

Culturally Responsive Teaching Efficacy Beliefs of In-Service Special Education Teachers

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Abstract

Although teaching efficacy has been noted as an attribute of successful teachers of students from culturally and linguistically diverse (CLD) backgrounds, special educators have not been represented in this research, nor have the influence of personal and professional factors on teacher efficacy been examined for this population. This descriptive, correlational survey research was conducted to investigate the influence of selected personal and professional variables on special educators' culturally responsive teaching efficacy for serving exceptional CLD students. Participants ($n = 344$) from three urban school districts in the Southwest responded to an online survey. Statistically significant differences were found in respondents' perceptions of self-efficacy as well as outcome expectancy by the perceived effectiveness of their teacher preparation in addressing diversity. Teachers' language characteristics, instructional setting, certification in bilingual education/English as a second language, and perceived quality of professional preparation also emerged as significant predictors. Implications for future research are discussed.

Keywords

teaching efficacy, special education teachers, culturally responsive teaching, self-efficacy, outcome expectancy, teacher preparation

The professional literature has called for special education practices to be responsive to students' culture and language as well as disability (Cloud, 2002; Council for Exceptional Children, 2009; García & Ortiz, 2006; Voltz, Brazil, & Scott, 2003) in ways that reflect the principles of culturally and linguistically responsive pedagogy (Echevarria & Graves, 2010; Gay, 2000; Ladson-Billings, 2001; Villegas & Lucas, 2002). However, adequate preparation of special educators to develop and implement interventions and services to meet the educational needs of students from culturally and linguistically diverse (CLD) communities remains a concern (Kea, Trent, & Davis, 2002; Paneque & Barbeta, 2006). As the enrollment of White students in the public schools is declining, and students whose primary language is not English (i.e., English Language Learners; ELLs) now comprise approximately 10% of the total enrollment nationally (Aud et al., 2013), the need for educators to be well prepared to serve in increasingly multicultural, multilingual schools is even more imperative. Yet, special education teacher education programs have not generally produced graduates who have the necessary knowledge and skills to address the socio-cultural and linguistic needs of their exceptional students (Hoover, Klingner, Baca, & Patton, 2008). Not surprisingly then, available research has documented that special educators feel underprepared to meet

this increasing demand, reflecting low levels of efficacy for meeting the needs of their exceptional learners from CLD backgrounds (Brown, 2007) including ELLs with special needs (e.g., Mueller, Singer, & Carranza, 2006).

Teachers' perceptions about their efficacy are important to consider, given established correlations between teaching efficacy and students' learning outcomes in the past three decades (Guskey, 1988; McLesky & Waldon, 2002; Tschannen-Moran & Hoy, 2001; Woolfolk & Hoy, 1990; Woolfson & Brady, 2009). Caution is needed, however, when extrapolating these findings to special educators, due to limitations of the available research: First, some studies have shown that participants' perceptions of their instructional efficacy may vary based on the subject matter involved, and on whether there were CLD students in the classroom (Goddard, Hoy, & Hoy, 2000; Knoblauch & Hoy, 2008). Second, most of the teaching efficacy research to

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date has focused on pre-service teachers' perceptions about their anticipated readiness and preparation for serving students rather than in-service teachers' perceptions informed by their lived experiences in the classroom. Third, most of this research has also been limited to general education teachers, with much less attention to special education teachers' efficacy toward educating CLD students with disabilities. In sum, research is needed to establish the extent to which available findings can be generalized to in-service special education teachers, particularly given differences in their roles and responsibilities, and the educational needs of their students.

Interrelationships Between Teaching Efficacy, Culturally Responsive Teaching (CRT), and Other Variables

Because the teaching efficacy research reflects some overlaps with, but does not explicitly incorporate variables related to CRT, there is a need for research to assess the theoretical and empirical interface between these two constructs. For example, holding high expectations for students' performance has been identified as an attribute of successful teachers of CLD students (Gay, 2000; Ladson-Billings, 2001), in ways that parallel the construct of teacher efficacy. These types of overlaps raise the possibility that an integrated model of CRT efficacy would be useful and may contribute to effective outcomes for CLD students in general and special education. Such a model is reflected in Siwatu's (2007) construct of CRT efficacy and in his development of a scale to measure it.

Teaching Efficacy

The theoretical underpinnings of teaching efficacy have drawn heavily from Bandura's (1977, 2000) social cognitive theory in which four sources of information are postulated to contribute to the development of teacher efficacy: mastery experiences (e.g., master a skill successfully), vicarious experiences (e.g., learn by observing others), social persuasion (e.g., encouragement and support), and physical and emotional arousal (e.g., stress and anxiety). Based on this work, Gibson and Dembo (1984) developed an expanded measure of the construct; their scale was one of the first measures of teacher efficacy to be used widely and is considered to be reliable (Tschannen-Moran, Hoy, & Hoy, 1998). Two components were included to measure teaching efficacy: outcome expectancy and self-efficacy. Outcome expectancy measures a teacher's belief that teaching can have a positive influence on students' learning outcomes despite other environmental influences, whereas self-efficacy reflects internal locus of control and a teacher's perception of his or her ability to reach personal goals for the classroom (Ashton & Webb, 1986; Guskey, 1988;

Tschannen-Moran & Hoy, 2001). (Note: In this article, we use the term *efficacy* to refer to the overall construct of teaching efficacy, which includes both components; precise terms will be used when referring specifically to outcome expectancy or self-efficacy). Conducted over the past four decades, this research has clearly documented that teaching efficacy is significantly related to student achievement, motivation, and students' own sense of efficacy (Ashton & Webb, 1986; Armor et al., 1976; O'Neill & Stephenson, 2012; Tschannen-Moran & Hoy, 2001; Woolfson & Brady, 2009).

More recently, studies have investigated how teaching efficacy is shaped by a variety of factors (Lamorey & Wilcox, 2005). Among these, teacher preparation (Siwatu, Frazier, Osaghae, & Starker, 2011; Tschannen-Moran et al., 1998), specialized certification (e.g., Paneque & Barbetta, 2006), and professional development (PD; for example, Gandara, Maxwell-Jolly, & Driscoll, 2005) have been shown to correlate positively with teacher efficacy.

