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Targeted English Language Development Professional Development Matters: The Impact of English Language Development-Content Based Teaching and Learning (ELD-CBTL) on Teachers' Self-Efficacy in Teaching Secondary Level English Learners

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Abstract

This study is situated in an educational context where secondary Latinx English learners' enrollment has dramatically increased. However, many face limited access to quality education and lack the skills to be college and career-ready. To tackle this problem, the English Language Development-Content-Based Teaching and Learning (ELD-CBTL) model is designed and implemented to help shift teachers' knowledge, beliefs, attitudes, and practices of using appropriate ELD strategies in a career academy to ELs. The ELD-CBTL model is rooted in the teacher change theory and aligned with the California Principles of the English Learner Roadmap, which included professional development on ELD, ELD instructional training, and coaching support. Findings show that the participating teachers' self-efficacy shifted when they applied the instructional skills, which made them more confident with providing rigorous EL content that meets the requirements for college admission.

Keywords: Differentiated Professional Development, Content-Based Instruction, Emergent Bilinguals, Collective Teacher Efficacy, Adult Learning, College and Career Readiness, Integrated English Development Instruction

1. Introduction

General education systems and practices have long been criticized for inadequacies in educating diverse learners (Olsen, 1997, 2000, 2010). The initial stages of implementing the Every Student Succeeds Act (ESSA) created a shift from the punitive accountability mandates of No Child Left Behind (NCLB) to a devolution process that put states in charge of creating and managing the new federal accountability mandates. The ESSA represents a new paradigm shift from federal to local control, which provides flexibility in developing local accountability measures, thus resulting in the decentralization of accountability of the Elementary and Secondary Education Act

(ESEA) to the state and local levels concerning educational decision-making. Political culture impacts how programs are designed to meet the outcomes of the Common Core State Standards (CCSS), and the underlying foundation of the CCSS are the college and career readiness anchor standards, which align curriculum with college and career goals (Common Core State Standards Initiative, 2010). The college and career readiness anchor standards define the general, cross-disciplinary literacy expectations for students in preparation for college and the workforce. There is much discussion and deliberation among educators and research scholars concerning what constitutes college and career readiness and how it can be measured to monitor student progress toward meeting its goals. The stated aim of the CCSS is to define the knowledge and skills students should acquire to graduate from high school ready to succeed in entry-level, credit-bearing academic college courses that do not require remediation (Common Core State Standards Initiative, 2010; Conley, 2005, 2007, 2010) and in workforce training programs. However, career readiness pertains to the knowledge, skills, and learning strategies necessary to begin studies in a career pathway, which differs from work readiness and job training in the workplace (Lombardi et al., 2012).

A critical issue of inadequacies in educating diverse learners is prevalent in major cities and urban public schools that have experienced a dramatic increase in Latinx enrollment. California has the largest English learner (EL) student population in the nation. In California, Latinx students make up over 55% of the student population (California Department of Education, 2021). While these demographic changes have led to significant gains in access to higher education, racial and ethnic disparities continue in both high school graduation and college completion (Fry & Taylor, 2013; Villalpando, 2010). For Latinx students with limited English proficiency, graduation rates have trended upward since 2010–2011. However, in most states, the percentage of ELs who graduated on time (within 4 years) was only 67% (United States Department of Education, 2016). Beyond the challenges of gaining linguistic and academic proficiency, many secondary-level Latinx ELs face limited access to quality education like college preparatory courses (Callahan, 2005) and lack the skills to be college and career-ready (Mendoza, 2016).

2. Review of Literature

2.1 College and Career Pathways

As educational institutions seek programs that meet the threshold of providing college and career readiness for all students, programs like career pathways have been touted as meeting and even exceeding these aims (California Center for College and Career Readiness, 2012). College and career pathways seek to improve high school graduation rates and increase successful transitions to a full range of postsecondary education opportunities, particularly for low-income and disadvantaged youth (Guha et al., 2014, p 1). Career pathways have existed for more than 30 years and have been implemented in more than 1,500 high schools across the country. Students are placed in cohorts that participate in the same grade level and career-themed course of study. Teachers in these programs support the development of student peer-to-peer networks and teacher–student relationships that enhance student learning. Career pathways provide an integrated instructional approach by combining core content academic courses with an occupation-related career emphasis.

A career academy is a school “that provides a college-preparatory curriculum with a career-related theme” (Stern et al., 2010, p. 4). In recent years, career academies have led high school reform efforts to prepare all students, including Latinx EL students, for both college and careers (Kemple, 2001; Kemple & Snipes, 2000; Stern et al., 2000, 2010). According to Grubb (2008), career academies use various strategies to deliver a curriculum that integrates college-preparatory and career technical education that has the potential to benefit immigrants and ELs. Secondary programs of study need more opportunities for students to match what they are learning to their aspirations, interests, and ambitions. This aim, as Olsen (2010) and later Conley (2014) state, is particularly important for high school ELs who need to acquire college and career readiness skills in a program of study in which their interests, aspirations, and engagement are integrated into their learning. Career pathways are designed to integrate core content courses with career/technical courses centered on a particular industry sector. This integration of core and career/technical-themed courses provides students with opportunities to refine their career readiness skills as they participate in work-based learning.

