

The Theory and Practice of Culturally Relevant Education: A Synthesis of Research Across Content Areas

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Many teachers and educational researchers have claimed to adopt tenets of culturally relevant education (CRE). However, recent work describes how standardized curricula and testing have marginalized CRE in educational reform discourses. In this synthesis of research, we sought examples of research connecting CRE to positive student outcomes across content areas. It is our hope that this synthesis will be a reference useful to educational researchers, parents, teachers, and education leaders wanting to reframe public debates in education away from neoliberal individualism, whether in a specific content classroom or in a broader educational community.

KEYWORDS: culturally relevant pedagogy, culturally responsive teaching, culturally relevant education

School desegregation efforts of the 1960s and 1970s elicited a new movement in education to more effectively teach diverse students. Concepts like *culturally appropriate* (Au & Jordan, 1981), *culturally congruent* (Mohatt & Erickson, 1981), *culturally responsive* (Cazden & Leggett, 1981; Lee, 1998), and *culturally compatible* (Jordan, 1985) began to emerge in the academic literature (Brown-Jeffy & Cooper, 2011; Sleeter, 2012). From this foundation, two primary strands, distinct from multicultural education, emerged in educational research. One focused on teacher practice, as embodied in the work of Geneva Gay (1975, 1980, 2002, 2010, 2013) and *culturally responsive teaching*. The second focused on teacher posture and paradigm, as expressed in the work of Gloria Ladson-Billings (1994, 1995a, 1995b, 2006, 2014) and *culturally relevant pedagogy*. While delineating a difference between teaching and pedagogy, both strands strongly embraced social justice and the classroom as a site for social change. In synthesizing these complementary

research strands centered on effectively teaching diverse students, we refer to an inclusive framework labeled *culturally relevant education* (CRE; Dover, 2013).

Throughout the last two decades, many teachers and teacher education programs claimed to adopt tenets from CRE. However, as recently as 2012, Sleeter described how standardized curricula and pedagogy have supplanted such approaches, marginalizing them in the greater educational discourse as neoliberal reforms have risen. To combat such marginalization, Sleeter enumerated three needs:

1. There is a clear need for evidence-based research that documents connections between culturally responsive pedagogy and student outcomes;
2. There is a need to educate parents, teachers, and education leaders about what culturally responsive pedagogy means and looks like in the classroom;
3. There is a need to reframe public debate about teaching, especially teaching in diverse and historically underserved communities. (pp. 578–579)

In presenting this synthesis of research, we sought studies connecting CRE and student outcomes (both defined below) across the content areas of mathematics, science, history/social studies, English language arts (ELA), and English as a second language (ESL). This synthesis is a response to Sleeter's (2012) call for research that is comprehensive and usable.

We present this synthesis to educational researchers, parents, teachers, and education leaders seeking to reframe public debates in education away from neoliberal individualism, whether in a specific content classroom or in a broader educational community. CRE represents pedagogies of opposition committed to collective empowerment and social justice. As such, this research may represent our best hope against the focus on individualism, privatization, and competition embedded in neoliberal conceptions of education. We begin by defining and then synthesizing Gay's and Ladson-Billings's contributions to the development of the two research strands undergirding CRE. We then present a synthesis of research drawing on CRE within five content areas. We close by discussing how this synthesis might be used to pursue Sleeter's (2012) recommendations and bring CRE back into mainstream education discourses.

Culturally Relevant Education Frameworks and Teaching for Social Justice

In laying out CRE as a research framework, we highlight the foundational work of two researchers: Geneva Gay and Gloria Ladson-Billings. We focus on these two as representative of the two strands in CRE: teaching and pedagogy. In each strand, Gay and Ladson-Billings are the most cited sources for a theoretical or analytical framework. Of course, CRE is also built on the shoulders of many researchers, including Kathryn Au (Au & Jordan, 1981), Michele Foster (1995), Jacqueline Jordan Irvine (McAllister & Irvine, 2000), Carol Lee (1998), Rich Milner (2013), and Beverly Tatum (1997), as well as authors more associated with multicultural education like James and Cherry Banks (2001), Paul Gorski (2006; Gorski & Zenkow, 2014), and Sonia Nieto (2010). A common thread in all this work is social justice education and the classroom as a site for social change.

Geneva Gay and Culturally Responsive Teaching

Gay (2010) defined culturally responsive teaching “as using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them” (p. 31). Culturally responsive teaching rests on six dimensions:

- Culturally responsive teachers are *socially and academically empowering* by setting high expectations for students with a commitment to every student’s success;
- Culturally responsive teachers are *multidimensional* because they engage cultural knowledge, experiences, contributions, and perspectives;
- Culturally responsive teachers *validate every student’s culture*, bridging gaps between school and home through diversified instructional strategies and multicultural curricula;
- Culturally responsive teachers are *socially, emotionally, and politically comprehensive* as they seek to educate the whole child;
- Culturally responsive teachers are *transformative of schools and societies* by using students’ existing strengths to drive instruction, assessment, and curriculum design;
- Culturally responsive teachers are *emancipatory and liberating from oppressive educational practices and ideologies* as they lift “the veil of presumed absolute authority from conceptions of scholarly truth typically taught in schools.” (Gay, 2010, p. 38)

Although early work (Gay, 1975, 1980) focused more on curriculum, culturally responsive teaching has evolved to focus on instruction with an onus of responsibility on the teacher (Gay, 2013).

Gay (2013) believed that there were four actions essential to implementing culturally responsive teaching. The first required replacing deficit perspectives of students and communities. In the second, teachers must also understand the resistance to culturally responsive teaching from critics so they are more confident and competent in implementation; Gay suggested methods, such as having teachers conduct their own analysis of textbooks, to investigate how different knowledge forms affect teaching and learning. Third, teachers need to understand how and why culture and difference are essential ideologies for culturally responsive teaching given they are essential to humanity. Finally, teachers must make pedagogical connections within the context in which they are teaching.

Gloria Ladson-Billings and Culturally Relevant Pedagogy

Ladson-Billings (1994) defined culturally relevant pedagogy as one “that empowers students intellectually, socially, emotionally, and politically using cultural referents to impart knowledge, skills, and attitudes” (pp. 16–17). Ladson-Billings (1995a) explained that culturally relevant pedagogy is a “pedagogy of opposition not unlike critical pedagogy but specifically committed to collective, not merely individual, empowerment” (p. 160). Ladson-Billings (1995a, 1995b) described a framework for culturally relevant pedagogy encompassing three components:

- Culturally relevant pedagogues think in terms of long-term *academic achievement* and not merely end-of-year tests. After later adopters of culturally relevant pedagogy began to equate student achievement with standardized test scores or scripted curricula, Ladson-Billings (2006) clarified what more accurately described her intent: “‘student learning’—what it is that students actually know and are able to do as a result of pedagogical interactions with skilled teachers” (p. 34).
- Culturally relevant pedagogues focus on *cultural competence*, which “refers to helping students to recognize and honor their own cultural beliefs and practices while acquiring access to the wider culture, where they are likely to have a chance of improving their socioeconomic status and making informed decisions about the lives they wish to lead” (Ladson-Billings, 2006, p. 36). Culturally relevant pedagogues understand that students must learn to navigate between home and school, and teachers must find ways to equip students with the knowledge needed to succeed in a school system that oppresses them (Delpit, 2006; Ladson-Billings, 2006; Urrieta, 2005).
- Culturally relevant pedagogues seek to develop *sociopolitical consciousness*, which includes a teacher’s obligation to find ways for “students to recognize, understand, and critique current and social inequalities” (Ladson-Billings, 1995b, p. 476). Sociopolitical consciousness begins with teachers recognizing sociopolitical issues of race, class, and gender in themselves and understanding the causes before then incorporating these issues in their teaching.

Throughout Ladson-Billings’s (1994, 1995a, 1995b, 2006) development of culturally relevant pedagogy, she has demonstrated how the posture described by these three tenets might be employed in various social contexts, with diverse students, with established curricula, through classroom instruction, during teacher education, and as a framework for educational research.

In her most recent work, Ladson-Billings (2014) “remixed” her original theory, building on Paris’s (2012) theory of *culturally sustaining pedagogy*. Ladson-Billings asserted pedagogy should be ever evolving to meet the needs of students and “any scholar who believes that she has arrived and the work is finished does not understand the nature and meaning of scholarship” (Ladson-Billings, 2014, p. 82). In adopting culturally sustaining pedagogy, Ladson-Billings explained that rather than focusing on only racial or ethnic groups, this framework pushes researchers to consider global identities, including developments in arts, literature, music, athletics, and film.

Culturally Relevant, Responsive, and Sustaining Teaching and Pedagogy

Although our opening paragraph makes reference to multiple frameworks as foundations for CRE, we have chosen to focus on Gay and Ladson-Billings as the authors most often cited in the research synthesized below. Gay and Ladson-Billings also represent the two strands these frameworks follow. Gay’s focus on *teaching* primarily seeks to influence competency and methods, describing what a teacher should be doing in the classroom to be culturally responsive. Ladson-Billings’s focus on *pedagogy* primarily seeks to influence attitudes and

dispositions, describing a posture a teacher might adopt that, when fully embodied, would determine planning, instruction, and assessment. Although many researchers use these terms interchangeably, we think it important to differentiate the two for focusing on two separate but complementary types of outcomes: *teaching* affects competence and practice whereas *pedagogy* affects attitude and disposition.

Although the unit of focus may differ, both frameworks present visions undergirded by a firm commitment to social justice education and seeing the classroom as a site for social change. These frameworks are not meant only for the classroom but are also designed to push teachers and students out into their communities and cultures,

To better understand and critique their social position and context. . . . Although we may have only a yearlong interaction with students, we ultimately have a lifelong impact on who they become and the kind of society in which we all will ultimately live. (Ladson-Billings, 2006, pp. 37, 40)

It is through this focus on social justice that CRE stands poised to speak back to the neoliberal education reforms promoting individualism, free markets, and competition (Sleeter, 2012).

