



INCREASING THE INVOLVEMENT OF CULTURALLY AND LINGUISTICALLY DIVERSE STUDENTS IN SPECIAL EDUCATION RESEARCH 2015

A WHITE PAPER BY THE DIVERSITY AND RESEARCH AND FAMILIES SUBCOMMITTEES OF THE COUNCIL FOR EXCEPTIONAL CHILDREN'S DIVISION FOR RESEARCH

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Introduction

The call for dissemination and use of research and evidence-based practices (EBPs) is stronger than ever, yet challenges remain including ensuring that available practices have been empirically tested with students of all disability types and backgrounds. Of particular concern to the Council for Exceptional Children's Division for Research (CEC-DR) is the absence of research and evidence-based practices that have been validated with children and youth from diverse backgrounds. Unless we can be sure that instructional practices with demonstrated effectiveness for students from diverse backgrounds and abilities are appropriately and rigorously investigated, we cannot be certain that the field is providing the best possible education to a critical and growing segment of our school population.

Diversity can be broadly defined from multiple vantage points as indicated in the CEC-DR's 2003 position statement. Diversity can include students from nondominant cultural, racial/ethnic, and linguistic groups and have various perceived abilities and disabilities. Diversity can also serve as a generic term to include individuals perceived as different from some defined mainstream. For the purposes of this white paper, we focus on those students from culturally and linguistically diverse (CLD) backgrounds. Students from CLD backgrounds are inherently heterogeneous with culturally bound expectations about learning and behavior. According to an ecological framework (Bronfenbrenner, 1994), CLD students' interaction with and response to the various and interconnected contexts of schools, families, cultures, and communities may vary greatly. The DR indicated a concern in their 2003 position statement regarding the omission of this population in special education research. This lack of representation has subsequently been reported in notable reviews within special education literature (Artiles, Trent, & Kuan, 1997; Vasquez et al., 2011).

Given ongoing concerns about the need to ensure that CLD students are adequately represented in special education research, the purpose of this white paper, therefore, is to: (a) describe the growth of CLD students in U.S. schools and need for appropriate evidence-based practices, (b) examine previous and current literature to determine the inclusion of CLD children and youth in special education research studies, and (c) provide recommendations for enhancing evidence-based special education research for children and youth from diverse CLD backgrounds and communicating this research with diverse families.



Increasing Diversity and Need for Evidence-Based Practices

The growth of CLD students in urban and rural schools is well documented. The percentage of racially and ethnically diverse students enrolled in kindergarten through high school increased from 22% in 1972 to 44% in 2007 (National Center for Education Statistics, 2009). Latinos constituted the fastest growing population of diverse students during that period and represented 24% of public school enrollment in 2011 (National Center for Education Statistics, 2014). They are projected to represent 30% of this enrollment by 2023 (National Center for Education Statistics, 2014). The number of English learners (EL) in the schools has also increased dramatically in recent years. The National Center for Education Statistics reported that the number of students identified as EL and receiving English as a second language (ESL) services increased from 2 to 3 million between 1994 and 2000. By 2012, the number of EL increased to 4.4 million students (National Center for Education Statistics, 2014). In 2012, slightly more than 22.3% of students between the ages of 5 and 17 spoke a language other than English at home (Federal Interagency Forum on Child and Family Statistics, 2014). Moreover, children from CLD backgrounds also include students identified with disabilities living in urban and rural areas across the nation (Harry, 2008). The percentage of children served in special education public school programs in 2011–2012 was highest for American Indians/Alaska Natives (16%) and Blacks (15%) (National Center for Education Statistics, 2014). While approximately 23% of the nation's public school students are rural CLD students, 14% of these students have been identified as having disabilities and receive services through Individualized Education Plans (IEPs) (Johnson & Strange, 2009).

In order to support the educational achievement of a more diverse student population, national policies and initiatives have been drafted with the intent of improving the educational system for all children and

youth. Specifically, the No Child Left Behind Act (NCLB) (2002) articulated the notion that all children can and should be learning in the public education system. Under NCLB (2002), school districts are required to document student achievement or “Annual Yearly Progress” (AYP) toward meeting these standards and report AYP data by race/ethnicity, language proficiency, socio-economic status (SES), and disability (Ortiz & Yates, 2008). The latter requirement acknowledges that CLD students and students with disabilities are among those most likely to experience school failure and that school improvement plans must specifically target these populations. To that end, NCLB (2002) includes specific provisions governing educational services for economically disadvantaged children and youth, EL, and immigrant students.

The Individuals with Disabilities Education Act (IDEA) (2004) and NCLB (2002) include similar accountability guiding principles for learners with disabilities. The IDEA (2004) and NCLB (2002) seek to reduce achievement gaps between students in specific subgroups, including those with disabilities, linguistic and cultural diversity, and economic disadvantages. In addition, both acts mandated the use of evidence-based strategies to address concerns associated with the over-identification of CLD students, students from low-income families, and students in certain disability categories. The combination of IDEA (2004) and NCLB (2002) acknowledges the inequities of our present educational system and calls for a need to identify EBPs for all learners and ensure that all students, including CLD learners and learners with disabilities, are making gains and meeting standards.

The alignment of NCLB (2002) and IDEA (2004) puts strong emphasis on achievement for all students including those from low-income and CLD backgrounds. Included in IDEA (2004) is the suggested use of Response to Intervention (RtI) to increase the likelihood that all students will receive high-quality instruction and subsequent progress



monitoring before referral for special education services. RtI has the potential to affect clinical intervention for children and youth who are CLD by requiring the use of EBPs based on individual children's specific needs. The caveat is that instruction and interventions must consider a student's cultural background and experiences as well as English and native language proficiencies in order for instruction to be appropriate before determining that the child requires special education and related services as a child with a disability. In addition, RtI considers the context in which students are taught when developing early intervention programs in order to be effective for all students.

