A Critical Analysis of the Common Elements of a High School Social Justice Curriculum

Quantitative Research vs. Qualitative Research*

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ABSTRACT

The topic of this article is high school social justice curriculum. Three socially-just focused studies were critically analyzed. Sample sizes in these studies varied from $n = 12$ to $n = 55$. It is the author's belief, based on the research of others (Kerssen-Griep & Eifler, 2008) that an effective SJC should consist of the following elements: (1) the preparation for college, (2) the questioning of current educational practices, (3) the unlearning of "common sense beliefs," (4) the teaching of racial consciousness, (5) the teaching of multicultural awareness, (6) the delivery of material in a manner that makes the teacher and students of equal status, and (7) the valuing of cooperation and collaboration.

INTRODUCTION

This critical analysis analyzes empirical studies conducted on the topic of high school social justice curriculum (henceforth "SJC"). Currently there is a clarion call for more quantitative research to be conducted on the topic of SJC. Matsumoto (1994) mentions that quantitative educational research typically adheres to one of the following two paradigms: Either a universalistic (etic) view, or a relativistic (emic) view. Traditionally educational researchers have used universalistic frameworks and paradigms (Banks, 1993; Kerlinger, 1979).

Quality Control

Additional quantitative research on SJC is needed, namely for "quality control" within the academy. If qualitative researchers cannot read, understand and interpret empirical and/or quantitative studies (viz. studies with statistics), there is the potential that there will be a few researchers/individuals controlling the numbers (read: research). In lieu of swimming with the current (viz. SJC research subscribing to qualitative research), the author proposes the employment of universalistic perspectives—nevertheless, perspectives that are flexible enough to respond to situational complexity and ambiguity (Emirbayer & Mische, 1998, p. 1013). This type of quantitative research is culturally normative while also critical of dominant discourse. Before outlining the present study and its findings, the author steps back to discuss the dilemma of the qualitative and quantitative research debate.

There is an, almost, fear of statistics and its "exotic statistical names"—names such as the "Wald-Wolfowitz runs test, the Kolmogorov-Smirnov two-sample test, the jackknife resampling method, and the bootstrap estimation method" (Willis, 2007, pp.

68-69). The author contends that there needs to be quantitative research done on SJC as quantitative research is conspicuously absent within this literature. Quantitatively conducted research has the potential of hurting many groups of people, as illustrated in Herrnstein and Murray's (1994) book, *The Bell Curve: Intelligence and Class Structure in American Life.* It was not until Gould's (1996) *The Mismeasure of Man: The Definitive Refutation to the Argument of The Bell Curve* was published that cadres of researchers in the academy could arguably debunk Herrnstein and Murray's book. Gould (1996) meted out a critique that pointed out the innumerable fallacies embedded within Herrnstein and Maurray's book, as have others (Berliner, 2009, p. 490).

Gould's book invalidated the "statistical correlation" and "heritability" methods Herrnstein and Murray used. Gould adamantly argued that psychologists could not assert the validity of IQ tests and the heritability of intelligence through correlation. Herrnstein and Murray, as well as others' (Lynn & Vanhanen, 2002; for an excellent review of Lynn & Vanhanen's [2002] book see Berhanu, 2007) assertions are fallacious because correlation is a measurement of association, not causation.

The conspicuous absence of empirical studies on SJC makes them highly desirable, especially because the educational studies already done may be polluted (read: untrustworthy). Research indicates that educational research has used tools and instruments that are culturally biased (Marbley, Bonner, & Berg, 2008; Sabatier, 2003; Scheurich & Young, 1997; Wyche & Novich, 1986). For instance, Mischel's (1968) study of delayed gratification with preschoolers, referred to as ''the marshmallow test," employed an *etic* paradigm which eventually led to inappropriate and inaccurate findings when the study was replicated with African American children. The *etic* paradigm may

have unintended consequences as evidenced in Mischel's (1968, 1972) research. The universalistic paradigm may also be problematic because it is culturally insensitive: it utilizes a White, middle-class system as a model (proxy). Yoder and Kahn (1993) discuss how the instruments and procedures used in educational research are developed using a monocultural perspective with White-middle-class students as the normative population.