In Table 1, we graphically align Gay's and Ladson-Billings's frameworks with four markers of CRE (Dover, 2013); throughout this synthesis, we refer only to these markers of CRE with the understanding that they represent a field drawing on and referencing several visions of how to teach for social justice:

- Culturally relevant educators use constructivist methods to develop bridges connecting students' cultural references to *academic skills and concepts*. Culturally relevant educators build on the knowledges and cultural assets students bring with them into the classroom; the culturally relevant classroom is inclusive of all students.
- Culturally relevant educators engage students in *critical reflection* about their own lives and societies. In the classroom, culturally relevant educators use inclusive curricula and activities to support analysis of all the cultures represented.
- Culturally relevant educators facilitate students' *cultural competence*. The culturally relevant classroom is a place where students both learn about their own and others' cultures and also develop pride in their own and others' cultures.
- Culturally relevant educators explicitly unmask and unmake oppressive systems through the *critique of discourses of power*. Culturally relevant educators work not only in the classroom but also in the active pursuit of social justice for all members of society.

We believe this synthesis represents a vehicle by which a growing field of research might best respond to Sleeter's (2012) needs. The ultimate goal of CRE is to combat oppression by enabling all groups to have an equitable portion of society's

TABLE 1*Synthesizing Gay and Ladson-Billings*

Culturally responsive teaching	Culturally relevant pedagogy	Culturally relevant education
Social and academic empowerment Multidimensionality	Academic achievement	Academic skills and concepts (AS&C)
Cultural validation	Cultural competence	Critical reflection (CR)
Social, emotional, and political comprehensiveness		Cultural competence (CC)
School and societal transformation Emancipation or liberation from oppressive educational practices and ideologies	Sociopolitical consciousness	Critique discourses of power (CDP)

resources (Bell, 2007; Dover, 2013). To that end, we now synthesize research building on CRE across content areas.

Method

Although Sleeter (2012) asserted that research on the impact of CRE is limited in scope, there exists a sufficient body of research to provide insight on effectiveness. For example, some researchers connect teachers' use of CRE and increased engagement and interest in school, *suggesting* student learning (Copenhaver, 2001; Hill, 2009; Nykiel-Herbert, 2010). However, the studies that do exist, although helpful, are small-scale studies. Furthermore, the idea of CRE is not always consistent across studies, which often address only one or two of the markers defined above. For example, Morrison, Robbins, and Rose (2008) examined 45 classroom-based research studies between 1995 and 2008 highlighting how CRE was enacted in classrooms; they classified 12 kinds of actions related to CRE, but none of the 45 studies depicted all 12. Some of the studies discussed below specifically follow CRE frameworks whereas others demonstrate extensions of these frameworks by maintaining a focus on social justice. We include a summary of all the literature reviewed in Table 2.

Criteria for Inclusion

As the popularity of CRE was still percolating in the early 1990s, there were a limited number of studies naming culturally relevant pedagogy or culturally responsive teaching as a research framework. Given these limitations, we choose to begin our search in 1995, shortly after Ladson-Billings published *Dreamkeepers* and codified an educational framework building on but distinct from multicultural education (Dover, 2013; Sleeter, 2012). We utilized four education online databases supported by our institution to identify journal articles published between 1995 and 2013: Academic Search Premier, Education Full Text, Education Index

(Text continues on p. 178.)

TABLE 2*Culturally relevant education (CRE) methods and outcomes across content areas*

Study	CRE markers	Description of study	Connections to outcomes
CRE in mathematics Aguirre and Zavala (2013)	AS&C CR CDP	Qualitative research design using teacher interviews, professional development sessions, and classroom artifacts. Transcripts were coded using a constant comparative method and themes were identified.	Teachers implemented CRMT to aid in creating culturally responsive lessons while adhering to mandated standards and curricula. Critique of math lessons addressing issues such as mathematical thinking, language, culture, and social justice. Fostering purposeful pedagogical dialogue and critical reflection.
Civil and Khan (2001)	AS&C CC CR	Interviews were conducted with four students throughout the lessons and the teacher shared her reflections throughout the project.	Students were able to engage in “math talk” to make important connections. In the teacher’s own personal reflections, this class of students outperformed students from previous classes on their formal assessments.
Ensign (2003)	AS&C CC	Observations made in second-, third-, and fifth-grade classrooms in urban schools in the Northeast. Student interviews were also conducted.	During the project, the researcher reported that students were more on task and they scored higher on unit tests. Student interviews indicated that students took a higher interest in mathematics when they were able to create problems related to their own lives.
Fulton (2009)	AS&C CC CR	Case study methodology using teacher interviews, observations, and study focus groups.	Strong school culture supports development of understandings of math. Students gained a deeper understanding of content and learned to value their own and each other’s perspectives.

(continued)

TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
Gutstein (2003)	AS&C CC CR CDP	Qualitative, practitioner research methodology using semi-ethnographic methods such as participant observation, open-ended surveys, and textual analysis.	Students began to examine inequalities not only in math but also in other areas of life. They showed evidence of deeper critiques of previously held assumptions.
Hubert (2013)	AS&C CC CR	Case study of 34 participating students in an alternative math classroom set up for students to prepare for state standardized tests. Five students were selected to partake in semistructured interviews. Interviews were transcribed and coded using preexisting codes.	Overall, students held positive views of culturally relevant math instruction and experienced improved attitudes and increased interest. On average, students' pre- and posttest scores increased by one letter grade and students reported being confident to take their state exam assessment.
Langie (2008)	AS&C CC	Quantitative study using data from National Educational Longitudinal Study of the 1990 cohort. Data from the Teacher Questionnaire used to develop index of culturally relevant pedagogy and through multiple regression analysis determine a relationship to student achievement.	Results indicated that teachers who emphasized an awareness and importance of math in everyday life and encouraged students to become interested achieved better. However, results also indicated socioeconomic status and parental level of education also affected student achievement.
Tate (1995)	AS&C CC CR	Documents used by teacher (newspaper, videos, etc.) were collected and analyzed. Teacher participated in ethnographic interview to discuss background and teaching philosophy.	Students were able to incorporate the problems facing many African American communities to make mathematical learning more relevant to them.

(continued)

TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
<p>CRE in science</p> <p>Adams and Laughter (2012); Laughter and Adams (2012)</p>	<p>AS&C</p> <p>CR</p> <p>CC</p> <p>CDP</p>	<p>Discussion lab centered on Derrick Bell's short story <i>The Space Traders</i> purposively included in lessons on scientific bias with middle school students to engage reflection about bias in larger societal contexts.</p>	<p>Students were able to engage content knowledge and academic language. Connection of calls of <i>Science for All</i> to social justice and culturally relevant science education.</p>
<p>Dimick (2012)</p>	<p>AS&C</p> <p>CC</p> <p>CR</p> <p>CDP</p>	<p>Qualitative case study conducted at an urban public charter high school with one middle-class White teacher and 24 students (9 of whom participated).</p>	<p>Found students were much more engaged in the science classroom and students' projects included elements of social, political, and academic empowerment.</p>
<p>Johnson (2011)</p>	<p>AS&C</p> <p>CR</p>	<p>Qualitative case study of two middle school science teachers in an urban-centered school district over 3 years. Multiple data collection methods employed including 6 individual interviews, 9 focus group sessions, and 24 classroom observations.</p>	<p>Teachers were able to effectively use CRE and create opportunities believing all students were capable of academic success.</p>
<p>Milner (2011)</p>	<p>AS&C</p> <p>CC</p> <p>CR</p> <p>CDP</p>	<p>Qualitative study using observations and semistructured interviews with one White, male science teacher. Thematic analysis was used to analyze data.</p>	<p>The teacher was able to build cultural competence with his students and recognize their multiple identities leading to their success.</p>

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TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
Rodriguez, Bustamante Jones, Peng, and Park (2004)	AS&C CC CR CDP	Quantitative study of 193 students from diverse backgrounds (about 50 per summer) for over 4 years.	Significant increases in overall pre- and posttest scores.
CRE in history/social studies			
Choi (2013)	AS&C CC CR CDP	Qualitative case study of one eighth-grade Korean American social studies teacher. Data collected using observations, teacher interviews, and student artifacts.	Newcomer ELLs successfully navigated the mandated social studies curriculum and increased student achievement.
Coughran (2012)	AS&C CC CR	Qualitative action research project with teacher as researcher. Convenience sample taken from kindergarten classroom in upper-middle classroom. Data collected from video-taped lessons, reflections, and interviews.	Found connecting lived experiences of racism to personal experiences from students of all backgrounds enhanced connection to the curriculum and student-teacher relationships.
Epstein, Mayorga, and Nelson (2011)	AS&C CC CR CDP	Qualitative study taking place in a lower socioeconomic, diverse New York City high school. One teacher and 21 African American and Latino students in an 11th-grade humanities classroom participated in the study. Eight students randomly selected and interviewed for further elaboration.	Students changed from only including one group of people in their responses to a more diverse group; they also moved from people of color being described as victims to resilient and had agency as well as had issues accepting White allies and struggles from other groups.

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TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
Esposito and Swain (2009)	AS&C CC CR CDP	Qualitative study of seven African American teachers in urban classrooms. Data collected using in-depth interviews and focus group sessions.	Despite strict environments, teachers were able to implement culturally relevant pedagogy by taking risk, giving up personal time, and through self-reflection.
Martell (2013)	AS&C CC CR CDP	Qualitative practitioner research study using survey with 49 students of color to investigate perceptions of course. Data sources included teacher journaling, classroom artifacts, interviews.	Found students of color can be empowered by a curriculum that connects to their cultural and ethnic backgrounds and students positively benefited by such a curriculum.
Stovall (2006)	AS&C CC CR CDP	Ethnographic study of the facilitator-researcher's experience in six workshops. Participants included 19 African American and Latino students.	Students critically engaged in discussions and made connections between rap music and social inequalities.
CRE in English language arts Bui and Fagen (2013)	AS&C CC	Quasi-experimental study involving 49 participants from one urban elementary school in Northern California. Pre- and posttests were given to measure students' reading level. Researchers conducted paired-sample <i>t</i> tests for each group to determine any statistically significant differences.	Students in both groups made statistically significant means gains ($p > .05$) from pretest to posttest for each dependent variable (word recognition, reading comprehension, story retell). Independent sample <i>t</i> tests revealed both groups' posttest scores did not reveal any statistically significant gains. The IRCS Plus group was able to move from the frustration level to just above instructional level.

