

Developing Pre-Service Teachers: A Social Justice Approach for Educating Culturally and Linguistically Diverse Students

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ABSTRACT

In this article, we describe a dissertation in practice (DiP) conducted by the first author. The DiP focused on a social justice issue—providing pre-service teachers with highly effective preparation for working with culturally and linguistically diverse (CLD) students. As part of the article, interludes have been inserted prior to each major section of the article. These interludes have been used to discuss the thinking and research processes that were considered as the DiP unfolded in a program that employed an action research approach. The intervention was multi-faceted including teaching about orientations toward CLD students, providing pre-service teachers with pedagogical knowledge and skills, and employing a Community of Practice-based, service-learning approach. Quantitative and qualitative results from the study indicated pre-service teachers increased their knowledge, self-efficacy, and projected use of culturally responsive pedagogy. Discussion focused on connecting results to the literature, implications for practice and research, and extensions to current work.

KEYWORDS

Dissertation in Practice, social justice, culturally and linguistically diverse students, action research

In this study, the first author examined the use of a multi-faceted intervention to prepare pre-service teachers (PSTs) to work effectively with culturally and linguistically diverse (CLD) students. This comprehensive intervention incorporated three distinct components—teaching PSTs about orientations toward CLD students, providing PSTs with pedagogical knowledge and skills, and employing a community of practice-based, service-learning approach. Results indicated the intervention positively affected PSTs' knowledge, self-efficacy, and projected use of culturally responsive practices in their future classrooms.

In this article, we report on the dissertation of the first author, but we do so in a way that allows the reader to get a glimpse into the Dissertation in Practice (DiP) process undertaken in this study. Specifically, these glimpses are chronicled in the interludes where we focus on the thinking and research processes related to this DiP. We have reported these interludes throughout the article. In the first and longest of these interludes, we report on reciprocal interactions occurring among (a) thinking about her problem of practice (PoP) and ways to effect change in it, (b) reading and assimilating the research literature related to her PoP, and (c) conducting action research that was designed based on her understanding of the literature and her PoP. These processes were ongoing and influenced one another, reciprocally. This initial, longer interlude was necessary for readers to consider the broad scope of the first

author's work as she drew upon three perspectives that influenced her thinking about her PoP and as she progressed through various cycles of action research seeking resolutions to her PoP. The three perspectives were (a) Villegas and Lucas' (2011) framework on Culturally and Linguistically Responsive Teaching (CLRT) of CLD students, (b) service learning, and (c) Wenger's Community of Practice (CoP) framework. Their emergence and essential roles in defining, organizing, and directing the work have been captured in the first interlude. The interludes were written in the first person to demonstrate the transformative, evocative nature of the work being undertaken by the first author.

INTERLUDE 1: APPLYING THE RESEARCH LITERATURE AND CYCLES OF ACTION RESEARCH TO INFORM THE DISSERTATION IN PRACTICE

As I approached my first doctoral class, I stood outside the Mary Lou Fulton Teachers College building and, "snap, snap, snap" quickly took a selfie to remember who I was and to ponder, just for a moment, of who I might become. Then, I smiled to myself and took the next step that would forever change my life as I began my journey in action research.



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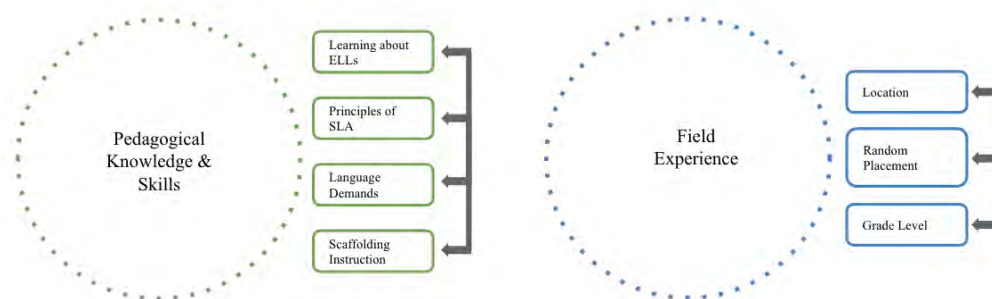


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Figure 1. Cycle 0 Framework Showing Independence of Coursework and Field Experience



Note. All figures were developed by the first author based on her interpretation of the written research literature and her understanding of how they connected to practice. Each figure illustrated the major features of the model, for example, pedagogical knowledge and skills with its components denoted in the same color within rectangles.

Early in the first semester, I quickly realized how little I knew about action research as I doodled “PoP” over and over again in my notes. When my peers confidently and succinctly described their PoPs, self-doubt crept in as I grappled with determining mine. At that moment, I was too naive to understand this was part of the inquiry process. And, over time through cycles of research, I would untangle my PoP and ways of dealing with it using a powerful, multi-faceted intervention.

By delving into the literature and adopting theoretical perspectives, clarity of my PoP took hold as did the emergence of multi-faceted frameworks and concomitant interventions as I progressed through various action research cycles. Within each cycle, I used an action research inquiry approach to better understand what the data meant by intentionally (a) studying and planning, (b) taking action, (c) collecting and analyzing data, and (d) reflecting on the data (Buss, 2018; Mertler, 2014). Through this process of critical reflection, I was able to develop a stronger theoretical understanding of how to approach my research cycles and design my interventions.

Cycle 0: Reconnaissance

It all began with Cycle 0 during the first fall semester. At this point, my PoP focused on preparing PSTs to teach CLD students. During this cycle, my framework and the intervention focused on two aspects (a) pedagogical knowledge and skills and (b) field experience as seen in Figure 1. The first, pedagogical knowledge and skills emphasized planning lessons by using second language acquisition theory and technology. The second, field experience was intended to provide PSTs the opportunity to apply theory to practice in real-world classrooms. PSTs employed self-selection processes and placed themselves with in-service teachers based on familiarity and proximity to home.

As seen in Figure 1 above, my initial framework proposed two aspects that worked separately, without connections. Yet, the flaws of this framework did not become apparent until much later in the semester after reading, discussing, and exploring the literature. Thus, at the conclusion of Cycle 0, it became apparent that I needed to revise my intervention. After reflecting on the data, PSTs’ self-

selection of field placement settings failed to have a noteworthy influence on their ability to apply theory to practice because they frequently chose to work as schools with limited numbers of CLD students. Further, I noticed PSTs did not relate to each other’s experiences because they were placed in different schools with varied approaches to teaching CLDs.

Cycle 1: A Theoretical Framework Shift toward Linguistically Responsive Teaching (LRT)

While I reflected on the theoretical perspectives presented in class during the previous semester, Wenger’s (1998) CoP had a profound effect on me as it transitioned from words on the page to theory in action. As my peers and I shared, discussed, and reflected on the literature to extend our understanding of our PoP, a CoP emerged. And, as we fostered caring relationships that went beyond the classroom, I could not help but wonder whether my own students would not benefit from the same authentic learning experiences by closely collaborating with one another that I was afforded in the EdD program.