Review of Cultural and Linguistic Diversity in Special Education Research

In their 2003 position statement, the CEC DR Diversity Committee emphasized "...the importance of integrating diversity considerations into the ways qualitative, quantitative, and single subject research studies are designed, carried out, and evaluated" (p. 2). Furthermore, the committee argued that variables reflecting the diversity of students with disabilities have historically been inadequately described and studied. In the following section, we briefly summarize published empirical studies investigating the inclusion of CLD participants in research involving students with disabilities and those at risk for academic failure. In order to further enhance this review, we report on the results of a snapshot analysis conducted by the authors of this white paper of more recent empirical studies examining the inclusion of CLD populations, descriptions of the population, and types of empirical research design implemented in these studies (e.g., quantitative, qualitative, mixed methods, single subject, and correlational studies).

Given the need for schools to better understand how to adequately support an increasingly diverse student population, policymakers and educators alike will look to educational research to identify effective EBPs for these students. However, when considering existing special education research, it is unclear whether this research base includes or adequately takes into account the needs of CLD learners. Before discussing how special education research can further improve the involvement of diverse learners, we first review how well published studies in special education have included CLD students.

Findings from Prior Literature Reviews

Artiles, Trent, and Kuan (1997), in their initial investigation of empirical articles within four special education journals (*Journal of Learning Disabilities*, *Learning Disabilities Quarterly*, *Exceptional Children*, and *Journal of Special Education*), found only 58 of 2,378 (2.4%) articles reviewed included students from diverse backgrounds across 22 years (1972–1994). Vasquez et al.'s (2011) replication of Artiles et al.'s seminal review extended this original study of the same publications from 1995 to 2009. This more recent review identified an almost 7% increase in empirical articles during this subsequent 15-year period (a total of 117 articles from 1,169 reviewed). Notable differences in the more recent analysis found gains in authors reporting information regarding CLD participants and disaggregating data for analysis by subgroups. Studies reporting no ethnic information decreased from 94.2% in the 1997 review to 51.8% in 2011. The differences in the proportion of publications including CLD students between the two reviews were statistically significant [$\chi^2 (1, N = 145) = 5.93, p = .014$]. Methodological differences of the articles reviewed between the two studies were also evident. Quasi-experimental designs represented 88% of studies in the earlier



review, with 7% of studies using qualitative methods. Vasquez et al. identified greater diversity in research methods, finding 25% representing quasi-experimental and correlational designs (which reflected 50% of research methods), 16% reporting qualitative methods, and 5% or more for methods including experimental, causal-comparative, descriptive, and single case design research, respectively.

In a review focusing on the inclusion of African-American students in reading intervention research, Lindo (2006) examined three leading peer-reviewed journals. The review included the last 10 years of articles from *Reading Research Quarterly* and the *Journal of Educational Psychology* (1994–2004), and the last eight years of articles within *Scientific Study of Reading* (1997–2004). Only 8.14% ($n = 971$) of articles reviewed were reading intervention studies using school-age participants. Of these studies, 6.5% ($n = 63$) included African-American student participants while only 14 studies included more than 50% African-American students with nine studies employing randomized assignment. No study reviewed reported disaggregated data. Furthermore, 55.6% ($n = 35$) of reading intervention studies provided racial demographic information for study participants. No study reviewed reported disaggregated data by race. These findings highlight not only the scarcity of research with diverse populations but specifically the omission of African-American students from this research.

Moore and Klingner (2012) examined small group reading intervention studies involving elementary school participants between the years 2001 to 2010. These studies included experimental and quasi-experimental research designs. Their analysis involved an extensive multi-step process reviewing numerous top-tier peer-reviewed journals. This analysis revealed a total of 67 reading intervention studies targeting at-risk, struggling students in the area of reading. Of the studies reviewed, 22.4% reported

adequate demographic data regarding race/ethnicity and EL, with 25.4% providing some information, and 52.2% reporting no information. The authors found overall that this research lacked participant descriptions and failed to disaggregate findings according to subpopulations included in the studies. Failing to provide such information makes it difficult to critique or extend findings investigating the effectiveness or appropriateness of certain instructional practices to other populations. Overall, these reviews demonstrate a continued lack of sufficient published, empirical special education and related research where diverse populations have been included and their cultural and linguistic background reported.

Division for Research – Snapshot Review

In order to provide a more recent gauge of the inclusion of CLD student participants specifically within special education research, the Diversity and Families subcommittees from CEC's DR examined six prominent special education journals: *Journal of Special Education*, *Exceptional Children*, *Journal of Early Intervention*, *Journal of Special Education Technology*, *Career Development and Transition for Exceptional Individuals*, and *Remedial and Special Education*. These publications represented reputable special education research journals and a sampling of CEC publications. The review of articles allowed us to create a “snapshot” sampling a set of prominent journals to determine how CLD students are currently included in special education empirical research.

Specifically, we reviewed empirical studies in the six journals over a three-year period (2010–2012) to gain an understanding of current practices. For the purpose of this paper, we excluded essays, literature reviews, policy, and opinion papers. We recognize the importance of other forms of research but we limited our scope to include only empirical studies. Of the subset of research studies examined, we focused on those studies including student outcome variables. The



inclusion criteria for this review were studies:

- 1) Published in the selected journal between January 2010 and December 2012;
- 2) Conducted in the U.S. and affiliated territories;
- 3) Conducted with K-12 student outcomes as the dependent variable(s);
- 4) Employing empirical methods, including a quantitative, qualitative, single subject or mixed methods research design; and
- 5) Including children and youth in kindergarten through 12th grade.

