Facilitating Culturally Responsive Teaching Through Online Courses and Coaching

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Abstract. Teacher professional development and education programs are enhancing job-embedded experiences to address the disparity between theory and implementation. Simultaneously, higher education is now offering online courses to attract geographically distant educators, especially in high-needs fields such as teaching English Learners and Culturally and Linguistically Diverse students. There is a need to investigate what online teacher professional development and education programs can do to promote teachers’ application of what they learn. This pilot study utilized the Inventory of Situationally and Culturally Responsive Teaching (ISCRT) to investigate 23 in-service teachers’ culturally responsive teaching (CRT) practices before and after receiving online coursework and coaching. When compared to the control group, treatment teachers’ scores on four of the five ISCRT standards—*Joint Productive Activity, Language and Literacy Development, Challenging Activities,* and *Instructional Conversations*—as well as the composite were statistically significant. Findings suggest online CRT coursework with complementary instructional coaching supports teachers’ implementation of new knowledge and pedagogy.

Keywords: culturally and linguistically diverse; English learners; instructional coaching; online teacher learning; culturally responsive teaching

Teacher educators in higher education are charged with addressing a two-pronged trend from research, which is reflected in the increasing demand for online academic courses (Allen & Seaman, 2013; Soffer & Nachmias, 2018) that do not forego the application of job-embedded experiential learning (Daniel & Pray, 2017; Webster-Wright, 2009). This is especially true in the areas of culturally responsive teaching (CRT) for culturally and linguistically diverse (CLD) students, including English Learners (ELs).

Culturally responsive teaching refers to “using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively” (Gay, 2002, p. 106) while simultaneously supporting cultural identity, native language, and cultural connections (Siwatu, 2007). In response, purposefully designed online coursework has been implemented as a way to provide needed professional development (PD) to teachers of ELs (Sutcher et al., 2019), especially in rural areas where teachers may have difficulty accessing it (Hansen-Thomas et al., 2016). Specific attention within the PD should move “beyond just good teaching” to incorporate knowledge of language and culture, skills in collaboration and leadership, and training on specific instructional strategies for ELs (He et al., 2011, p. 15; Master et al., 2016).

Teacher education programs in higher education must ensure online EL coursework is not only interactive, but also effective at changing CRT practices. Teacher quality is perceived to be a major predictor of student success (Organization for Economic Cooperation and Development [OECD], 2005; Rivkin et al., 2005), and teachers of CLD students should incorporate CRT to provide quality instruction for all students.

This pilot study investigates the effects of an online job-embedded PD program that focuses on the implementation of CRT practices through applied, interactive coursework, and instructional coaching. The program is designed to provide in-service teachers the competencies and training needed to pass the English to Speakers of Other Languages Praxis exam and earn an English as a Second Language (ESL) endorsement. The study was designed to examine this question: Does online coursework with coaching support teachers’ implementation of culturally responsive teaching?As such, it adds to previous research on CRT, online coursework, and instructional coaching while touching on collaborative online learning communities (Cullen et al., 2013). The article provides insights that may be of interest to teacher educators looking to implement a hybrid online program, those who wish to incorporate a coaching component in online courses or those who hope to increase implementation of CRT.

## **Culturally Responsive Teaching**

An assets-based perspectivetoward CLD students’ cultural and linguistic differences promotes instructional equity and improves academic and personal results for students (García & Kleifgen, 2010; Gay, 2010; Villegas & Lucas, 2002). Gay (2013) advocated CRT as a method for improving achievement through accepting differences as not only normative but also valuable to societal and personal development. CRT situates learning in students’ lived experiences and frames of reference to contextualize learning, set high expectations, and create equal status among all students (Gay, 2002; Herrera, 2016; Ladson-Billings, 2014). However, scholars have highlighted the need for concrete examples of what CRT looks like in practice (Howard & Rodriguez-Minkoff, 2017; Sleeter, 2012).