Keeping this in mind, I reviewed the literature and realized my theoretical framework had flaws beyond those related to the field experience. First, my current framework did not take account of PSTs’ sociocultural perspectives or views about CLD students. As a result, I revised my intervention based on CLRT to include PSTs’ orientations *and* pedagogical knowledge and skills (Villegas & Lucas, 2011). Second, I intentionally selected a school with (a) a high CLD population, (b) a culturally responsive teaching approach, (c) a Title I classification, and (d) close proximity to the college. Subsequently, I grouped PSTs in pairs based upon their preferred grade level with a cooperating in-service teacher. Taken together, the new intervention for this cycle included added features related to (a) PSTs’ orientations about CLD students and (b) pairing PSTs at a selected school site as shown in Figure 2. At this point, the field experience component worked alongside the course curriculum giving PSTs the opportunity to apply theory by sharing ideas and experiences that occurred in the real-world classrooms.

Figure 2. Cycle 1 Framework Showing Coursework Features Alongside Field Experience

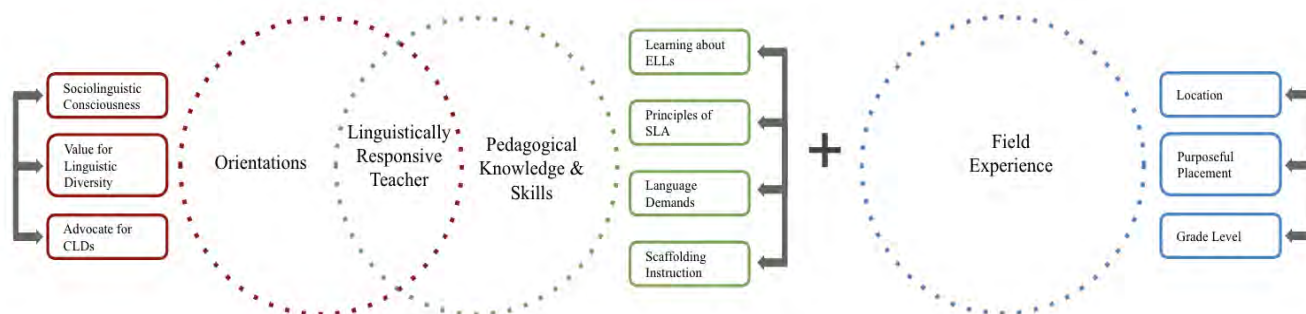
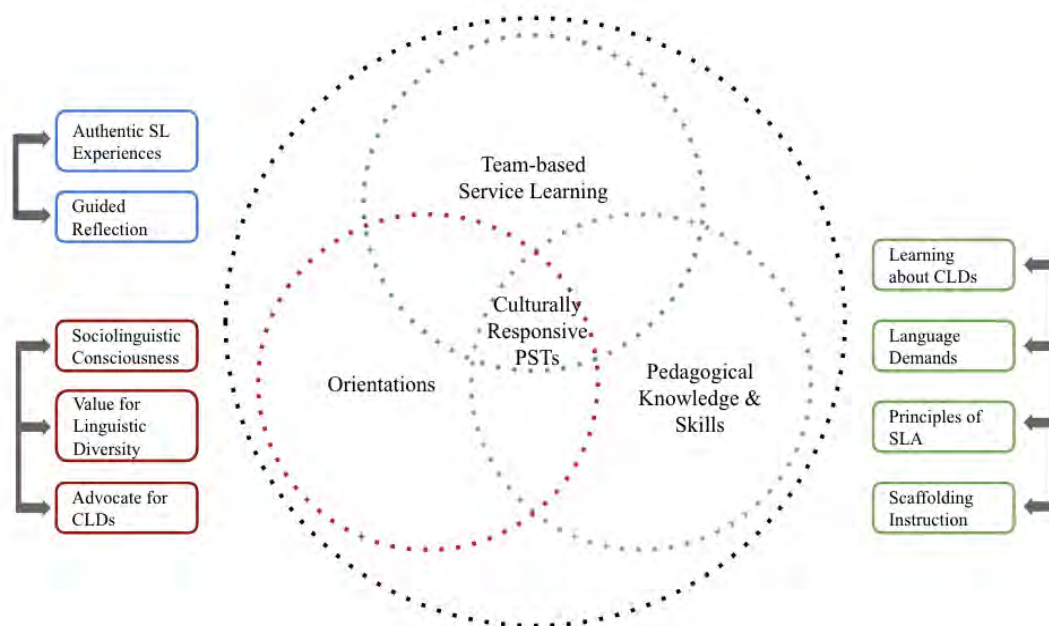


Figure 3. Cycle 2 Framework Showing Connections among Coursework Features and Service Learning



As a result, the quantitative data indicated a positive change in dispositions toward CLD students, and an increased understanding of pedagogical knowledge of how to teach CLD students. Additionally, I discovered two factors that I had not considered before when pairing students: (a) experience with CLD students and (b) consistent attendance in class. Both of these factors limited the PSTs' experience connecting theory to practice and, more importantly, demonstrated the need to redesign the framework.

Cycle 2: Using Culturally Responsive and Linguistic Teaching (CRLT) with a Team-Based, Service-Learning Approach

In response to the findings from Cycle 1, I reviewed the literature again delving more deeply into authentic service-learning experiences by incorporating guided reflection. Building on the work of Villegas and Lucas (2011), I expanded their framework to include

a team-based, service-learning component. With this, a CLRT framework began to emerge as I envisioned each component: (a) dispositions, (b) pedagogical knowledge, and (c) service learning working in tandem influencing each other. Although each had their own features, they remained interconnected, strengthening PSTs' ability to move fluidly from theory to practice as seen in Figure 3.

In addition, I intentionally created a team-based approach to service learning by grouping the PSTs based upon their linguistic background and experience with CLD students. Each team consisted of a pre-service teacher who was a native English speaker, another who was a bilingual speaker, and at least one member with prior experiences working with CLD students in K-12 classrooms. Organizing the teams in this manner provided them with different perspectives about teaching CLDs as they grappled with how to apply theory to practice both in and outside the classroom. Thus, the intervention added a new feature, a team-based, service-learning component, to the course curriculum.

Cycle 2.5: Moving from Observing to Teaching by Capitalizing on a Community of Practice

Based on the findings in Cycle 2, it was clear the team approach had a strong influence on PSTs' knowledge and dispositions toward CLD students. As I reflected on the literature, I realized a CoP began to emerge as teams established a community with their teammates. As they entered class, their demeanors changed with welcoming one another and open discussions. As these conversations emerged, questions were asked, and tips were shared about supporting their CLD students in their classrooms.

Nevertheless, not all groups had the same experience. As I read their reflective journals, I discovered PSTs who were actively engaged and working directly with CLD students, rather than observing them, had a much different experience and depth of understanding about CLRT. From these data, I realized all PSTs must have authentic conversations and learning opportunities to work with CLD students. Only one question remained, how?

To answer this question, I thought about my personal experiences of how a CoP continued to support and propel me through the program as I considered what differed. I realized the PSTs built relationships with one another as well as their in-service teachers and the CLD students, but they lacked a shared experience in practice. Therefore, I implemented a micro-teach lesson to be planned and taught by the PSTs teams. By enacting this requirement, the stakes were more like actual teaching and so were the consequences. As a result, PSTs became more actively engaged as their dispositions and knowledge about how to teach CLD students changed both in and out of the classroom. Thus, the intervention added a new feature, a CoP team-based approach, which enhanced the service-learning component as seen in Figure 4.