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TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
Caballero (2010)	AS&C CC	158 students in diverse middle school were given a 60-item survey called Teacher-Student Relationship Questionnaire (TSRQ) using a Likert-type scale. Surveys were organized and responses were compared using SPSS (descriptive and correlation statistics) to measure student perceptions with CST student growth. Qualitative study in urban fifth-grade classroom using field notes, audiotapes, work samples, and interviews.	Descriptive statistics found a significant relationship between student perceptions of the teacher–student relationship and academics; however, a statistical analysis did not reveal a statistically significant relationship.
Christianakis (2011)	AS&C CC CR	Qualitative study in urban fifth-grade classroom using field notes, audiotapes, work samples, and interviews.	Students became increasingly engaged in the curriculum and were more motivated to complete their work.
Conrad, Gong, and Sipp (2004)	AS&C CC CR	Qualitative study with three 2nd grade teachers in diverse educational settings. Teachers selected a culturally responsive approach and integrated “text talk” to aid with conceptually challenging ideas to build on students’ language to make connections.	Teachers reported that students demonstrated extended, in-depth responses and insightful thinking when teachers set high expectations for all learners, suggesting improvement in student achievement.
Duncan-Andrade (2007)	AS&C CC CR CDP	Formed critical inquiry groups serving two secondary and one primary school teacher for teachers committed to social justice pedagogy. Researcher met with groups regularly and observed classroom practice.	Researcher formulated a framework of five principles of pedagogy witnessed in the classroom that linked to individual student narratives and increased achievement. The teachers in the study were at the top of their schools in many ways, including test scores.

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TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
Feger (2006)	AS&C CC CR	Teacher's anecdotal account of bringing culturally relevant literature and nonfiction texts into her 9th- and 10th-grade classrooms.	The teacher reported the more culturally relevant literature and nonfiction she integrated into the curriculum, the more her students' engagement in reading increased. Students were able to identify with the texts selected and make critical statements. The researcher reported that students' verbal and written performance indicated that they engaged and performed more fully.
Hefflin (2002)	AS&C CC	Researcher observed two teachers in a large city teaching a reading lesson in a predominantly African American classroom. The researcher and teachers met to discuss how it might be more culturally relevant and made changes as they went using the story <i>Cormorants</i> as a culturally appropriate text.	
Hill (2012)	AS&C CC CR CDP	Mixed-methods study comparing effective practices of two teachers. Twenty classroom observations, teacher interviews, survey data, and student focus groups were data sources.	Students were motivated to complete assigned tasks and were able to connect lessons to their personal lives.
Johns (2008)	AS&C CC CR CDP	Qualitative case study in predominantly Mexican American school district. Fourteen middle and high school teachers participated in <i>Abriendo Caminos</i> , a professional development program for emergent bilingual students. Thirty-nine middle school students interviewed.	Findings suggest a situated approach to professional development, specifically in relation to the prior knowledge and experiences of students, enhances teachers' abilities to support the literacy learning of emergent bilingual students.

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TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
Morrell and Duncan-Andrade (2002)	AS&C CC CR CDP	Researchers sharing experience working in a northern California high school. The researchers were the teachers of a traditional senior English class.	The students were engaged and used critical dialogue to relate to large political and social issues.
Morrison (2002)	AS&C CC CR CDP	White teacher's anecdotal account of students' responses to culturally relevant literature unit. The teacher applied for a grant to work with a ninth-grade class to create a film version of <i>Romeo and Juliet</i> that was more applicable to students.	Students were more engaged in the mandated curriculum and learned alternatives to color-blind approaches.
Ortega (2003)	AS&C CC CR CDP	Qualitative narrative study in a predominately Hispanic 11th-grade classroom for 2 years. Data were collected through teacher interviews, student interviews, observations, and field notes.	Students experienced a teacher who understands how to connect home and school cultures, builds on students' cultures, creates a safe classroom environment, develops reliable curricular materials, and models an ethic of caring.
Robbins (2001)	AS&C CC CR CDP	White, male teacher's anecdotal account of integrating culturally relevant literature into his predominantly Mexican American classroom. Using observations and student journals, this teacher shared his students' journey in his class.	Students were able to hold critical conversations in mixed-raced groups and begin identity transformation. Students reconfigured their identities in positive ways and branched out to form cross-racial friendships.

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TABLE 2 (CONTINUED)

Study	CRE markers	Description of study	Connections to outcomes
CRE in English as a second language Irizarry and Antrop-González (2007)	AS&C CC CR	Puerto Rican students from three cities used for cross-case comparisons.	Participants were successful because of teachers' commitment to placing value on students' cultural identities.
Nykiei-Herbert (2010)	AS&C CC	Qualitative study with 12 students in Grades 3–5 who were ELL learners.	The pre- and posttest indicated better progress in English literacy compared to other ELLs.
Savage et al. (2011)	AS&C CC	33 secondary schools with Maori student populations. Mixed-methods study involving document review, student achievement comparisons, classroom observations, and interviews.	Students reported increased engagement and sense of self from teachers who participated in the program.
Souryasack and Lee (2007)	AS&C CC	Qualitative study using pre- and postinterviews, observations, field notes, four writing samples, and home visits.	Students' overall writing improved and students saw themselves as writers with something to say.
Wortham and Contreras (2002)	CC CR	2-year ethnographic study in an ESL classroom involving observations and interviews.	Students were more engaged in the curriculum and completing their lessons and there were far fewer behavior problems.

Note. AS&C = academic skills and concepts; CC = cultural competence; CDP = critique discourses of power; CR = critical reflection; CRMT = culturally responsive mathematics teaching; ELL = English language learner; ESL = English as a second language; IRCS = integrated reading comprehension strategy; TSRQ = Teacher-Student Relationship Questionnaire.

Retrospective, and ERIC. We used the terms *culturally relevant pedagogy* and *culturally responsive teaching* to find articles for this synthesis.

We sorted through the abstracts to find articles reporting on research grounded in CRE that in some way connected to student outcomes, achievement, engagement, or motivation. Although there were more than 286 results, many of these studies discussed how to prepare teachers to be culturally relevant or culturally competent rather than looking at the impact of teachers who used CRE in their classrooms. While reading the abstracts, we specifically searched for studies that discussed student achievement or teacher reported results of student success. Once abstracts were selected, while reading through the articles, we searched for tenets of CRE (academic skills and concepts, cultural competence, critical reflection, and critiquing of discourses of power).

After we gathered the appropriate articles from the education databases, we also searched through the reference lists and used Google Scholar to find similar studies that may have been overlooked in the initial search. Again, we read abstracts to find relevant research. In addition to journal articles, we searched the ProQuest Dissertations and Theses database to search for relevant dissertations or theses. Searching in the title for the term *culturally relevant pedagogy* resulted in 24 dissertations, while *culturally responsive teaching* resulted in 42. On reading the abstracts, we found only eight dissertations and theses connecting CRE to student success that had not been turned into journal articles found in our previous searches. Last, we searched our library database for books published in the last 10 years that included chapters relating to such topics and skimmed summaries to find appropriate examples.

No research synthesis is exhaustive (Boote & Beile, 2005), and we assume we overlooked reports of research that could be included. Additionally, some research reported more detailed information than others, making it easier to provide concrete examples of CRE. Nonetheless we have synthesized a sufficient body of research to support the implications provided in our discussion and to serve as a foundation for others wishing to bring CRE back from the margins.

Results

We present our synthesis organized by content area. Within each section, we describe the purpose and methodology of the study as indicated by the authors. Student demographics for each study are reported as specifically as they are included in each piece, as well as the impact on student outcomes. As we reviewed more than 40 studies from varying disciplines and journals, some reports offered more specific examples than others. Nevertheless, we synthesized findings that relate to student outcomes not only in terms of traditional student achievement but also in other facets of student success such as motivation, empowerment, critical discourse, and agency.

Culturally Relevant Education in Mathematics

This section addresses CRE in connection to student outcomes in mathematics through a synthesis of eight studies. Making connections that suggest *any* form of success, including increased engagement and motivation, is essential due to

lingering gaps in mathematics achievement that have occurred in the United States for over 20 years. Nasir and Cobb (2002) explained,

Recent analyses of school achievement, course-taking patterns, and standardized-test data have revealed prevalent patterns of social inequity. The marginal performance in mathematics of minority students, language-minority students, poor students, and to some extent, girls have led several scholars to raise concerns about the opportunities for members of these groups to compete in an increasingly technological world. (p. 91)

Additionally, Bob Moses's Algebra Project addressed the need for mathematical literacy among African American youth as a civil rights issue. Moses and Cobb (2001) contended there is power in learning mathematics and that if African Americans are to gain agency, they need to know how to use mathematical knowledge to solve problems of the poor and powerless.

Given this situation, educators have sought instructional methods that work to connect math to students' lives. The research suggested that learning is more meaningful and students tend to retain more mathematical concepts when teaching is rooted in cultural and social justice experiences (Gutstein, 2006; Leonard, 2008). CRE has been criticized for its lack of applicability to mathematics curriculum; however, over the past decades several studies have emerged in the literature making these connections apparent (Howard, 2010).

In a qualitative study at an African American middle school, Tate (1995) researched the type of mathematics pedagogy "African American students must negotiate to be successful in school" (p. 166). He collaborated with one teacher, Ms. Mason, in a predominantly urban African American middle school in the Southwest after her name was mentioned as an outstanding teacher who engaged her students in civic issues. Her reputation as an outstanding teacher as well as her students' success in their gifted program suggested the effectiveness of her implementation of CRE; there were no direct links made to any other student outcomes. Ms. Mason's students were able to incorporate the problems facing many African American communities to make mathematical learning more relevant to them. For example, students chose to focus on topics such as the AIDS epidemic, drugs, ethics in medicine, and sickle cell anemia. One of Ms. Mason's classes worked to close or relocate liquor stores that were within 1,000 feet of their school. Students learned about tax codes and fiscal incentives and used this information to "think about mathematics as a way to model their reality" (Tate, 1995, p. 170). Tate found teachers who used community issues as a framework improved students' math proficiency and engagement in the classroom.