Notwithstanding these shortcomings, the general public continues to proclaim—knowingly or unknowingly—that in order for education to improve it needs to have more "gold-standard" quantitative studies. Its central arguments revolve around the "generalizability" thesis. That is, quantitative studies are believed to be more valuable because they can be generalized to entire populations. Irrespective of how people feel about generalization, quantitative studies do provide statistical insights that qualitative studies cannot. Quantitative research or empirical studies using statistics also have the ability to contextualize phenomena of interest numerically (e.g. hegemony, oppression, and inequality in education) (c.f. Gutstein, 2010).

Yoder and Kahn's (1993) research reveals that educational research, even if it appears to be "empirical" is constructed with Whites in mind. An example of the push for more "numbers research" in education is the U.S. Government's mandate for "scientifically based research" (SBR), where an increase in government funding for educational research is necessary in order to advance SBR (Committee on Scientific Principles for Education Research, 2002; Raudenbush, 2002). Two important questions to ask: Can quantitative research (or SBR studies) emancipate oppressed and underserved populations? Or do the very metrics they employ at times, such as culturally biased tests

and ethnocentric testing practices, serve to legitimate White supremacy through sidelining people of color and privileging Whites?

Federal policy appearance and behavior lead the author to believe that policymakers listen more to numbers (read: quantitative research) than to words (read: qualitative research). The movement towards quantitative research dovetails with national policy, evidenced in the No Child Left Behind Act's (2001) fetishism with SBR. SBR may be part and parcel to the proliferation of the universalistic or *etic* paradigm; which is highly problematic for education. However, culturally relevant (i.e. socially just) quantitative studies *can* be used to help improve education by providing statistical insights (i.e. generalization) on the population/group it studies. This does not invalidate the need for meaningful qualitative studies (which particularize); rather, they can both coterminously exist (c.f. Dixon-Román, 2010).

Polysemy of SJC

Since the nomenclature of SJC elicits different definitions for different people, it becomes difficult to understand what social justice is. Differences of opinion and interpretation amongst laypeople and those within academia are apparent, as well as the *polysemy* (or multiplicity of meaning) of SJC's definition when reviewing the current literature. Ayers, Quinn, and Stovall, (2009) reference the work of Boyles, Carusi, and Attick who indicate, "Discerning the meaning of social justice is challenging because [of] its disparate uses across diverse viewpoints" (p. 37). Ayers et al., (2009) also cite Saltman, who writes that "social justice does not have a unified or static meaning" (p. 1).

A common misconception is the conflation of SJC with "distributive justice" (Young, 1990; Finn, 1993; Hirsch et al., 1988). Distributive justice is "concerned with the

distribution of the conditions and goods that affect individual well-being" (Deutsch, 1979). While there are elements of "distributive justice" embedded within SJC, distributive justice is not a replica of SJC. The conflation of the two concepts, distributive justice and SJC, blurs and threatens SJC as a curriculum. Conflation tempers SJC's charge to forge a democratic education for *real* social change (Ayers, et. al., 2009). Ayers (2009, p. xiv) further explicates social justice's charge by writing how "equity," "activism," "social literacy" are of the utmost importance, and are part and parcel to SJC.

What is more, SJC literature is fractured and a generally agreed-upon definition of social justice does not exist. And while many studies have been conducted on the topic of SJC, quantitative studies are conspicuously absent (viz. the majority of these studies have been approached qualitatively) (Denzin & Lincoln, 2005; Guba, 1990; Levstik & Tyson, 2008; Lindlof & Taylor, 2002; Stovall 2009a, 2009b). The adage qualitative researchers draw on is this: "Not everything that is counted counts; and not everything that counts can be counted." Irrespective of what side a person lies in the "paradigm war," one thing is for certain: there *is* a shortage, and a *need* for empirical studies on SJC.[i]

Critical Analysis

In order to conduct a meaningful critical analysis, this paper constructs definitional issues of importance. First, Messick (1989, 1995) refers to how a construct that is poorly defined is poorly measured. Next, this critical analysis determines the common elements (viz. what is included and excluded) of a high school social justice curriculum. Last, a (re)conceptualization of existing conceptualizations and paradigms of SJC is made in order to better articulate the goals and outcomes of SJC. It is important to bear that this critical analysis does not replicate studies.