One method to identify CRT in practice is the Inventory of Situationally and Culturally Responsive Teaching (ISCRT), a rubric with twenty-two indicators of CRT placed on a continuum from not observed to integrating (Herrera & Kavimandan, 2019). The ISCRT is based on the *Standards for Effective Pedagogy and Learning* from the Center for Research on Education, Diversity, & Excellence (CREDE). The five standards focus on teachers and students producing together, cross-curricular language and literacy development, connecting content to students’ lives, teaching complex thinking, and teaching through conversations (Herrera & Kavimandan, 2019). Considering these five standards enables teachers to view instruction through a culturally responsive lens and requires them to address content learning alongside language development in order to further challenge ELs (Bunch, 2013; O’Hara & Pritchard, 2008). The online coursework developed for this study incorporated components of the ISCRT with the state’s English language proficiency (ELP) standards. To achieve equitable education, teachers need to improve upon ELP standards by incorporating appropriate instructional scaffolds for each student (Coady et al., 2016) and applying CRT.

## **CRT Applied to Online Coursework and Coaching**

Coursework provided concrete illustrations of what CRT looked like in a variety of grade levels, content areas, and student language proficiency levels through instructor-provided examples and participants’ applications that were shared with others through discussion boards, shared videos, virtual classrooms, and recorded audio comments. The courses were based on the state’s Competencies for ESL Teachers, Grades K-12, and the content requirements of the English to Speakers of Other Languages Praxis II exam. Ample research provided a framework for CRT methods and content knowledge (Fenner & Snyder, 2017; Freeman & Freeman, 2014; Herrera 2016; Wright, 2015).

For example, in the course Second Language Methodologies, teachers focused on the standard of developing language and literacy across the curriculum. After reading material on the topic, teachers commented on the importance of both content and language objectives in content area classrooms through asynchronously recorded audio-visual comments. Later in the course, the topic was revisited when the teachers were asked to submit a lesson plan that incorporated an instructional strategy with content and language objectives. After receiving feedback from the course instructors, the teachers recorded themselves teaching the lesson and then reflected on the lesson’s effectiveness for ELs. Providing teachers with the opportunity to learn through experience and reflect on that learning aligns with research on professional learning (Webster-Wright, 2009) and helps teachers apply, enact, and adjust CRT in their everyday pedagogy.

In addition to providing concrete examples of CRT, the instructors also created the coursework following extant research on effective practices for online instruction and professional development. Research since 2008 suggests that high-quality online coursework should be well designed, provide engaging interaction, and have well-prepared, resource-supported instructors (Sun & Chen, 2016). The online coursework incorporated these as well as the seven features of high-quality PD proposed by Darling-Hammond and colleagues (2017). The PD was *content focused* and *active learning* was involved as teachers applied course content to their current classroom. *Collaboration* was achieved through use of asynchronously recorded comments and discussion boards. *Models of effective practice* were provided through videos and exemplar lesson plans. Instructional *coaching* was conducted as a support for the coursework. *Reflection* was required for the majority of the PD assignments and *feedback* was provided by the instructors. The PD was *sustained*, as participants completed four eight-week long asynchronous online courses over the course of one academic year.

Coaching provided an additional level of practice and guidance to reach high levels of implementation with appropriate scaffolds for content standards and students’ levels of English proficiency. Coaching has gained traction in the international education arena as a potentially beneficial aid for teachers and administrators to implement learned knowledge and skills in instruction (Rebora, 2019; Van Nieuwerburgh, 2012). While there is dispute over the definition, coaching usually refers to helping a person improve performance or achieve goals through structured one-on-one conversations (Van Nieuwerburgh, 2012).

This study employed instructional coaching (Knight, 2007). Instructional coaching is based on implementing a partnership approach to analyze current reality, set goals, implement new strategies, and provide support until the goals are met (Knight, 2018). There is research support for instructional coaching as an effective tool for teachers’ practice and student achievement outcomes (Knight et al., 2018) in terms of increasing teachers’ use of a new practice (Cornett & Knight, 2009; Teemant et al., 2011), implementing visible learning (Knight, 2019), and implementing principles of learning for diverse students (Teemant, 2014). Furthermore, a meta-analysis of 60 studies of teacher coaching programs within the U.S. and other countries found large positive effects of coaching on teachers’ instructional practice and a positive effect on student achievement (Kraft et al., 2018). Kraft and colleagues (2018) advocated for web-based, virtual coaching to decrease cost and time constraints while increasing teacher-coach contact, suggesting there is an opportunity for coaching to be applied within an online course structure.