Ensign (2003) analyzed second-, third-, and fifth-grade mathematics classrooms in two urban Northeastern schools. Teachers and students created math problems connected to students' personal lives. Students used journal writing to connect mathematical situations, like buying candy, to their own experiences. Pre- and posttest comparisons revealed a nonsignificant increase in student scores as well as increased interest in math as reported by the students. Ensign concluded, "Interest in mathematics (as reported by the students in individual

interviews and also as noted in classroom observations of time on task and involvement in mathematics lessons) also increased noticeably when students' out-of-school problems were included in classroom lessons" (p. 419). By using their own experiences students learned to use mathematical knowledge to *read the world* (Freire, 1993).

Using similar strategies of personal experiences, Civil and Khan (2001) collaborated with a classroom teacher to bring together students' and families' knowledge and experiences by participating in a gardening project focused on measurement standards for 5 months in an elementary classroom. The classroom garden theme began at a Curriculum Night and Open House where the teacher shared her idea for a collaborative family project with parents. Throughout the implementation of the project, interviews and observations were conducted with the students to probe their understandings. The researchers found students able to engage in "math talk" and make connections that became "personal and meaningful" (p. 401). For example, Vickie was able to explain clearly the difference between perimeter and area when referring to the classroom garden; she appropriately switched terminology when using descriptors such as centimeters or square feet, indicating her understanding of measurement. Despite differing grade levels, Tate (1995), Ensign (2003), and Civil and Khan's (2001) studies demonstrated through the legitimization of the students' culture and everyday lives that an interest in mathematics could occur and in turn improve academic achievement and engagement.

Gutstein (2003) more explicitly illustrated the connection between CRE and mathematical achievement in a study conducted over 2 years regarding the role of social justice in an urban, Latin@ classroom. He was both the teacher and researcher in 7th and 8th grade classrooms where he collected data through participant observation, surveys, and textual analysis. To establish his goals for instruction, Gutstein (2003, p. 39) explained,

An important principle of a social justice pedagogy is that students themselves are ultimately part of the solution to injustice, both as youth and as they grow into adulthood. To play this role, they need to understand more deeply the conditions of their lives and the sociopolitical dynamics of their world. Thus, teachers could pose questions to students to help them address and understand these issues.

Throughout his research, Gutstein created lessons centered on controversial issues affecting students. The class began to examine inequalities and discrimination not only in the mathematics world, but also in other areas of life. For example, on using traffic-stop data, students acknowledged the realization of racial profiling.

Gutstein's (2003) study moved a step beyond cultural competence to sociopolitical consciousness when the "students overwhelmingly showed evidence of connecting mathematical analysis to deeper critiques of previous assumptions" (p. 53). Twenty-seven of 28 students demonstrated what Gutstein referred to as "mathematical power" as shown by the successful scores they received on their tests, quizzes, projects, and class work. He asserted, "Teachers can promote more

equitable classrooms by helping students explicitly and consciously use mathematics itself as a tool to understand and analyze the injustices in society” (Gutstein, 2003, p. 69). In this example, this classroom was clearly more equitable by increasing students’ engagement in math, raising their test scores, and demonstrating a sociopolitical awareness that gave students mathematical power to make change.

Despite such examples, there is criticism about CRE’s usefulness to teacher preparation programs and how teachers foster pedagogical content knowledge while enacting CRE. To address such criticism, Aguirre and Zavala (2013) developed a culturally responsive mathematics teaching tool “designed to provide guideposts for teachers to plan and analyze their mathematical lessons among multiple dimensions that include children’s mathematical thinking, language, culture, and social justice” (p. 171). As part of a large professional development study, the researchers focused on a case of six beginning teachers who had recently graduated from a mathematical methods course.

The participants of the study agreed to be a part of several professional development workshops emphasizing culturally responsive mathematics teaching as well as to participate in semi-structured interviews. The researchers successfully provided evidence that through critical teacher reflection and meaningful lesson planning, teachers can effectively analyze and evaluate mathematics lessons and foster *purposeful pedagogical dialogue* while adhering to standards set by the Common Core Initiative and the National Council for Teachers of Mathematics. Unfortunately, no additional information was given regarding students’ academic achievement, but this study illustrated how math teachers were able to enact CRE and still promote critical dialogue that can provide students with the kind of mathematical literacy Moses and Cobb (2001) asserted was necessary for students of color.

Teachers’ reports of enacting CRE in math classrooms were relevant and helpful in understanding applicability. Students’ experiences engaging CRE in mathematics can also shed light on effectiveness. Hubert (2013) conducted a case study examining African American students’ perspectives on the effects of culturally relevant mathematics instruction on their attitudes and interests toward math. This study was conducted at an alternative high school in the South in which 37 students labeled *at-risk* participated in a culturally relevant math class. Five of the students who consistently attended class were interviewed and completed pre- and post-assessment on quadratic and exponential functions. The researcher taught math lessons relating to themes in the students’ lives, such as teen pregnancy, perinatal HIV, teen smoking, football and soccer, and saving money. On average, Hubert found students who participated in the culturally relevant math lesson increased by at least one letter grade and the students felt more confident taking their statewide assessment.

Dissertation studies have also looked at the impact of CRE on traditional student achievement. Langlie (2008) sought to understand if Black and Latin@ students taught by mathematics teachers who practiced a teaching pedagogy in line with CRE would achieve higher scores on standardized tests. Standard multiple regression analysis was used to understand the level of CRE for students’ math teachers. Data were compiled from the National Educational Longitudinal Study

using questionnaires obtained from students compared with performance on state standardized tests. Langlie reported that Black and Latin@ students whose mathematics teachers' emphasized awareness about the importance of math in their everyday lives and encouraged students had higher scores on standardized tests.

Fulton (2009) also sought to understand the relevance of culturally responsive math instruction. In a case study of three middle school math teachers at a diverse Colorado school, Fulton observed math lessons and interviewed teachers. Additionally, Fulton conducted student focus groups to better understand student perspectives. She found teachers organized strong learning communities, encouraged students, adjusted instruction based on student needs, and created challenging learning goals. She concluded, "The results of culturally responsive teaching include not only deeper learning of content, but also, an opportunity for students' to learn to value their own and each other's differing perspectives that supports the development of stronger democratic citizenship" (Fulton, 2009, p. iii). Fulton suggested that strong school culture supported students' development in understandings of math and that students gained a deeper understanding of content as well as learned the value of listening to each other's perspectives.

Culturally Relevant Education in Science

This section addresses CRE in connection to student outcomes in science through a synthesis of five studies. Atwater, Russell, and Butler (2014) discussed how the increasingly diverse population of the United States is an issue notable for science educators, because science and culture are closely intertwined and often teachers do not understand how to teach in this context:

Consequently, science is often viewed as a content area that is "for White males, with glasses, beakers, and lab coats" which marginalizes the majority of the population which in many areas is made up of Blacks, Latinos, Native Americans, and Pacific Islanders. Students of color, primarily from underrepresented and traditionally underrepresented groups, are rarely able to see themselves in science or see how science is relevant to their daily lives in science classrooms. Moreover, since many science teachers are often from different backgrounds than their students, because of "cultural dissonance" these teachers often do not understand the critical role that equity and social justice in science teaching play in a student's success and persistence in science. (p. 203)

This disconnect is evident as standardized measures of science achievement reveal significant gaps among students of diverse racial, ethnic, and socioeconomic backgrounds.

Although science achievement has increased slightly for all students since the 1970s, a National Assessment of Educational Progress report indicated that the 12th-grade achievement level for Black and Latin@ students was comparable with the 8th-grade achievement level of Whites and Asian Americans (Muller, Stage, & Kinzie, 2001). Snively and Corsiglia (2001) suggested the challenges of science learning may be greater for students whose cultural traditions hold ways of knowing that differ from that characteristic of Western science. They stated,

“To study a Western scientific way of knowing and at the same time respect and assess the ideas, beliefs, and values of non-Western cultures” (p. 24) creates a challenge for these students. Despite such obstacles, CRE has proven effective in science classrooms. CRE complements the National Science Education Standards (National Science Teachers Association, 2011), given that scientific inquiry allows students to construct their own knowledge and that science is a natural medium for collaboration (Johnson, 2011).

Many of the examples of CRE implemented in science have led to increased engagement and motivation for students. In a qualitative 2-year study, Milner (2011) sought to understand the kinds of experiences necessary to help teachers build cultural competence in the classroom. For 19 months he conducted research with one White middle school teacher nominated by the principal. Mr. Hall was a science teacher who had been teaching for 3 years in an urban school district in the Southeast. Students in the school came from both high and low socioeconomic status backgrounds due to school zoning, and the student body was predominantly African American (59.8%) but also included Latin@, White, American Indian, and Asian American students.

Milner (2011) collected data through observations and semistructured interviews. He found Mr. Hall was able to build cultural congruence with his highly diverse students by creating a community of learners, being an active listener, and recognizing all the identities in his classroom. For example, Mr. Hall would not send students out of his classroom if they misbehaved because that would signal a lack of care to them. Instead, he would give them frequent “second chances” and the students realized that Mr. Hall was never going to “give up” on them. Milner did not report on academic outcomes of the students; however, he acknowledged how this White teacher was able to develop cultural congruence with his highly diverse students and how this, in turn, motivated students to remain actively engaged in the classroom.

Additionally, in efforts to demonstrate a more equitable science teaching practice, Johnson (2011) developed a Transformative Professional Development (TPD) framework designed to guide practicing science teachers in translating CRE into practice. The TPD framework included three main components:

- (a) the development of student conceptual understanding through culturally relevant science and effective teaching methods that incorporate literacy and language strategies;
- (b) a focus on building relationships between teachers and their colleagues, teachers, and students, and teachers and university faculty members; and
- (c) creation of position school and classroom climate through procedures and routines for participating in science class and high expectations for success. (Johnson, 2011, p. 174)

For 3 years, she observed two middle school teachers of Latin@ students at an urban-centered school district purposefully chosen due to its increasing Latin@ population.

Qualitative case studies were compiled between June 2005 and May 2008 through the use of interviews, focus groups, journals, and field notes. One of the

most profound results of the TPD model was the teachers' conception of self and others. For example, one teacher developed a critical awareness of social inequity affecting the Latin@ students at the school and developed a much stronger desire to develop relationships with his students and promote collaborative learning. Through this endeavor, students developed the ability to have healthy discussions in class and share each other's opinions. The teachers reported a clear change in student motivation once they implemented inquiry science and collaborative learning in the classroom. The program observers also noted a visible change in student excitement toward science. Although no direct student outcomes were documented, Johnson concluded that the TPD model successfully created a more effective instructional environment for Latin@ students.