CRT Efficacy

Culturally responsive pedagogy requires teachers to organize their classrooms in ways that take into account their students' backgrounds, language, learning styles, values, and knowledge encountered at home and in their community (Gay, 2002; Ladson-Billings, 2001; Villegas & Lucas, 2002). The essence of CRT lies in acknowledging and understanding the role that culture, language, and race/ethnicity play in teaching and learning. A student's linguistic experiences and characteristics are an integral aspect of his or her cultural identity; hence, the construct of CRT incorporates features of linguistically responsive instruction as well. The central components of CRT require teachers to (a) consistently examine their own beliefs, values, and behaviors that hinder or facilitate the process of student learning; (b) link material with thematic, cross-disciplinary units to provide constructive opportunities for integrating cross-cultural materials into curriculum and instruction; (c) incorporate students' cultural orientations and language/dialect to design culturally and linguistically relevant classroom environments; and (d) assess and modify instruction to meet the needs of students' diverse learning styles (Gay, 2000; Ladson-Billings, 2001). To be linguistically responsive to the instructional needs of ELLs, teachers must be knowledgeable about bilingualism, the process of first and second language acquisition, and interdependence of first and second language proficiency (Cummins, 1991). They must also value and build on the native language, understand the socio-cultural processes through which children develop cognitive, academic, and language skills (Collier, 1995), and be able to create an additive language learning environment (Thomas & Collier, 2002) in which literacy and content area instruction provide comprehensible input

of academic concepts while building second language proficiency (Echevarria & Graves, 2010).

Research on the interface between teaching efficacy and CRT is emergent (Oyerinde, 2008; Siwatu, 2007). Siwatu (2007) developed two scales (*CRT Self-Efficacy* [CRTSE], 40 items; and *CRT Outcome Expectancy* [CRTOE], 26 items) to measure CRT knowledge and skills among pre-service teachers. High CRTSE scores indicate beliefs in one's own ability to utilize students' prior knowledge to create meaningful learning opportunities for CLD learners. High CRTOE scores reflect beliefs that CLD students generally will be successful when instruction is adapted to be culturally and linguistically responsive. Siwatu reported a statistically significant relation between pre-service teachers' CRTSE and CRTOE scores. The current study used the constructs reflected in Siwatu's work: CRTSE was defined as teachers' perceptions of their ability to execute specific teaching practices associated with culturally responsive pedagogy, whereas CRTOE was defined as teachers' perceptions that engaging in CRT practices will lead to positive classroom and student outcomes.

Interaction With Other Factors

When applied to teaching CLD students, teaching efficacy may also be influenced by other factors (Chu, 2010). In recent studies (Carlson, Brauen, Klein, Schroll, & Willig, 2002; Gandara et al., 2005; Paneque & Barbetta, 2006), teachers who viewed themselves to be more efficacious teachers of CLD students were more likely to (a) hold a specialized certificate (e.g., certification in English as a second language [ESL]), (b) have an advanced education degree, (c) have completed PD tailored to meet the needs of teachers of students from diverse backgrounds, and (d) have experience teaching CLD students. However, little is known about the interrelationships among teacher efficacy, CRT, and these variables.

In this article, we report selected findings from a larger study that was more broadly designed to investigate the interrelationships between in-service special education teachers' self, outcome, and collective teaching efficacy (i.e., teachers' perceptions of the collective ability of the school faculty to successfully educate CLD students; Chu, 2010). Specifically, in this article, we present analyses related to CRT efficacy, personal characteristics, professional characteristics, and teaching assignment and explore resulting implications for special education teacher education research and practice. The research questions guiding this component of the larger study were the following:

Research Question 1: What is the relationship between in-service special education teachers' CRT self-efficacy and CRT outcome expectancy for serving CLD students with disabilities?

Research Question 2: Does in-service special education teachers' CRT vary as a function of their perceptions of how well their teacher education programs and PD prepared them to teach CLD students with disabilities?

Research Question 3: To what extent do personal characteristics, teaching assignments, and professional preparation predict special education teachers' CRT self-efficacy and culturally responsive outcome expectancy?

Method

The study was conducted using a descriptive, correlational research design. Data were gathered using an online questionnaire, and prospective respondents were recruited from urban school districts in one state in the Southwestern United States.

Participants

Participating school districts provided a roster of in-service special education teachers in pre-K through 12th grade from which potential participants were recruited. To determine their eligibility to participate, special educators were asked whether they were currently teaching, or had previously taught ELLs and/or non-White students with disabilities at their current school. Urban school districts were targeted because they serve the largest enrollments of CLD students in general and special education. For the purpose of this study, the 10 largest urban districts in the state were invited to participate, and 3 granted permission. Participating districts were located in counties with populations of at least 735,000, and more than 35% of the students were classified as "economically disadvantaged" (the state's term for students eligible for free or reduced-price lunch). More than 45% of the student enrollment in each of the three school districts was Hispanic. Because one school district only released 33% of special education teachers' emails to the researcher, a random selection procedure was used to identify one-third of potential participants from the other two school districts to balance district representation in the study. A total of 855 potential participants were invited to complete the survey, 344 (44%) of whom responded.

The profile of key demographic and professional characteristics of participants is presented in Table 1. As a group, respondents were predominantly Caucasian/White (60%) and monolingual English speakers (65%), with teaching experience ranging from less than 1 to more than 15 years. Just more than half of all respondents (52%) reported that they taught in inclusive classrooms, and the majority (73%) reported teaching students with mild/moderate disabilities. Among teachers who worked with ELLs ($n = 155$), 110 indicated that they provided direct services for second language instruction to the ELL students. In addition, all but 7% of the participants held a special education teaching

Table 1. Profiles of Respondents' Personal, Professional, and Instructional Characteristics.

Variables and associated response categories	<i>n</i>	(%) ^{a,b}
Personal characteristics		
Teacher's racial/ethnic background		
White	206	(59.9)
Non-White	152	(44.1)
Other	1	(0.3)
Gender		
Male	73	(21.2)
Female	271	(78.8)
Languages spoken		
Reported speaking language(s) other than English	119	(34.6)
Monolingual English speakers	225	(65.4)
Student diversity in Pre-K–12 schools attended ^c		
Attended predominately White schools	126	(36.6)
Attended at least one predominately non-White school	218	(63.4)
Student diversity in college—Bachelor's degree		
Attended predominately White schools	113	(32.8)
Attended predominately non-White schools	231	(67.2)
Student diversity in college—Master's degree		
Attended predominately White schools	65	(33.0)
Attended predominately non-White schools	132	(67.0)
Years of teaching experience		
<1 year	12	(3.5)
1–5 years	104	(30.2)
6–10 years	81	(23.6)
11–15 years	53	(15.4)
>15 years	94	(27.3)
Profile of teaching assignment during year of study		
Educational setting(s) in which respondents taught during year of study ^b		
Inclusive general education classroom	179	(52.0)
Resource room/content mastery	126	(36.6)
Self-contained classroom	146	(42.4)
Grade level		
Pre-K to 5th grade	185	(54.0)
6th grade to 8th grade	90	(26.0)
9th grade to 12th grade	69	(20.0)
Educational service provider for ELLs		
Special education teacher	110	(71.0)
Other professionals	45	(29.0)
Caseload ^d		
The majority of students were White	59	(17.2)
The majority of students were non-White	245	(71.2)
Half were non-White and the other half were White	40	(11.6)
Racial/ethnic and linguistic backgrounds of students served ^e		
Native American	21	(6.0)
Asian American	75	(21.8)
African American	273	(79.4)
White/Caucasian	251	(73.0)
Hispanic/Latino	328	(94.5)
Hawaiian/Other Pacific Islander	17	(5.0)
ELLs	153	(44.5)
Level of severity of students' disabilities		
Mild/moderate	252	(73.0)
Moderate/severe	188	(55.0)