We developed a coding sheet that included the following categories and coded designations: (a) empirical study (yes or no); (b) research method (group quantitative, qualitative, single subject, mixed methods, meta-analysis); (c) if group quantitative, type of method (experimental, quasi-experimental, correlational, descriptive); (d) inclusion of CLD participants, which was defined by ethnic minorities (yes/no); (e) percentage of CLD students included in study reported (yes/no); and (f) proportion of ethnicity (Caucasian, African American, Latino, Asian/Pacific Islander, Native American, Other). Four of the authors of this white paper acted as coders, each individually coding all the articles in one journal. An author not involved in the initial coding process acted as a second rater of all the articles, in order to calculate reliability. The percent of agreement between two raters was calculated with the 351 articles included by the first raters. They were 99.7% for empirical study, 97.4% for research method, 96.3% for type of quantitative method, 100% for inclusion of CLD participants, and 97.7% for reporting the CLD percentage (Trochim & Donnelly, 2008). Thus, overall, the agreement was quite high and very strong. The disagreement was due to undifferentiated coding in the research methods and type of group quantitative method categories; for

example, some raters did not code for meta-analysis and did not differentiate correlational and descriptive, but coded as survey.

Inclusion of CLD populations. Table 1 presents data produced by the six journals in which 350 articles had published within the three-year period under review. Of the 350 articles, 254 (72.6%) studies met the inclusion criteria of being an empirical study. Of the empirical studies, 156 (61.4%) studies reported that they included students from CLD backgrounds. Over the three years, the number of studies including CLD students increased from 51.2% in 2010 to 64.5% in 2011, and to 68.4% in 2012, but the increase rate was not significant statistically (Chi-square = 5.58, $p = .06$). Among the six journals, *Career Development and Transition for Exceptional Individuals* had the highest percentage of articles reporting on the inclusion of CLD students (86.5%), followed by *Journal of Special Education* (74.1%), *Exceptional Children* (72.7%), *Journal of Early Intervention* (64.3%), *Journal of Special Education Technology* (59.1%), and *Remedial and Special Education* (42.7%). Of 254 empirical studies, 25 (9.8%) specifically reported that they did not include CLD students, and 73 (28.7%) provided no demographic information on CLD backgrounds.

Specific CLD information. Table 2 displays the summary of the studies that specified CLD backgrounds of K-12 participants. Of the 156 studies that reported including CLD students, 133 (85.3%) reported the specific ethnicity of the students with its proportion. Overall, those studies reported 54.6% of participants were Caucasian and 45.4% were CLD students. Specific ethnic backgrounds for the 45.4% CLD participants were African Americans (22.0%), followed by Latino (15.2%), Asian/Pacific Islanders (3.5%), Native Americans (1.3%), and Others/Multi-ethnic (3.4%). Of 156 studies that reported



Table 1

Empirical Research with K-12 Students with Disabilities and Proportion of Studies including CLD Students

Journal	Year	Study n	Non-Empirical ^g n	Empirical Study							Total n	CLD ^h n (%)
				Group Quan. n (%)	Group Qual. n (%)	Single Subject n (%)	Mixed Methods n (%)	Meta Analysis n (%)				
JSE ^a	2010	9	4	5 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5	3 (60.0)	
	2011	14	0	11 (78.6)	1 (7.1)	1 (7.1)	0 (0.0)	1 (7.1)	1 (7.1)	14	11 (78.6)	
	2012	9	1	6 (75.0)	0 (0.0)	1 (12.5)	0 (0.0)	1 (12.5)	1 (12.5)	8	6 (75.0)	
	Total	32	5	22 (81.5)	1 (3.7)	2 (7.4)	0 (0.0)	2 (7.4)	2 (7.4)	27	20 (74.1)	
EC ^b	2010	23	10	9 (69.2)	0 (0.0)	4 (30.8)	0 (0.0)	0 (0.0)	0 (0.0)	13	8 (61.5)	
	2011	23	5	16 (88.9)	1 (4.3)	1 (4.3)	0 (0.0)	0 (0.0)	0 (0.0)	18	15 (83.3)	
	2012	17	4	8 (61.5)	1 (7.7)	3 (23.1)	1 (7.7)	0 (0.0)	0 (0.0)	13	9 (69.2)	
	Total	63	19	33 (75.0)	2 (4.5)	8 (12.7)	1 (2.3)	0 (0.0)	0 (0.0)	44	32 (72.7)	
JEI ^c	2010	20	8	9 (75.0)	1 (8.3)	1 (8.3)	1 (8.3)	0 (0.0)	0 (0.0)	12	7 (58.3)	
	2011	24	17	6 (85.7)	1 (4.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	7	4 (57.1)	
	2012	13	4	8 (88.9)	0 (0.0)	0 (0.0)	0 (0.0)	1 (11.1)	1 (11.1)	9	7 (77.8)	
	Total	57	29	23 (82.1)	2 (7.1)	1 (3.6)	1 (3.6)	1 (3.6)	1 (3.6)	28	18 (64.3)	
JSET ^d	2010	15	9	3 (50.0)	0 (0.0)	3 (50.0)	0 (0.0)	0 (0.0)	0 (0.0)	6	4 (66.7)	
	2011	12	2	3 (30.0)	0 (0.0)	7 (70.0)	0 (0.0)	0 (0.0)	0 (0.0)	10	4 (40.0)	
	2012	11	5	0 (0.0)	0 (0.0)	6 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	6	5 (83.3)	
	Total	38	16	6 (27.3)	0 (0.0)	16 (72.7)	0 (0.0)	0 (0.0)	0 (0.0)	22	13 (59.1)	
CDT ^e	2010	14	3	9 (81.8)	2 (18.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11	8 (72.7)	
	2011	15	3	8 (66.7)	2 (16.7)	0 (0.0)	2 (13.3)	0 (0.0)	0 (0.0)	12	12 (100.0)	
	2012	16	2	10 (71.4)	2 (14.3)	0 (0.0)	2 (14.3)	0 (0.0)	0 (0.0)	14	12 (85.7)	
	Total	45	8	27 (73.0)	6 (16.2)	0 (0.0)	4 (10.8)	0 (0.0)	0 (0.0)	37	32 (86.5)	
RSE ^f	2010	40	5	18 (51.4)	6 (17.1)	0 (0.0)	6 (17.1)	5 (14.3)	5 (14.3)	35	12 (34.3)	
	2011	42	10	21 (65.6)	5 (15.6)	0 (0.0)	5 (0.0)	1 (2.4)	1 (2.4)	32	14 (43.8)	
	2012	33	4	24 (82.8)	0 (0.0)	0 (0.0)	4 (12.1)	1 (3.0)	1 (3.0)	29	15 (51.7)	
	Total	115	19	63 (65.6)	11 (11.5)	0 (0.0)	15 (15.6)	7 (7.3)	7 (7.3)	96	41 (42.7)	
Total	2010	121	39	53 (64.6)	9 (11.0)	8 (9.8)	7 (8.5)	5 (6.1)	5 (6.1)	82	42 (51.2)	
	2011	130	37	65 (69.9)	10 (10.8)	9 (9.7)	7 (7.5)	2 (2.2)	2 (2.2)	93	60 (64.5)	
	2012	99	20	56 (70.9)	3 (3.8)	10 (12.7)	7 (8.9)	3 (3.8)	3 (3.8)	79	54 (68.4)	
	Total	350	96	174 (68.5)	22 (8.7)	27 (10.6)	21 (8.3)	10 (3.9)	10 (3.9)	254	156 (61.4)	