Similarly, Laughter and Adams (2012; see also Adams & Laughter, 2012) sought to engage middle school science students in thinking about how larger societal structures influenced their everyday lives during a lesson on inquiry. Laughter, a teacher educator, worked collaboratively with Adams, an intern science teacher, to integrate Derrick Bell's story *Space Traders* into an urban characteristic middle school science classroom. Through the use of online discussions and semistructured interviews, the researchers analyzed their data using culturally relevant pedagogy, one of the few reports of research to address all three of Ladson-Billings's tenets.

Understanding that academic success is more than what a standardized test reports, Laughter and Adams (2012) concluded students demonstrated an appropriate understanding of how bias can affect science practice based on formative assessment and the type and quality of student-generated dialogue. Within the classroom, they witnessed active participation of students during the lesson and found evidence of "students connecting scientific bias to societal bias and a questioning of the positivist mythology of science as an unbiased knowledge" (Laughter & Adams, 2012, p. 1122). Furthermore, Laughter and Adams stated, "We believe the students' willingness to openly wrestle with this issue demonstrated a novel application of Bell's short story to the students' own realities and thus academic success in the application of the science content" (p. 1124). Interestingly, Laughter and Adams pointed out that although the students had grown up in a decade of war, they did not voice an awareness of issues of violence. This conclusion indicated a need for further extension of lessons on inquiry (not just one stand-alone lesson) and the potential for culturally relevant science teaching in the classroom (Johnson, 2011).

Dimick (2012) sought to understand how student empowerment aligned with teaching and learning for social justice in an environmental science classroom. Through a qualitative case study consisting of one White male teacher, Mr. Carson, and 24 Black students (nine of whom participated in the study), Dimick acted as a participant observer examining curriculum and texts, conducted pre- and postinterviews, as well as held five focus group sessions with students to understand their experiences throughout a social justice science lesson. Mr. Carson hoped to raise consciousness of environmental problems of a nearby river and connected these issues to larger societal injustices contributing to the river's pollution. The students travelled to Green River to better understand the problems and followed-up with a river action project in which they chose ways they could be politically active in their communities.

By building on CRE, this project created real-life experiences that legitimized students' understandings and realities. Mr. Carson began the project by taking the students to Green River and allowed the students to create an action plan evolving from their own perceptions of the issue at hand rather than simply lecturing about the river and assessing them on pollution. Additionally, students were able to create nontraditional projects, such as informative rap songs and an organized cleanup as an expression of their learning. Dimick (2012) concluded, "Coupling scientific investigations with social action projects may provide spaces for students to experience academic empowerment alongside political empowerment" (p. 1010). Students who were not previously interested in science took part in these projects and actively engaged in the lesson. This increased engagement suggests opportunity for academic achievement.

Rodriguez et al. (2004) described a program at San Diego State University designed to help underrepresented 10th-grade students increase their competency in math and science. Over the course of 4 years, 193 students (around 50 per year) attended the program. Most students were first-generation college students and all came from low-income backgrounds. On average, the student population was 21% African American, 17% Pacific Islander, 46% Mexican American and Latin@, 12% Native American, and 4% other. The program was designed as a 6-week intensive math and science-focused curriculum that promoted "students' academic and cultural identity development through the implementation of culturally responsive practices" (Rodriguez et al., 2004, p. 45). During this time, students participated in college preparatory seminars and lived in the dorms for their entire enrollment, which promoted an opportunity to engage with other students and staff.

Students were made aware of the underrepresentation of minorities in math and science in higher education to better understand their purpose participating in the program. The program curriculum was grounded in sociocultural and critical theories that encouraged students to "engage in culturally mediated activities specific to their own experiences" (Rodriguez et al., 2004, p. 47). Specifically, the program utilized the codes of power principle (Delpit, 1988), in which they understood the need to learn the language of power but were still able to communicate in their own language and dialects. Quantitative data demonstrated the impact of the program's effectiveness. Rodriguez et al. (2004) explained, "The increases from pre-to post-tests also represented practical significance in that increased competency in mathematical and scientific thinking skills ensures that students are better prepared for problem-solving in future coursework" (p. 49). In addition to the empirical findings, the students also expressed their comfort and motivation in learning that promoted their personal growth and development.

Culturally Relevant Education in History/Social Studies

This section addresses CRE in connection to student outcomes in history and social studies through a synthesis of six studies. In his widely read book, *Lies My Teacher Told Me*, James Loewen (2007) opens with "High School students hate history" and students often describe the subject as "boring" (p. 1). He claimed even male children from White affluent families describe the history they are taught in high school as "too neat and rosy" (Loewen, 2007, p. 1). Perhaps the

problem is that students do not feel connected to the curriculum. Ladson-Billings (2003, p. 1) asserted, “Despite Loewen’s brilliant critique of the high school history curriculum (and the social studies curriculum in general), we continue to tell our students lies about our history, our world views, and our culture.” She explained there is a “discourse of invisibility” for every non-European group who makes up America, and

the official curriculum only serves to reinforce what the societal curriculum suggests, i.e., people of color are relatively insignificant to the growth and development of our democracy and our nation and they represent a drain on the resources and values. (Ladson-Billings, 2003, p. 4)

Social studies should be a content area highlighting many voices of color and allowing students to reflect critically on the past. Fortunately, there were several examples of teachers successfully implementing CRE in their classrooms, despite highly standardized school climates that often do not value social studies when it is not a tested subject.

In light of accountability restrictions, Esposito and Swain (2009) wanted to understand how teachers forced to use scripted curricula successfully taught for social justice in their urban K–12 classrooms. No explanation was given for how the teachers were selected, but through in-depth interviews and focus groups with seven teachers, they found teaching for social justice involved risk, time, and self-reflection. For example, one teacher held strong views about how curriculum perpetuated social injustices in students’ lives and used teachable moments with the Pledge of Allegiance and Thanksgiving to discuss varying perspectives. When employing CRE in the classroom, teachers who possess sociopolitical awareness translate that into instruction and thus engage students in critical reflection, as the teachers in this study demonstrated.

Epstein et al. (2011) contended research demonstrates how culturally responsive social studies can teach students to think critically about issues such as race and power in U.S. history. However, missing from the literature are the effects of such practices on students’ historical and contemporary understandings. Thus, the researchers wanted to discover how culturally responsive teaching practices affected African American and Latin@ students’ view on racial groups in the United States. This study was conducted in a small urban public high school in Mr. Varga’s 11th-grade humanities class. Students were asked to write about the eight most important historical events in U.S. history at both the beginning and end of the year. Research has shown teachers have concerns regarding how racism is addressed in the curriculum, especially history textbooks, and teachers are often uncomfortable discussing such issues with students (Epstein et al., 2011; Ladson-Billings, 2003; Loewen, 2007).

Mr. Varga presented on institutional racism and oppression, effectively broadening students’ recognition of people of color and their contributions to society. He organized the curriculum around students’ national identities, the role of racism, and political activism. Part of engaging in CRE requires a teacher to develop knowledge on cultural and ethnic diversity and be able to incorporate this knowledge into the classroom (Gay, 2002; Ladson-Billings, 1995a). Students’ historical

knowledge expanded beyond just Martin Luther King Jr. and Rosa Parks to include multiple people of color who have demonstrated agency throughout history. Students gained awareness of the power of political movements and the effects of institutional racism. This outcome aligned with the CRE goal to increase sociopolitical awareness in students alongside more traditional standards-based goals of critical thinking.

Choi (2013) reported a case study of an 8th-grade social studies teacher, Mr. Moon, at an alternative public high school designed for newcomer English language learner (ELL) students. The school's approach grouped students in interdisciplinary clusters centered on particular themes rather than age level or achievement and also employed project-based assessment approaches instead of state-mandated tests. Mr. Moon was a Korean American teacher noted for his exemplary practice and ability to work with ELLs. Believing that the state social studies curriculum was too Eurocentric, Mr. Moon "streamlined the official curriculum and shifted its approach to global, multicultural citizenship in order to better address the needs of his newcomer students" (Choi, 2013, p. 14). Through observation, teacher interviews, and student artifacts, Choi found Mr. Moon's curriculum had emotional appeal to students, enhanced their academic achievement, and provided a safe place to openly critique official knowledge.

In a participant research study, Martell (2013) chose to analyze his own classroom and teaching practices. At an economically and racially diverse urban high school outside of Boston, Martell studied his U.S. history classes for 1 year, including 49 students of color. He created a history curriculum that included multiple interpretations of the past that catered directly to his students' cultural and ethnic backgrounds. For example, he included many missing elements from the history curriculum that related to the students of color in his classroom, elements like slave revolts, the Black Panthers, and the Los Angeles riots. Martell used *inquiry as stance* to question issues of power, equity, and social justice in the curriculum. He used multiple methods of data collection including surveys, student interviews, teacher journals, and student artifacts. Through the use of descriptive statistics to analyze the survey results and qualitative microanalysis of the open-ended questions, interviews, and reflections, Martell identified three main themes: students' learning, student identity, and teacher identity. Throughout the study, Martell focused on facilitating students' cultural competence and creating student-teacher relationships that were equitable and reciprocal. When survey results revealed that the high proportion of Brazilian students still felt unheard, he went to the students to seek answers.

Overall, Martell (2013) found 87.5% of the students of color felt that the activities in class helped them to see history through another lens and 71.4% of the students said they now liked learning about history. He also ran *t* tests to compare White students' answers to students of color and found no statistical difference. He suggested, "By using culturally relevant pedagogy, I helped increase my students of color's connection to history, while consequently not alienating the White students in the class" (p. 73). In this study, Martell also adhered to tenets of CRE by conducting research within his own classroom to provide more equitable and effective learning opportunities for students (Gay, 2013; Ladson-Billings, 2006).