(continued)

Table I. (continued)

Variables and associated response categories	<i>n</i>	(%) ^{a,b}
Severe/profound	72	(21.0)
Professional preparation		
Educational degree		
Bachelor's	165	(48.0)
Above bachelor's	179	(52.0)
Certifications held		
Special education teaching certification	320	(93.0)
General education teaching certification	246	(72.0)
Certification in bilingual education/ESL	78	(23.0)
Pre-service preparation: Amount of coursework addressing diversity		
Diversity-related topics were not addressed	37	(10.8)
Diversity-related topics were somewhat addressed	55	(15.9)
Diversity-related topics were integrated	116	(33.7)
Diversity-related topics were equally addressed as other topics	89	(25.9)
The program was mainly designed to prepare teachers for teaching exceptional diverse learners	47	(13.7)
In-service professional development (PD) sessions related to teaching CLD students with disabilities		
A. Attended PD sessions focused on CLD students with disabilities		
Yes	261	(75.9)
No	83	(24.1)
B. Number of PD sessions attended, related to CLD students with disabilities		
1–2	81	(31.0)
3–5	91	(34.9)
6–10	43	(16.5)
More than 10	46	(17.6)
C. Diversity-specific content in PD sessions attended, related to teaching CLD students with disabilities		
Little or no focus	20	(7.7)
Less than 25% of the content	54	(20.7)
About 25%–50% of the content	71	(27.2)
About 50%–75% of the content	79	(30.3)
Focus of entire session(s)	37	(14.1)

^aPercentages calculated based on column totals. ^bTotal exceeds sample size because respondents could choose more than one option. ^cThe question asked the respondents to select the student enrollment in schools (elementary, middle, and high schools) they attended. The predictor was recoded to indicate whether the respondents attended all schools that were predominately White or at least one predominately non-White school.

^dRespondents were asked to describe the composition of students in their special education caseload. ^eRespondents were asked to list all racial/ethnic backgrounds and language status of students in their classrooms. They could select more than one option.

certificate (the remaining were either waiting to take the special education certification test, or were certified in deaf education). Fewer respondents reported holding an endorsement in teaching ESL (20%), or certification in bilingual education (3%).

Procedure

Each prospective participant received an introductory email containing the purpose of the study, the consent form, their rights and their reasonable expectations for privacy and confidentiality, and instructions on how to enter the survey

(i.e., an embedded Internet link). If they agreed to participate, they were asked to complete the survey within 1 month. The first follow-up email was sent 2 weeks from the initial mail-out date, and a second, follow-up email reminder was sent a week later.

Instrumentation

The online survey used in this study was based on a review of the literature on teacher efficacy and CRT, and items were adapted from Siwatu's (2007) measures of teaching efficacy. Because extant research on teaching efficacy and

CRT focused on in-service special education teachers is scant, survey questions were adapted as follows: (a) expanded all items to include disability (e.g., the original item, “assess student learning using various types of assessments” was modified as “use various types of assessment that are matched to English language learners’ language proficiency and special needs”), (b) reduced the number of items that addressed the same characteristics of CRT¹ (e.g., 3 items referring to the use of students’ cultural background and knowledge during instruction were condensed as “use my students’ prior knowledge related to their cultural and linguistic backgrounds to help make learning meaningful”), and (c) added items to reflect the roles and responsibilities of special education teachers (e.g., “develop appropriate Individual Education Plans for my students with disabilities”). The survey was organized into four sections: Background Information, Collective Teacher Efficacy (CTE), CRTSE, and CRTOE. Our focus in this article is limited to three sections: Background Information, CRTSE, and CRTOE. Background information gathered included demographic characteristics, current teaching assignments, characteristics of students, and professional qualifications and experience (see Table 1). Although items in both sections reflected teaching elements associated with culturally and linguistically responsive teaching, they differed in the types of perceptions being elicited: In the first, respondents were being asked to rate their perceived ability to perform these tasks whereas the latter elicited their perceptions about their relevance to student outcomes. The survey was piloted using Cronbach’s alpha to determine internal consistency reliability and met the minimum criterion of .70 alpha value (for further details, see Chu, 2013). The alpha coefficients for the present study were .95 (CRTSE, 20 items) and .92 (CRTOE, 12 items). Participants were instructed to respond to each item using a 5-point Likert-type scale.

Data Analysis

The following analyses were conducted to answer the research questions with CRTSE and CRTOE scores as the dependent variables:

- Bivariate analyses (e.g., correlation) to inspect the relationship between CRTSE and CRTOE;
- ANOVA to investigate relationship between perceived effectiveness of professional preparation about diversity and CRTSE/CRTOE scores; and
- Multiple regression analysis to examine the influence of three sets of predictors (independent variables)—personal characteristics (6 predictors associated with race/ethnicity, racial/ethnic diversity

of schools and colleges attended, and languages spoken), teaching assignments (18 predictors related to educational settings, grade level, and educational service provider for ELLs), and professional preparation (15 predictors associated with years of teaching, certifications held, and extent of pre-service and in-service preparation related to diversity)—on CRTSE and CRTOE scores.

Because the assumption of homogeneity of variance–covariance was met for Research Question 2, the Tukey HSD (honest significant difference) post hoc procedure was utilized to identify significant differences for all possible pairwise comparisons. We used Tukey HSD, which has good power and tight control over the Type I error rate (Field, 2009), to test individual predictors’ relation to CRTSE and CRTOE scores. The analysis of pairwise comparisons allowed us to determine the relative importance of various response options for a predictor on the dependent variables (i.e., CRTSE and CRTOE scores).