Within the online courses in this study, in-service teacher participants met with an instructional coach in a dialogical approach to work towards a culturally responsive goal correlated to an ISCRT indicator. Participants met with coaches face-to-face or virtually for one to three coaching sessions. The online coursework incorporated video, observation, and self-reflection to support instructional coaching. Additional communication between coaches and participants occurred in a semi-structured way through follow-up emails and phone calls.

A brief, illustrative example of one teacher’s work in coaching sessions shows how instructional coaching allowed course instructors and participants to collaboratively mediate course material. Based on an initial observation and a coaching conversation a pre-kindergarten teacher selected *incorporating descriptive language into math*, targeting the use of comparative adjectives. She created visual representations, found real objects that represented these terms, and used books in the classroom to reinforce these concepts. Through continued conversations and additional coaching sessions, the teacher reflected that students were in progress to achieving proficiency of these comparative words. Instructional coaching allowed this teacher to apply the language acquisition process into the specific context of a pre-kindergarten classroom.

**Methods**

## **Data Collection and Analysis**

Twenty-three in-service teachers from seven different school districts in a southeastern state took part in this study. These PK-12 grade teachers self-selected to enroll in the CRT coursework, coaching, and research. Verbal and written consent to participate in the study was obtained from each teacher. Most participants were female (22/23, 96%). Of the 14 participants who identified race, 79% identified as White, 7% identified as Hispanic/Latina, 7% identified as two or more races, and 7% identified as Native American, American Indian, or Alaskan Native. Regarding years of teaching experience, more participants fell in the 0–9 year range of experience (78%), and fewer participants (22%) fell into the 10–20 year range. These teachers work in a state with a 24.7% rate of poverty for children under 18 years old (American Community Survey, 2018). During the study, the majority of teachers (96%) worked in the northwest region where the majority of ELs living in the state attend school (Office of Education Policy, 2019).

This pilot study implemented a nonequivalent group, pretest-posttest design (Gribbons & Herman, 1997; Patten, 2000). The participants described above, who voluntarily enrolled in coursework and coaching, were defined as the treatment group. Program directors and research associates served as coaches. Coaches were paired with treatment teachers based on the subject area in which a treatment teacher was being coached. All treatment teachers were coached.

To establish the control group, each treatment teacher was asked to identify a control teacher who met the following criteria: (a) employed by the same district, (b) taught at the same grade level and/or subject, (c) did not have an ESL endorsement, and (d) had a classroom with similar student demographics.

Treatment and control teachers were observed twice using the ISCRT (Herrera & Kavimandan, 2019), allowing for a thorough comparison of teachers’ level of enactment of CRT practices before and after the treatment teachers received coursework and coaching. The first observation occurred within the first three weeks of the start of coursework (Fall 2018) to determine a baseline for comparison. Similarly, the second observation occurred within the last three weeks of the treatment teachers completing the coursework (Spring 2019). The ISCRT is a valid, reliable measure of teachers’ culturally responsive teaching practices (Herrera et al., 2011; Penner-Williams et al., 2019). Additional observations for coaching conversations occurred between the two scored observations.

The ISCRT includes 22 observable indicators categorized under five standards. The trained observers rated teacher performance on each of the 22 indicators using a scale of zero to four. A score of zero suggests the indicator was not observed, while four indicates the teacher integrated the instructional practice throughout the lesson. The scores were then averaged together based on their associated standard. Additionally, a quantitative composite score for each teacher was calculated by averaging all 22 indicators.

Trained observers conducted both pre- and post-treatment observations in two pairs. A Cronbach's alpha analysis assessing the internal reliability of the instrument yielded a composite score alpha of 0.94. Inter-rater reliability was tested using a single-rating, absolute-agreement, two-way random-effects intra-class correlation coefficient for each pair. For one pair, the intra-class correlation coefficient was 0.71, indicating moderate reliability. The other pair had good reliability with an intra-class correlation coefficient of 0.90. The same rater observed the same teachers for both pre- and post-observations.