Similarly, in a Chicago public high school, Stovall (2006) facilitated six workshops during a thematic unit with 19 African American and Latin@ students as part of a secondary social studies curriculum with a goal to create relevance for students. The sessions stemmed from issues originating with hip-hop lyrics (selected by the facilitator) to discuss social issues in society. Students kept reflective journals throughout the process with an end goal to create an alternative history curriculum that was not like the *dishonest* one they had experienced their entire schooling career. Students critically engaged in discussions surrounding the rappers' intentions when writing and questioned truths previously taught in history classes. The facilitators also complemented the hip-hop lyrics with Howard Zinn's (1995) *A People's History of the United States* to further reinforce the notion of multiple vantage points in the telling of history. Overall, the students remained significantly engaged in the lessons and learned how to more critically analyze traditional school curricula.

Coughran (2012) investigated CRE concepts through action research for her master's thesis. Using a convenience sample from a kindergarten classroom, Coughran taught two 20-minute CRE lessons a week for 2 months during social studies. She used videotaped lessons, reflections, and interviews with eight of the students as data sources. She found that by connecting students' lived experiences to the curriculum, they were better able to understand racism and the lessons strengthened the relationship between herself and the students, which is a significant finding for teaching about racism in kindergarten.

Culturally Relevant Education in English Language Arts

This section addresses CRE in connection to student outcomes in ELA through a synthesis of 13 studies. Students communicate using different dialects and media, but strictures of Academic English are often felt in ELA. Christianakis (2011) explained,

Teachers and students in urban and diverse setting often struggle to make schooling culturally relevant, while meeting curricular and institutional mandates that do not include hip-hop, rap, or other popular texts. The resulting tensions leave many students academically disengaged from schooling. (p. 1133)

A significant part of CRE is a connection to students' lives and an obligation to aid in the empowerment of students. Several studies revealed how using culturally relevant materials engaged students in the ELA classroom (Civil & Khan, 2001; Conrad et al., 2004; Feger, 2006; Hastie, Martin, & Buchanan, 2006; Hefflin, 2002; Morrison, 2002).

A common example, hip-hop pedagogy was one way of teaching and engaging students about societal issues plaguing their communities through lyrics and content-related connections to academic content (Christianakis, 2011; Morrell & Duncan-Andrade, 2002; Ladson-Billings, 2014; Stovall, 2006). Hip-hop can give youth a voice to speak about the tensions and struggles in their communities while increasing sociopolitical awareness. The work of these lyrics can help students increase their cultural fluency as well as "move fluidly across genres and cultural boundaries" (Ladson-Billings, 2009, p. ix). Prier (2012) asserted,

Hip-hop is one of the most potent and relevant urban youth subcultures by which we can analyze the cultural dimensions and interactions between race, class, and gender as it relates to the African American male experience in education and the larger society. . . . Many of these youth have been disengaged, alienated, and displaced from the urban school system a long time ago. They do not see themselves in the official school curriculum. (p. xxxi)

Prier believed that through critical knowledge of hip-hop, students, especially African American males, can “define and construct the work on their terms” (p. xxxiv).

Some researchers demonstrated the empowering effects of including students’ connections to hip-hop in the ELA classroom. In one example, Morrell and Duncan-Andrade (2002) sought to use hip-hop music and culture as a means to forge a critical discourse in students’ lives while promoting academic literacy and critical consciousness. Within a traditional senior English class that covered poetry from the Elizabethan to the Romantics period, the researchers situated hip-hop as a genre of poetry to make the assignment relatable to students. Following the basic tenets of critical pedagogy, students were able to engage in a critical dialogue and make connections to larger social and political issues. For example, students were able to make connections between canonical poems and rap music, such as Shakespeare’s *Sonnet 29* and *Affirmative Action* by Nas. In this study, hip-hop pedagogy was one example of how we might close cultural gaps and see the power and potential of pedagogy grounded in CRE.

Christianakis (2011) sought to understand how urban fifth-grade students created language hybrids using rap and poetry to participate in classroom literacy. Using ethnographic methods and participant observation, Christianakis observed Mr. Mitchell during writing time for 118 observations. Mr. Mitchell’s class was a diverse group of 10 African American, 11 White, and 6 Asian American students, all from lower-income families. While participating in the classroom, Christianakis collected field notes, audiotapes, interviews, and work samples. Through these alternative forms of poetry writing, the students “expressed their intellectual creativity” (Christianakis, 2011, p. 1157) and the motivation to complete assignments rose.

Duncan-Andrade (2007) formulated a framework for successful teaching after observing four highly effective urban teachers in South Los Angeles. He discovered teachers must have a critically conscious purpose, they must have a sense of responsibility, they must commit time for preparation, they must have a *Socratic sensibility*, and there must be trust in student–teacher relationships. Duncan-Andrade reported these highly effective teachers regarded students’ real-life experiences as legitimate and made them part of the official curriculum. Additionally, teachers and students engaged in collective struggle against the status quo, demonstrating how it is not merely *what* you teach but also *how* you teach. Duncan-Andrade asserted that this study clearly demonstrated the connection between a teacher engaging in CRE and student achievement because the teachers in the study “were at the top of their schools in many of the ways in which we traditionally measure success (test scores, literacy and mathematics acquisition, grades, attendance, graduation, and college enrollment)” (p. 635).

Robbins (2001) shared a descriptive record of his attempts to incorporate culturally relevant texts in his seventh- and eighth-grade writing classroom. His classroom included students from both White and Mexican backgrounds and he aimed to connect lessons to issues faced by the students (e.g., whether Mexicans should learn English). Students were expected to hold critical conversations and listen to each other's viewpoints. Robbins shared, "They connected experiences with diverse peers to negative images which were/are present in media and in their parents' work places" (p. 25). Both the White students and the Mexican students reported feelings of empowerment and were open to the idea of perspective taking. Developing positive relationships within the classroom between students from differing background is essential in creating a community of learners. Robbins did not mention the specific impacts on student achievement, but did indicate the connection all students iterated about the lessons, which in turn increased their engagement in the classroom.

There were qualitative dissertations seeking to understand how CRE might improve student engagement and motivation. Ortega (2003) investigated narratives that emerged from students and their teacher who implemented CRE in an American Literature class composed largely of Latin@ students. Data for this qualitative study were gathered over 2 years and collected primarily from interviews and classroom observations. The participating teacher acknowledged her students' backgrounds and built her curricula around their interests. For example, the participating teacher chose novels like *House on Mango Street* and *The Lone Ranger and Tonto Fist Fight in Heaven*, which centered on student-related themes. Students also reported the teacher's commitment to caring as part of their success in this classroom.

Similarly, Hill (2012) conducted a mixed-methods dissertation study examining 52 effective culturally responsive strategies in a predominantly African American high school during a literacy block. Hill compared the practices of two highly effective teachers nominated by the principal, other teachers, and students using a quantitative survey instrument and other qualitative methods. After conducting more than 20 observations and teacher interviews, Hill found the teachers were successfully able to increase students' engagement and motivation.

For example, when reading *The Outsiders*, students had to select a character from the book with whom they could identify and compare the character's internal and external conflicts as written during the 1950s to their own internal and external conflicts they might be facing today. This aided in the connection of the literature to the students' personal lives. Hill (2012) stated,

The students were motivated to complete the assigned tasks, not only because it was assigned, but because they enjoyed working together, the task was meaningful to them that they could relate to or identify with it and appeared that they enjoyed pleasing their teacher based on the genuine respect each showed towards one another. As the students became more engaged in the subject matter and learning process that was relevant to their lives, they became more confident in their ability to learn. The students were able to use their own cultural backgrounds and personal experiences as referents to many of the lessons prescribed to the students. (p. 150)

In alignment with CRE, students were able to feel like they had a voice and were empowered to dissect many of the struggles they faced in their lives to better understand the material.

In Johns' (2008) dissertation, she sought to understand how a professional development group committed to developing CRE supported teachers in effectively transforming their practice with emergent bilingual students. This qualitative case study took place in a predominantly Mexican American school district and included 14 middle and high school teachers who participated in *Abriendo Caminos*, a professional development program for emergent bilingual students. In addition to interviewing teachers, 39 middle school students were also interviewed. Teachers' participation in *Abriendo Caminos* correlated to students' overall literacy gains.

There have also been quantitative studies attempting to connect CRE to traditional student outcomes. Bui and Fagan (2013) evaluated the effects of the Integrated Reading Comprehension Strategy (IRCS) through a culturally responsive teaching framework. In this quasi-experimental study, 49 fifth-grade students from diverse backgrounds were given a reading inventory. One group of students participated in the IRCS, which included grammar instruction, story maps, accessing prior knowledge, prediction methods, and word maps, while the other group participated in the same IRCS plus the added elements of multicultural literature and cooperative learning (IRCS Plus).

Although both groups' mean scores for word recognition, reading comprehension, and story retell increased significantly, there were no statistically significant differences between the groups. However, the IRCS Plus group was able to move students from a frustration level to above instructional level in overall reading and "adding multicultural literature and cooperative learning did not hinder the students' reading performance" (Bui & Fagan, 2013, p. 66). These results suggested that the students may have been more engaged in the lesson because of its reliability. Although the results did not indicate a substantial difference between the two groups using the reading inventory instrument, other factors like motivation and self-efficacy were not reported that might also be a factor of student success.

In his quantitative dissertation study, Caballero (2010) sought to determine whether or not teacher-student relationships, teacher expectations, and culturally relevant pedagogy had a direct impact on student achievement as measured by the California Standards Test. A 60-item survey called the Teacher-Student Relationship Questionnaire was given to seventh- and eighth-grade Language Arts students. Statistics indicated a significant relationship between the students' perceptions of their teacher-student relationships and academic growth; in other words, the students viewed their teachers as an important part of their success on the California Standards Test.

Culturally Relevant Education in English as a Second Language

This section addresses CRE in connection to student outcomes with ELL and immigrant student populations through a synthesis of five studies. Despite the large body of literature suggesting the connection of CRE to ELL success, Lee (2010) found in her literature review of culturally relevant pedagogy for immigrant and ELLs that most work is presented as "conceptual literature, program

descriptions, and anecdotal calls” (p. 453) for CRE, rather than empirical studies that explicitly connect with students’ achievement. However, consistent with preceding sections, although every study is not directly connected to student achievement outcomes, we found positive examples of teachers employing CRE in their classrooms and the benefits this usage had on ELL and immigrant students.