Note. ^aJournal of Special Education; ^bExceptional Children; ^cJournal of Early Intervention; ^dJournal of Special Education Technology; ^eCareer Development and Transition for Exceptional Individuals; ^fRemedial and Special Education; ^gincludes essay, commentary, and literature review, not including meta-analysis; ^hNumber of studies that include culturally linguistically diverse students, and its proportion in empirical studies.



Table 2

Number of Studies Specified the Ethnicity of K-12 Students and Proportion of Ethnicity

Journal	Year	Study n		Proportion of Ethnicity (%)					
		Included	Reported	Caucasian	African American	Hispanic/Latino	Asian/Pacific Islander	Native American	Other
JSE ^a	2010	3	2	56.5	22.4	11.3	2.9	2.1	4.9
	2011	11	10	59.5	13.6	21.7	3.2	1.1	0.9
	2012	6	5	57.1	8.6	13.5	18.7	0.0	2.0
	Total	20	17	58.5	13.2	18.0	7.7	0.9	1.7
EC ^b	2010	8	8	62.4	19.2	14.6	1.2	1.7	0.9
	2011	15	13	46.9	31.4	16.6	1.2	1.0	2.9
	2012	9	7	53.8	25.9	11.5	0.9	0.1	7.8
	Total	32	28	53.0	26.5	14.8	1.1	1.0	3.6
JEI ^c	2010	7	7	53.3	15.4	24.3	0.9	4.6	1.5
	2011	4	3	46.6	12.0	14.7	11.1	0.0	15.7
	2012	7	6	53.7	20.1	5.9	16.5	0.2	3.7
	Total	18	16	52.2	16.6	15.6	8.6	2.1	5.0
JSET ^d	2010	4	4	39.4	25.3	34.1	1.3	0.0	0.0
	2011	4	2	85.6	11.4	0.0	0.0	0.0	3.0
	2012	5	4	35.8	10.0	39.6	6.3	0.0	8.3
	Total	13	10	47.2	16.4	29.5	3.0	0.0	3.9
CDT ^e	2010	8	5	46.8	21.0	23.5	0.4	4.8	3.5
	2011	12	7	71.0	15.9	5.3	4.7	0.6	2.4
	2012	12	11	63.9	22.1	5.8	0.6	3.0	4.7
	Total	32	23	62.4	20.0	9.5	1.8	2.7	3.8
RSE ^f	2010	12	12	48.8	31.8	15.0	0.6	1.2	2.7
	2011	14	13	44.5	29.4	14.1	6.1	1.4	4.6
	2012	15	14	62.9	22.1	12.5	0.9	0.3	1.4
	Total	41	39	52.4	27.5	13.8	2.5	0.9	2.8
Total	2010	42	38	51.6	23.5	19.6	0.9	2.3	2.0
	2011	60	48	54.0	22.9	14.5	4.0	1.0	3.7
	2012	54	47	57.7	19.9	12.3	5.2	0.8	4.0
	Total	156	133	54.6	22.0	15.2	3.5	1.3	3.4

Note. ^aJournal of Special Education; ^bExceptional Children; ^cJournal of Early Intervention; ^dJournal of Special Education Technology; ^eCareer Development and Transition for Exceptional Individuals; ^fRemedial and Special Education; ^gNumber of studies that included diverse k-12 students; ^hNumber of studies that specified ethnicity of the diverse k-12 students.



including CLD students, 13 (8.3%) studies did not provide specific information on ethnicity, and 10 (6.4%) studies listed ethnic groups represented in the sample without specifying their proportions.

According to data from the National Center for Education Statistics (2012a), the percentage distribution of children 6- to 21-years-old served under IDEA (2004), Part B, by race/ethnicity for year 2010–2011¹ is 54.3% Caucasian and 45.7% CLD. Specific ethnic backgrounds for the CLD children included Latinos (20.3%), followed by African Americans (19.5%), Asian/Pacific Islanders (2.5%), Native Americans (1.4%), and Others/Multi-ethnic (2.0%). Thus, the proportion of ethnicity between our review of studies and special service population appears to align well; only one exception was the underrepresentation of Latinos (15.2%) in empirical research, compared to their proportion in special education (20.3%). The percentage distribution of enrollment in public elementary and secondary schools by race/ethnicity for year 2010–2012² is 51.9% Caucasian and 48.1% CLD (National Center for Education Statistics, 2012b). Specific ethnic backgrounds for the 48.1% CLD included Latinos (23.5%), followed by African Americans (15.9%), Asian/Pacific Islanders (5.1%), Native Americans (1.2%), and Others/Multi-ethnic (2.4%). Notably, Latinos were slightly underrepresented in special education (20.3%) (National Center for Education Statistics, 2012a), but substantially underrepresented in our review of empirical studies (15.2%).