METHODOLOGY AND PARAMETERS

Definitional Issues of Importance (Research Question)

The overarching question for this critical analysis is, "What are common elements of a high school social justice curriculum?" At the time of this study, the articles contained in this critical analysis were obtained from a search of literature utilizing the education database SAGE. The following limiters, Boolean operators, truncation operators, and search criteria were used:

(a) "high school" or "secondary",

(b) and ("social justice" and (curricula* or program)),

(c) and "critical pedagogy",

(d) and were (peer reviewed) journal articles.

As a result, 25 articles were found; after removing duplicate articles, there were 20 articles. Parameters were used to narrow articles of interest (see Appendix A). The selected articles:

(a) either used an experimental,

(b) quasi-experimental,

(c) pretest-posttest, and/or

(d) a prequestionnaire-post questionnaire design.

Table 1 illustrates the articles that met all of the aforementioned criteria. Sample sizes varied, from $n = 12$ to $n = 55$. Only one study provided sufficient data/information needed to calculate effect size (hereafter ES) and thus, was the study the author quantitatively analyzed.

TABLE 1
Three High School Social Justice Curriculum Studies

Topic Area	Research Study	Technique	Intervention or Program	Conclusions
Critical Language Pedagogy (*n* = 55)	Case Narrative	Pre- and Postquestionnaires	Weeklong unit	Godley and Minnici (1998) found that language variety and *code-switching* are desirable elements of high school curriculum insofar as they help address how dominant culture and groups subordinate others (such as through the use of the language of power).
Racism Awareness (*n* =74)	Case Narrative	Pre- and Posttests	YES! Program	Thomas, Davidson, and Mcadoo (2008) found that high school curriculum that focuses on African American historical and contemporary experiences with racism is effective in building community, creating a positive ethnic identity within an individual, and increasing youth participation in liberatory activism.
Antiracism Education (*n* = 12)	Longitudinal Study	Pre- and Posttests	*Bridge Builders Academic Mentoring Program (BAMP)*	Kerssen-Griep and Eifler (2008) found that by enhancing one's intercultural communication (through transformative education), one's consciousness of racism is elevated.

DATA COLLECTION METHODS

In order to better understand the effect of the *Bridge Builders Academic Mentoring Program (BAMP)* used in Kerssen-Griep and Eifler's (2008) study, effect sizes (ES's) for each facet of communication competence were calculated. The statistical procedure used was Cohen's *d* for effect size (ES) measures for repeated-measures. Kerssen-Griep and Eifler's (2008) study reported repeated-measures *t*-test statistics for each individual component of the overall BASIC score. Therefore, the calculations used to determine ES's were as follows:

A t value was inputted into the following formula: $t = \frac{(\overline{D})}{S_{\overline{D}}}$, where $\overline{D}$ is the mean difference (posttest minus pretest), and $S_{\overline{D}}$ is the standard deviation score for this particular mean difference score. Once the standard deviation of the mean difference $S_{\overline{D}}$ was calculated, it was inputted into the following formula: $S_{\overline{D}} = \frac{S}{\sqrt{n}}$, where n is the sample size (in this case, $n = 12$), and S is the standard deviation. The standard deviation, S was then inputted into the following equation: $d = \frac{(\overline{D})}{S}$, where d is the estimated Cohen's d (ES), and $\overline{D}$ is the mean difference (posttest minus pretest). This last and final calculation allowed for the calculation of the ES (Cohen's d for repeated-measures t-tests).