2.2 Challenges Faced by English Learners

Pivotal to the belief that all students need access to college preparatory courses, ELs are denied access foundationally due to language policies, which act as barriers for ELs (Mendoza, 2016, 2019). For ELs at the secondary level, accessing career pathways constitutes barriers due to structural factors that either limit access to career pathways or design the English language development program as a pullout strategy. Callahan (2005) found that EL students were “tracked” (p. 310) into lower academic classes based on linguistic abilities. ELs enter U.S. schools with two tasks to complete: learn the English language and learn academic subject content. When EL students at the secondary level have limited opportunities and are placed in low-track courses, this frequently results in exposure to less rigorous content and fewer learning opportunities. Olsen (2010) indicated that ELs who are “stuck” (p. 18) in the English language development (ELD) ghetto have less opportunity to be engaged in school, and their academic progression is significantly reduced.

A study by Thomas and Collier (1997) found that English as a second language (ESL) taught via content-area instruction (social studies, math, science, etc.) is associated with higher long-term educational attainment than ESL pull-out programs. However, the prevailing method of providing ELD courses predominantly uses the pull-out strategy rather than programs that teach English via content-area instruction (Thomas & Collier, 1997, p. 32). The result is, as researchers such as Menken and Kleyne (2010) and Umansky and Reardon (2014) have shown, that many EL students remain in ESL programs on a semi-permanent basis—as long-term English learners (LTELs). Mendoza (2016) argues that EL students are not accessing core academic courses or electives such as career pathways due to the competing language development policies and related program compliance mandates. At the same time, English language acquisition itself is treated as a “gatekeeping process for access to college preparatory content” (Rodriguez & Cruz, 2009, p. 2392), so if students are not reclassified, their access to rigorous curricula is restricted (Kanno & Gromley, 2015). Due to the competing mandate of implementing Title III policies, ELs are not accessing core academic courses or electives that provide engaging and relevant preparation for college and career readiness.

It is noteworthy to highlight the programmatic conflicts of implementing a mandated program like the Title III policies based on a restrictive strategy of offering pull-out ELD courses to EL students that have not been reclassified as English proficient. However, for ELs at the middle and high school level, the lack of access to courses that provide college and career readiness is a significant barrier to meeting graduation requirements and college admission criteria.

2.3 English Language Development–Content-Based Teaching and Learning Model (ELD–CBTL) Aligned With the California EL Roadmap

Scholars have stressed the need to shift paradigms on how language is taught to secondary-level ELs. Mendoza (2019) developed the English Language Development–Content-based Teaching and Learning (ELD–CBTL) model, as illustrated in Figure 1. ELD–CBTL is designed to support schools and teachers as they work to ensure access and equity while effectively supporting multilingual students. The uniqueness of the ELD–CBTL model is that it provides professional development training on ELD strategies for the teachers of the content, technical, and ELD course in the career academy. Prior designs have had the ELD teacher work outside of the cohort of core and technical teachers. Conzemius and O’Neill (2002) state that collaboration involves people relying on each other to achieve these goals, creating an environment through structures, systems, processes, and policies where everyone contributes skills, knowledge, and experience to improve student learning. Teachers engaged in career pathways require key skills and proficiencies, including using inter- and intra-disciplinary collaboration in curriculum design and delivery; developing lessons using problem- and project-based learning; creating industry and postsecondary education partnerships; and developing learning experiences that integrate career-technical standards, academic standards, and work-based learning experiences (Almond & Miller, 2014). Utilizing the ELD teacher within the career academy is a collaborative structure that reinforces the integration of language development for EL students in all content and technical areas, including ELD instruction. Professional development that is inclusive of collaborative teams is a cost-effective, pragmatic, and sustainable approach to increasing capacity (Harris & Sullivan, 2017) to instill knowledge and skills in ELD content-based teaching and

learning. The ELD–CBTL model is also used to support secondary-level ELs through college preparation and career tech education courses that integrate the ELD framework while addressing the California Principles of the English Learner Roadmap (California Department of Education, 2017). The roadmap consists of four principles; within each principle, various “elements” clarify the principle’s intent. In March 2020, the California Department of Education showed its continued support of the policy by awarding 10 million dollars in implementation grants (California Department of Education, 2020a). The EL roadmap delineates expected outcomes but gives individual schools and districts freedom regarding how they choose to implement the policy.

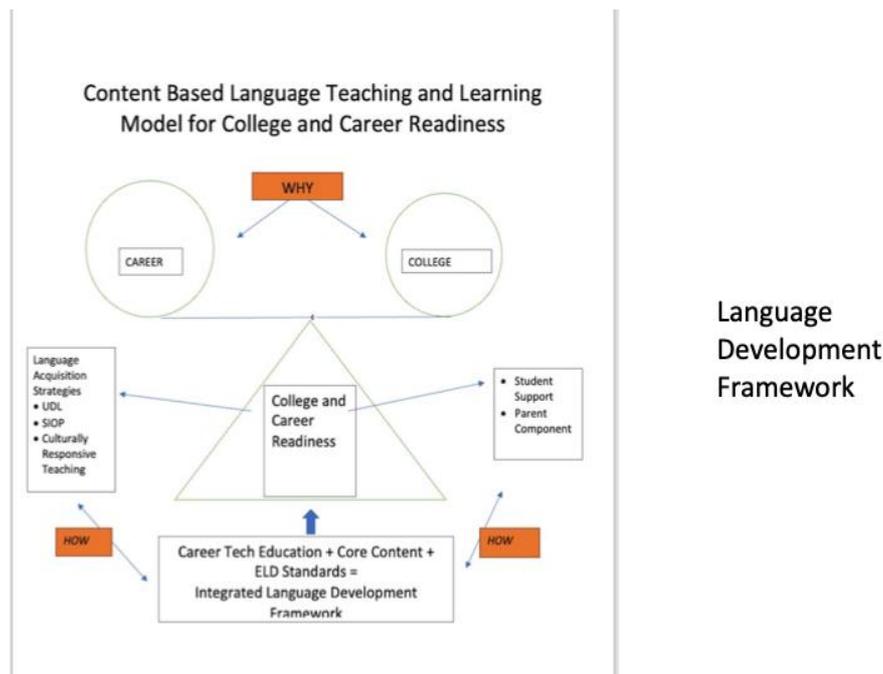


Figure 1: Language Development Framework: Content-Based Teaching and Learning Model for College and Career Readiness (Mendoza, 2019)