Research designs. The types of research design coded as group quantitative research is shown in Table 3. Among 174 research studies coded as group quantitative in Table 1, the designs included experimental ($n = 28$, 16.1%), quasi-experimental ($n = 50$,

28.7%), correlational ($n = 64$, 36.8%), and descriptive ($n = 32$, 18.4%). These proportions were relatively consistent over the three years.

Snapshot summary. Although the reviews described earlier employed varying criteria for the inclusion and coding of empirical studies, these snapshot findings confirm an increase in the inclusion of CLD students in special education empirical research. These results also demonstrate a decrease in the number of published empirical special education studies reporting no racial/ethnic or demographic information regarding participants, specifically, 94.2% in 1997 (Artiles et al., 1997), 44.4% in 2006 (Lindo, 2006), 51.8% in 2011 (Vasquez et al., 2011), 52.2% in 2012 (Moore & Klingner, 2012), and 28.7% in the current snapshot review. Like Vasquez et al. (2011), our informal review found greater variability in research designs in comparison to Artiles et al.'s (1997) earlier review. Although some improvements were noted (Vasquez et al., 2011), earlier reviews found the research lacking in studies reporting disaggregated findings. Unfortunately, determining whether researchers in our snapshot review were or were not able to disaggregate and analyze results according to CLD differences was beyond the scope of this white paper. It is possible that researchers were unable to analyze data by CLD due to a lack of participants in a particular subpopulation. Determining whether the quality of research methodology has changed substantially in more recent special education empirical research involving CLD students requires further study.

¹ 2010 data are the most recent data available, which was prepared in February 2013

² 2010 data are actual data, and 2011 and 2012 data are projected



Table 3

Type of Design in Group Quantitative Research with K-12 Students with Disabilities

Journal	Year	Type of Group Quantitative Research Design				Total n
		Experimental n (%)	Quasi-Exp. n (%)	Correlational n (%)	Descriptive n (%)	
JSE ^a	2010	2 (40.0)	2 (40.0)	1 (20.0)	0 (0.0)	5
	2011	0 (0.0)	9 (81.8)	0 (0.0)	2 (18.2)	11
	2012	2 (33.3)	0 (0.0)	2 (33.3)	2 (33.3)	6
	Total	4 (18.2)	11 (50.0)	3 (13.6)	4 (18.2)	22
EC ^b	2010	3 (33.3)	0 (0.0)	2 (22.2)	4 (44.4)	9
	2011	4 (25.0)	0 (0.0)	4 (25.0)	8 (50.0)	16
	2012	2 (25.0)	2 (25.0)	4 (50.0)	0 (0.0)	8
	Total	9 (27.3)	2 (6.1)	10 (30.3)	12 (36.4)	33
JEI ^c	2010	0 (0.0)	2 (22.2)	6 (66.7)	1 (11.1)	9
	2011	0 (0.0)	1 (16.7)	4 (66.7)	1 (16.7)	6
	2012	0 (0.0)	3 (37.5)	3 (37.5)	2 (25.0)	8
	Total	0 (0.0)	6 (26.1)	13 (56.5)	4 (17.4)	23
JSET ^d	2010	0 (0.0)	2 (66.7)	1 (33.3)	0 (0.0)	3
	2011	2 (66.7)	0 (0.0)	1 (33.3)	0 (0.0)	3
	2012	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0
	Total	2 (33.3)	2 (33.3)	2 (33.3)	0 (0.0)	6
CDT ^e	2010	2 (22.2)	2 (22.2)	4 (28.6)	1 (11.1)	9
	2011	2 (25.0)	2 (25.0)	1 (12.5)	3 (37.5)	8
	2012	1 (10.0)	1 (10.0)	7 (70.0)	1 (10.0)	10
	Total	5 (18.5)	5 (18.5)	12 (44.4)	5 (18.5)	27
RSE ^f	2010	0 (0.0)	4 (22.2)	11 (61.1)	3 (16.7)	18
	2011	4 (19.0)	9 (42.9)	6 (28.6)	2 (9.5)	21
	2012	4 (16.7)	11 (45.8)	7 (29.2)	2 (8.3)	24
	Total	8 (7.7)	24 (38.1)	24 (38.1)	7 (6.1)	63
Total	2010	7 (13.2)	12 (22.6)	25 (47.2)	9 (17.0)	53
	2011	12 (18.5)	21 (32.3)	16 (24.6)	16 (24.3)	65
	2012	9 (16.1)	17 (30.4)	23 (41.1)	7 (12.5)	56
	Total	28 (16.1)	50 (28.7)	64 (36.8)	32 (18.4)	174

Note. ^aJournal of Special Education; ^bExceptional Children; ^cJournal of Early Intervention; ^dJournal of Special Education Technology; ^eCareer Development and Transition for Exceptional Individuals; ^fRemedial and Special Education.