Data collected from the ISCRT were analyzed using independent samples *t*-tests in two ways to investigate if there was an effect on treatment teachers’ CRT practices. First, treatment teachers’ scores on the five standards and composite were compared to control teachers’ scores. The purpose of this test was to examine if the treatment and control groups were statistically significantly different in their implementation of CRT before treatment. Second, pre-observation scores for the treatment and control teachers were subtracted from the post-observation scores to create a difference score. This difference score was analyzed using an independent samples *t*-test separated by the treatment grouping variable to determine if there were statistically significant differences between the treatment and control groups across the two trials.

In addition to the ISCRT observations, treatment teachers completed surveys at the end of each course. Surveys were designed to elicit teachers’ perceptions of the effectiveness of the courses in increasing their knowledge and skills related to CRT practices and course topics. The surveys were tailored to the material covered in each course and featured one to three Likert-scale questions. The Likert scale ranged from 1-“Not Effective” to 4-“Very Effective.” Treatment teachers’ responses on the questionnaire for Likert-scale questions were aggregated to obtain an overall percentage of effectiveness as reported by the participants. At the end of each survey, there was an open-ended, optional question for additional comments, and teachers responded to open-ended questions on coaching at the end of the year-long program. The anecdotal, open-response data was also collected and included to provide a more complete understanding of teachers’ ratings and their impressions of the coaching process.

## **Change in Treatment Teachers’ Culturally and Linguistically Responsive Teaching Practices**

Analyses of the descriptive characteristics of the difference values on the five standards and composite score on the ISCRT divided by group (control, treatment) revealed normal distributions (Shapiro-Wilk statistic, min. *p =* 0.103) with acceptable skewness (min. = -0.48, max. = 0.71), kurtosis (min. = -1.09, max. = 1.76), and variability. Additional visual analyses of the histograms were also conducted. The scores in all standards and on the composite score were relatively low, but there were noticeable differences between means which were explored to determine if there was statistical significance.

As teacher participants were not randomly assigned to treatment and control groups, the first analysis sought to provide evidence that the two groups were essentially equivalent in levels of implemented CRT before the coursework with coaching began. Independent samples *t-*tests were conducted on the five standards and composite score to compare the mean scores of treatment (*N* = 23) and control (*N =* 23) groups on the pre-observation scores, and variability was examined using Levene’s test of homogeneity of variance. The results of the *t*-tests (Table 1) suggest the groups were not statistically significantly different in their observed levels of CRT before coursework with coaching began. The treatment and control groups also had similar variability in all standards and the composite score.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 1**  *ISCRT Standard and Composite Scores, Control and Treatment, Pre-Observation* | | | | |
| Standard | Control  N = 23  *M (SD)* | Treatment  N = 23  *M (SD)* | *p* | Levene’s Test for Equality of Variances (*p*-value) |
| Joint Productive Activity, Pre | 1.40 (0.47) | 1.37 (0.45) | 0.850 | 0.733 |
| Lang. & Lit. Development, Pre | 1.08 (0.58) | 1.24 (0.63) | 0.366 | 0.993 |
| Contextualization, Pre | 0.64 (0.40) | 0.83 (0.50) | 0.166 | 0.257 |
| Challenging Activities, Pre | 1.48 (0.47) | 1.39 (0.50) | 0.545 | 0.239 |
| Instructional Conversation, Pre | 1.30 (0.60) | 1.27 (0.53) | 0.877 | 0.787 |
| ISCRT Composite, Pre | 1.17 (0.38) | 1.20 (0.41) | 0.773 | 0.329 |

After this initial analysis establishing the relatively equivalent implementation of CRT for the treatment and control groups, an independent samples *t*-test was conducted on the difference score between the pre- and post-observation scores for each standard and composite scores to explore the impact of coursework supported by coaching on teachers’ CRT over time. The results of the independent samples *t*-test (Table 2) suggest the treatment and control groups were statistically significantly different in their observed levels of CRT after coursework with coaching.