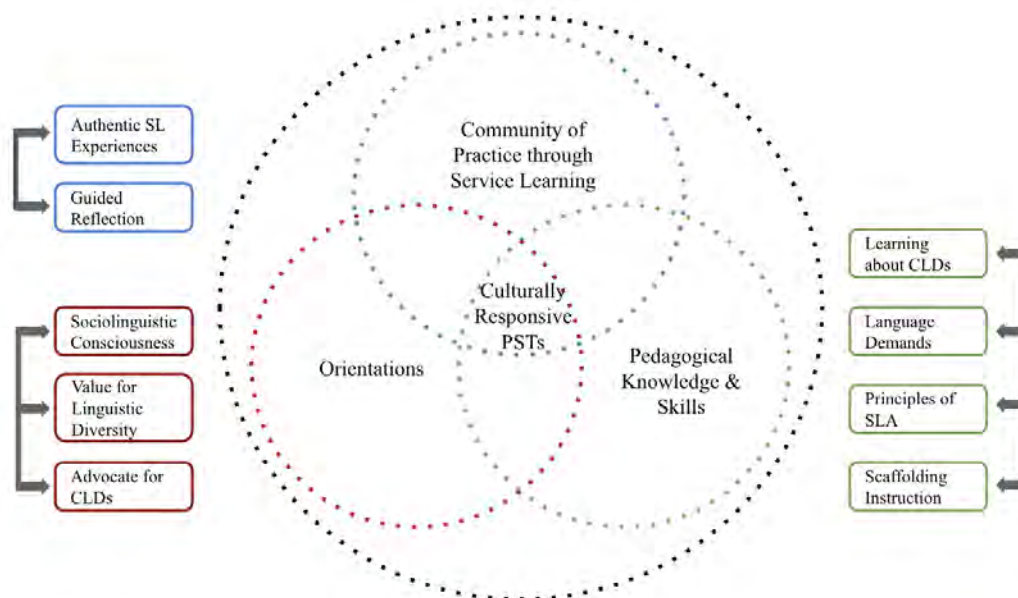
THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE STUDY

Grounded in the work of Lucas and Villegas (2011), the CLRT framework served as the theoretical perspective that guided the intervention to develop PSTs' critical consciousness and emerging practices in teaching CLD students. Proponents of CLRT drew upon earlier work on culturally relevant pedagogy advocated by Ladson-Billings (2009). Ladson-Billings (2009) described culturally relevant pedagogy as "a pedagogy that empowers students intellectually, socially, emotionally, and politically by using cultural referents to impart knowledge, skills, and attitudes" (p. 382). Moreover, CLRT also incorporated culturally responsive pedagogy (CRP) championed by Gay (2010) who suggested learning became more relevant and effective when teachers incorporated their diverse students' "cultural knowledge, prior experiences, frames of reference, and performance styles" (p. 3). As a result, Gay (2010) concluded teachers who implemented a CRP approach to intentionally plan lessons responsive to the students' social, cultural, and linguistic identities provided students with more opportunities to succeed academically.

Culturally and Linguistically Responsive Teaching

Although the work of proponents of CRP provided a foundation to support diverse students, Lucas and Villegas (2011) expanded upon this by claiming that being responsive was not enough by itself to close the achievement gap for CLD students. They recognized the importance of culture and language as essential aspects in teaching CLD students. Thus, CLRT was employed to overcome the deficit perception that a "Dominant American English" existed (Lucas et al., 2008; Paris & Alim, 2017). Dominant American English refers to restrictive school policies requiring students to become

Figure 4. Cycle 2.5 Framework Showing Connections among Coursework Features and Community of Practice Approach to Facilitate Development of Culturally Responsive PSTs





proficient in English at the expense of losing their own native language (Irizarry, 2017). In contrast, those using CLRT recognized the linguistic knowledge, skills (González et al., 2006), and cultural wealth (Yosso, 2006) CLD students brought to the classroom.

Placing students' cultural and linguistic experiences as a central component of lesson design brought attention to the essential orientations, knowledge, and skills needed to teach CLD students (Lucas et al., 2008; Lucas & Villegas, 2011). Lucas and Villegas (2011) proposed culturally and *linguistically* responsive teaching which emphasized the importance of gaining an awareness of and integrating the principles of second language acquisition theory into the curriculum.

The CLRT framework (Lucas & Villegas, 2011) included two key attributes: (a) orientations of and (b) knowledge and skills of culturally responsive teachers. Lucas and Villegas (2011) defined the first component orientations as "tendencies or inclinations towards particular ideas and actions, influenced by attitudes and beliefs" (p. 56). The focus on orientations engaged PSTs in (a) reflecting on their personal cultural and linguistic background experiences, (b) affirming students' prior learning experiences as assets, and (c) embracing the opportunity to advocate for more equitable learning experiences (Lucas & Villegas, 2002b).

The second component of the CLRT framework included the knowledge and skills of culturally relevant teachers. Four types of pedagogical knowledge and skills were identified: (a) strategies for learning about the linguistic and academic backgrounds of English Language Learners (ELLs), (b) key principles of second language acquisition, (c) identifying language demands of academic tasks, and (d) scaffolding instruction for ELLs. To become an effective CLRT, PSTs needed to develop both the orientations and pedagogical knowledge and skills.

Authentic Service-Learning Experiences

To foster authentic learning, Bringle and Hatcher (1996) maintained PSTs must have engaged in meaningful service connected to real-life situations in schools. Through these experiences, PSTs gained the pedagogical knowledge and skills to make connections to the course content in an authentic manner (Mason, 1999; Villegas & Lucas, 2002a). Thus, engaging PSTs in classrooms with linguistically diverse learners whose backgrounds and experiences differed from their own was critical (Bennet, 2012; Lucas & Villegas, 2011; Paris & Alim, 2017; Ramirez, 2017).

With required service-learning hours, PSTs gained first-hand knowledge of CLD students' daily experiences, interactions, and linguistic and academic challenges in classroom settings (Lucas et al., 2008; Villegas & Lucas, 2002a). As PSTs actively worked alongside CLD students, they began to see them as individuals with varied cultural, linguistic, and academic experiences (Lucas et al., 2008; Villegas & Lucas, 2002a, 2002b). As this occurred, caring relationships took root that challenged PSTs to reflect upon their previously held assumptions about teaching CLD students. These authentic learning opportunities extended the college curriculum as PSTs' appreciation for and knowledge of CLD students expanded.

Guided Reflection to Bridge Service and Learning

Further, Bringle and Hatcher (1996) emphasized guided reflection was a critical component to provide PSTs with opportunities to analyze what they saw in practice as they

considered how it related to theory. Because most PSTs had limited field experiences, scaffolding discussions with their peers maximized learning (Ballantyne et al., 2008; Villegas & Lucas, 2002a). Working with their peers afforded them insights about their experiences they would not have developed on their own (Jimenez-Silva & Olson, 2012). Required academic tasks such as journaling, blogging, and class discussions deepened the learning process as they analyzed their experience within context (Villegas & Lucas, 2002a). This type of reflection was critical because it allowed PSTs to co-construct knowledge about teaching CLD students, which they readily applied in working with their students during service learning (Jimenez-Silva & Olson, 2012).