The full model for the multiple regression was used to assess Research Question 3. The assumptions examined include the following: linearity, the errors were normally distributed, errors have a mean of zero and a constant variance, errors are independent, and no multicollinearity (Garson, 2010); these assumptions were met in the study. Five variables (teacher’s race/ethnicity, grade levels, educational service providers for ELLs, type of disability, education degree) were re-coded into dichotomies to reduce the number of response options in the analysis. For example, the predictor, teachers’ race/ethnicity, originally provided respondents seven response options. However, due to the uneven distribution across these response options (Caucasian respondents comprised 60% of the sample), this variable was re-coded into two categories for the multiple regression analysis, White/Caucasian, and non-White/non-Caucasian. Dummy coding was used for nominal variables (i.e., language spoken by teacher; racial/ethnic background, educational degree, and professional certifications of teacher; student diversity in K–12 schools, and student diversity in college attended by teacher; numbers of PD sessions attended by teacher; composition, grade level, level of severity of students’ disabilities, race/ethnicity, and language status of students in teacher’s classroom; educational setting of teacher’s classroom; and teacher providing services for ELLs) to evaluate relative to the single reference group. For example, the variable of education settings had three levels. Two out of these three dummy-coded variables as predictors were used (coded 1). The reference category (coded 0) would be teachers who were working in the inclusive setting. A list of these predictor variables may be found in Tables 6 and 7.

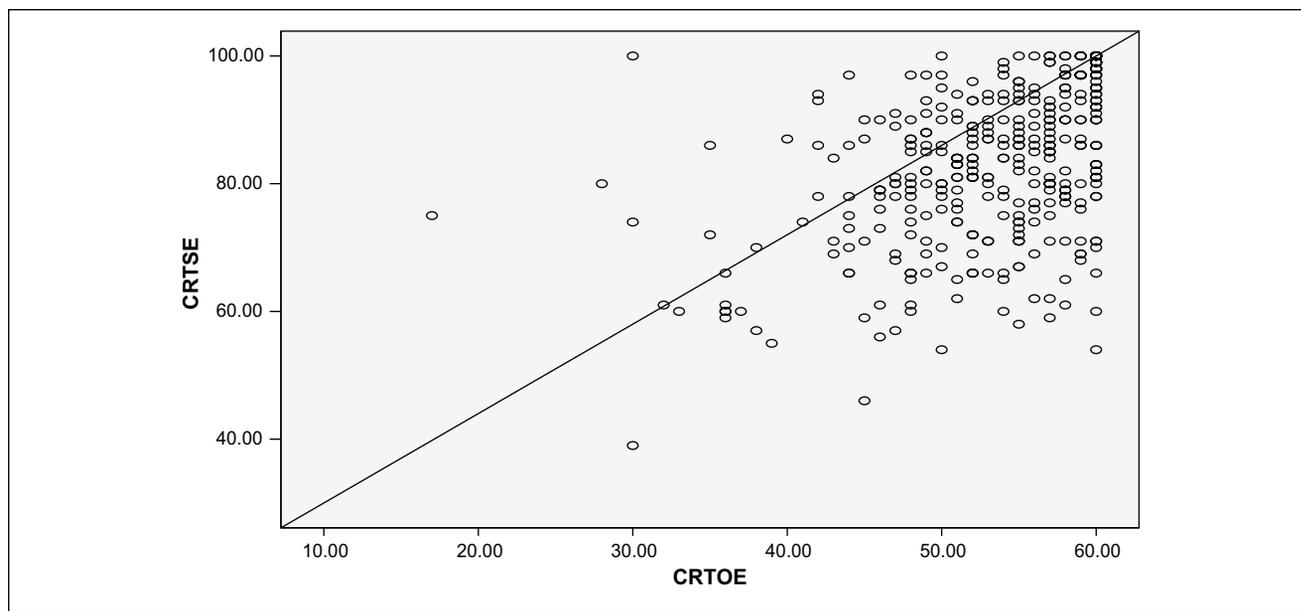


Figure 1. Scatter plot for correlation between CRTSE and CRTOE scales.

Note. CRTSE = Culturally Responsive Teaching Self-Efficacy; CRTOE = Culturally Responsive Teaching Outcome Expectancy.

Results

Relationship Between the Measures of CRTSE and CRTOE

Item-specific means and standard deviations (*SDs*) for CRTSE and CRTOE scores are presented in Tables 2 and 3, respectively. Item means for the CRTSE and CRTOE sections clustered around a rating of 4 on the 5-point scale (4.14 and 4.41, respectively). Moreover, mean scale scores and *SDs* for the CRTSE section were 89.79 and 12.21 respectively, whereas mean scores and *SDs* for the CRTOE were 52.87 and 6.20, respectively. The obtained *SDs* ranged from 0.64 to 1.15 for CRTSE and from 0.62 to 1.07 for CRTOE. Notably, on both scales, the item related to language of instruction for ELLs received lower mean scores than the majority of other items. The results revealed a statistically significant correlation between CRTSE and CRTOE scores ($r = .44, p < .01$). The scatter plot (see Figure 1) indicates a positive linear relationship between the CRTSE and CRTOE.

Relationships Between Teaching Efficacy and Perceived Effectiveness of Professional Preparation in Addressing Diversity

CRTSE and CRTOE scores were significantly associated with the teachers' perceived effectiveness of their teacher education programs in preparing them to work with CLD students, $F(4, 339) = 13.740, p < .01, \eta^2 = .14$; $F(4, 339) = 2.842, p < .05, \eta^2 = .032$, respectively. To evaluate

the pairwise differences, a post hoc Tukey test was run to identify significant differences among each of the five groups. Results of the pairwise comparisons showed that teachers who considered their teacher education program to be "absolutely effective" in preparing them to work with CLD students had higher CRTSE scores than all other groups ($p < .01$). Teachers who rated their teacher education program as "absolutely effective" in addressing diversity had higher CRTOE scores than those who expressed a "neutral" attitude ($p < .01$; see Table 4).

Similarly, statistically significant differences in CRTSE and CRTOE scores were revealed based on respondents' perceived effectiveness of PD sessions in addressing diversity: $F(4, 255) = 6.738, p < .01, \eta^2 = .096$, and $F(4, 255) = 5.916, p < .01, \eta^2 = .085$, respectively. Specifically, results of the pairwise comparisons showed that teachers who rated their PD as "absolutely effective" in preparing them to work with CLD students scored higher on the CRTSE scale than three of the four other groups ($p < .01$), but their CRTOE scores were significantly higher than only those teachers who described their PD as "slightly effective" ($p < .05$) or as "neutral" ($p < .01$; see Table 5).

Influence of Personal and Instructional Variables on Teaching Efficacy

This component of the analysis investigated teachers' personal characteristics, teaching assignments, and professional preparation as potential predictors of their perceptions of their CRTSE and CRTOE (see Tables 6 and 7).

Table 2. Means and Standard Deviations for Items on the Culturally Responsive Teaching Self-Efficacy (CRTSE) Scale.