Preparing teachers to meet the needs of ELLs is a social justice issue, given that one in five students in the United States speaks a language other than English at home (Shin & Kominski, 2010). During the 2011–2012 school year, students who participated in any ELL programs and/or bilingual education programs comprised 9.1% of the public school population, or an estimated 4.4 million students (Kena et al., 2014). Immigrant and ELL labels are often used synonymously; however, not all ELLs are immigrants and not all immigrants are ELLs. ELLs can include students from communities that have long established other primary languages such as Native Americans or Chican@ Americans (Lee, 2010).

Aside from language barriers, a misalignment among cultural expectations, practices, and home knowledge was cited as a reason for poor academic performance among students whose first language is not English (Au & Jordan, 1981; Castagno & Brayboy, 2008; Lee, 2010; Wallitt, 2008). Several studies have shown that when teachers recognize students’ linguistic and cultural backgrounds and incorporate elements of students’ cultures into their pedagogy and teaching, students experience greater success in schools (González, Moll, & Amanti, 2005; Ladson-Billings, 1995a; Lee, 2010; Nieto, 2010). For example, Lee (2010) found in her literature review of culturally relevant pedagogy for immigrant children and ELLs that even more important than a teacher’s background matching that of the student was that the teachers held high expectations for students and believed in their abilities to succeed.

Irizarry and Antrop-González (2007) sought to highlight the voices of successful Puerto Rican students using ethnographic case studies. The participating students were already deemed academically successful in terms of grades and high school progression. Data were collected from three urban school centers with Puerto Rican populations in Chicago, Milwaukee, and Springfield, MA, with a total of 10 students and 10 teachers participating in the study. The criteria for the students to participate in the study included being (a) currently enrolled in 11th or 12th grade, (b) having a GPA of 3.0 or higher, and (c) consistent school attendance. Consistent school attendance was an important component because the majority of Puerto Rican students in this study dropped out of high school by 10th grade. Teachers from Springfield were nominated by their communities to participate in the study (the authors provided no explanation as to why Springfield was the only site for teacher inclusion) and included five White teachers, three Puerto Rican teachers, and two African American teachers.

The research questions that were addressed asked how “teachers construct their narratives so that they positively inform their practice with Puerto Rican students” and “what factors do Puerto Rican students identify as instrumental to their academic success” (Irizarry & Antrop-González, 2007, p. 45). The researchers concluded that for CRE to be effective, teachers must address students’ complex identities, proposing a framework of connectedness that identifies with the “hybrid and complex nature of culture and identity” (Irizarry & Antrop-González,

2007, p. 46). The teachers in the study placed value on the cultural capital the Puerto Rican students brought with them to school, including their native language and culture. Additionally, the teachers reflected on their own cultural identities and how this influenced approaches to being culturally responsive.

Furthermore, the students described their teachers as authentically caring and willing to learn *with* their students. Several students discussed their teachers' understandings of code-switching and the encouragement of multilingualism. Teachers often went above and beyond by connecting with students and parents through language that created welcoming spaces for dialogue. Unlike other studies, which often examined the impact of teachers' pedagogies on student achievement, this study was designed using a backward approach to understand how one group (Puerto Rican students) who are traditionally marginalized in educational achievement succeeded. Irizarry and Antrop-González (2007) explained

We selected these particular qualitative methods not to generalize to all members of a particular group but rather to paint a portrait that might allow others to gain insight into the complexities of promoting school success among Puerto Ricans in the Diaspora. (pp. 44–45)

They found clear connections to the markers of CRE, such as critical reflection that allowed space for students' culture to be represented within the curricula and the legitimization of their native language.

Souryasack and Lee (2007) wanted to improve the writing skills of the Laotian ESL student population in a lower socioeconomic, urban middle school in Northern California. Given that Lao students were raised in a culture emphasizing oral traditions, there were low literacy rates among first-generation Laotian immigrants. The authors recruited ELLs of Lao heritage to participate in an after-school enrichment program for 9 weeks. Seven students were initially recruited to participate, but only three students completed the program. The focus of the workshop was to engage in writing that was based on the students' own experiences and connected back to their cultural heritage.

The first 10 minutes of each workshop was set aside to discuss various writing conventions, such as grammar and paragraph format, but this was not the primary goal of the workshops. Individual conferencing and feedback were a central feature. The teacher used readings from current newspapers, poetry reflection of Lao experiences in the United States, and her own personal writings that discussed Lao values and beliefs as she was of Laotian heritage. Students also visited an Asian Art Museum to view how Asian culture is represented in the United States. This study did not connect back directly to student outcomes, but participation in the workshops led to "more positive attitudes toward writing, increased motivation, a clearer understanding of the writing process, and improved writing mechanics" (Souryasack & Lee, 2007, p. 79). Souryasack and Lee were hopeful in suggesting teachers employing CRE can aid in students' increasing motivation and provide spaces for students to critique discourses of power.

As part of a 2-year ethnographic study, Wortham and Contreras (2002) observed one bilingual paraprofessional's classroom for 2 months to describe her innovative attempt to implement CRE for her Latin@ students in a small rural

New England community. During this time, Margaret set up a familial community resembling students' home lives that allowed them to use both Spanish and English. Margaret believed making connections to students' home cultures was relevant because typically Latin@ families are close and value mutual support. She encouraged the students to be close to one another by not competing, but rather becoming resources for one another. Another unconventional way Margaret incorporated CRE was by following a more ecological view of education. To an outsider, a typical Latin@ family in the New England community might appear busy. Households often include extended family and visitors with many simultaneous activities. The authors refer to this as "spatiotemporal fluidity" (Wortham & Contreras, 2002, p. 137). Margaret's classroom resembled this busy environment that kept students engaged and motivated to come to class.

This study illustrated positive effects on behavioral performance, such as fewer distractions in schools, higher attendance rates, and more effort exhibited on assignments. However, disappointingly, academic scores did not significantly increase. The authors believed traditional academic scores did not increase due to other complicated reasons relating to how the students were juggling both school values (perform well while in class) with their parents' values that might involve getting a job to support one's family. The authors asserted that perhaps with more power and institutional support Margaret might have been able to build *both* her students' pride while also helping them to develop academically.

Many challenges exist for ELLs, but some who come to the United States as refugees often have greater burdens because they have received no formal schooling due to turmoil and war in native countries. Having this understanding, Nykiel-Herbert (2010) decided to "examine the impact of culturally-relevant instruction on the academic performance of ELLs with interrupted education" (p. 3). In particular, she investigated a 10-month intervention program designed for non-literature refugee students from Iraq. The study took place in an urban, low socioeconomic status elementary school in New York with 12 students in Grades 3 to 5. The author did not intend for this program to be part of a research study, but over time, after witnessing such positive results, she felt obliged to share findings with the educational community.

Initially, the Iraqi students were assigned to mainstream classrooms and received 50 to 60 minutes of pull-out ESL instruction per day, as mandated by the state. This particular group of students performed the worst of any of the ELLs and 30% of the Iraqi students were referred to special education. In 1998, an alternative educational intervention program was proposed for the Iraqi students in Grades 3 to 8. The program was catered specifically to the "Iraqi children's experiential knowledge and to conform, to the extent possible, to their cultural norms, values, beliefs, and expectations" (Nykiel-Herbert, 2010, p. 4). Nykiel-Herbert worked with doctoral students and served in a participant-observer role to collect data.

Providing instruction in the Iraqi students' native tongue was not possible due to funding, materials, and instructional knowledge; however, students were encouraged to use their native Kurdish and Arabic for communication and cooperation. Nykiel-Herbert (2010) reported,

The results of the [Language Assessment Scales Reading/Writing] post-test at the end of the year showed that the students participating in the intervention has made markedly better progress in English literacy compared to the rest of the ELL population at the school, who received instruction in a traditional ESL pull-out setting. Moreover, several students in the program exceeded the literacy standards required for testing out of ESL at their grade levels. (p. 4)

Nykiel-Herbert (2010) noted that the literature typically regards the promotion of inclusion for ELLs and that some might criticize the separation from the mainstream classroom as going against these ideals. However, she claimed many of the Iraqi students were already *de facto segregated* in their classrooms and placed with teachers who did not know how to teach them. The Iraqi students' success suggested the extra instructional time and support were highly effective, but a learning environment congruent with their home cultures that supported their native languages more than likely enhanced this success.

Other colonized nations with indigenous populations similar to the United States have also embraced integrating CRE as part of teaching pedagogies. In New Zealand, disparities exist between the indigenous Māori student populations and the predominantly European culture that dominates the school system. To address this disparity, one team of researchers (Savage et al., 2011) investigating a national New Zealand initiative used a mixed-methods approach after implementing a Te Kotahitanga (a Māori ideology of unity) teacher professional development program that sought to determine the effects of culturally responsive teaching in the classroom. The program's aim was to "improve educational outcomes for Māori students through operationalizing Māori cultural aspirations for self-determination by working with teachers to develop culturally responsive classrooms and schools" (Savage et al., 2011, p. 185). Collaborative storytelling between 70 Māori students, 50 families, 5 principals, and 80 teachers led to the creation of the professional development program.

Data collection included document review, student achievement comparisons, analysis of classroom observations, and interviews with students, teachers, and other stakeholders. Two hundred and fourteen Māori students were interviewed about their feelings toward school and issues of cultural identity. The professional development program taught teachers to use culturally responsive pedagogies in the classroom, such as learning Māori vocabulary and phrases, and explicitly rejecting deficit thinking. Teachers went through frequent observations and learned to problem-solve collaboratively with other teachers.

In the interviews, Māori students were able to describe examples of teachers caring for them, holding high expectations, and developing positive relationships. Students "were proud of their Māori culture and identity and felt most schools enabled them to be Māori rather than being forced to leave their identity outside the school entrance in order to succeed academically" (Savage et al., 2011, p. 192). They also described the impact of Te Kotahitanga-trained teachers on their learning by being able to use their language and culture in the classroom. Again, this study did not directly relate to traditional student achievement, but did highlight the Māori students' increased engagement and students' sense of self.

