ELs/MLLs, and Language Structure and Analysis for ELL Teachers.

Standard 2 is related to knowledge of ELs' sociocultural context and includes knowledge of how personal, familial, cultural, social, and sociopolitical contexts affect ELs' learning (TESOL, 2019). In general, slightly more of the ED knowledge base was related to this standard than the AL knowledge base. Courses in the ED knowledge included those such as Development and Diversity; Race, Class, Gender, and Disability in American Education; and Culturally Sustaining Pedagogy. Courses drawing on the AL knowledge base to meet this standard were mainly courses on sociolinguistics, including titles such as Sociolinguistics and Mobility, Language in Society, and Socio-cultural Aspects of Language. Courses that combined the two knowledge bases to meet this standard included, for example, Cultural and Linguistic Diversity in Schools, Introduction to Culturally & Linguistically Diverse Learners, and Cultural Components of Bilingual and ESL Instruction.

Standard 3 has to do with planning and implementing instruction, including teachers' knowledge of teaching methods and "evidence-based, student-centered, developmentally appropriate interactive approaches" (TESOL, 2019, p. 9). A larger proportion of the AL knowledge base was dedicated to this standard than the ED knowledge base. AL knowledge base courses included, for example, Methods and Materials for Teaching ESL, Teaching Second Language Reading and Writing, and Methodology of TESOL. ED knowledge base courses included Multicultural

Education Methods and Materials, Technology and Teaching, and Digital Teaching and Learning in K-12 Schools. It is worth noting that a large proportion of the courses that integrated the AL and ED knowledge bases aligned with this standard, as seen in courses such as Methods and Materials of Teaching English as a Second Language through the Content Area Pre-K–12, Structured English Immersion and Sheltered English Content Instruction, and Infusing Content Language Instruction into TESOL/Bilingual Programs.

Standard 4 has to do with assessment and evaluation, including knowledge of classroom-based, standardized, and language proficiency assessments (TESOL, 2019) and represented a relatively small portion of each knowledge base. AL knowledge base courses that aligned with this standard were generally traditional second language assessment courses, such as Second Language Testing and Assessment, Assessment in TESOL, and Language Assessment. Courses in the ED knowledge base were more general educational measurement and assessment courses, such as Assessment of Learning or Classroom Assessment, or those that focused on other aspects of education than language, such as Assessment for Struggling Readers. Courses that combined the AL and ED knowledge bases included Assessment of Multilingual Learners, Testing and Evaluation of English Language Learners, and Testing, Assessment, and Evaluation in Bilingual and ESL Education. It is worth noting that this standard was addressed the least by programs.

Standard 5 addresses professionalism, leadership, and supervised teaching practice. This was also the standard where programs drew the most on the combined (Both) knowledge base (30.71% for programs housed in education departments and 46.66% for programs housed in language departments). The vast majority of programs addressed this standard through courses that involved supervised teaching practice, such as a teaching practicum or student teaching. However, there were some programs that also included courses that integrated the knowledge bases in addressing other aspects of this standard. For example, one program included a course on Teacher Leadership in TESOL and another included a course on ESL Leadership, Research, and Advocacy. However, such courses were very rare.

The courses in the ED knowledge base had higher percentages of not belonging to any of the TESOL standard domains (n/a): 31.59% for the education departments and 22.43% for the language departments. This may be because EL teacher education programs in education departments are often built on (and draw from) existing general education curricula. In such programs, courses related to multicultural education or diversity may be included in EL teacher education, even if they do not meet the TESOL standards. For example, some EL teacher education programs included special education courses or courses on generic multicultural education for minority students, such as students with Hispanic or African American backgrounds. Although such courses are related to diversity and multicultural education, they are not necessarily relevant for EL teachers and do not necessarily align with the standards.

As mentioned earlier, we also found that some programs included no courses in one knowledge base. Of the programs housed in education departments (Table 5), 3.23% included no courses in the AL knowledge base, 24.19% included no courses

in the ED knowledge base, and 1.61% included no courses in the combined Both knowledge base. Of the programs housed in language departments (Table 6), all included at least one course in the AL knowledge base and Both knowledge base, but 43.48% included no courses in the ED knowledge base. It is worth noting that a substantial portion of programs included no courses from the ED knowledge base, even programs that were housed in education departments.

9 Conclusions and Recommendations

In this study, we investigated the degree of boundary crossing between the fields of applied linguistics and general/content-area education in U.S. K-12 EL teacher education programs. To do this, we examined the degree to which programs of various types draw on the knowledge bases of applied linguistics and general/content-area education and, in particular, the degree to which programs include courses that integrate the two knowledge bases. Courses in the AL and ED knowledge bases are specific to their field, and teacher candidates whose training draws on the AL and ED knowledge bases separately would need to work on application on their own. For example, if the majority of their training draws on the AL knowledge base, teacher candidates would lack experience in applying this knowledge to K-12 EL contexts. On the other hand, if their training draws mainly on the ED knowledge base, teacher candidates would need to learn on their own about EL-specific aspects of instruction that are different from teaching native-speaking children or those introduced in courses on multicultural education more generally. Thus, to truly cross the boundaries between these disciplines, EL teacher education programs need courses that intentionally and purposefully integrate the two knowledge bases in order to provide an integrated approach.

One of the major findings was the influence of home department on the knowledge base that programs drew from, with programs housed in language departments drawing more heavily on the AL knowledge base and programs housed in education departments drawing more on the ED knowledge base. This finding is consistent with Ramanathan et al. (2001), who also found an influence of home department. Problems with such a situation have been pointed out by de Jong and Naranjo (2019) and de Jong et al. (2018), who found that some education faculty may receive training in TESOL/SLA as professional development but they are generally not well prepared to infuse their education courses with TESOL/EL-specific theories and practices. To address this issue, perhaps a more systematic change is needed in graduate programs for teacher educators. For example, including TESOL-specific courses and experience in doctoral programs in education would ensure that all teacher educators are fully prepared to infuse their content courses. Likewise, including K-12 EL-specific courses and experience in doctoral programs in applied linguistics and SLA would ensure TESOL faculty gain a better understanding of how TESOL-specific knowledge could be applied in K-12 contexts.

Another finding was that boundary-crossing courses (i.e., those that integrate both the AL and ED knowledge bases) were mainly limited to courses focused on planning instruction (Standard 3) and practical teaching experience (Standard 5). Boundary crossing was seldom the focus of courses that met other standards, such as courses on second language acquisition processes, sociocultural contexts, or, in particular, assessment (Standards 1, 2, and 4, respectively). We did find that a few programs did include such boundary-crossing courses, such as Linguistics for PreK-12 ESOL Teachers (Standard 1), Cultural Components of Bilingual and ESL Instruction (Standard 2), and Testing and Evaluation of English Language Learners (Standard 4). However, such integrated courses were very much in the minority and were largely confined to master's degree programs. EL teacher education programs need to be more proactive in developing courses that, by design, integrate the AL and ED knowledge bases.

K-12 schools in the U.S. have a pressing need for more qualified teachers to educate all ELs with academic excellence. In order to achieve this goal, teacher education programs need to be willing to cross boundaries between traditional disciplines. Crossing boundaries is likely to involve a transformation of teacher education programs with a curriculum that acknowledges EL-specific theories and practices, as recognized by Costa et al. (2005). Curricular changes may be carried out at the institutional level, but real program transformation seems to require changes at the individual level, including teacher education program faculty, administrators, and students.

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