Recommendations

In this section, we address considerations for including CLD populations in special education research, while also focusing on issues related to the recruitment of CLD students, research methods, and considerations for data analysis, reporting, and communicating findings. Historically, special education research has not adequately represented CLD students or examined issues related to diversity. In more recent years, although still lacking, this landscape has begun to shift with more research within special education and related publications, including more diverse participant populations (Moore & Klingner, 2012; Vasquez et al., 2011). The findings of our snapshot review of recent research illustrate that CLD students were included in 61% of the empirical studies published in six prominent special education and related journals from 2010 to 2012. While it is commendable that over half of the studies reviewed included CLD students, we recognize that this increased inclusion alone is insufficient. We therefore provide specific recommendations to increase the inclusion of CLD students within special education research studies and strengthen the manner in which this research is conducted. We present six recommendations for consideration related to research in special education and dissemination efforts.

Recommendation 1: Develop protocols and procedures to strategically recruit, inform, and support diverse students and families.

Issues of recruitment are an important consideration for researchers who wish to include CLD students in their research. Diverse families may avoid participating in research studies due to difficulties with transportation, childcare, or having a general feeling of mistrust with professionals due to previous negative interactions or conflicting cultural views regarding disability and services (Harry,

2008; Ortiz & Yates, 2008). Moreover, research consent forms and other material sent home to parents regarding projects may be confusing, not only due to language differences but also because parents may be unfamiliar with the scientific language and terminology of education research.

Recruitment of CLD students as research participants requires a deliberate and well-considered outreach effort by researchers. Moreover, diverse students with disabilities and their families may need additional supports to understand the benefits and risks of participating, as well as the content of consent forms and related research tools and protocols. We recommend that researchers consider the backgrounds of CLD students and families they are recruiting to participate in research and develop protocols and materials accordingly. This may include adding research team members who have specialized knowledge and experience in the CLD background of intended participants. For example, for immigrant families for whom English is a foreign language, it is useful to make available bilingual/bicultural researchers to review project goals, benefits, and risks at the onset, and prepare materials in multiple languages, including consent forms and protocols, for data collection. Research projects incorporating online surveys may need to provide access to computers and the support necessary to assist CLD families to participate in these research opportunities. Carefully designed protocols (e.g., explaining purpose and benefits of study) and procedures (e.g., minimizing intrusion and time required of families and students) can serve to increase participation and improve general perceptions of research.



Recommendation 2: Involve individuals who have unique knowledge and experience with CLD populations to collaborate with research teams.

Research questions, findings, and interpretations do not always consider the needs and perspectives of the CLD populations involved in special education research (Klingner & Boardman, 2011; Ortiz & Yates, 2008). Researchers can bring to scientific practice cultural presuppositions that may affect their choices of problems to study, theoretical frameworks to adopt, methodologies to use, interpretations made, and findings reported (Arzubiaga, Artiles, King, & Harris-Murri, 2008).

When considering recruitment methods for encouraging participation of families and students from diverse backgrounds, it is important to include the recommendations and insights of representative members and leaders who have specific knowledge, training, history, and/or experience working or living with the population being studied (American Psychological Association, 2002; Ortiz & Yates, 2008; Trainor, 2011; Trainor & Bal, 2014). Recruitment plans should also include engaging community partners with access to CLD families, such as churches and community, school, and parent centers. The Office of Special Education Programs funds national, regional, and local parent centers, including Parent Training and Information Centers (PTIs) and Community Parent Resource Centers (CPRCs), that provide technical assistance, current information, and various resources and materials for families. Additionally, many states have multiple privately funded organizations offering assistance to families. These and other local, religious, and educational community organizations may be willing to assist researchers in sending out recruitment notices to parents of children with disabilities who are from diverse backgrounds. Community partners can help researchers

recruit families by posting information in various languages and places accessible to CLD families. Community partners can help researchers recruit families by posting information in various languages and places accessible to CLD families.

Furthermore, being aware of the need for cultural expertise in designing, implementing, and interpreting research will assist researchers to ask questions and implement methods of specific relevance to CLD populations (Ford, Moore, Whiting, & Grantham, 2008; Ortiz & Yates, 2008). Representative members and leaders can assist with research methods and conclusions that take into account specific cultural perspectives or lenses (Trainor, 2011). Sharing research protocols, surveys, questionnaires, and other tools, for instance, with community representatives in advance may assist research teams in supplementing and/or modifying procedures to ensure sensitivity, relevance, and understanding and improve participation. Community members may share their perspectives regarding their beliefs and suggest culturally specific practices for consideration in research activities (Ford et al., 2008). Similarly, discussing findings with these groups for their insight may allow researchers to consider alternative reasons and theories for preliminary findings, initial interpretations, final recommendations, and culturally responsive next steps.

As an example outside of special education research, in order to strategically address the chronic underrepresentation of Latino families in biomedical research on autism, Wheeler and colleagues (2013) described two projects built on an academic/community partnership. The team field-tested the utilization of Community Research Ambassadors (CRAs) as a cultural bridge between the research team and the Latino community. CRAs were lay community workers and parents of a child with a disability who had funds of knowledge and the trust of the community of interest. As



active members of the research team, CRAs provided valuable insight into real-life conditions and concerns of participants, resulting in modifications to outreach, participation, and follow-up procedures with families. These steps contributed to the study's high mean participation rates during the intervention and follow-up activities five months post-intervention (Wheeler et al., 2013). Collaborating with community partners to identify and recruit diverse families and improve research procedures and implementation can promote participation among these families who may be interested but unaware or uncomfortable with research opportunities.

Recommendation 3: Consider research designs and methods that may reveal more information about the complex issues of equity, culture, language, and learning when including CLD populations as participants.

When addressing issues for CLD students with disabilities, researchers should be aware of the pitfalls of privileging particular research designs. While the design of a study should be driven by the purpose and nature of the inquiry, implications and nuances related to cultural and linguistic diversity may be obscured in the findings of purely quantitative studies (Klingner & Boardman, 2011; Rueda, 2007). This in turn has implications for the relevance and application of research findings to CLD students.