Interpretation

Lipsey (2001) states that "[a]n *effect size* is a statistic that encodes the critical quantitative information from each relevant study finding. (p. 3 [emphasis add]). Effect size measures are the common currency of many studies; however, in the current corpus of literature on SJC, there is a lack of statistical (viz. quantifiable information) data. The calculated ES's of Kerssen-Griep and Eifler's (2008) study provide numerical data for determining the important elements of a high school SJC. ES's are generally interpreted (see Appendix B) as follows: (1) Large effects are classified as $d \geq 0.8$, (2) Medium effects are classified as $0.5 \leq d \leq 0.7$, and (3) Small effects are classified as $d \leq 0.4$.

Table 2 presents the ES's in the BAMP study. It illustrates the large effect (see Appendix B to interpret size of effect) the following communication competences played in this study: (1) Respond descriptively, (2) Display empathy, (3) Express respect and positive regard, (4) Ambiguity tolerance, and (5) Interaction management. If a communication competence had a *large effect*, we can interpret it to mean that it had a large effect in this study.

TABLE 2

Bridge Builders Academic Mentoring Program (BAMP)

Communication Competence Dimensions (*n=2*)	October		April		*t*	Effect Size (Cohen's *d*)
	M	*SD*	*M*	*SD*		
Summed BASIC Score	30.30	2.06	35.20	3.05	5.50***	1.5877
1. *Respond descriptively*	*3.13*	*.30*	*3.90*	*.28*	*7.99***	*2.3065*
2. *Display empathy*	*3.63*	*.61*	*4.53*	*.61*	*6.08***	*1.7551*
3. *Express respect and positive regard*	*4.20*	*.65*	*5.00*	*.00*	*4.77***	*1.3769*
4. *Ambiguity tolerance*	*4.13*	*.61*	*4.77*	*.42*	*3.54**	*1.0219*
5. *Interaction management*	*4.00*	*.53*	*4.60*	*.60*	*2.97*	*0.8573*
6. Group maintenance behaviors	3.93	.46	4.40	.71	1.93	0.5571
7. Group task role behaviors	3.87	.52	4.30	.70	1.75	0.5051
8. Personal knowledge orientation	3.40	.60	3.70	.46	1.66	0.4792

Note: Range of possible scores was 1-5 for all scale items except numbers 1 and 8 above, which ranged from 1 to 4. Italicized dimensions' changes are significant at the Bonferroni-corrected $p < .006$ level. *$p < .05$. **$p <.01$. ***$p <.001$.

Discussion of Other Articles

Thomas, Davidson, and Mcadoo's (2008) study focused on antiracist education practices. Thomas et al. (2008) did not present the summary data necessary to calculate an ES for the ANCOVA tests incorporated; therefore, a Cohen's *d* could not be derived.

In Godley and Minnici's (1998) study, teachers focused on language and the ability to *code-switch*[ii]. A Cohen's *d* could not be derived in Godley and Minnici's study because the pre- and post-questionnaires relied upon qualitative—not quantitative—data.

Notwithstanding ES's that were not computed for the two aforementioned studies, they are both important in this article because they speak to two major elements that recurrently appear in SJC: (1) antiracism education (May, 1999) and/or racial awareness/consciousness (Milroy, 2001), and (2) being critical and questioning current practices—status-quo dogma (Ball 2000).

RESULTS AND ANALYSIS

Effect sizes were initially calculated utilizing freeware[iii] electronic software; however, they were also hand-calculated (see Appendix C) in order to ensure accuracy. It appears that an effective SJC may consist of the following elements: (1) the preparation for college, (2) the questioning of current educational practices, (3) the unlearning of "common sense beliefs," (4) the teaching of racial consciousness, (5) the teaching of multicultural awareness, (6) the delivery of the material in such a way that the teacher and students are of equal status, and (7) the valuing of cooperation and collaboration.