Developing a CoP through Service-Learning

According to Wenger (1998), learning was considered to be a social endeavor in which participants actively engaged with each other and their communities. Moreover, Wenger et al. (2002) defined three critical elements of a CoP: "a *domain* of knowledge, which defines a set of issues; a *community* of people who care about this domain; and the shared *practice* that they are developing to be effective in the domain" (p. 27, italics in original). Each of these elements played a critical role within the context of this study. As defined by Wenger et al. (2002), the domain provided a common ground and "inspires members to contribute and participate, guides their learning, and gives meaning to their actions" (p. 28). With respect to this study, the domain was the CLRT curriculum, which students learned in their coursework, further developed in their service-learning field experience settings, and solidified as they incorporated ideas they gleaned from one another while they reflected on their field experience observations and teaching efforts. Wenger et al. (2002) suggested the community provided opportunities for learning by "foster[ing] interactions and relationships based on mutual respect and trust" (p. 28). In this study, students engaged in a community as they reflected on and shared information about working with CLD students that aided their learning of CLRT. By comparison, the practice "is a set of frameworks, ideas, tools, information, styles, language, stories, and documents that community members share. Whereas, the domain indicated the content, the practice is the specific knowledge the community develops, shares, and maintains" (Wenger et al., 2002, p. 29). Thus, the practice component consisted of the various ways that PSTs developed in learning about using and sharing about CLRT in their classrooms.

Of course, as noted in Interlude 1, the cycles of action research also heavily influenced and informed my efforts over time. Building on the knowledge gained from each cycle, I ultimately added a CoP service-learning component. This afforded PSTs with opportunities to develop a *domain* of CLRT knowledge, a *community* with others who cared about CLRT, and a shared *practice* to apply CLRT, allowing them to envision themselves as culturally and linguistically responsive teachers in their future practice. Taken together, these cyclical efforts informed the final DiP and led to a much richer study.

Purpose of the Study and Research Questions

The purpose of the study was to examine how a CLRT Framework influenced PSTs' knowledge, skills, and dispositions towards teaching CLD students. Therefore, in my innovation, I implemented a CLRT Framework that combined two approaches to prepare PSTs: (a) a CLRT curriculum and (b) a CoP-focused

service-learning experiences with CLD students. Three research questions guided the conduct of the study including:

1. How and to what extent did a CLRT curriculum influence PSTs' knowledge about teaching CLD students?
2. How and to what extent did a CoP service-learning experience influence PSTs' knowledge about teaching CLD students?
3. How and to what extent did PSTs feel prepared to teach CLD students in the future?

INTERLUDE 2: CONTEMPLATING METHODOLOGICAL MATTERS

As I entered my classroom, there was a buzz of excitement in the air as teams of students grouped in fours sat huddled together sharing their experiences with photos on their phones. Conversations emerged spontaneously as they questioned and pondered, "Hey, so what did you see? and What did I observe?" responded Cesar. As I brushed by their tables and listened to the hum of their discussions, I silently noted the importance of the team structure. I balanced the teams between varied linguistic backgrounds as well as prior classroom experiences which afforded them insights that they may not otherwise have had on their own. Through these informal conversations and interactions with my students, I gained a deeper understanding of my PoP. As the instructor of the course, I was completely immersed within the study because I could not separate myself from the context in which it occurred.

Due to the participatory nature of action research, I was cognizant of my "insider" position as the researcher (Herr & Anderson, 2015). In that role, I developed the Photovoice (digital diary) prompts, administered the surveys, and conducted the interviews. In addition, I kept a research journal jotting notes after each class to critically and systematically reflect on them. Shifting between practitioner and researcher allowed me to engage in a reflective and iterative process as I continued to learn from my research with each passing cycle.

To capture the PSTs' insights about how theory from the course applied to practice in the classroom, I applied a concurrent mixed methods approach (Creswell, 2015; Ivankova, 2015). This method allowed me to combine quantitative and qualitative approaches to increase the credibility of my research study. To determine the PSTs' growth and to inform the results from the qualitative findings, I employed retrospective, pre- and post-intervention surveys. To allow for a richer, deeper understanding of the PSTs' experiences with CLRT, I collected data from a variety of qualitative sources such as Photovoice diaries as well as semi-structured interviews (Creswell, 2015; Greene, 2007; Mertler, 2014).

Nevertheless, it is important to note that two critical aspects arose from the *previous cycles* of research. First, PSTs did not enter educational programs as "blank slates," instead they held their own biases about teaching based on their background experiences as students in the K-12 system. As a result, PSTs rated themselves higher on the pre-intervention survey and lower on the post-intervention survey. This occurred because they initially overestimated their understanding about the constructs, whereas after the intervention, they relied on more stringent criteria resulting in decreased responses. To counteract this response-shift bias

(Sibthorp et al., 2007), I used retrospective, pre-intervention and post-intervention surveys to maximize the validity of the survey results.

Second, my study focused on guided reflection, so I selected Photovoice, a visual and textual technology used to create digital diaries in this study, to authentically engage PSTs in discussions about their classroom experiences. PSTs created a digital diary to reflect upon how theory from the course applied to practice in classrooms. In earlier cycles of action research, I relied on discussion boards and blogs. Because these were not easily accessible on a mobile device, PSTs failed to post their reflections immediately following their service learning. Further, I found that PSTs wrote with a more authentic voice, much like a diary in blogs. With this, I selected Class Dojo, a secure mobile digital portfolio that PSTs could easily access in their classroom to post pictures, audio, and typed journal entries. With these reflective entries, I was able to gather data capturing how their knowledge, skills, and dispositions changed throughout the semester.

METHOD

In this section, we have provided information about the participants, the role of the researcher, the intervention, instruments, and procedures used in the study.

Participants

The PSTs participating in the study were taking coursework at a community college. Of the eighteen enrolled at the end of the add/drop period, all participated in the study. The majority identified as White native English speakers, 78%; female, 72%; younger than 28 years old, 89%; and selected elementary education, 67%, as their major. In addition, more than half of them, 61%, did not have prior experience working with CLD students. The CoP-oriented, service-learning teams were created before the add/drop date based on the PSTs' grade level interest, their language backgrounds, and experience working with CLD students. Of the 18 participants, eight were interviewed.

Intervention

The multi-faceted intervention included instruction in *orientations* (OR) including: (a) sociolinguistic consciousness, (b) value for linguistic diversity, and (c) advocacy for ELLs. The intervention also included instruction in *pedagogical knowledge and skills* (PKS) including: (d) learning about CLD students, (e) learning about language demands, (f) principles of second language acquisition, and (g) scaffolding instruction. The OR and PKS were mapped onto 1-2 week units in the course and culminated with a 4-week group teaching exercise conducted in their service-learning placement. Additionally, the intervention included the *community of practice through service-learning feature*, which was comprised of three components: (h) authentic service learning with observation, one-on-one work with elementary students, and a team planning and teaching experience, (i) guided reflection, and (j) a community of practice approach. In Figure 4, we have represented the intervention diagrammatically.

Instruments and Data Collection

I used a variety of quantitative and qualitative instruments such as surveys, Photovoice diaries including photos and reflections, and semi-structured interviews.