Items	M	SD
I am able to . . .		
1. modify instructional activities and materials to meet the developmental needs and learning interests of my students with disabilities from CLD backgrounds.	4.35	0.77
2. design appropriate instruction that is matched to English language learners' language proficiency and special needs.	4.02	0.97
3. create a learning environment that reflects the various backgrounds of my CLD students.	4.07	0.88
4. develop appropriate Individual Education Plans for my students with disabilities who are from CLD backgrounds.	4.42	0.76
5. use my students' prior knowledge related to their cultural and linguistic backgrounds to help make learning meaningful.	4.10	0.87
6. use various types of assessment that is matched to English language learners' language proficiency and special needs.	3.86	1.02
7. critically examine the curriculum to determine whether it appropriately represents CLD groups.	3.65	1.07
8. identify the differences between student behavior/communication at home and student behavior/communication at school.	4.01	0.93
9. use a variety of teaching methods to assist my students in learning the content.	4.51	0.66
10. communicate with students with disabilities who are English Language Learners.	4.23	0.88
11. identify cultural differences when communicating with parents regarding their child's educational progress.	4.00	0.90
12. implement interventions that minimize the effects of cultural mismatch between home and school.	3.79	0.90
13. distinguish linguistic/cultural differences from learning difficulties for students with disabilities.	3.91	0.86
14. create a caring, supportive, and warm learning environment for my students from CLD backgrounds.	4.62	0.58
15. assist my students to be successful by supporting the native language of my students with disabilities who have limited English proficiency.	3.75	1.15
16. structure parent-teacher conferences (e.g., IEP meetings) that are comfortable to allow CLD parents to participate.	4.35	0.78
17. identify the ways standardized tests may be biased against students from diverse backgrounds.	3.74	1.03
18. build positive relationships with CLD parents.	4.44	0.70
19. help my students develop positive interactions with each other.	4.51	0.64
20. obtain information about my students' preferred learning styles (e.g., cooperation or individual work).	4.47	0.70

Note. Responses were based on a 5-point Likert-type scale from 1 (*definitely no*) to 5 (*definitely yes*).

Personal characteristics. The full model reflected the overall strength of relationship between CRTSE and predictors, and was statistically significant, $F(6, 337) = 5.398, p < .01$. The adjusted R^2 , compensating for the bias in R^2 , was .071. The full model of relationships between CRTSE and predictors was also statistically significant, $F(6, 337) = 2.714, p < .05$. The adjusted R^2 , compensating for the bias in R^2 , was .029. CRTSE scores were positively and significantly associated with non-White teachers (in comparison with White/non-Hispanic teachers) and teachers speaking more than one language (in comparison with monolingual speakers). In addition, speaking a language other than English was positively and significantly associated with CRTSE scores (compared with monolingual English speakers).

Teaching assignments. The full model reflecting the overall strength of relationship between CRTSE and predictors was statistically significant, $F(18, 325) = 3.248, p < .01$, but the overall strength of the relationship between CRTSE and predictors was not $F(18, 325) = 1.591, p = .060$. The adjusted R^2 , compensating for the bias in R^2 , was .106 and .030 for CRTSE and CRTSE respectively. Several variables emerged as statistically significant and positive predictors for respondents' CRTSE scores in the pairwise comparison analyses: Teachers with higher CRTSE scores were more likely to teach (a) in resource rooms (vs. in inclusive classrooms), (b) in self-contained classrooms (vs. in inclusive classrooms), (c) students with mild/moderate disabilities (vs. students with severe/profound disabilities), and (d)

Table 3. Means and Standard Deviations for Items on the Culturally Responsive Teaching Outcome Expectancy (CRTOE) Scale.

Items	M	SD
1. Utilizing a variety of teaching approaches is helpful for students' learning processes.	4.69	0.62
2. Students with disabilities from diverse backgrounds will be successful when special education instruction is adapted and modified for their cultural and linguistic characteristics.	4.34	0.81
3. A variety of assessment strategies should be used to gain a complete picture of what students with disabilities from diverse backgrounds have learned.	4.61	0.68
4. Students' learning becomes meaningful when teachers are aware of the cultural and linguistic backgrounds/needs of their students with disabilities.	4.49	0.77
5. Understanding different communication styles reduces misunderstandings between teachers, students, and their families.	4.65	0.64
6. Using prior knowledge and culturally relevant examples motivates students' learning.	4.58	0.70
7. Establishing positive home-school relations increases involvement of CLD parents.	4.53	0.72
8. Understanding the discontinuity between students' home culture and school culture minimizes the likelihood of discipline problems.	4.14	0.93
9. Matching instruction to students' learning preferences promotes students' academic performance.	4.56	0.66
10. Encouraging the use of the native language for students with special needs will help to maintain students' cultural identity.	3.74	1.07
11. Students' self-esteem can be enhanced when their native languages and cultures are valued by teachers.	4.54	0.72
12. Changing learning environments to be compatible with students' home cultures increases students' motivation to learn.	4.00	0.97

Note. Responses were based on a 5-point Likert-type scale from 1 (*very uncertain*) to 5 (*very certain*).

Table 4. Perceived Effectiveness of Teacher Education Programs in Addressing Diversity.

Comparisons	M difference	SE	95% CI	
			Lower bound	Upper bound
Culturally responsive teaching self-efficacy scores				
Absolutely effective vs. absolutely ineffective	10.72**	2.60	3.32	18.12
Absolutely effective vs. slightly ineffective	15.15**	2.53	7.86	22.43
Absolutely effective vs. neutral	10.84**	1.59	6.45	15.22
Absolutely effective vs. slightly effective	9.61**	1.43	5.67	13.56
Slightly effective vs. absolutely ineffective	1.11	2.64	-6.36	8.57
Slightly effective vs. slightly ineffective	5.53	2.56	-1.82	12.88
Slightly effective vs. neutral	1.22	1.63	-3.28	5.72
Neutral vs. absolutely ineffective	-1.11	2.72	-7.80	7.57
Neutral vs. slightly ineffective	4.31	2.65	-3.25	11.87
Slightly ineffective vs. absolutely ineffective	-4.42	3.36	-13.88	5.04
Culturally responsive teaching outcome expectancy scores				
Absolutely effective vs. neutral	3.63**	1.08	0.66	6.60
Absolutely effective vs. absolutely ineffective	1.63	1.37	-2.14	5.39
Absolutely effective vs. slightly ineffective	1.69	1.54	-2.53	5.91
Absolutely effective vs. slightly effective	1.65	0.99	-1.07	4.38
Slightly effective vs. absolutely ineffective	-0.03	1.27	-4.38	1.07
Slightly effective vs. slightly ineffective	0.04	1.45	-3.51	3.46
Slightly effective vs. neutral	1.98	0.95	-3.93	4.01
Neutral vs. absolutely ineffective	-2.00	1.34	-5.69	1.68
Neutral vs. slightly ineffective	-1.94	1.51	-6.09	2.21
Slightly ineffective vs. absolutely ineffective	-0.07	1.73	-4.82	4.68

** $p < .01$.

Table 5. Perceived Effectiveness of Professional Development in Addressing Diversity.