Preparation for College

Few will argue the importance of a college degree (4-year or 2-year) in the 21st century. However, Oakes, Joseph, and Muir (quoted in Banks & McGee Banks, 2004) indicate that "currently the structures in place do not allow participation and high achievement possible for low-income students of color" (p. 87). Oakes et al. (quoted in Banks & McGee Banks, 2004) further this notion by stating the following:

> A *college-going* culture at school, high-quality curriculum, well-prepared and knowledgeable teachers, special academic assistance when needed, supportive relationships with caring school adults, and connections with families focused on high achievement and *college going* all seem to foster the outcomes we seek for low-income students and students of color. (p. 87 [author's emphasis])

College preparation aligns with the aims and goals of SJC. Further, few can dispute research that has documented how high school graduation and college preparation are correlated (Alon & Tienda, 2005; Roderick et al., 2008). Sociologists Alon and Tienda (2005) found that students of color's likelihood of graduating increased as the selectivity of the college increased. Roderick et al. (2008) found that one standard deviation increase in a school's *college-going* climate was associated with a 7 to 9 percent increase in the likelihood that a four-year college aspirant student would engage each enrollment process. This element of SJC is nested in the literature on college preparation, which indicates that high schools that best support college-going students provide the following: (1) advanced coursework, (2) targeted academic counseling, (3) college preparatory activities, and (4) staff mentoring for students (Farmer-Hinton, 2003; Gamoran, 1987; Horn & Nuñez, 2000; Jordan & Plank, 2000; McDonough, 1997; Noeth & Wimberly, 2002; Schneider & Stevenson, 1999).

Questioning of Current Educational Practices

SJC may be perceived by the majority (status-quo) as a "radical" and "non-traditional" curriculum because it is christened to question current educational practices[iv]. Bowles and Gintis (1976) and Willis (1977) posit:

> Much schooling has been a training ground for workers for a capitalist economy; social justice curriculum must be wary not to simply become a training ground for the rank and file in a political cause. (quoted in Ayers, et. al., 2009, p. 462)

SJC questions current educational practices because school curriculum is designed to maintain the current social order (Swartz, 1992; Ladson-Billings, 1994, 1995, 1998). Ladson-Billings posits:

> master scripting means stories of people of color, women, and anyone who challenges this script is muted and erased…Examples of this muting and erasure are evident in the way cultural heroes are transformed in textbooks to make them more palatable to dominant constituencies. (quoted in Banks & McGee Banks, 2004, p. 58)

SJC attempts to dismantle master scripting through the questioning of current educational practices as well as through social just teaching.

Unlearning of Common Sense Beliefs

Part of unlearning common sense beliefs is first grappling with the unfortunate fact that some of the stories commonly thought to be "true" are, unfortunately, intentionally and inaccurately told in order to marginalize and oppress certain populations. SJC can assist in the unlearning of common sense beliefs through the Critical Race Theory concept of "storytelling" and "counter-storytelling." This dichotomous interaction is predicated upon the belief that schools are neutral spaces that treat everyone justly; however, close examination refutes this.

Racial and Social Consciousness

In *Teaching for Social Justice,* Hunt (1998, preface) articulates her thoughts on the importance of being conscious of race and social standing in a broad context. She states the following:

> Teaching for social justice is at the core of democratic education….[O]ur students benefit from the rich history of people who didn't settle for the way things are: Fannie Lou Hamer, Jane Addams, Myles Horton, Chico Mendes, and numerous others—as well as lesser-known heroes such as the Tuskegee Airmen; the Navajo Code Talkers; suffragettes; and countless union workers, teachers, and good neighbors.

Racial and social class consciousnesses are interlinked, interwoven, and inseparable. Much literature has stated how mainstream rhetoric uses "color-blindness" in

order to camouflage white supremacists serving their own self-interests (Dixson & Rousseau, 2005; Tate, 1997; Yosso, 2005).