Retrospective, pre- and post-intervention surveys

The Knowledge, Self-Efficacy, and Use (KSEU) survey was employed to gather the retrospective, pre- and post-intervention survey data for this research study. This survey was adapted from the Knowledge, Confidence, and Use survey originally developed by Barton-Atwood et al. (2005). The KSEU survey assessed three constructs: (a) knowledge about CLRT, (b) confidence to use CLRT, and (c) anticipated use of CLRT in future practice, with each construct having 20 questions. To illustrate, an item that assessed *knowledge* about CLRT was, “I have the knowledge to use a warm-demand approach to create a respectful learning environment.” An item used to assess self-efficacy was, “I can identify effective strategies to access background experiences to make content culturally relevant and meaningful.” Finally, a third item to assess their *use* of CLRT in future practice was “In my future classroom, I will use language functions and stems to develop academic discourse.” Participants responded using a 6-point Likert-scale ranging from 6 = *Strongly Agree*, 5 = *Agree*, 4 = *Slightly Agree*, ... to 1 = *Strongly Disagree*.

A retrospective, pre- and post-intervention assessment was selected over a more traditional pre- and post-intervention procedure because participants' ratings in this survey presented a high likelihood for response-shift bias, participants' criteria for assessing the construct being measured changed between the pre- and post-intervention survey (Drennan & Abbey, 2008; Lam & Bengo, 2003; Sibthorp et al., 2007). For example, after using less stringent criteria at the pre-intervention assessment, participants would shift to using more stringent criteria at the post-intervention assessment and their scores would decline due to response-shift bias.

Photovoice Digital Diary

For this study, participants created a digital diary to demonstrate their understanding of CLRT in theory and practice. Using Photovoice, participants created a digital diary by taking photos that represented theory to practice applications, and additionally, they responded to reflective prompts about those photos. This allowed participants to record and reflect on their communities' efforts, and it promoted critical dialogue and knowledge about important issues through group discussion of the photographs. An app, Class Dojo, was used to create the digital diary. PSTs documented their experiences in the classroom by collecting photos of the physical layout, norms, bulletin boards, graphic organizers, and so on and adding captions. They were not permitted to take pictures of any K-12 students or their work due to FERPA regulations. The photos were used to stimulate conversations with their peers, especially their service-learning teammates. Toward the end of each unit, PSTs connected theory to practice by responding to reflective prompts in their digital diary in Class Dojo. With these reflective entries, I gathered data capturing how their knowledge, skills, and dispositions changed throughout the semester.

Semi-structured interviews

One-on-one, semi-structured interviews provided the researcher with opportunities to learn more about participants' perceptions and

experiences of a phenomenon (Plano Clark & Creswell, 2015). The questions were designed to elicit a discussion about PSTs' views about the knowledge, skills, and dispositions gained as a result of their coursework and service-learning experiences. Examples of questions included, “Describe what you have learned about teaching CLDs from your coursework” and “What have you learned about teaching CLDs from your service-learning experience?”

Procedure

The intervention was conducted over a 14-week period. During this period, photographs and reflective discussion Photovoice data were gathered eight times. Drawing upon second language acquisition theory, each entry included various sentence starters to assess theory in practice (Echevarría et al., 2008; Villegas & Lucas 2002a).

The online, post-intervention survey was administered to the PSTs after the intervention was concluded. One week after completing the post-intervention survey, PSTs were given time in class, once again, to complete the retrospective, pre-intervention survey.

I used purposive sampling to select eight interview participants based on the PSTs' linguistic and cultural assets and limited experiences working with CLD students. Interviews were recorded using an app on my iPhone. Interviews lasted between 30 and 60 minutes and were held in my office to avoid any disruptions (Brinkmann & Kvale, 2015).

INTERLUDE 3: CONSIDERING THE DATA ANALYSIS

As the offices emptied at the end of the semester, I remained alone, sifting through pages of qualitative data until hours long past midnight. My excitement dwindled as I became overwhelmed by the sheer amount of information gathered. Nevertheless, as I read and re-read the texts, I began to relax as I jotted notes in the margins about my initial reactions, impressions, and thoughts. These constituted my first analytic memos, a process that I continued to use throughout the qualitative analysis. Eventually, the words on the page seemed to come together as the data unraveled to reveal a story—a powerful story.

After familiarizing myself with the text, I imported the journal entries from Class Dojo and the semi-structured interviews into HyperRESEARCH (HyperResearch 3.7.5, 2017). During the first cycle of coding, I used *open coding* to create initial codes capturing the participants' voices through their words, phrases, and comments (Saldaña, 2013). Next, I analyzed and sorted codes together by similarities, importance, and frequency using *focused coding* (Saldaña, 2013). As categories emerged, I analyzed the data into higher-level theme-related components and aligned them to the theoretical framework guiding my intervention. This provided me with a richer, deeper perspective with respect to the data, which eventually led to themes and the creation of assertions, which were supported by quotes in the original text.

The *framework method*, increasingly more popular, allowed me to use the theoretical framework guiding my study as a lens to deductively explore the data while leaving space to inductively discover the unexpected (Gale et al., 2013). Therefore, I created a matrix to organize and align the data to the theoretical framework:

orientations, pedagogical knowledge and skills, and CoP service learning. As I mapped the data, a new strand unexpectedly emerged focused on creating a culturally responsive classroom community.

As a practitioner-researcher, it was important for me to document the learning process as it occurred in my research journal. After each class session, I jotted memos about the class session noting the lesson and PSTs reactions. Additionally, I used reflexivity to self-disclose my own bias and assumptions through a process of bracketing to set them aside. Moreover, I used member checking to validate the interpretations of my participant's responses by asking them to read the findings to determine if they realistically represented their views. Together these processes enhanced the credibility of the study's findings (Herr & Anderson, 2015).

Because my study used a mixed methods approach, I also analyzed the quantitative data from the retrospective, pre- and post-intervention surveys. Using SPSS (IBM, 2017), I computed Cronbach's alpha reliabilities to determine the reliability of the scales assessing the constructs. Next, I conducted a repeated measures analysis of variance (ANOVA) to analyze the differences between the retrospective, pre- and post-intervention knowledge, self-efficacy, and use scores.

RESULTS/FINDINGS

Quantitative Results

Cronbach's alpha reliabilities for the retrospective, pre-intervention assessment were .95, .95, and .98 for the three constructs, which were well above .70, indicating the data were reliable (Nunnally, 1978). I employed a repeated measure analysis of variance (ANOVA) to analyze whether there were differences between the retrospective, pre- and post-intervention scores for the three dependent variables. The overall repeated measures ANOVA

was significant, multivariate- $F(3, 15) = 67.46, p < .001$, with $\eta^2 = .931$, which is a very large within-subjects' effect size based on Cohen's criteria (Olejnik & Algina, 2000). Follow-up, individual repeated measures ANOVAs were conducted for the three dependent variables and indicated the differences were significant and substantial as shown in the eta-squared values. Those statistical results and the means and SDs have been presented in Table 1.

Table 1. Statistical Test Information, Means, and Standard Deviations* for Pre- and Post-Intervention Scores for the Three Dependent Variables from the Survey (n = 18)

Variable	F(1, 17) =	p <	η^2	Pre-Intervention Score	Post-Intervention Score
Knowledge	189.51	.001	.918	1.94 (0.86)*	5.42 (0.44)
Self-Efficacy	192.78	.001	.919	2.12 (0.88)	5.43 (0.47)
Projected Use	51.44	.001	.752	3.19 (1.49)	5.72 (0.41)

Note. *Standard deviations have been presented in parentheses.