Comparisons	M difference	SE	95% CI	
			Lower bound	Upper bound
CRTSE scores				
Absolutely effective vs. slightly ineffective	10.26**	2.86	2.40	18.13
Absolutely effective vs. neutral	8.54**	2.08	2.83	14.25
Absolutely effective vs. slightly effective	6.91**	1.82	1.92	11.91
Absolutely effective vs. absolutely ineffective	-1.00	4.37	-11.91	-1.92
Slightly effective vs. absolutely ineffective	-7.91	4.30	-19.72	3.90
Slightly effective vs. slightly ineffective	3.35	2.75	-4.21	10.91
Slightly effective vs. neutral	1.63	1.93	-3.66	6.92
Neutral vs. absolutely ineffective	-9.54	4.42	-21.67	2.59
Neutral vs. slightly ineffective	1.72	2.93	-6.33	9.78
Slightly ineffective vs. absolutely ineffective	-11.26	4.83	-24.54	2.02
CRTOE scores				
Absolutely effective vs. neutral	5.39**	1.15	2.23	8.56
Absolutely effective vs. slightly effective	2.96*	1.01	0.19	5.72
Absolutely effective vs. slightly ineffective	3.84	1.59	-0.52	8.20
Absolutely effective vs. absolutely ineffective	0.74	2.42	-5.91	7.39
Slightly effective vs. absolutely ineffective	-2.22	2.38	-8.76	4.33
Slightly effective vs. slightly ineffective	0.88	1.53	-3.31	5.07
Slightly effective vs. neutral	2.43	1.07	-0.50	5.36
Neutral vs. absolutely ineffective	-4.65	2.45	-11.37	2.07
Neutral vs. slightly ineffective	-1.55	1.62	-6.01	2.91
Slightly ineffective vs. absolutely ineffective	-3.10	2.68	-10.46	4.26

* $p < .05$. ** $p < .01$.

ELLs (vs. teachers who did not). Interestingly, CRTSE scores were also higher for teachers who reported that they did not teach White students (vs. teachers who did) or Hispanic students (vs. teachers who did). With regard to CRTOE scores, teachers who taught in resource rooms or self-contained classrooms had higher scores than teachers who taught in inclusive classrooms.

Professional preparation. The full model reflected the overall strength of relationship between CRTSE and predictors, and was statistically significant, $F(15, 328) = 3.695, p < .01$. However, the full model of relationships between CRTOE and predictors was not statistically significant, $F(15, 328) = .869, p = .600$. The adjusted R^2 , compensating for the bias in R^2 , was .105 and $-.006$ for CRTSE and CRTOE, respectively. Specifically, CRTSE scores were positively and significantly associated with (a) certifications in bilingual education/ESL, (b) attending the program mainly designed to work with diverse populations (vs. not addressed in the program), (c) attending 6 to 10 PD sessions (vs. 1–2 sessions), (d) attending more than 10 PD sessions (vs. 1–2 sessions), and (e) attending PD training sessions that were focused entirely on working with CLD students (compared with not attending this type of session).

Limitations

Although the findings of this study contribute to a greater understanding of the unique relationships between a number of variables and CRT efficacy beliefs, this is an exploratory study and the following limitations should be acknowledged. First, the samples selected for this study were limited to special education teachers in three urban districts in one state in the Southwest. Moreover, caution should be used when considering the perspectives of the targeted participants, because those who chose to participate ($n = 344$) may represent a distinct population with characteristics that could be different from the recruited teachers ($n = 855$) and from the entire population of special education teachers across these districts ($n = 2,506$). As a group, the sample also included more non-White teachers as compared with national statistical data (Aud et al., 2011). Therefore, results may have limited generalizability. Second, the instrument used in this study required participants to self-disclose information that may be sensitive, leading to selective self-disclosure and/or socially desirable responses. Third, although measures of teaching efficacy have positively correlated with student achievement in the research, it is important to note that teachers' perceptions of

Table 6. Relationship Between Other Variables and Teachers' Culturally Responsive Teaching Self-Efficacy Scores.

Predictors	B	SE	β	t	Significance
Personal characteristics					
White/Caucasian (not Hispanic) vs. non-White teachers	-4.199	1.506	-.169	-2.787	.006**
Monolingual English speakers vs. speakers of >1 languages	-3.058	1.383	-.119	-2.211	.028*
Attended predominately White schools vs. predominately non-White	-.693	.574	-.075	-1.208	.228
Attended predominately White Colleges vs. predominately non-White for bachelor's degree	-2.393	1.511	-.092	-1.584	.114
Attended predominately White college/university vs. predominately non-White for master's degree	-.849	1.794	-.027	-.473	.063
Years of teaching experience ^a	.902	.527	.093	1.711	.088
Teaching assignment					
Composition of classroom ^b					
Majority of students were non-White vs. majority of students were White	1.473	1.763	.055	.836	.404
50% were non-White vs. majority of students were White	2.058	2.420	.055	.851	.396
Taught students with low incidence disabilities vs. did not teach low incidence disabilities	-.597	2.113	-.016	-.283	.778
Taught students with high incidence disabilities vs. did not teach high incidence disabilities	14.624	12.096	.065	1.209	.228
Race/ethnicity and language status of students taught ^c					
Native American students vs. no Native American students	3.210	2.841	.063	1.130	.259
Asian American students vs. no Asian American students	-2.686	1.670	-.091	-1.609	.109
African American students vs. no African American students	2.697	1.640	.090	1.645	.101
White/Caucasian (not Hispanic/Latino) vs. no White/Caucasian students	-4.688	1.585	-.171	-2.958	.003**
Hispanic/Latino vs. no White/Caucasian students	-7.861	2.994	-.136	-2.625	.009**
Hawaiian/Other Pacific Islander vs. no Hawaiian/Other Pacific Islander	4.608	2.926	.082	1.575	.116
ELLs vs. no ELLs	5.402	2.017	.220	2.678	.014*
Severity of disability of students taught					
Moderate-to-severe vs. mild-to-moderate disabilities	.296	1.335	.012	.222	.825
Severe-to-profound disabilities vs. mild-to-moderate disabilities	-3.731	1.662	-.124	-2.244	.025*
Grades taught					
6th to 8th grade vs. pre-K to 5th grade	1.841	1.559	.066	1.181	.239
9th to 12th grade vs. pre-K to 5th grade	1.143	1.702	.038	.672	.502
Settings, services provided					
Resource room vs. inclusive classrooms	3.598	1.461	.142	2.462	.014*
Self-contained vs. inclusive classrooms	6.331	1.584	.256	3.998	<.001**
Provided direct language services to ELLs vs. did not directly provide language services	-3.245	2.099	-.124	-1.546	.123
Professional preparation					
Master's/doctorate degree vs. bachelor's	-.134	1.256	-.005	-.106	.915
Special education certificate vs. no such certification (including teachers pursuing certification)	4.351	2.527	.091	1.722	.086
General education certification vs. no such certificate	-1.051	1.433	-.039	-.733	.464
Certificate in bilingual education/ESL vs. no such certificate	3.686	1.443	.135	2.554	.011*
Diversity topics were somewhat addressed in teacher education program vs. not addressed	-.066	2.467	-.002	-.027	.979
Diversity topics were integrated into teacher certification courses vs. not addressed	1.504	2.202	.058	.683	.495
Diversity topics were equally addressed as other areas vs. not addressed	1.701	2.261	.061	.752	.453
The program was mainly designed to prepare teachers to work with diverse population vs. not addressed	5.336	2.543	.150	2.098	.037**
3-5 PD sessions related to teaching CLD students vs. 1-2 PD	1.791	1.724	.065	1.039	.300
6-10 PD sessions related to teaching CLD students vs. 1-2 PD	5.021	2.258	.136	2.223	.027**
More than 10 PD sessions vs. 1-2 PD	7.254	2.260	.202	3.209	.001**
Less than 25% of content addressing diversity vs. no such PD	-.584	2.031	-.017	-.288	.774
About 25%-50% of content addressing diversity vs. no such PD	-.497	2.043	-.016	-.243	.808
About 50%-75% of content addressing diversity vs. no such PD	1.323	2.048	.045	.646	.519
Entire PD session addressing diversity vs. no such PD	5.756	2.482	.146	2.319	.021**