Note. From “Language Development Policies and Practices Impacting Long-Term English Learners (LTEL’S) in Secondary Schools for College and Career Readiness,” by C. Mendoza, 2019, *Educational Leadership Administration: Teaching and Program Development*, 30(1), 14–34 (<https://eric.ed.gov/?id=EJ1206778>). Reprinted with permission.

2.4 California Principles of the English Learner Roadmap

Principle One: Assets-Oriented and Needs-Responsive Schools. Building on Knowles’s (1990) adult learning theory, specifically the (5th) principle stating that individual needs differ among individuals and learners must be served based on their needs, Principle One: Element 1. B’s statement that no single program or instructional approach works for all EL students. The implementation of the ELD–CBTL model addresses the need to provide professional development training on ELD instructional strategies to the teachers so they can differentiate instruction and be responsive to EL students’ needs.

Principle Two: Intellectual Quality of Instruction and Meaningful Access. Principle Two of the EL roadmap provides specificity regarding expectations for instruction for ELs, emphasizing the intellectual quality of instruction and meaningful access. Related to teaching practices in subject matter learning that is integrated across the curriculum (Element 2.A). Intellectual quality involves instruction, curriculum, rigorous, standard-based materials, and pedagogy and teaching that is scaffolded that increases comprehension (2.B) and integrated with content (Element 2.F). Meaningful access to the curriculum (Element 2.C and 2.D) refers to students having the opportunity to engage with content through supports such as integrated and designated ELD. Principle Two addresses how an institutional factor can be addressed by analyzing how programmatic and placement policies

can ensure meaningful access for ELs. The shift for this particular study was that the leadership of the school allowed the participation of the ELs into the career academy regardless of English language proficiency, addressing a shift of institutional factors previously practiced in barring ELs from participation in the college and career academy due to limited English proficiency.

Principle Three: System Conditions That Support Effectiveness. Principle Three speaks to systems that need to be in place for effective teaching and learning for ELs to occur. It provides how resource allocation for professional development can be utilized to support ELs and their needs. Element 3. D suggests that systems are responsible for the capacity building of educators, including professional development and collaboration time. Professional development that specifically addresses ELs' needs. The ninth-grade media technology academy teaching team participated in the ELD–CBTL initiative. All five teachers received professional development training and implemented designated and integrated ELD strategies in the content courses of English language arts, biology, algebra, media technology, and ELD. From the onset of the training, the teachers received over 100 hours of professional development (PD). The PD services included monthly ELD instructional strategies training provided by a team of experts who conducted classroom observations and debriefing sessions with the teachers on implementing ELD–CBTL model teaching strategies.

Principle Four: Alignment and Articulation Within and Across Systems. Principle Four emphasizes the need for better alignment across educational segments to create a more cohesive, articulated schooling experience for ELs. Principle Four also charges schools with providing college-readiness pathways for ELs. When students are tracked into ESL courses, they can receive limited access to rigorous content and often lack the 'a–g' courses required for college (Callahan & Shifrer, 2016; Mendoza, 2016, 2019). Element 4.B asks administrators to reallocate funds to support ELs and their teachers toward PD for researched-based language development practices, such as the ELD–CBTL model, which integrates language with rigorous content.

2.5 The Change Environment Model

Clarke and Hollingsworth (2002) designed the change environment model. Clarke and Hollingsworth investigated how teachers grow professionally and the conditions that support and promote that growth. Most PD consisted of one-shot workshops aimed at teacher mastery of prescribed skills and knowledge. According to Guskey (1986), PD attempts, based on the one-shot workshop, are considered a deficit model for teacher change. However, the ELD–CTBL PD consisted of over 100 hours of PD, consisting of direct ELD instructional training, classroom observations, and teacher reflection and collaboration. The change environment model suggests that change occurs through the mediation processes of "reflection" and "enactment" in four distinct domains that encompass the teacher's world: the personal domain (teacher knowledge, beliefs, and attitudes); the domain of practice (professional experimentation); the domain of consequences (salient outcomes); and the external domain (sources of information, stimulus, or support; Guskey, 1986). Self-efficacy can be tied to the change model as the teachers change their knowledge and beliefs based on the external domain (EL PD), domain of practice (experimentation with EL strategies), and domain of consequences (changed perception of salient outcomes related to the classroom ELD instructional pedagogy).

In the amended change model by Guskey (1986), the author triangulated how PD training with integrated English language instructional strategies provided teachers with ELD pedagogy growth and impacted the change environment model. As illustrated in Table 1 and Figure 2, specific strategies that influenced the teachers' self-efficacy impacted the change environment domains.