Discussion

The connection of CRE to student outcomes across content areas deserves particular attention at a time when CRE is becoming marginalized in educational discourses (Sleeter, 2012). Too often, specific fields are understood either to be the provenance of just one community or to stand beyond sociocultural constructs; for example, only men can be scientists and math is a-cultural. By engaging CRE as necessary in every content area, the hegemonic forces supporting such aphorisms will fall more readily. In addition, CRE was demonstrated repeatedly to have positive impacts on student outcomes. As such, the research synthesized here provides a foundation for those wanting to reframe current educational discourses away from neoliberal individualism and engage CRE across all content areas. In organizing these implications, we return to Sleeter's (2012) three needs presented alongside the markers of CRE:

- We need evidence-based research making connections to student outcomes to demonstrate an impact on academic skills and concepts
- We need to educate all audiences about what CRE is and what it looks like through the practices of critical reflection and cultural competence
- We need to reframe public debates about teaching so as to critique discourses of power seeking to reform education through business-minded, neoliberal models

We address each of these in turn while drawing on evidence from the synthesized research.

Connecting Culturally Relevant Education to Student Outcomes

In synthesizing this research, we believe that we have responded to Sleeter's (2012) call for evidence-based research connecting CRE to student outcomes while maintaining the stance that outcomes include more than standardized test scores. Overall, and no matter the outcome discussed, the research demonstrates that the engagement of CRE across the content areas resulted in positive increases in academic skills and concepts, the first marker of CRE.

Sleeter (2012) discussed the need for more evidence-based research that documents how CRE affects student achievement. It is challenging to make a case to adopt CRE without *outcomes*-based data demonstrating academic achievement; for policy makers, appropriate data might mean *test scores*, whereas for educators this might mean *life-long learning*. Making such connections might be problematic, as proponents of CRE may see the simplistic nature of standardized testing as an oppressive system based on "Whitestream" curricula and acknowledge the dangers equating students only with numbers. The research reviewed demonstrated that an emphasis on test preparation may improve students' test scores, but this does not mean teachers are enhancing students' life-long learning (Amrein & Berliner, 2002; Higgins, Miller, & Wegmann, 2006); in fact, *teaching to the test* only serves to further invalidate results (Amrein & Berliner, 2002).

Some of the literature directly connected CRE to positive gains in test scores (Choi, 2013; Duncan-Andrade, 2007; Hubert, 2013; Nykiel-Herbert, 2010;

Rodriguez et al., 2004). The engagement of CRE also resulted in positive impacts on affective domains often correlated with higher test scores even if such connections were not made in a specific report of research. These affective domains include the following:

- Increases in student motivation (Bui & Fagan, 2013; Civil & Khan, 2001; Dimick, 2012; Ensign, 2003; Hill, 2012; Tate, 1995; Wortham & Contreras, 2002)
- Increases in student interest in content (Choi, 2013; Dimick, 2012; Ensign, 2003; Feger, 2006; Gutstein, 2003; Martell, 2013; Robbins, 2001)
- Increases in student ability to engage content area discourses (Civil & Khan, 2001; Gutstein, 2003; Martell, 2013)
- Increases in student perception of themselves as capable students (Robbins, 2001; Souryasack & Lee, 2007)
- Increases in confidence when taking standardized tests (Hubert, 2013)

In moving beyond the questionable validity of standardized test scores as predictors of anything academic, we believe these increases in affective domains represent gains in real academic skills and concepts that correlate with more important goals geared toward becoming lifelong learners.

Kumashiro (2012) asked educators to think about *who made the rules* and *who is winning/losing the game?* A contradiction emerges when critics who argue standardized testing is not an effective measure of student achievement use results from standardized test scores as evidence of a teacher's, school's, or program's success. Kumashiro contended that rather than the teachers or schools themselves failing, it is the process of school reform and the framing of achievement that continues to benefit those in power.

Standardized testing has been framed in such a way as to make it seem fair, effective, objective, and incontrovertible. Changing how we assess learning required not merely changing the tests; it required changing how we think about tests and testing. (Kumashiro, 2012, p. 7)

The connection of CRE to positive student outcomes requires an expansion of "achievement" beyond only test scores to include other qualitative measures of academic skills and concepts.

Educating All Audiences About Culturally Relevant Education

Sleeter's (2012) second need was "to educate parents, teachers, and education leaders about what culturally responsive pedagogy means and looks like in the classroom" (p. 578); in the literature synthesized, CRE most often looked like the engagement of critical reflection and cultural competence, the second and third markers of CRE. In promoting critical reflection, the research reported how teachers created spaces where students learned to value their own and other's perspectives (Fulton, 2009); safely and openly critiqued official knowledge (Choi, 2013); came to see content through multiple paradigms (Martell, 2013); and engaged in

critical dialogue (Morrell & Duncan-Andrade, 2002). In promoting cultural competence, the research reported how students in every content area made connections to academic cultures and gained pride in their home cultures through developing connections between the two. In math, students gained power and agency to solve problems. In science, students came to value multiple ways of creating knowledge. In history/social studies, students upended discourses of invisibility. In ELA, students saw language as a medium for connecting across cultures. In ESL, students overcame the misalignment of cultural expectations and practices.

In addition to descriptions grounded in the classroom, the research also included descriptions of directly engaging the community. For example, Civil and Khan (2001) used a gardening project to connect math to students' and families' knowledges. Similarly, Tate (1995) used community issues as a framework to increase math proficiency. However, engagement of families mostly followed an outside-in direction, bringing students' extracurricular lives into the classroom but not taking the classroom back out to the families. Alongside parents and students, teachers represent the key actors needed to develop an understanding of CRE. Teachers bring their own experiences and varying perspectives into the classroom. For example, Dedeoglu and Lamme (2011) found preservice teachers' demographic variables (race, class, religious affiliation, and cross-cultural friendships) had strong influence on beliefs about diversity, just one example of how preservice teachers might be unprepared to enter a classroom of diverse learners. However, it is important to note teacher educators are quick to blame preservice teachers for this disconnect between preconceived ideologies and social justice praxis rather than to raise expectations and aid in the construction of new knowledge (Laughter, 2011). We believe in connection to Sleeter's (2012) call, CRE content should be a central focus in teacher education programs as well as professional development for in-service teachers.

Although several studies were on preservice preparation and in-service professional development, several claiming CRE stand accused by Sleeter (2012) of watering down CRE to a buzzword or checklist of steps. To be effective, CRE must be embraced more fully as a guiding ethos for every aspect of the classroom, a highly attuned pedagogy that drives effective teaching. CRE promotes an ideal of collective empowerment where competition for resources and limiting definitions of achievement are rejected. But just as parents are not hearing about CRE from teachers, educational leaders are often unaware of the power that such education represents. In this regard, CRE faces an uphill battle against reformers who are much more politically oriented and well-funded.

Reframing Educational Debates Through Culturally Relevant Education

Sleeter's (2012) third need was to reframe the debate about education as in the "interest of society as a whole" (p. 579), highlighting the need to critique discourses of power (the fourth marker of CRE). The many educational mandates and reforms coming from the top down now mean standardized test scores and data-driven accountability will become even more important to education leaders. President Obama's \$4.35 billion dollar *Race to the Top* initiative awarded grants to states with goals to use data to drive instruction, raise standards, aim to turn

around historically low-performing schools, and improve teacher and principal quality (U.S. Department of Education, 2009).

Such school reform has only failed historically marginalized students and exacerbated achievement gaps (Darling-Hammond, 2011; Jennings & Sohn, 2014; Kumashiro, 2012; Milner, 2013; Ravitch, 2010), because it focused solely on individual achievement, pitting student against student, teacher against teacher, district against district. In this synthesis, we found reports of students, teachers, and parents pushing back by increasing sociopolitical awareness and power to effect change (Gutstein, 2003); by understanding how bias affects creation of content-area knowledge (Adams & Laughter, 2012; Laughter & Adams, 2012); by making connections to larger social and political issues (Morrell & Duncan-Andrade, 2002); by engaging in collective struggle against the status quo (Duncan-Andrade, 2007); and by developing feelings of empowerment (Robbins, 2001).

Taking CRE beyond the classroom represented a double benefit: bringing students' extracurricular lives into the classroom was closely associated academic skills and concepts, critical reflection, and cultural competence. However, taking CRE back to the community was a common means for critiquing discourses of power. Parents hear much about education in general and their students and schools in particular; not everything they hear is positive or even accurate, including the manufactured crisis of failing schools (Gorski & Zenkow, 2014; Meier, 2014). Finding ways to take CRE back to families provides a trustworthy and caring answer that demonstrates how school can be a place to pursue making the whole community a better place. This social justice quest is the heart of CRE, the end for which all other markers act as means.

If educators working for social justice wish to have an impact, they must creatively play by the rules (i.e., preparing students for standardized tests) while still seeking change in the everyday life of the classroom. As Milner (2011) reminded us,

Teachers who practice culturally relevant pedagogy do so because it is consistent with what they believe and who they are. . . . Teachers practice culturally relevant pedagogy because they believe in it, and they believe it is right to practice to foster, support, create, and enable students' learning opportunities. (p. 68)

If we truly seek to teach our diverse student populations effectively, we need to invest in quality teachers prepared and equipped with necessary tools to promote student success and counter educational reforms that consider a students' education secondary to return on investment.

Although we acknowledge the need for the expansion of CRE in all areas of education, we believe a focus on the social justice foundations of CRE will be more effective in the long-term responses to Sleeter's (2012) three needs. Adopting CRE means developing students academically, a willingness to support a critical reflection and cultural competence for students through the attitudes of teachers and curriculum, and personally adopting a critical consciousness (Gay, 2010; Ladson-Billings, 1995a). CRE also requires a posture of collective empowerment and willingness to reject the success of individual students, schools, and districts

at the expense of others. As Sleeter (2012) reminded us, CRE is not cultural celebration; it does not trivialize differences; it does not essentialize identities; it does not shy away from political analysis.

This synthesis serves those wishing to respond to Sleeter's (2012) needs by providing research that brings CRE back from the margins. This synthesis, however, is only as important as those who would seek to replicate these examples in their own contexts. As a social justice pedagogy committed to collective empowerment, we believe that CRE is our best hope for solving the sociocultural issues emanating from society and affecting our schools.

Note

We would like to acknowledge the work and support of Rich Milner, who reminds us all to start where we are but don't stay there.

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