^aKey: 1 = less than 1 year; 2 = 1-5 years; 3 = 6-10 years; 4 = more than 15 years. ^bRespondents were asked to describe the composition of students in their special education caseload. ^cRespondents were asked to list all racial/ethnic backgrounds and language status of students in their classrooms. They could select more than one option.

* $p < .05$. ** $p < .01$.

their efficacy may not necessarily correspond to empirical data with their actual performance and application of CRT elements during instruction, nor can results for individual teachers be used to predict student outcomes. Finally, the statistically significant correlations between predictors and CRT scores cannot be presumed to be causal.

Discussion and Implications

Although exploratory, this investigation of CRT efficacy with in-service, special educators expands the existing construct in a variety of ways. Contrary to findings from prior research with general education pre-service teachers

Table 7. Relationship Between Other Variables and Teachers' Culturally Responsive Teaching Outcome Efficacy (CRTOE) Scores.

Predictors	B	SE	β	t	Significance
Personal characteristics					
White/Caucasian (not Hispanic) vs. non-White	-.011	.858	-.001	-.013	.990
Monolingual English speakers vs. speakers of >1 languages	-2.500	.788	-.175	-3.175	.002**
Attended predominately White vs. predominately non-White schools	.133	.327	.026	.407	.684
Attended predominately White vs. predominately non-White college for bachelor's degree	-1.261	.861	-.087	-1.465	.144
Attended predominately White vs. predominately non-White college/university for master's degree	-1.035	1.022	-.060	-1.013	.312
Years of teaching experience	.092	.300	.017	.308	.758
Teaching assignment					
Composition of classroom^a					
Majority of students were non-White vs. majority of students were White	-.711	1.022	-.048	-.696	.487
50% were non-White vs. majority of students were White	-.671	1.403	-.032	-.478	.633
Taught students with low incidence disabilities vs. did not teach low incidence disabilities	-.637	1.226	-.030	-.520	.603
Taught students with high incidence disabilities vs. did not Teach high incidence disabilities	3.626	7.015	.029	.517	.606
Race/ethnicity and language status of students taught^b					
Native American students vs. no Native American students	1.752	1.647	.062	1.064	.288
Asian American students vs. no Asian American students	-1.202	.968	-.073	-1.242	.215
African American students vs. no African American students	-.480	.951	-.029	-.505	.614
White/Caucasian (not Hispanic) vs. no White/Caucasian students	-1.522	.919	-.100	-1.656	.099
Hispanic vs. no White/Caucasian students	-1.370	1.736	-.042	-.789	.431
Hawaiian/Other Pacific Islander vs. no Hawaiian/Other Pacific Islander	3.271	1.697	.104	1.927	.055
ELLs vs. no ELLs	1.157	1.191	.085	.971	.332
Severity of disability of students taught					
Moderate-to-severe vs. mild-to-moderate disabilities	.952	.774	.071	1.229	.220
Severe-to-profound vs. mild-to-moderate disabilities	-.233	.964	-.014	-.242	.809
Grades taught					
6th to 8th grade vs. pre-K to 5th grade	-.883	.904	-.057	-.977	.330
9th to 12th grade vs. pre-K to 5th grade					
Settings, services provided					
Resource room vs. inclusive classrooms	1.710	.848	.121	2.018	.044*
Self-contained vs. inclusive classrooms	2.474	.918	.179	2.693	.007**
ELL service provider vs. did not directly provide ELL services	.162	1.217	.011	.133	.894
Professional preparation					
Master's/doctorate degree vs. bachelor's	.694	.852	.046	.814	.416
Special education certificate vs. no such certification (including teachers pursuing certification)	-.598	.742	-.044	-.806	.421
General education certification vs. no such certification	.838	1.335	.042	.628	.530
Bilingual education/ESL certification vs. no such certification	-.507	1.334	-.025	-.380	.704
Diversity topics were somewhat addressed in teacher education program vs. not addressed	-.377	1.018	-.024	-.370	.712
Diversity topics were integrated into teacher certification courses vs. not addressed	-2.074	1.492	-.078	-1.390	.166
Diversity topics were equally addressed as other areas vs. not addressed	.242	.846	.016	.286	.775
The program was mainly designed to prepare teachers to work with diverse population vs. not addressed	-.981	1.457	-.053	-.673	.501
3-5 PD sessions related to teaching CLD students vs. 1-2 PD	-.646	1.301	-.045	-.497	.620
6-10 PD sessions related to teaching CLD students vs. 1-2 PD	.753	1.335	.049	.564	.573
More than 10 PD sessions vs. 1-2 PD	-.742	1.502	-.308	-.494	.622
Less than 25% of content addressing diversity vs. no such PD	-.761	1.199	-.041	-.635	.526
About 25%-50% of content addressing diversity vs. no such PD	.366	1.206	.022	.303	.762
About 50%-75% of content addressing diversity vs. no such PD	1.895	1.210	.117	1.567	.118
Entire PD session addressing diversity vs. no such PD	-.359	1.466	-.016	-.245	.806

^aRespondents were asked to describe the composition of students in their special education caseload. ^bRespondents were asked to list all racial/ethnic backgrounds and language status of students in their classrooms. They could select more than one option.

*p < .05. **p < .01.