**Table 2**

*ISCRT Scores, Control and Treatment Differences, Post Observation*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Standard | | Control  N = 23  *M*  *(SD)* | | Treatment  N = 23  *M*  *(SD)* | | Sig. *t*-test *p-*value | | Levene’s Test for Equality of Variances (*p*-value) | | Effect Size (Cohen’s *da*) | |
| Joint Productive Activity | | -0.01 (0.62) | | 0.76 (0.58) | | <0.001 | | 0.914 | | 1.27 | |
| Lang. & Lit. Development | | 0.00 (0.74) | | 0.54 (0.59) | | 0.009 | | 0.268 | | 0.81 | |
| Contextualization | | 0.13 (0.63) | | 0.42 (0.84) | | 0.191 | | 0.258 | | -- | |
| Challenging Activities | | -0.26 (0.49) | | 0.67 (0.53) | | <0.001 | | 0.697 | | 1.82 | |
| Instructional Conversations | | 0.52 (0.69) | | 0.83 (0.60) | | <0.001 | | 0.828 | | 1.20 | |
| ISCRT Composite | | 0.18 (0.75) | | 1.08 (0.75) | | <0.001 | | 0.875 | | 0.83 | |

*Note: a*Cohen (1988)

For all standards and the composite score, with the exception of the standard Contextualization, there were significant results for the difference in scores in favor of the treatment group. Combining the results of the significance test with an examination of the means suggests there were significant differences between the groups’ ISCRT observation scores, with the treatment teachers’ scores increasing in observed levels of CRT over time. Effect sizes were also calculated using Cohen’s *d* (1988). Cohen’s *d* effect size ranged from 0.81 for the standard Language and Literacy Development to 1.82 for the standard Challenging Activities. This suggests the treatment and control groups differed by 0.81 to 1.82 standard deviations on four standards: Joint Productive Activity (d = 1.27); Language and Literacy Development (d = 0.81), Challenging Activities (d = 1.82), and Instructional Conversations (d = 1.20),as well as the composite score (*d* = 0.83). Additional visual analyses of the plots of the pre- and post-estimated marginal means separated by control and treatment supported these findings.

These analyses suggest there is a positive difference for the treatment group across trials on the composite score and the standards Joint Productive Activity, Language and Literacy Development, Challenging Activities, and Instructional Conversation.

## **Treatment Teachers’ Perceptions of Effectiveness of the Online Courses**

Treatment teachers’ responses on Likert-scale questions regarding the effectiveness of each course were aggregated to obtain an overall percentage of perceived effectiveness. The number of effectiveness questions per course ranged from one to three, so responses were averaged by participant per course before being aggregated for the overall course effectiveness rating. Percentages of survey responses indicating “Effective” or “Very Effective” are reported in Figure 1, and Table 3 displays the ratings, means, and standard deviations for these survey questions.

**Figure 1**

*Treatment Teachers’ Perceived Effectiveness Ratings*

*Note*: Effectiveness ratings by course.

**Table 3**

*Ratings, Means, and Standard Deviations for Effectiveness Survey Questions*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Effectiveness Rating | | | |  |  |
| Survey Question | 1 | 2 | 3 | 4 | N | Mean (SD) |
| Second Language Assessment |  |  |  |  |  |  |
| Creating and implementing assessments to enhance learning and success for English learners | 0 | 0 | 11 | 10 | 21 | 3.48 (0.50) |
| Using information gained from various assessment types for English Learner instruction | 0 | 1 | 8 | 12 | 21 | 3.52 (0.59) |
| Second Language Acquisition |  |  |  |  |  |  |
| Identifying the stages of language development | 0 | 3 | 7 | 9 | 19 | 3.32 (0.73) |
| The relationship between first and second language development | 0 | 0 | 9 | 10 | 19 | 3.53 (0.50) |
| Strategies to simultaneously promote content learning and second language acquisition | 0 | 2 | 10 | 7 | 19 | 3.26 (0.64) |
| Second Language Methodologies |  |  |  |  |  |  |
| Creating lesson plans, learning goals and language objectives to further develop English skills across the curriculum | 0 | 1 | 4 | 18 | 23 | 3.74 (0.53) |
| Implementing instructional strategies that allow CLD students and English Learners to demonstrate student learning. | 0 | 0 | 4 | 19 | 23 | 3.83 (0.38) |
| Integrating instructional practices that apply knowledge of teaching academic vocabulary and target language. | 0 | 0 | 6 | 17 | 23 | 3.74 (0.44) |
| Teaching People of Other Cultures |  |  |  |  |  |  |
| Dealing with students from different cultures. | 0 | 2 | 7 | 11 | 20 | 3.45 (0.67) |