Qualitative Findings

Findings from the Photovoice and interview data have been summarized in Table 2. Codes were gathered into theme-related components, which were aggregated into themes. Subsequently, themes and theme-related components led to assertions about the data. Quotes were used to support the interpretive work.

Given the space limitations for a journal article, we have illustrated how the data were interpreted by presenting information representing Assertions 1 and 2 only and reducing the number of quotes. Use the following link to read the more detailed version of findings from the qualitative data.

<https://keep.lib.asu.edu/items/157431>

Table 2. Themes*, Theme-Related Components, and Assertions from Qualitative Data

Themes and Theme-Related Components	Assertions
<i>Developing a critical consciousness to teach CLD students (related to Orientations in CLRT Framework)</i>	1. As PSTs developed a critical consciousness, they became more aware of how to become a culturally responsive teacher.
1. Identifying as a culturally responsive teacher	
2. Valuing Language diversity	
3. Developing a CLRT mindset	
<i>Creating culturally responsive learning environments (related to Professional Knowledge and Skills in CLRT framework)</i>	2. PSTs identified how to structure authentically caring learning environments to attain high levels of achievement.
1. Building empathy for and awareness of CLD students	
2. Recognizing warm demand	
<i>Developing culturally responsive instructional practices (related to Professional Knowledge and Skills in CLRT framework)</i>	3. PSTs identified how to apply CLRT to develop meaningful and relevant lessons for CLD students.
1. Planning instruction for CLD students	
2. Teaching academic language resourcefully	
3. Scaffolding instruction to make content meaningful	
<i>Growing culturally responsive teachers (related to Team-based Service Learning)</i>	4. PSTs influenced one another as they collectively worked toward becoming culturally responsive teachers.
1. Shifting sociocultural perspectives	
2. Co-constructing CLRT from theory to practice	
3. Awakening the culturally responsive teacher	

Note. *Themes have been presented in italic font.

Developing a Critical Consciousness to Teach CLD Students

In Assertion 1, I stated, “As pre-service teachers (PSTs) developed a critical consciousness, they became more aware of how to act as a culturally responsive teacher.” Responses from the semi-structured interviews and digital diary entries resulted in the following three theme-related components that comprised the theme leading to Assertion 1: (a) identifying as a culturally responsive teacher, (b) valuing language diversity, and (c) developing a CRP mindset.

Identifying as a Culturally and Linguistically Responsive Teacher

PSTs entered their teacher preparation programs with their own preconceived notions about teaching CLD students based on their prior experiences. Tara (all names were pseudonyms) was a native English speaker, also attended predominantly affluent, white schools throughout her K-12 experience. During the interview, she commented,

they [students] were all white. I think we had one African American kid. My service learning was a game changer. We had a complete mix of Hispanic, white European, and Arabic refugee students. I didn't expect to find these kinds of students in Mesa, Arizona. It was shocking. It was nothing I experienced before.

As she continued, she discussed how her views changed, “I had to overcome the fact that the CLD students were speaking another language. That's not something I should be afraid of. Why was I thinking that it's all about me? It's not.” She explained that she had to go through this experience, and because of it, she began viewing CLD students' linguistic backgrounds as an asset. She stated, “All right, these kids, they speak other languages. They're insanely smart because they can do everything I can do, but do it twice.”

By comparison, bilingual PSTs shared that their sociocultural perspectives remained the same. For example, César explained “I don't think I really changed. I felt that I remained the same just because I came from that. I had that background.” Instead of their views changing, they felt they were affirmed because of their prior schooling experiences.

Valuing Linguistic Diversity

Consistent with the CLRT framework, PSTs demonstrated emerging ideas about how CLD students brought many assets to the classroom, including their languages. For example, Roger stated, “At first I would have thought correcting student's language would make them more apt to change, but now I understand that this can cause frustration when their home spoken word differs from standard English.” Bao said, “Just saying it's wrong makes them feel inferior to their peers,” and as Alma described, “[It] embarrasses them.”

Instead of correcting them, María Isabel described how her mentor teacher valued her CLD students by incorporating their language into the classroom. She explained, “During a writing assignment, a student shared, ‘I like playing with my Nana y Papa.’ Instead of stating that “Nana and Papa” were incorrect, the teacher clarified by paraphrasing, “Oh, your grandma and grandpa.” She stated, “Using language gives them a sense that you do care because you come from that background or you are at least interested in their background.” Pam summed it up best when she

said, “Learning a new language is hard. And, we need to make them feel important and valued throughout the process!”

Developing a CLRT Mindset

PSTs also developed a mindset as they began to exhibit beliefs that all students can succeed. They advocated for their CLD students by firmly believing teaching was not about changing the students but revising the practices that can keep students from reaching their full potential. Sylvia explained this when she said, “Seeing the classroom through the student's eyes,” which meant “changing your practice to mirror the students' needs.” In response, Camilla explained, “We teach content, but in a way for all students can learn. If it means we have to change our teaching style, then so be it. We need to do what we can so every student can succeed.”

Similarly, Ruby stated, “a good teacher is someone who makes the curriculum responsive to their students who helps them develop the knowledge and skills they will need in their everyday lives.” This team clearly captured the essence of teaching to meet their students' needs when they illustrated their commitments to change in their Photovoice photo, “Change begins with us! Because the influence of a good teacher can never be erased.”

Creating Culturally and Linguistically Responsive Learning Environments

With respect to Assertion 2, I maintained, “PSTs identified how to structure authentically caring learning environments to attain high levels of achievement.” In the CLRT framework, creating culturally and linguistically responsive learning environments was dependent on cultivating authentically caring teachers who held high expectations and beliefs that CLD students could succeed. Two theme-related components contributed to the theme that led to Assertion 2: (a) building empathy for and awareness of CLD students and (b) incorporating a warm demand approach, which included respectful, caring relationships that were accompanied by high expectations of students.

Building Empathy for and Awareness of CLD Students

Within the CLRT framework, culturally responsive teachers built strong relationships with their students and developed a sense of empathy for their CLD students by understanding their experiences. Because the majority of the PSTs were native English speakers, a language simulation lesson was taught in Spanish during the second week of the course. The first part of the lesson simulated an English only approach, whereas the second was a culturally responsive one. After this experience, Tara, a native English speaker, described how she felt devalued during the Spanish-only portion of the lesson, which she inferred would be how CLD students' felt in their classrooms when only English was used. She stated, “To prevent a student from being consumed by anxiety, I would create an environment where students don't feel completely isolated due to a language barrier; using contrastive analysis and valuing bilingualism to involve the student's language and culture.”

Camilla, another native English-speaking PST, realized “telling a student that their home language is wrong or bad makes them feel lower than everyone else” because of how she felt during the lesson when her language (English) was not valued. She explained “I understood how a student might feel not knowing any English. If I never did that Frankenstein group work, I would never have

understood how ELL students felt.” In contrast to the native English speaker PSTs’ experiences, María Isabel, a bilingual PST, explained how empowered she felt by having her language valued. She wrote, “The activity ... got me ... valuing bilingualism because you had to know Spanish ... to complete this activity. So, for those who are bilingual, they felt comfortable ... it created a more positive environment for those who spoke Spanish.”