Table 1: Change Environment Domains and Application in ELD–CBTL

Change Environment Domains	Application in ELD–CBTL
External Domain: External Source of Information or Stimulus	<u>Teach them</u> : Provided ELD instructional training
Domain of Practice: Professional Experimentation	<u>Coach them</u> : Experimentation with teaching ELD strategies and collaborative group work
Domain of Consequence: Salient Outcomes	<u>Positive outcomes</u> : Changed perception of salient

Personal Domain: Knowledge, Beliefs, and Attitudes	outcomes related to classroom practices <u>Changed attitudes and beliefs:</u> Increased teachers' attention to the needs of ELD strategies and impacted new knowledge and beliefs of teachers/self-efficacy
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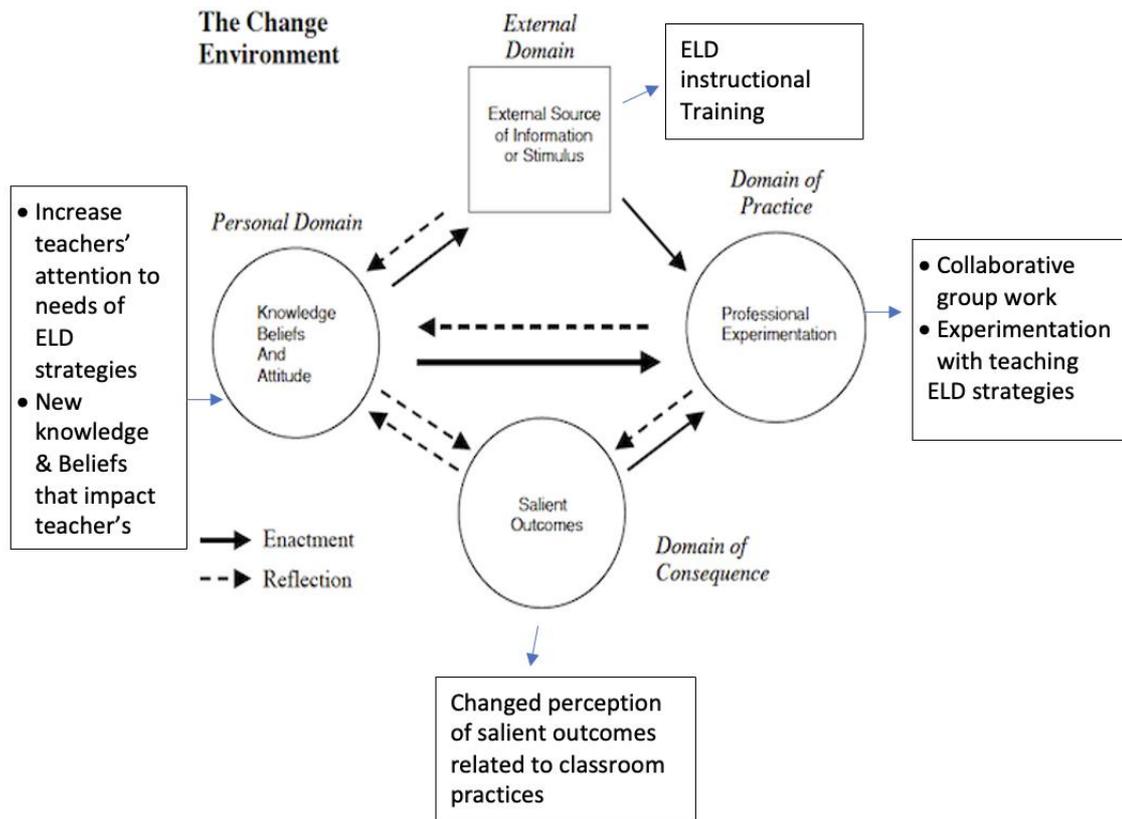


Figure 2: Adapted Change Environment Model

Note. The interconnected model of professional growth adapted from “Staff Development and the Process of Teacher Change,” by T. R. Guskey, 1986, *Educational Researcher*, 15(5), 5–12 (<https://doi.org/10.3102/0013189X015005005>). Copyright 1986 by Educational Researcher.

3. Methods

3.1 Research Design

As part of a large mixed method research project that took place in California and was designed to promote secondary EL students’ college and career readiness, this paper utilizes interview data collected from five participating career pathway teachers to examine the teacher outcomes of CBTL and the alignment between the teachers’ instructional pedagogy and the California EL roadmap principles. The analytic strategies for this paper are in accordance with adult learning theory and collective efficacy. This research is a qualitative case study conducted at an urban high school in California. The research design centers on the integrated language development framework, including career technical education, core content, and ELD standards. Based on the environmental change model, we consider the external stimuli as PD and coaching. Five teachers in the media technology academy participated in PD training on how to co-create lessons and unit plans on the design and implementation of ELD strategies into the integrated/thematic lessons/units. Teachers learned how to unpack the English language standards and incorporate them into the integrated ELD pedagogy.

A significant shift is in the role and function of the ELD teacher. The ELD teacher will be part of the teaching team and offer ELD coaching to the core and technical teachers on developing English proficiency strategies for the EL students. Two qualitative research instruments will be used to assess the teacher's knowledge and growth of the ELD integrated and designated standards and instructional strategies. One instrument is a survey administered to all five media technology academy teachers (core subjects of English, biology, social studies, media technology technical teacher, and ELD strategist). Individual and group focus interviews will determine the knowledge and skills in developing lessons with ELD strategies embedded in language-inclusive instructional pedagogy.

Research Question: What are the impacts of implementing the ELD–CBTL model on teacher self-efficacy?