Each course was perceived by the participants to be effective, with effectiveness rating for each course ranging between 90% and 98.55%. In the open-ended survey responses, treatment teachers expressed that they felt supported by the instructors and the courses were informative though challenging.

## **Treatment Teachers’ Perceptions of Coaching**

Participants received a median of two face-to-face instructional coaching sessions. Of the 23 teachers enrolled, 18 met with an instructional coach twice, three met once, and two met for three times. Participants were asked to respond to an open-ended question to reflect on the effectiveness of coaching. They expressed that the coaching sessions helped develop their goals and provided useful feedback. One teacher situated her response in the broader demands placed on teachers:

In education, we’re often given a list of things that we need to accomplish daily, weekly, and annually. The coaching experience allows us to take the list of expectations and walk with someone else through the process of applying it appropriately to your age group of students and the diverse needs that you have in the classroom.

Teachers that commented on the coaching experience felt the coach helped them navigate implementing the newly learned information into their classrooms.

# Discussion

The purpose of this pilot study was to determine the effectiveness of a purposefully designed job-embedded online PD program for in-service teachers that incorporated interactive CRT coursework, practical field experience, and instructional coaching. Through a dialogical framework in the form of discussion boards, asynchronous audio-visual comments, and coaching conversations, treatment teachers increased their CRT knowledge and skill set for EL and CLD students. Teachers also reflected on their CRT through coursework assignments and post-observation reflections.

The results of the structured classroom observations are the first measure of this program’s effectiveness. While both treatment and control teachers had essentially equivalent levels of implementing CRT practices in the beginning, treatment teachers had positive, statistically significant differences in their observed levels of CRT after completing coursework and coaching. The largest effects of intervention were in relation to ISCRT standards: (a) Joint Productive Activity, in which the teacher facilitates learning through academic, linguistic, and cultural commonalities while students work in collaborative groups; (b) Challenging Activities, in which the teacher simultaneously motivates and challenges students; and (c) Instructional Conversation, in which the presence of unscripted dialogical communication between teachers and students bridges prior and new knowledge (Herrera & Kavimandan, 2019). The standard of Language and Literature Development,in which the teacher takes an assets-based perspective to develop language by utilizing the students’ funds of knowledge (Amanti et al., 2005)*,* also showed a smaller positive effect.

The overall ISCRT composite score for all treatment teachers was positively statistically significant, but this difference could have been even greater if the values of Contextualization would have also increased. Both control and treatment teachers showed a decrease in this standard, which is often difficult for teachers who are new to learning about and implementing CRT (Herrera et al., 2011; Wyatt, 2015). Contextualization is difficult because of the dual challenges of limited time to get to know students and of finding a mutual point of reference to unify diverse perspectives (Wyatt, 2015). No teacher self-selected a culturally responsive goal on Contextualization for the coaching sessions. Perhaps with this additional support, treatment teachers would have implemented higher levels of CRT on this standard and their composite scores.

Treatment teachers perceived all courses as effective. The courses Second Language Assessment and Second Language Methodologies were rated “Very Effective,” with averages of 97.62% and 98.55% respectively. The courses Teaching People of Other Cultures and Second Language Acquisition were rated effective, with respective averages of 90.00% and 91.23%. Treatment teachers shared they found Second Language Methodologies gave them greater insights on creating lesson plans, learning goals, and language objectives while implementing instructional strategies specifically for EL and CLD students. The Teaching People of Other Cultures course stressed the foundational nature of cultural awareness when working with CLD students. Second Language Assessment spoke to the creation and implementation of effective assessments in order to evaluate and enhance EL learning while the scope of Second Language Acquisition was to learn the stages of language development to promote content learning and acquisition. Teachers’ perception of the program as providing strong preparation increases a sense of efficacy (Podolsky et al., 2017).