(Siwatu, 2007), the correlation between CRTSE and CRTOE scores was moderate in this study, suggesting that the relationship between CRTSE and CRTOE may differ for special education and/or in-service teachers. A comparison of predictors of CRTSE and CRTOE also offers some hypotheses for further investigation. For example, although CRTSE scores were significantly correlated with selected teacher characteristics, certifications, and perceptions of the

effectiveness of their professional preparation, this relationship was not upheld to the same extent for CRTOE scores. Consideration of locus of control, a key variable in Tschannen-Moran et al.'s (1998) conceptualization of teaching efficacy may offer potential hypotheses for further exploration. In their research, self-efficacy has been associated with internal locus of control whereas outcome expectancy is purported to reflect an external locus of control.

Applying this reasoning to our respondents, it is possible that teachers with higher CRTSE scores were certified in bilingual education/ESL and perceived themselves to be very effectively prepared to serve CLD exceptional learners, were more confident about their ability to provide culturally/linguistically responsive instruction (internal locus of control), but less confident about the impact of CRT on students' learning (CRTOE; external locus of control). That fewer predictor variables were significantly correlated with CRTOE scores suggests the possibility that external factors may mediate special educators' confidence in the positive impact of CRT on students' learning (external locus of control). We explore the implications of those findings in more depth for two variables: teachers' language characteristics and instructional setting.

Our findings related to certification in bilingual education/ESL and speaking a language other than English as predictors of teaching efficacy are consistent with prior research (Gandara et al., 2005; Paneque & Barbetta, 2006; Siwatu et al., 2011). The finding that teachers who reported speaking more than one language had more positive efficacy scores than teachers who did not is particularly interesting considering that the analysis was not focused on teachers' ability to speak their students' native languages. More research is needed however, to explore the hypothesis that speaking more than one language may indirectly increase teachers' confidence in their ability to serve ELLs and their families because these personal linguistic experiences may contribute to increased understanding of second language acquisition and empathy toward challenges faced by ELLs. This research is warranted, given the association of empathy and cultural understanding with intercultural communication competence (Gudykunst & Kim, 2003).

These statistically significant and positive relationships between CRT efficacy scores and language-related variables also suggest implications for preparation of teachers to serve exceptional ELLs. Knowledge and skills related to linguistic competence are clearly encoded in the Council for Exceptional Children's (2009) professional standards, including the use of "communication strategies to facilitate understanding of subject matter for students whose primary language is not the dominant language" and the "ability to communicate effectively with families . . . from diverse backgrounds" (p. 213). In addition, research for more than 25 years has called for teacher education programs to increase their candidates' knowledge associated with second language learners, including (a) emphasis on aspects of second language learning (e.g., maximization of the task of teaching a second language to the equivalent of another subject area); (b) valuing interdependence between first and second language, and culture; and (c) focusing on second language/ESL strategies in the context of specific learning characteristics (e.g., Brisk, Barnhardt, Herrera, & Rochon, 2002; Cummins, 1991; Kushner, 2008). Our findings

suggest that teacher education programs and districts' PD review their offerings, and potentially expand their efforts. As well, future research is needed to increase understanding of the relationships between the curriculum in teacher education and PD programs, and teachers' actual practices in the classroom, their teaching efficacy, and, ultimately, the collective impact of these variables on CLD students' educational outcomes.

In considering CRTOE scores, consideration of internal versus external locus of control may offer ways to explore factors that may have influenced the relationship between predictor variables and CRTOE scores. Teaching in resource room and self-contained settings were associated with higher CRTSE scores (i.e., perceived ability to use CRT approaches), as well as higher outcome expectancy scores (i.e., impact on student outcomes). We hypothesize that teachers in resource or self-contained classrooms with higher CRTSE scores (internal locus of control) may be more likely to perceive their use of culturally responsive instruction as having a positive impact on student learning (outcome expectancy) because they may have greater responsibility for instructing their CLD students with disabilities in these settings. That is, teaching in these settings may be associated with fewer external factors perceived to influence student outcomes, thereby increasing outcome expectancy.

Although the role of teacher preparation is not new in teaching efficacy research, the influence of teachers' perceptions of the effectiveness of their diversity education is. In light of positive and statistically significant correlations between CRTSE/CRTOE scores and participants' perceptions of the effectiveness of professional preparation programs, the findings call for a closer examination of the ways in which existing pre-service programs diversity is being addressed in special education teacher education. A similar pattern in participants' responses about their PD suggests that respondents viewed extensive PD (number of sessions as well as intensity of diversity focus) to have a more positive impact on their perceived ability to serve CLD and ELL learners. This pattern is not surprising given the importance of systematically integrating diversity content across all aspects of the teacher education curriculum (Kea, Campbell-Whatley, & Richards, 2006). Unexpectedly, CRTSE and CRTOE scores of special educators who rated their PD as "absolutely effective" were not significantly different from those of teachers who rated their PD as "absolutely ineffective," raising a series of interesting questions for future investigation. For instance, how are teachers' perceptions of the effectiveness of their PD influenced by their perceived effectiveness of the pre-service education they received related to CLD students? That is, are teachers who feel well prepared by their pre-service programs more likely to be critical of PD sessions focused on diversity? Other topics for inquiry include studies to identify the content of PD

programs that were rated as “absolutely effective” and “absolutely ineffective,” the influence of teachers’ demographic characteristics and life experiences on their ratings of their preparation programs, and how in-service teachers respond when the CLD communities in which they teach are different from the focus of their multicultural teacher preparation programs. Further study is also needed to shed more light on how perceptions of effectiveness of professional preparation are correlated with actual CRT efficacy, and, most importantly, with student outcomes.

In conclusion, although critical to the design and implementation of programs and services as well as teacher education efforts to prepare special educators to be highly qualified to serve CLD exceptional learners, the special education research in these areas is scant. Studies are needed that explore these interrelationships for various CLD communities and for disability categories. Such culturally and linguistically responsive research should elucidate between- and within-group differences to ensure that services can be individually tailored to address the specific socio-cultural and linguistic characteristics of each learner (Artiles, Rueda, Salazar, & Higareda, 2005). CLD learners with exceptionalities are an extremely heterogeneous population; not only do their educational needs vary based on the category and severity of the disability but equally in their socio-cultural, racial/ethnic, linguistic, and other demographic characteristics. Meeting their educational needs requires teachers to be prepared to understand these complex dynamics, which can only be possible if their teacher preparation programs—and their teacher educators—are informed by research that systematically explicates these complexities.

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Note

1. The three items in Siwatu’s Scale were (a) “use my students’ cultural background to help make learning meaningful,” (b) “use my students’ prior knowledge to help them make sense of new information,” and (c) “use examples that are familiar to students from diverse cultural backgrounds.”

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