4. Purpose of the Study

As we engage readers in the forthcoming discussion, we stress that the often-unintended outcome of only recognizing one avenue for language development is a structural factor and is the further stratification of an already marginalized adolescent population.

When reviewing structural factors which are explicit, intentional, or operational features of a school which for this study landed on policies within a school that disparate opportunities or inequitable student access to competent, appropriate, and rigorous teaching and learning experiences for English learners (California Commission on Teacher Credentialing, 2022). In addition, institutional factors are commonly accepted and deeply ingrained norms, values, and beliefs of teachers. As an example of institutional factors, a study by O'Brien (2009) found that 94 out of 121 (76.5%) social studies teachers indicated that EL students should not be included in core courses until they have attained a minimum level of English proficiency. This study focuses on the institutional factors related to teachers' knowledge, beliefs, attitudes, and practices of teaching ELD strategies in the career academy to ELs (California Commission on Teacher Credentialing, 2022, p. 64). However, when a new paradigm disrupts these beliefs or practices, school leaders and teachers embrace the opportunity to teach ELs in the core content areas as they simultaneously learn the English language.

Consistent with the state's aims to strengthen policies (California Department of Education, 2017, 2020a) programs and practices for ELs, this project focuses on both structural and institutional factors investigated in developing the English Language Development–Content-based Teaching and Learning (ELD–CBTL) inclusive model designed to integrate ELD into the academy model (core, technical, & ELD) for college and career readiness for EL students. Shifting how teachers perceive their knowledge and beliefs of how to teach ELD in their content courses shifts the paradigm of how EL's language and cultures are an asset, contradicting the traditional deficient perspective regarding ELs that pervades schools (Gutiérrez & Orellana, 2006).

4.1 Context and Participants

The research study was conducted at an urban high school in California, serving over 1,983 students with diverse learning needs. The high school has career academies as a school reform design model to address students' college and career interests and readiness. The socioeconomically disadvantaged rate was 70.0%, and the ELs were 17.2%. Of the 17.2% ELs, the Level 1 beginning stage was 36.8%. Eleven ninth-grade ELs in Level-1 were identified and enrolled in the media technology academy for the 2018–2019 school year. The students (EL research student group) had the same college preparation courses in English Language Arts, biology, algebra, media technology, and ELD teachers that participated in the ELD–CBTL research initiative (see Table 2).

Table 2: Participant Demographics

Pseudonym of Participants	Taught	Teaching experience 1–3 yrs.; 4–7 yrs.; 8 and more yrs.
Teacher A	Biology	2 years
Teacher B	Algebra	5 years

Teacher C	English	8+ years
Teacher D	Media Technology	8+ years
Teacher E	English Language Development	8+ years

What is salient about this model is the inclusion of the ELD teacher with the core content teachers in the technology media academy. Researchers Thomas and Collier (1997) found that ESL taught via content-area instruction (social studies, math, science, etc.) is associated with higher long-term educational attainment than ESL pull-out programs. The five ninth-grade teachers of the media technology academy participated in the differentiated PD in the ELD–CBTL initiative during the 2018–2019 school year (see Figure 3).

ELD Specialist as a resource and coach to content teachers and ELL students

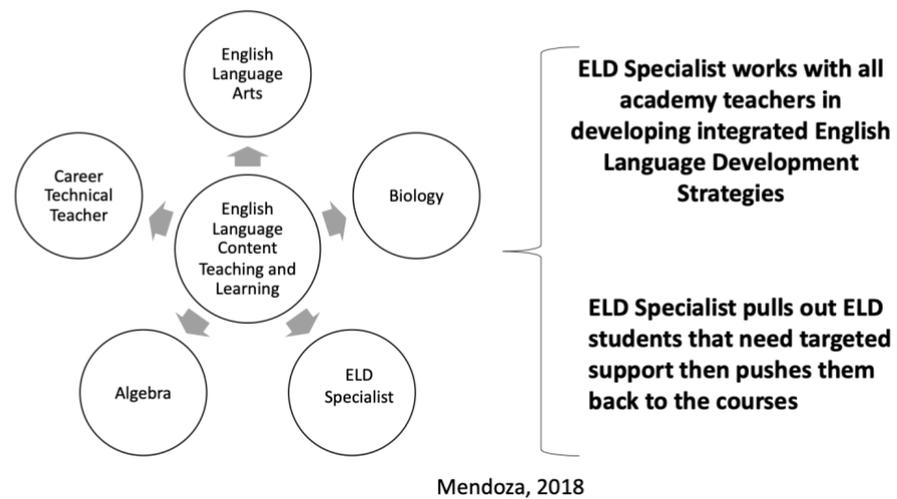


Figure 3: Inclusion of the ELD Teacher as a Resource and Coach to the Content Teachers in Implementing the ELD Strategies

Note. From “Language Development Policies and Practices Impacting Long-Term English Learners (LTEL’S) in Secondary Schools for College and Career Readiness,” by C. Mendoza, 2019, *Educational Leadership Administration: Teaching and Program Development*, 30(1), 14–34 (<https://eric.ed.gov/?id=EJ1206778>). Reprinted with permission.

4.2 Data Collection Strategies

The data shared in this paper was collected within the 2018–2019 school year through semi structured individual interviews and focus group interviews after participants completed the training. The interviews focused on teachers’ growth from the PD they received and the implementation of integrated language development strategies.