Overall, treatment teachers believed the coursework was a relevant program component that increased their CRT knowledge and learning of CLD and EL instructional strategies. The coursework, due to intentional planning of interactive platforms, such as discussion boards and asynchronous audio-visual comments, functioned as an online, facilitative learning community (Cullen et al., 2013). Accordingly, the courses provided treatment teachers with a shared online meeting place where they were able to (a) facilitate knowledge gains, (b) apply learning, (c) reflect on their own professional development, and (d) examine how their newfound knowledge and skill set affects their students’ learning.

Through this pilot study, it appears that instructional coaching played a significant and supportive role as participants navigated learning how to implement the various CRT theories and strategies learned. The dialogical approach used by the instructors utilizes personalization in creating and meeting the goals the teacher sets through professional interaction and partnership (Knight, 2018). Throughout the program, participants and coaches worked together to discuss goals, strategies, and methodology. With this guidance teachers had the unique opportunity to formatively practice what they had learned within their school context, simultaneously building efficacy as they shared ideas in this dialogical approach.

The present study is not without limitations. The selection of both the treatment and the control groups were not random. The treatment group teachers may have certain characteristics that make them more open to changing instructional practices as indicated by their willingness to enroll in the coursework. The treatment teacher purposely chose the corresponding control teacher. To try to minimize the effects of these non-random groups, the researchers created parameters for the selection of a control teacher. While it is impossible to control for the multitude of factors that influence teacher performance, the statistical equivalence between treatment and control groups on the pre-observation suggest that these groups were relatively equivalent at the beginning of the study in terms of CRT. An additional limitation to the study is the small sample size. The study was intended to be a pilot of the program’s design and features and to contribute to future programmatic changes. The pretest-posttest analysis allowed for a thorough comparison to be made between the treatment and control groups. Accordingly, the researchers are confident this study presents promising results that may be applied to a larger group in future research.

# Implications

With an increasing number of EL and CLD students comprising the student body in U.S. PK-12th schools, the achievement gap between ELs and non-ELs is gaining attention (Crawford, 2013; Gibson, 2016). Research supports teacher quality as a determiner of student achievement, and CRT is widely accepted as quality teaching for ELs (García & Kleifgen, 2010; Gay, 2013, 2010; Herrera, 2016; Ladson-Billings, 2014; Villegas & Lucas, 2002). Previous research, however, has not focused on comprehensive changes in teacher CRT practices after online PD courses and coaching.

In response, the current study examined and compared the change in treatment teacher use of CRT practices after online courses and coaching. The evidence from this pilot study points to a positive change in teachers’ use of CRT practices. A purposively selected control group of teachers who did not participate in the PD and did not increase use of CRT techniques point to a correlation between treatment and increased CRT practices. Future research could build off of these findings by separating the coaching and coursework as variables or using a comparative interrupted time series design (Kim & Steiner, 2016) to observe teachers’ implementation of CRT with and without coaching. In addition, the standard of contextualization should be addressed specifically in future coursework and coaching.

With a growing population of K-12 culturally diverse students (U.S. Department of Education, National Center for Education Statistics [NCES], 2019) teachers in higher education, particularly those preparing future teachers and those working with in-service teachers, need to provide elements of CRT within their coursework. Teachers in higher education may also need to take the coach’s role in assisting teachers to adopt new CRT practices, especially in the area of contextualization. Preservice teachers need to apply CRT practices in their field placements and in-service teachers need to be taught and supported in applying CRT practices in their current classroom.

While further research is needed, this pilot study suggests that quality PD may increase teachers’ use of CRT and, in turn, result in higher quality teaching for EL and CLD students. Furthermore, this study provides evidence that quality online PD for teachers of EL and CLD students should focus on CRT and use dialogical coaching to support teachers.

**Conflicts of Interest**

The authors declare that there are no conflicts of interest regarding the publication of this article.

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