In our informal snapshot review of recent research, of 254 empirical studies, 68% used group quantitative designs (30.7% were experimental and quasi-experimental designs and 37.8% were correlational and descriptive designs), 11% used single-subject designs, 9% used qualitative designs, 8% used mixed methods designs, and 4% used meta-analysis. Experimental and quasi-experimental designs establish causality and effectiveness of interventions and are therefore used to identify EBPs in special

education. Concerned about the primacy given to experimental designs, especially to random controlled trials as the gold standard in educational research, researchers have argued for the importance of qualitative and mixed methods research that take into account the multiple contexts of CLD learners (American Psychological Association, 2002; Arzubigi et al., 2008; García & Ortiz, 2013; Klingner & Boardman, 2011; Ortiz & Yates, 2008). The CEC-DR (2003) has maintained a position to “support a broad view of scientific research in education” (p. 1).

To gain a more accurate and in-depth understanding of the outcomes of interventions with CLD students, we encourage researchers to select theoretical frameworks and research designs that take into account CLD students' background and culture, along with the context of their learning, when interpreting research results including, for example, an intersectionality framework which considers multiple variables representing students' identity and the practices that influence these variables (refer to Artiles, 2009, 2011; Blanchett, Klingner, & Harry, 2009; and García & Ortiz, 2013, for further discussion). Mixed methods designs provide the opportunity for cultural considerations to be taken into account when analyzing and interpreting the results of research. Combining qualitative components along with quantitative research methodologies can add breadth and depth to the analysis of research results. Investigators can study not just what works but why it works and for whom it may be best (Klingner & Edwards, 2006). In special education research, adding contextual depth to studies is especially important, given the inherently heterogeneous nature of the children participating in studies. To complement quantitative data necessary to establish the effects of educational interventions, qualitative data can provide the thick description that allows researchers and practitioners to consider findings for other similar students and settings and take into consideration the part that culture and



context plays in the success of using and/or modifying particular approaches or strategies with diverse students (Rueda, 2007). Perhaps considering an interdisciplinary approach to special education research could provide opportunities for researchers to integrate theoretical frameworks and methods beyond their own discipline (García & Ortiz, 2013). Strengthening our research in this manner may assist the field in acquiring “...new knowledge and solutions that remove barriers to the social and academic success of students from nondominant cultural, racial/ethnic, and linguistic groups” (García & Ortiz, 2013, p. 40).

Recommendation 4: Include additional background information about diverse student participants in special education research and the context of their learning.

There is great variability both within and across groups of CLD students identified with disabilities in U.S. schools. This population includes students of color (e.g., African American and Native American populations), students born in the U.S. from immigrant families, and students with and without formal schooling experiences in their native language, along with other variations related to social class, gender, disability status, and access to resources. In order to establish the relevance of research involving CLD students, it is important to provide more specific information regarding the students involved in this research and the educational practices surrounding their instruction and support (American Psychological Association, 2002; García & Ortiz, 2013; Gersten et al., 2005).

In our review of the literature, 85% of 156 studies reviewed included CLD students and reported on the specific ethnicity of participants, providing the proportion of the sample represented by each ethnicity. While this is a notable percentage, these published studies could have included additional relevant information related to participants' individual and educational background such as language status and instructional

programming. In reporting on CLD populations in research studies, it is important to provide detailed information on the characteristics of a student that are relevant to the intervention and interpretation of results. We recommend that researchers follow and further expand upon the guidelines provided by Gersten et al. (2005) related to reporting participant characteristics including race, gender, EL status, and special education status, amongst other variables. Additionally, sufficient information regarding institutional practices (e.g., teacher referral, program placements, assessment) and the relationship of these practices with individual learner characteristics (García & Ortiz, 2013) can allow readers to better determine whether research outcomes are relevant to other similar student populations and contexts. State policymakers, district administrators, program coordinators, and teachers want to be able to identify rigorously tested practices with evidence of effectiveness that best suit the population of students in their schools and programs. Instructional practices should be designed for and validated with those students they are intended to support (CEC Division for Learning Disabilities, 2014). To do so requires researchers to provide greater clarity when reporting research methods when publishing their findings.

Recommendation 5: Develop specific plans for communicating with CLD families about special education research.

Families often face challenges when obtaining appropriate and reliable information to better understand their child's disability, and the supports needed to improve their child's learning, behavioral, linguistic, and social outcomes. Research publications are not necessarily accessible resources for families or intended for non-English speakers with varying levels of academic and daily literacy. Researchers, educators, and administrators must work together to provide access to information that



will help families make important decisions regarding their children.

It is important to determine effective approaches and avenues for communicating important special education research findings with diverse families. Specifically, researchers can engage with families about what works best, for whom, and under what conditions to better inform the research and provide families with useful information. Frameworks are needed for translating research into relevant experience-based knowledge and policy to support parents' educational decision-making (Turnbull et al., 2010). These and other resources could assist researchers to organize and share their findings with diverse families for further discussion and understanding. Moreover, researchers can work with community partners to provide support for families to obtain reputable and current research related to their child's disability and services. This support could include creating opportunities for families to access high quality resources on the Internet as well as assisting families in locating quality print, video, and audio sources. Building relationships with diverse families and community members can assist in communicating findings as well as promoting partnerships for future research.

Ultimately, research needs to be communicated in various languages and formats (e.g., summaries, outlines, graphic organizers, podcasts, recordings, websites, blogs, community meetings) to allow widespread access and understanding. For example, the CEC-DR Committee on Families is working on developing a resource on research and EBPs. Resources and dialogue regarding such information should be straightforward, concrete, culturally and linguistically relevant, credible, and tied to families' lived experiences (see also Cook, Cook, & Landrum, 2013). This information can empower families by providing knowledge of terminology critical to understanding published educational research. Additionally, it may allow families

to better understand information often presented by schools regarding current practices. Increased availability of abbreviated research reports and syntheses in multiple languages will also make research information accessible to more CLD families.