4.3 Data Analysis

The primary sources of data reported in this article are semi structured interviews and focus group interviews with five participating teachers, but for this paper, the data was mainly from four teachers in the cohort. The data were entered into NVivo 12 to establish a coding scheme, identify themes, and examine the alignment between the interview and the California English learner roadmap (ELR) principles.

In the initial coding, one author used the operational questions as guides and read through all transcripts to assign codes to the text segments that seemed to fit together to describe the ideas (Creswell & Creswell, 2018, p. 194). Discourses that contained outcomes of CBTL and the pathway teacher's instructional pedagogy for ELs were coded. In the second phase of coding, the focus is on identifying how the career pathway teachers are demonstrating ELR principles in action. Two authors and one ELD specialist coded passages that contained ideologies and practices that reflect ELR principles and elements. In the third coding phase, one author used integrated language development strategies as a guide and coded the descriptions of the pathway of teachers' instructional pedagogy that are relevant to each feature. In the fourth final coding phase, the authors used the interconnected model of professional growth as a framework for examining teacher changes. Once the data was saturated with base-level codes, the authors began the next phase of the analytic process, which focused on examining the alignment of ELR codes and structured instruction observation protocol (SIOP) codes. As the data analysis process proceeded, themes were developed to answer the research questions.

5. Discussion

This section begins by presenting results about changes in the teachers' self-efficacy through the ELD-CTBL professional development and then describes the alignment of the ELD-CTBL with the ELR principles.

5.1 Impact of ELD-CTBL on Teacher Efficacy

This section describes all five participating teachers' experiences participating in ELD-CTBL. A summary of their professional experimentation with new teaching ELD strategies is first offered. Next, the teachers' increased self-efficacy regarding ELD is discussed. Finally, some salient outcomes related to classroom practices and teacher collaboration are described.

Teachers' Experimentation with New ELD Strategies. The five participating teachers of different core subjects (English, biology, social studies, media technology technical teacher, and ELD strategist) stated that after the ELD-CBTL training, they began to incorporate more techniques to make content concepts clear, including using virtual reality (VR) field-trips, a lot of visuals, body language, flashcards, manipulatives, and hands-on activities. Some of them also put more emphasis on key vocabulary by "incorporate[ing] a word wall so that our main words that we use all the time, the students would be familiar with it, and they could reference the definition if they needed to on the wall," stated Teacher B. The teachers also became more intentional about linking past and new learning concepts across different subject matters. As Teacher E described, "I think I'm able to make more connections between different classes in my room. I can make references to things I know they're studying in their other classes."

In order to scaffold students' understanding and promote higher-order thinking skills, the teachers designed a variety of questions or tasks, such as "building models and putting puzzle pieces together to learn a concept or to show their understanding" or "[ask students] to bring those words in their head, down onto the paper, and then share them with another student, and then go back to their paper," said Teacher A. They also utilize different grouping strategies, such as think-pair-share or small groups, to allow students to engage with one another and learn from peers of different abilities. Furthermore, the teachers provide multiple opportunities for students to demonstrate what they have learned. For example, Teacher A said:

Instead of taking a multiple-choice test, the students could draw a picture, they could send me an audio clip, they could write a little story, they could show me a different way that they understood [the] material based on what they were comfortable doing.

Increased Self-Efficacy of the Teachers. In the personal domain, the teachers' increased self-efficacy started with their attention to the need of ELs and their advocacy for them.

Teacher A commented:

I really did firmly believe in my heart that they did not advance the way they would, and all my bilingual friends who came here speaking only another language are 100% sort of a sink or swim model. So, not that I believe in throwing kids out there and they'll figure it out, but putting them out there with the

support, so they do have the opportunities to have everything that our other kids have was really important to me personally.

Teacher C said:

I found that really exciting and motivating. And I think that we demonstrated that, with the right support in place, these kids are just as capable as any of our kids. There will be some that don't progress as fast as others, but that's gonna be with our primary English speakers as well. But letting them know that if they work hard enough and if they want it badly enough, they can go to a four-year university. They can be part of the fun classes, which we call electives. They can be part of the school community and not be isolated among just a school within a school of students who don't speak the primary language. Then, the most notable change in teachers' new knowledge lies in teachers' recognition of the importance of defining and displaying language objectives. As Teacher A expressed: I think it's a lot easier than it was at the beginning of the year, especially when I look at having a language objective because I never thought about having one before. But just thinking about how my students are going to show that they understand something, as opposed to just giving them the content objective.

This awareness prompted several teachers to define, display, and review language objectives with their students.

Teacher B also noted:

With the training that I received this school year, I was able to identify more of what our learners really need, like putting up a language objective and just the vocabulary words in our math classes and how I need to not just translate them for our EL students.

Both Teacher A's and Teacher B's comments indicate that the ELD professional development training they received built their understanding of how to scaffold the development and inclusion of content and language objectives. The teachers also pointed out that the training helped them reflect on and improve their own teaching practices. For example, Teacher B noted, "I think my delivery was enhanced in a sense that I talk fast, so I slowed down a lot. I used more academic vocabulary."

Teacher C also indicated:

I was more aware of the use of English in my class and cognizant of how I was going to address the language needs and making sure that my lessons were varied enough to meet the needs of all my learners.

This type of change even became more natural toward the end of the training. "I think for me, it's just become more automatic, even when I'm not working with ELD students. It just feels much more natural" [e.g., Teacher E].

Salient Outcomes Related to Classroom Practices and Teacher Collaboration. As the teachers became more comfortable implementing newly learned ELD strategies and aware of the need for ELD, they seemed to notice some enhancement in their students' English proficiency levels. Teacher C noted:

When we first started [the program], they couldn't speak English, and they would bring their phones up to me. But once they got together as a group, then it seemed like things took off, and they excelled above everyone else in the classes.