Multicultural Awareness

SJC will continue to remain inert without socially just educators/facilitators. Nieto (2000) delineates how becoming a multicultural teacher requires one to first become a multicultural person. This requires learning more about multiculturalism through engaging in pluralistic activities. There is also a requirement for teachers to engage in self-introspection in regards to their own racism, biases, and prejudices (for a detailed explanation see Nieto, 2000, pp. 335-344).

Equal Status Amongst Teacher and Students

SJC is inclusive; the teacher is not the possessor of wisdom, nor students merely recipients (Freire, 2001a, 2001b; Tompkins, 1990). The "banking method" or "jug mug" approach that Freire (2001b) identified continues to plague education and infiltrates schools nationwide. Tompkins' (1990) teacherly ethos is similar to Freire's, in that she speaks of the need of intentionally challenging the traditional classroom hierarchy in order to build a community of learning in which the teacher is a facilitator of the process of learning, not just an authority delivering knowledge; this is interrelated to what she outlines as "pedagogy of the distressed." Tompkins' teacherly ethos pivots from Freire's notion of "reciprocal learning" quite well. Reciprocal learning is best encapsulated in *Pedagogy of Freedom*, when Freire (2001a) posits:

> I believe that I can state without equivocation, at this moment, that all educational practice requires the existence of "subjects," who while teaching, learn. And who in learning also teach. The reciprocal learning between teachers and students is what gives educational practice its *gnostic* character. (p. 67 [author's emphasis])

SJC flees from teacher-centered paradigms. Breaking-away from the status-quo is one of many qualities distinctive to SJC.

Valuing Cooperation and Collaboration

SJC views cooperation and collaboration positively. According to Hidalgo, Siu, and Epstein (quoted in Ayers et al., 2009), "Puerto Rican parents value interdependence and nurture *cooperation* [author's emphasis] in children" (p. 637). Hidalgo et al. (2009) also state that interdependence among family members is expected and provides a support system for all individuals. Valuing cooperation and collaboration is corroborated by a myriad of other studies and researchers (Hidalgo, 1994; Mizio, 1974; Salgado, 1985).

DISCUSSION

The shortage of empirical studies on SJC implores researchers and academics to research SJC through empirical studies and lenses. This shortage is corroborated by many leading authorities in the academy (Guba, 1990; Levstik & Tyson, 2008; Stovall 2009a, 2009b). Budding scholars (viz. current doctoral students) can be the vanguards, delivering much-needed quantitative studies (that can be used for social justice).

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Appendix A

Three Selected (High School) Social Justice Curricula/Programs

Type	Description
Types of Social Justice Curricula/Programs	
Type	**Description**
Antiracism (2 studies)	**In these two studies, teachers focused much attention on antiracist education practices.** *Evaluation Study (YES! Program)* A Cohen's *d* could not be derived as the authors did not present the summary data necessary to calculate an ES for the ANCOVA tests incorporated. *Cross-Racial Contact (Bridge Builders Academic Mentoring Program (BAMP))* Cohen's $d = 1.5877$
Other (1 study)	**In this one study, teachers focused on language and the ability to code-switch.** *Critical Language Pedagogy* A Cohen's *d* could not be derived because the pre- and post-questionnaires relied upon qualitative, not quantitative, data. However, Godley and Minnici (1998) reported the following: […] student questionnaires indicated that the implementation of critical language pedagogy in our language variation unit led students to more positive, detailed, and reflective understandings of their own dialect use that were maintained over time. Students' written reflections on the unit also suggested that they had learned to question widespread language ideologies, particularly the assumption that some dialects are better than others. For example, in response to the question, "What was the most interesting or useful idea or skill you learned during our unit?" one student wrote, "There's really no correct English; every English dialect is all English." Another student wrote, "People do a lot of stereotyping." (p. 338)

Appendix B

Interpretation of Cohen's d

Cohen's Standard	Effect Size
	2.0
	1.9
	1.8
	1.7
	1.6
	1.5
	1.4
	1.3
	1.2
	1.1
	1.0
	0.9
LARGE	0.8
	0.7
	0.6
MEDIUM	0.5
	0.4
	0.3
SMALL	0.2
	0.1
	0.0