Recommendation 6: Improve the training of educational professionals to implement and discuss EBPs with CLD families.

Families look to educational professionals for resources regarding what works best for their children with special needs. Educational professionals in turn require families to help identify which of these or other practices better support their children's specific needs. However, many district administrators, principals, and special education teachers do not possess a full understanding of how to interpret research or identify EBPs suitable for diverse learners. If educational professionals do not understand how to interpret special education research appropriately, then they will be unable to discuss this information with families or know how to identify or implement effective practices for diverse students with disabilities.

Educational professionals can assist with participant recruitment for research studies, and the communication and implementation of effective evidence-based special education practices through their day-to-day interactions with CLD students and families. Thus, to be proactive, programs that prepare teachers and educational leaders should include training in interpreting, evaluating, and implementing special education research. Furthermore, educational professionals must know how to discuss this research and EBPs with families from diverse backgrounds. Resources exist in the literature to aid faculty in preparing educators about EBPs in special education (e.g., Cook, Shepherd, Cook, & Cook, 2012; Torres, Farley, & Cook, 2012). With knowledge of research and EBPs, teachers and administrators can assist CLD families in understanding the language and terminology of research as well



as the procedures taken to conduct research studies. Based on a teacher or administrator's experiences with specific CLD families, research protocols and materials can be further explained to support parents' understanding.

To further support their ability to discuss EBPs with diverse families, educational professionals need more formal professional development in understanding research designs and methods appropriate for CLD populations. Increasing their knowledge of culturally responsive special education research practices would make discussing EBPs for diverse populations easier due to their awareness of appropriate research designs and methods. Administrators and teachers would understand the importance of proper implementation with high fidelity and use of culturally responsive EBPs in the classroom. With this knowledge, both educational professionals and parents would be better equipped to evaluate current practices and support effective practices and programs, thereby bridging the gap between research and practice for CLD students. Empowering both parents and professionals with this level of knowledge would substantially improve educational programming for CLD children and youth with disabilities.

Conclusion

The primary purpose of this white paper was twofold, to determine the inclusion of CLD children and youth in empirical studies and to provide recommendations to the field to further increase their participation and the strength of this research base. Our examination of the literature and snapshot review of empirical outcome-based studies indicates progress in our field's inclusion of CLD students in published special education and related research. Specifically, CLD students are more often involved now in special education research than in previous years. Our brief review, however, does not necessarily document critical changes in special education research that would

demonstrate a shift in the methodology, analysis, or overall quality of this work. As a comparison, although including students with disabilities in general education settings has been encouraged, their mere placement in general education classrooms does not guarantee access to qualitatively appropriate instruction, services, and experiences or improved outcomes. The increase in the inclusion of CLD students with disabilities in special education and related research is promising; however, it is important to evaluate whether the research itself has qualitatively improved for the benefit of CLD students with disabilities and their families.

In this white paper, we followed this review and discussion with recommendations to facilitate the participation of children and youth from diverse cultural and linguistic backgrounds, enhance this research, and share research findings with diverse families. The six essential recommendations were to:

- Develop protocols and procedures to strategically recruit, inform, and support diverse students and families;
- Involve individuals who have unique knowledge and experience with CLD populations to collaborate with research teams;
- Consider research designs and methods that may reveal more information about the complex issues of equity, culture, language, and learning when including CLD populations as participants;
- Include additional background information about diverse student participants in special education research and the context of their learning;
- Develop specific plans for communicating with CLD families about special education research; and
- Improve the training of educational professionals to implement and discuss EBPs with CLD families.



The CEC's DR acknowledges that these recommendations are not exhaustive by any means. Furthermore, we recognize the need to expand on these points and encourage those within and outside the field of special education to engage in genuine and ongoing dialogue regarding the inclusion of CLD learners and other populations in educational research. This being said, we would like to conclude with some final thoughts and considerations for future discussion.

Final Thoughts

In the current white paper we suggest that published special education empirical research increasingly includes CLD populations. However, this research may require further transformation when considering an ecological perspective (Bronfenbrenner, 1994) that recognizes the genuine complexity and influence of existing micro- and macro-factors on CLD students' academic, social/emotional, and behavioral development. To this end, we continue to support research that examines "...experiential variables (e.g., economic, specific family background, community environment and history) of students of color and students from other diverse perspectives and how those variables help explain educational outcomes" (CEC-DR, 2003, p. 2). We also continue to emphasize the importance of disaggregating quantitative data and providing rich qualitative descriptions to show how educational practices and context may have differential effects on students from diverse backgrounds. Future special education empirical research may require more collaborative, interdisciplinary methods, and research questions examined through different theoretical lenses given multiple, complex, and intersecting variables (e.g., disability, culture, language, SES, curriculum, services) (see García & Ortiz, 2013 for further discussion).

A second consideration involves educational research training programs. Institutions of higher education (IHEs) should improve the training of future special education researchers in order to help them acquire the skills and knowledge necessary to engage in appropriate research involving CLD populations. Along these lines, IHEs should actively encourage individuals from diverse backgrounds to seek educational research programs and engage in research with diverse communities. This may require additional federal and/or private funding dedicated for these programs to significantly transform and/or enhance their existing training and recruitment efforts.

Finally, we encourage researchers and practitioners in the field to engage in active discussions regarding this topic and expand on these recommendations in order to develop further guidance for implementation. We appreciate the voices and contributions of parents, researchers, and professionals within our field and their efforts at bringing these issues to the forefront of research practice involving CLD students. The authors would like to thank DR's board members and others, including Dr. Alba Ortiz and Dr. Federico Waitoller, for their careful and insightful feedback during the drafting of this paper. DR's Diversity and Families committees would like to dedicate this white paper to Dr. Janette Klingner, a former CEC-DR member, for her invaluable contributions to special education research and practice.



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