Teacher B also mentioned:

I've seen the growth and even just the language; I'm not even necessarily talking about math. Like one of our students would not speak to me at all in English. She would show me her phone every time she had a question, and by the end of the year, even today, she was speaking English to me. It wasn't the best English, but she has come so far.

In addition, the teachers reported observing that students' participation increased.

Teacher B said, "... they are more willing to participate in class. Like we were talking about comfort ... they're not afraid to speak out and answer, whether it's right or wrong."

Teacher C shared:

And I would say they're more apt to ask me questions now, where in the beginning they would only ... I would be standing right next to them, and they insisted on asking the paraprofessional, and they wouldn't let me stumble through my Spanish, while they stumbled through their English. And now, I would say more consistently they ask me instead of the paraprofessional. So, that has been a real change that I have enjoyed seeing. So, their comfort in stumbling through has gotten much better.

Closely related to students' engagement, three teachers felt that students' collaboration with peers also increased. As Teacher B mentioned, "They're more comfortable with, you know, the other students in the class." Teacher E also added that "... they have really taken each other under each other's wings. Especially the students that are a little bit weaker or more recently arrived, really have been taken care of by the other students, and I think that's really wonderful."

Finally, as the result of ELD-CBTL implementation, the co-planning approach and coaching role of the ELD specialists promoted the collaboration and communication of the whole media technology academy teaching team and further supported EL students. For example, as Teacher C mentioned:

It's really nice to have Teacher E (ELD specialist) as a designated teacher to support the [EL] students in [different content areas]. So, it's not just me trying to translate or me trying to figure out on my own how to help these students ... I feel like we all communicate through our ELD expert ... so, if any of the content area teachers are having a concern with how a student is acting or performing, or accesses or whatnot, I think we go to those key people and then they contact the parents ... She was fantastic. She was a key component for making this successful ... especially in the beginning, incredibly important in getting buy-in from the kids and beginning the building of relationships with the kids, in contacting the parents, in sharing strategies and concerns, and being able to support us in our subject matter.

Teacher A made a similar comment:

I think Teacher E has been a really important part of this. I mean, I can call her up whenever, or she can call me up whenever and it's just like, oh well, I did this in class today. And I can just talk to her on the phone, and she can help the kids right there, where I'm not always able to help them. Students that we have that don't speak English very well or can't comprehend English very well, Teacher E has been communicating with them when I can't ... I would go frequently into Teacher E's class. If we were doing a lab, sometimes Teacher E would bring the kids over into my class. So, it worked both ways ... so it's really helpful to have Teacher E there, who knows what I'm teaching, knows kind of what the answers I'm looking for, and isn't just giving them the answer, but helping them figure out the answer for themselves.

Teacher B also noted:

There's been a couple of times where a kid ... hasn't done so [well] ... and I would go to our ELD specialist because she knows them better than I ... because she's closer with them ... [and] she speaks Spanish, they speak Spanish to her. So, I would just try to like gauge or ask if there was something actually going on personally ... so I don't just assume they're just goofing off or not doing what they're supposed to do type thing ... There was a lot of collaboration with Teacher E and I because Teacher E spent a lot of her class working on the core subjects and I had to make sure she knew what she was talking about before she could assist them.

These three teachers' descriptions acknowledge the importance of the ELD specialist and the effectiveness of her shifting role and function in this study.

These interview results illustrate how ELD-CBTL helps teachers of the content, technical, and ELD courses to effectively support secondary-level ELs by designing language and content objectives for each lesson, building English vocabulary, promoting productive interaction among ELs and English natives speakers, and using primary language for cognitive support. As the principles suggested, the integration of language and content instruction is supported by scholarship in language learning (Snow et al., 1989). The California ELA/ELD framework also emphasizes the importance of integrating language and content instruction, noting, "it is not possible to develop advanced levels of English using texts and tasks devoid of academic content language" (California Department of Education, 2014, p. 155). In 2017, the California English language roadmap was developed to support local educational agencies (LEAs) as they incorporate EL education into their local program designs (California Department of Education, 2017). The EL roadmap consists of four interrelated principles; various elements clarify the principle's intent within each principle. As revealed in the evidence, ELD-CBTL positively impacts several domains. Below we offer some more evidence on how it supports attaining ELR Principles One and Two.

5.2 The Impact of the ELD-CBTL Model on Attaining the ELR Principles One and Two

Needs Responsive Teachers. As discussed earlier, implementing the ELD–CBTL model highlighted the needs of ELs and the necessary training and constant reminders for the teachers to create an inclusive environment and to utilize appropriate instructional strategies to respond to EL students’ needs. Some early challenges mentioned by the teachers include, “I’ve always felt for the [EL] kids that were isolated in a class by themselves,” “they couldn’t speak English, and they would bring their phones up to me,” “[they] did not wanna be there, was a little abrasive in the beginning, was difficult to work with, did not take to redirection very well, and would not speak a word of English,” and “they’re not learning to the level that everybody else is.” However, at the end of the project, a positive, safe, supportive learning environment created by the teachers became a stepping stone to directly influence students’ learning motivation and engagement. As Teacher C commented:

I think that was a key part of our success with bonding with the kids and getting them to help [with] buy-in. I think the kids are told from the very beginning that they have been chosen. That changes the dynamic of how they see themselves being part of this, not you were pushed into this ... you’re gonna be a model, and making a prestigious opportunity would have helped them from the beginning ... Once we’ve built a relationship, they skyrocketed ... they realized what we needed from them, as well as we realized what they needed from us ... the results were amazing.