Appendix C

Hand-Calculations for Effect Size(s) (ES) for Cross-Racial Contact study[v]

<table>
<tr><td colspan="7" align="right">Summed BASIC Score</td></tr>
<tr><td colspan="7">

$t = \dfrac{(\overline{D})}{S_{\overline{D}}}$ $5.50 = \dfrac{4.9}{S_{\overline{D}}}$ $5.50 S_{\overline{D}} = 4.9$ $S_{\overline{D}} = \dfrac{4.9}{5.50}$ $S_{\overline{D}} = 0.890$ $S_{\overline{D}} = \dfrac{S}{\sqrt{n}}$ $S_{\overline{D}} = \dfrac{S}{\sqrt{12}}$

$0.890 = \dfrac{S}{\sqrt{12}}$ $0.890\sqrt{12} = S$ $3.0862 = S$ $d = \dfrac{(\overline{D})}{S}$ $d = \dfrac{4.9}{3.0862}$ $d = 1.5877$

</td></tr>
<tr><td colspan="7">

1. Respond descriptively

$t = \dfrac{(\overline{D})}{S_{\overline{D}}}$ $7.99 = \dfrac{0.77}{S_{\overline{D}}}$ $7.99 S_{\overline{D}} = 0.77$ $S_{\overline{D}} = \dfrac{0.77}{7.99}$ $S_{\overline{D}} = 0.096$ $S_{\overline{D}} = \dfrac{S}{\sqrt{n}}$ $S_{\overline{D}} = \dfrac{S}{\sqrt{12}}$

$0.096 = \dfrac{S}{\sqrt{12}}$ $0.096\sqrt{12} = S$ $0.3338 = S$ $d = \dfrac{(\overline{D})}{S}$ $d = \dfrac{0.77}{0.3338}$ $d = 2.3065$

</td></tr>
<tr><td colspan="7">

2. Display empathy

$t = \dfrac{(\overline{D})}{S_{\overline{D}}}$ $6.08 = \dfrac{0.90}{S_{\overline{D}}}$ $6.08 S_{\overline{D}} = 0.90$ $S_{\overline{D}} = \dfrac{0.90}{6.08}$ $S_{\overline{D}} = 0.148$ $S_{\overline{D}} = \dfrac{S}{\sqrt{n}}$ $S_{\overline{D}} = \dfrac{S}{\sqrt{12}}$

$0.148 = \dfrac{S}{\sqrt{12}}$ $0.148\sqrt{12} = S$ $0.5127 = S$ $d = \dfrac{(\overline{D})}{S}$ $d = \dfrac{0.90}{0.5127}$ $d = 1.7551$

</td></tr>
<tr><td colspan="7">

3. Express respect and positive regard

$t = \dfrac{(\overline{D})}{S_{\overline{D}}}$ $4.77 = \dfrac{0.80}{S_{\overline{D}}}$ $4.77 S_{\overline{D}} = 0.80$ $S_{\overline{D}} = \dfrac{0.80}{4.77}$ $S_{\overline{D}} = 0.167$ $S_{\overline{D}} = \dfrac{S}{\sqrt{n}}$ $S_{\overline{D}} = \dfrac{S}{\sqrt{12}}$

$0.167 = \dfrac{S}{\sqrt{12}}$ $0.167\sqrt{12} = S$ $0.5809 = S$ $d = \dfrac{(\overline{D})}{S}$ $d = \dfrac{0.80}{0.5809}$ $d = 1.3769$

</td></tr>
<tr><td colspan="7">

4. Ambiguity tolerance

$t = \dfrac{(\overline{D})}{S_{\overline{D}}}$ $3.54 = \dfrac{0.64}{S_{\overline{D}}}$ $3.54 S_{\overline{D}} = 0.64$ $S_{\overline{D}} = \dfrac{0.64}{3.54}$ $S_{\overline{D}} = 0.180$ $S_{\overline{D}} = \dfrac{S}{\sqrt{n}}$ $S_{\overline{D}} = \dfrac{S}{\sqrt{12}}$