Taken together, PSTs demonstrated greater empathy and adopted an asset-based approach to teaching focused on creating classrooms that valued bilingualism. In summary, Judy wrote, “I will encourage my CLD students to use their native language to preserve it.”

Recognizing Warm Demand

As PSTs became more critically conscious, they focused on how to use CLRT to teach CLD students. As a result, PSTs discussed using a warm demand approach as a recurring topic in their digital diary entries. María Isabel wrote, “I found warm demand to be interesting because the meaning behind it is to balance care and discipline in order to help students achieve.” To accomplish this, she explained further, “This is done by building relationships (caring) followed through with expectations (demand). This lets them know how you work as a teacher building trust and respect.”

To foster a classroom based on warm demand, PSTs referenced a strategy called “high help.” They noted the importance of using “high help,” providing strong support to demonstrate their care and high academic expectations. For example, Duncan reflected,

As a student, I remember many of my teachers holding the ‘high expectations,’ this did not always translate well with students since many did not use ‘high help.’ That is a very important step in the teaching process, ‘high help’ with ‘high expectations’ will develop each student and show stronger achievement.

Similarly, Sylvia, a native Spanish speaker, also emphasized the importance of including high help. However, she expanded upon it by empowering students with strategies to support themselves through the learning process. She claimed,

I’m very caring. I love kids. I will do anything for them, but now I have the understanding of how to give my learners the strategies to do things themselves. High help shows your students that you are there to help them, not just there to spit information out at them.

Further, Roger noticed that in addition to using a warm demand approach, teachers also needed to scaffold support for their students to meet the classroom norms and expectations. He stated, “my [in-service] teacher refuses to allow students to slide.” He described how she set high expectations by scaffolding the support to help them achieve. In sum, PSTs developed an understanding that being empathetic and using warm demand were critical in structuring the learning environment to support learning for all students.

INTERLUDE 4: INTERPRETING THE FINDINGS AND REVISING THE MODEL

In earlier cycles of action research, I relied heavily on qualitative methods, but later, I realized that when used in concert, quantitative and qualitative data together provided a more complete

understanding of the results than when used separately (Greene, 2007). With each cycle, the qualitative data extended my understanding of the quantitative data being complementary at times and disconfirming at others, which triggered changes in the model (see Figures 1-4) and led me to revise the intervention. Notably, the data from the study revealed high levels of complementarity. Specifically, the quantitative data indicated that the knowledge, self-efficacy, and projected use of CLRT increased significantly. Likewise, I found the qualitative data demonstrated similar growth. From this, a story unfolded because the words from the qualitative data “put meat on the bones” of the quantitative data.

When I began the last cycle of my study, I had confidence in the intervention because it was developed over a series of action research cycles. Notably, the findings revealed the need for another revision of the framework. In analyzing the results, I noticed what a profound effect learning about a classroom community had on the participants. Consequently, as relationships among PSTs advanced, a process of learning and knowing developed over the course of the semester based on their shared experiences inside and outside the classroom. Much to my surprise, a new strand emerged as shown in Figure 5 below as “Classroom Community,” which was related to the pedagogical and skills component because it aided PSTs’ development of understanding of the other components in the pedagogical knowledge and skills area.

DISCUSSION

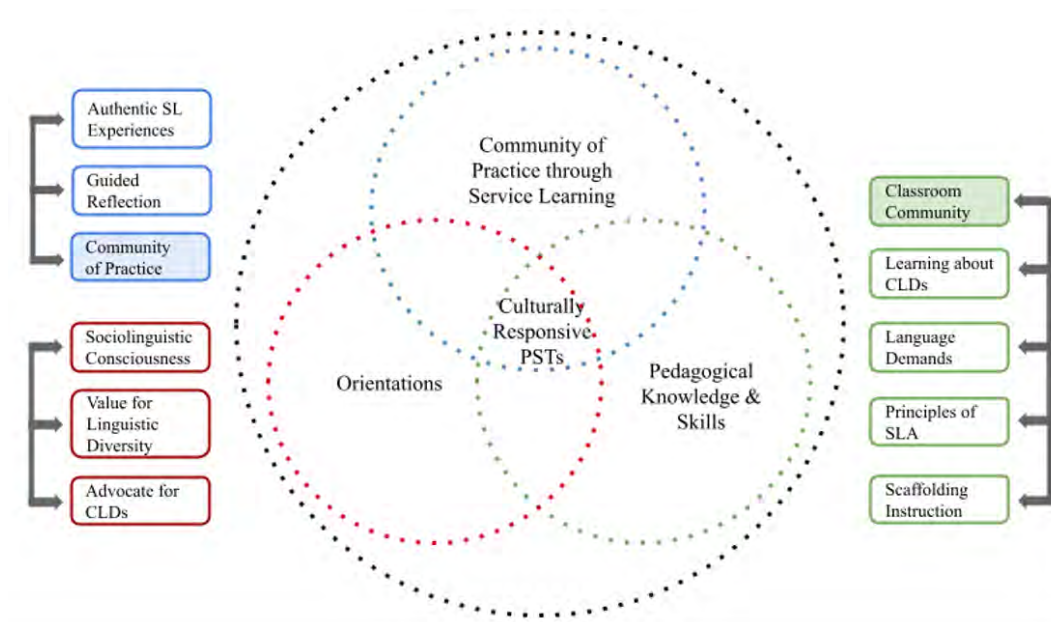
The purpose of this action research study is to explore the influence of a CLRT framework that combined two approaches for preparing PSTs: a CLRT designed curriculum and a team-based, service-learning experience with CLD students. In this section, I present a discussion of the findings with respect to (a) complementarity and the integration of quantitative and qualitative data, (b) explanation of results based on the extant literature, (c) limitations, (d) implications for practice, (e) implications of research, (f) personal lessons learned, and (g) conclusions.

Complementarity and the Integration of Quantitative and Qualitative Data

Complementarity between quantitative and qualitative data contribute to the credibility of the results because together they provide a more complete understanding than using a single approach (Green, 2007). Results and findings from the study reveal high levels of complementarity. Specifically, the quantitative data indicate that knowledge, self-efficacy, and use of CLRT increase significantly. Likewise, the qualitative data from the semi-structured interviews and Photovoice indicate similar growth. Combining the two approaches provides a deeper understanding by “telling a story” about the numerical data.

For example, increases in quantitative self-efficacy scores are substantiated and enhanced by PSTs’ Photovoice reflections and interview responses, which indicate their confidence increased. For example, Tara explains, “I’m confident that I would be able to go ahead into a classroom and incorporate what I’ve learned and then build on that.” Similarly, findings for qualitative Photovoice comments and interview data complement and explain the outcomes noted for knowledge and use scores from the quantitative data. Taken together, the quantitative and qualitative data are highly complementary, pointing to the same conclusions.

Figure 5. Final Framework Showing New Classroom Community Strand along with Connections among Coursework Features and Community of Practice Approach to Facilitate Development of Culturally and Linguistically Responsive PSTs



Explanation of the Results Drawing on the Literature

As shown in Figure 5, the Final Framework draws upon three lenses: (a) orientations, (b) pedagogical knowledge and skills, and (c) service learning. These perspectives act synergistically to foster the development of culturally and linguistically responsive PSTs who can work more effectively with CLD students. See Figure 5.