Teacher B commented that the type of strong rapport also made students “more willing to participate in class ... and not afraid to speak out and answer.”

Higher Quality of Instruction and Meaningful Access to ELs. In keeping with the direction of ELR Principle Two, implementing the ELD–CBTL model promotes a higher quality of instruction across subject matters by increasing ELs’ comprehension and the opportunity to engage with rigorous content. For example, Teacher A described how she could provide an intellectually rich, comprehensible curriculum with new ELD strategies. Teacher A said:

With the instructional integrating their English language development techniques ... I notice that I can bring in living things, I can show them pictures and videos, so I have realia, I can do demos, I have models that I can bring in to have the students look at, or I can have students actually build models and look at them. So, I can do a lot of visual representation, and I can have a lot of hands-on activities for the students to do. I also use the organizers. One in particular that I like, to build background for students, it’s called a See-Think-Wonder. It’s very similar to a KWL chart ... Students write what they see, they write what they’re thinking, so what do they’re looking at mak[ing] them think about, and then what questions do they have? I’ve done this with how trees grow, I’ve done this with cancer cells, I’ve done this with ... We watched a part of the Lion King and looked at ecological succession, just different parts of ecology. So, I find it’s a really nice way to just level the playing field and show ... I must give everyone that same background before I dive into a subject.

She also shared a newly learned strategy to increase participation. She stated:

What I’ve done now [is] to assign them roles. So based on their skill set, they can self-assign themselves. Someone could be the translator, someone could be the artist, someone could be the data collector, someone’s going to be the material collector just so that they all have a part, and then they help each other out. So, differentiating within their own group.

Similarly, Teacher B shared her reflection with a concrete example demonstrating how she changed her pedagogy and provided scaffolding to develop students’ mastery. She said:

I think my delivery was enhanced ... At first, I literally translated everything or I allowed them to use their phone to hover over the word problems to translate it for them. This year I incorporated a word wall so that our main words that we use all the time, the students would be familiar with, and they could reference the definition if they needed to on the wall. I did a lot of just hands-on highlighting with them, breaking things down. Like if I gave them a complicated problem, I would start [with] baby steps. And if our goal was a complicated problem, I would, you know, start small. I would start with maybe a one-step and then break it into, like, a two-step problem. That way, we can build and build so then they can just jump into the harder problems.

Their comments marked a shift in pedagogical direction made by the ELD–CBTL as it influences teachers’ instructional practices to provide access to the full curriculum along with the provision of appropriate EL supports and services. In summary, aligning with the ELD roadmap, Principles One and Two illustrated how the teachers

shifted their pedagogy to make content more accessible and comprehensible for EL students. When compared to the environmental change model, the teachers' knowledge, beliefs, and attitude shifted based on the impact of the ELD training and opportunities to implement the ELD strategies that resulted in the teacher's perceptions of their pedagogy, which led to instructional changes in the classroom practices for EL students.

6. Recommendations

In this study the authors illuminated the challenges faced by English learners in secondary schools. Pivotal to the belief that all students need access to college preparatory courses, English learners are denied access foundationally due to language policies which act as barriers for English learners (Mendoza, 2016, 2019). As educational institutions seek programs that meet the threshold of providing college and career readiness for all students, programs like career pathways have been touted as meeting and even exceeding these aims (California Center for College and Career Readiness, 2012a). College and career pathways, seek to improve high school graduation rates and increase successful transitions to a full range of postsecondary education opportunities, particularly for low income and disadvantaged youth. (Guha et al., 2013, p 1). For English learners at the secondary level accessing career pathways constitutes barriers due to structural factors that either limit access to career pathways or design the English language development program as a pullout strategy. In this study we focus on one of the structural factors, teacher efficacy, that can increase EL access to core curriculum and prepare them for college and career readiness.

Evidence in our research has proven that teacher efficacy can be raised through a well-designed professional development model that considers teacher change theory, California ELD roadmap guiding principles, and the appropriate training content and approach. Within the change environment framework, the researchers of this study incorporated multiple components that would promote changes in teachers' knowledge and attitudes, teaching experimentation, and other salient outcomes in their context. By aligning the content-based teaching and learning model with the California ELD roadmap, the professional development training centered on the learning needs of level 1 ELs and the integration of ELD strategies in the college preparation courses of English language arts, biology, algebra, media technology, and ELD that meet the a-g eligibility requirements for college admission. As a result of receiving training on teaching with the ELD strategies and coaching support, the participating teachers' mindset shifted and skills increased so they were more confident and comfortable with providing English language learners rigorous content that meets the CSU (California State University) and UC (University of California) a-g requirements for college admission. It also helps create an inclusive learning environment for all students, including language minority students, to become college and career ready. Moreover, this study demonstrates how to reach the goals set forth in the ELD roadmap by addressing the importance of leadership and institutional policies that allows participation of the ELs in the career academy regardless of English language proficiency by identifying the need for differentiated instruction for EL students, and by showing the necessity of funding and process of capacity building of educators.

As a result of this research study, we propose a multi-prong approach incorporating a language development framework grounded in supportive relationships that includes core curriculum, English language acquisition strategies that provide support for English language proficiency, and access to college and career readiness.

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Declaration of Interest Statement

The authors reported no potential conflict of interest.

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