$0.180 = \dfrac{S}{\sqrt{12}}$ $0.180\sqrt{12} = S$ $0.6262 = S$ $d = \dfrac{(\overline{D})}{S}$ $d = \dfrac{0.64}{0.6262}$ $d = 1.0219$

</td></tr>
</table>

5. Interaction management

$$t = \frac{(\overline{D})}{S_{\overline{D}}} \quad 2.97 = \frac{0.60}{S_{\overline{D}}} \quad 2.97 S_{\overline{D}} = 0.60 \quad S_{\overline{D}} = \frac{0.60}{2.97} \quad S_{\overline{D}} = 0.202 \quad S_{\overline{D}} = \frac{S}{\sqrt{n}} \quad S_{\overline{D}} = \frac{S}{\sqrt{12}}$$

$$0.202 = \frac{S}{\sqrt{12}} \quad 0.202\sqrt{12} = S \quad 0.6998 = S \quad d = \frac{(\overline{D})}{S} \quad d = \frac{0.60}{0.6998} \quad d = 0.8573$$

6. Group maintenance behaviors

$$t = \frac{(\overline{D})}{S_{\overline{D}}} \quad 1.93 = \frac{0.47}{S_{\overline{D}}} \quad 1.93 S_{\overline{D}} = 0.47 \quad S_{\overline{D}} = \frac{0.47}{1.93} \quad S_{\overline{D}} = 0.243 \quad S_{\overline{D}} = \frac{S}{\sqrt{n}} \quad S_{\overline{D}} = \frac{S}{\sqrt{12}}$$

$$0.243 = \frac{S}{\sqrt{12}} \quad 0.243\sqrt{12} = S \quad 0.8435 = S \quad d = \frac{(\overline{D})}{S} \quad d = \frac{0.47}{0.8435} \quad d = 0.5571$$

7. Group task role behaviors

$$t = \frac{(\overline{D})}{S_{\overline{D}}} \quad 1.75 = \frac{0.43}{S_{\overline{D}}} \quad 1.75 S_{\overline{D}} = 0.43 \quad S_{\overline{D}} = \frac{0.43}{1.75} \quad S_{\overline{D}} = 0.245 \quad S_{\overline{D}} = \frac{S}{\sqrt{n}} \quad S_{\overline{D}} = \frac{S}{\sqrt{12}}$$

$$0.245 = \frac{S}{\sqrt{12}} \quad 0.245\sqrt{12} = S \quad 0.8511 = S \quad d = \frac{(\overline{D})}{S} \quad d = \frac{0.43}{0.8511} \quad d = 0.5051$$

8. Personal knowledge orientation

$$t = \frac{(\overline{D})}{S_{\overline{D}}} \quad 1.66 = \frac{0.30}{S_{\overline{D}}} \quad 1.66 S_{\overline{D}} = 0.30 \quad S_{\overline{D}} = \frac{0.30}{1.66} \quad S_{\overline{D}} = 0.180 \quad S_{\overline{D}} = \frac{S}{\sqrt{n}} \quad S_{\overline{D}} = \frac{S}{\sqrt{12}}$$

$$0.180 = \frac{S}{\sqrt{12}} \quad 0.180\sqrt{12} = S \quad 0.6260 = S \quad d = \frac{(\overline{D})}{S} \quad d = \frac{0.30}{0.6260} \quad d = 0.4792$$

NOTES

[i] This is the author's opinion, based on others' research (Stovall 2009a, 2009b; Levstik & Tyson, 2008).

[ii] For further explanation of *code-switching*, see (Delpit, 1995; 2002).

[iii] Effect Size (ES) calculated using freeware; access at:
http://www.danielsoper.com/statcalc/calc48.aspx

[iv] Current educational practices tend to be Eurocentric in nature.

[v] This study was a repeated-measures study.