Orientations

Villegas and Lucas (2011) suggest three specific orientations on which to focus when preparing PSTs: (a) sociolinguistic consciousness, (b) value for linguistic diversity, and (c) intention to advocate for CLDs. In this action research study, I teach a culturally responsive curriculum with readings and lessons focused on preparing PSTs to become culturally and linguistically responsive teachers. Further, as part of the curriculum, I implement experiential, service-learning activities that allow PSTs to apply theory to practice. In particular, the qualitative data attest to PSTs development of the three orientations espoused by Villegas and Lucas (2011). For example, there are many rich discussions about newly emerging perspectives about how CLD students bring rich language and cultural experiences with them to the classroom setting. For example, Judy comments, "My team members helped me substantially gain new perspectives about the class [teaching CLD students]."

Pedagogical Knowledge and Skills

Additionally, Villegas and Lucas (2002a, 2002b) claim culturally and linguistically responsive teachers integrate the principles of second language acquisition theory into the curriculum. These principles include: (a) understanding and drawing on linguistic and academic backgrounds, (b) establishing appropriate language

demands and tasks, (c) using key principles of second language acquisition, and (d) scaffolding instruction. As I explained above, I incorporate experiential learning activities to model CLRT that aligns with the modular activities and readings.

Gay (2000) contends teachers' expectations of their students influence students' motivation to learn and ultimately succeed. Consistent with Gay's outcomes, the results of this study strongly suggest the importance of developing PSTs who value students' language and culture that allows PSTs to relate to students, hold high expectations, and employ appropriate instructional approaches. Qualitative data, in particular, suggest PSTs understand the need for and begin to develop knowledge and skills related to (a) learning about CLD students, (b) building relationships with students to employ warm demand, (c) holding high expectations for academics and behavior, and (d) scaffolding instruction to support student learning.

Service Learning

Villegas and Lucas (2002a, 2002b) contend PSTs need to be placed in classrooms with experienced teachers practicing CLRT. In the Final Framework of this study, the third component emphasizes a service-learning experience that draws on two factors—authentic experiences and guided reflection. Nevertheless, I maintain results from this study suggest a third factor, teams, must be considered when preparing novice PSTs. See Figure 5. Notably, I combine what I learned from the research with a team-based approach to service learning to support PSTs' learning.

By placing PSTs with in-service teachers who practice CLRT, they gain first-hand knowledge about teaching CLD students. During each class session, PSTs enter and meet with their teams sharing their service-learning experiences with one another. Through these conversations, they bond as a team and authentically care about one another as they define how to become better prepared and more

effective in their service-learning classrooms. As a result, they explore ways to apply what they learn to practice. In addition to their impromptu conversations, purposeful guided reflection activities are carefully included at the end of each unit. During these sessions, students apply theory to practice with their teammates. As they co-construct their understandings about teaching CLD students from their experiences, they become more socio-linguistically aware and pedagogically knowledgeable about how learning is a social endeavor (Wenger, 1998). The team-based, service-learning experience affords these opportunities as a CoP begins to emerge for the teams that assists them to connect theory to practice. Consequently, learning and knowing develop over the course of the semester as relationships advance based upon their shared experiences inside and outside the classroom (Wenger, 1998).

Limitations

There are several limitations in this action research study. As with any action research, the context, the setting of the study, deeply affects it. For example, the team-based, service-learning component plays a critical role in the outcomes of this study. Thus, the context affects and limits the transferability of the study to other contexts (Lincoln & Guba, 1985; Mertler, 2014).

Another limitation focuses on my role as both the practitioner and researcher in the study. As the practitioner and course instructor, PSTs may have “shaped” their responses because I was their instructor, even though I asked them to respond as they thought. Additionally, as the researcher, I may have had some biases in interpreting the qualitative data, but I minimized them by careful reflection at each step of the process, use of analytic memos, and member checking.

Implications for Practice

This study offers information about how to prepare pre-service teachers to engage with CLD students using a CLRT teaching lens. In particular, study findings suggest it is effective to use (a) a CLRT curriculum with novice PSTs and (b) a team-based, service-learning approach in classrooms with CLD students. Notably, because PSTs enter their teacher preparation programs lacking knowledge about and experience with CLD students, such coursework should be strategically placed early in their programs of study. This affords PSTs with opportunities to challenge their sociocultural beliefs and biases and to develop affirming attitudes toward teaching CLD students.

Further, the findings suggest a critical component of the study is the team-based, service-learning experience. The qualitative data indicate teams have a strong effect on PSTs’ understanding of CLRT. There is great value in purposefully grouping the PSTs based on their assets (language, culture, and classroom experience as, or with, CLD students), which affords richer discussions by the teams. Moreover, with guided reflection activities, the teams collectively overcome some of the challenges they face as they grapple with how to translate theory into practice to support CLD students.

Implications for Future Research

There are several implications for future research. First, given the outcomes of this study, other teacher preparation programs may choose to build on this by exploring how an introductory course

based on CLRT and a CoP-based, service-learning component could better prepare PSTs for working with CLD students. Second, I suggest collecting longitudinal data about the influence of the CLRT framework on PSTs as they progress through their coursework to determine its influence beyond the single semester of this study.

Lessons Learned: Using CPED Principles and Extending the Work Beyond the Dissertation

In this section, I address CPED Principles 1 and 4 and discuss how I am extending this work beyond the DiP. CPED Principle 1 on equity and social justice is the focus of this action research work on better preparing PSTs to work with CLD students. Additionally, I emphasize work based on CPED Principle 4 by engaging in a field-based opportunity to analyze a PoP and use multiple frames, i.e., CLRT and CoP-based service learning to develop meaningful solutions to it.

Across the United States, CLD students continue to be recognized as the fastest growing and, at the same time, the lowest performing group of students as evident in the achievement gap across every level of the education pipeline (Solórzano & Yosso, 2006; Yosso, 2006). In Arizona, CLD students mirror these statistics as they consistently perform lower than their peers (Arizona Department of Education, 2018). Further, the Arizona Department of Education decreased teacher certification requirements to prepare PSTs to teach CLD students. In response to these issues, these action research efforts sought to examine how a course focused on CLRT curriculum with a CoP service-learning approach could influence PSTs’ perceptions about CLD students, their knowledge and skills to teach them, and their abilities to act on their behalf in their roles as future educators. To facilitate their learning, PSTs were grouped in teams of four and placed in elementary classrooms with CLD students and in-service teachers who practiced CLRT. In this situation, PSTs draw upon CoP-developed knowledge about CLRT with their teams and determine how to apply it in practice to teach CLD students in their classrooms.

Since my dissertation, I have continued to utilize the CLRT framework to effectively prepare PSTs to teach CLD students. Before my action research study, our education department provided service-learning opportunities to our PSTs, but students placed themselves in the classrooms they selected. After my study, we developed a department initiative in which we have partnered with our local school district creating professional development schools to provide enriching experiences aligned to the courses being taught. To maintain communication and relationships with the schools, we also created a liaison position last summer. Additionally, we have continued to leverage every opportunity to increase the awareness of and the value about preparing PSTs to teach CLD students. These efforts have resulted in the introductory course outlined in my dissertation becoming a required course rather than an elective course that counts toward PSTs’ teaching certificates. Going forward, I expect to continue this work to provide PSTs with opportunities to examine thoughtfully their beliefs and prudently craft their practices to support CLD students in their future classrooms.



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