

THE RELATIONSHIP BETWEEN
CULTURAL COMPETENCE AND TEACHER EFFICACY

A Dissertation
Presented to
The Faculty of the Curry School of Education
University of Virginia

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

By
Ranjini Mahinda JohnBull, BA, MEd

May 2012

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ABSTRACT

Co-chairpersons: Dr. Pamela D. Tucker

Dr. James P. Esposito, Jr.

This study sought to determine the nature of the relationship between cultural competence and teacher efficacy. According to 30 years of NAEP data, stagnant achievement among minority students persists; among factors related to student achievement, teacher efficacy represents the school-related variable that is most closely correlated and predictive of student outcomes. Contextual factors influence teacher efficacy, and beliefs about student characteristics are particularly salient. Multicultural education research suggests that teachers' beliefs about individuals' characteristics, also known as teachers' cultural competence, impact student outcomes. Since teacher efficacy is related to beliefs about student characteristics, and those beliefs are encompassed in one's cultural competence, understanding the relationship between cultural competence and teacher efficacy may elucidate the hypothesized relationship between cultural competence and student outcomes through teacher efficacy constructs, which serve as mediating variables. Prior to this study, no empirical findings have substantiated this hypothesized relationship.

Survey research methods were employed in order to answer the research questions. The participants were comprised of a random sample of Virginia teachers who had publicly-listed email addresses. The total sample included 600 volunteer participants who completed an online survey that included three parts: a demographics section, a modified Teacher Efficacy Survey (Gibson & Dembo, 1984), and a modified Self-Identity Inventory (Sevig, Highlen, & Adams, 2000). Dependent variables included the

two teaching efficacy constructs (General Teaching Efficacy and Personal Teaching Efficacy), and the independent variables included cultural competence total scores and the five cultural competence construct scores (Individuation, Dissonance, Immersion, Internalization, and Integration). Control variables included gender, grade level, teaching experience, class size, classroom diversity, and diversity professional development.

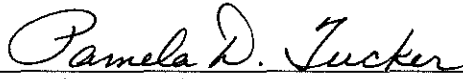
Hierarchical multiple regression analyses were conducted in this descriptive and correlational study to determine the extent to which cultural competence and cultural competence constructs accounted for variance in teaching efficacy constructs over and above control variables. The results indicated that cultural competence total scores accounted for 2.4% of the variance in general teaching efficacy over the control variables. Cultural competence constructs accounted for 4.5% of the variance in general teaching efficacy. Individuation, the lowest cultural competence stage, accounted for 3.5% of the variance in general teaching efficacy.

Findings also revealed that cultural competence total scores accounted for 2.1% of the variance in personal teaching efficacy above the control variables. Cultural competence constructs accounted for 7.6% of the variance in personal teaching efficacy above the control variables. Internalization, stage 4, explained 2.1% of the variance in personal teaching efficacy. Integration, stage 5, explained 4.7% of the variance in personal teaching efficacy. Findings suggest that cultural competence may contribute to student outcomes through the mediating variables of personal and general teaching efficacy. Recommendations for further research and practice are included which detail this important line of inquiry representing a nexus between multicultural education, cultural competence, teacher efficacy, and student outcomes.

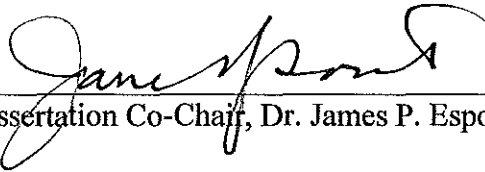
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Curry School of Education
University of Virginia
Charlottesville, Virginia

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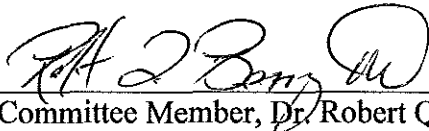
This dissertation, *The Relationship between Cultural Competence and Teacher Efficacy*, has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of Doctor of Philosophy.



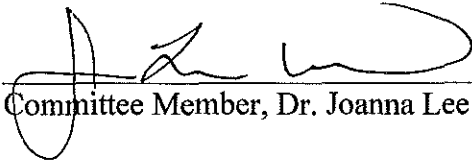
Dissertation Co-Chair, Dr. Pamela D. Tucker



Dissertation Co-Chair, Dr. James P. Esposito



Committee Member, Dr. Robert Q. Berry, III



Committee Member, Dr. Joanna Lee Williams

May 4, 2012

Date

Dedication

To my loving parents, D. Diane Mahinda and Bhikkhu T. Mahinda. For instilling a love of learning in me, for always finding ways to encourage and challenge me, for always expecting me to reach this goal, for supporting me in more ways than I could ever count, for bravely breaking cultural boundaries in your marriage and in your careers, and most of all, for demonstrating that the most fulfilling work is in service to others, I dedicate this dissertation to you.

To my best friend and husband, Eric A. JohnBull. For being my partner in life, for standing by my side during every part of this graduate education, for remaining steady through each challenge, for your spiritual partnership, for your friendship, and most of all, for your steadfast love, I dedicate this to you.

Acknowledgements

I thank God for the blessing of each day of life, for preparing the way for this study, blessing this work, and putting so many people in my life to support and facilitate my growth. Thank you to my family, friends, professors, and peers for your prayers, encouragement, advice, help, and kind wishes. I would also like to offer special thanks to a few people for their instrumental roles in my graduate education experience that culminated in this study.

Two people have had an enormous amount of influence on my work on this dissertation and my training as a new scholar: my dissertation co-chairs, Dr. Pamela Tucker and Dr. James Esposito. It is hard to put into words how thankful I am for the two of you together and individually, and the ways that you both have helped me grow and mature in work and in life. I consider it a great honor to call you both my mentors. Dr. Tucker, not only have you have taught me the art of crafting a piece of literature, but you have also demonstrated what it means to be a lifelong learner, constantly striving for more so that your work may continue to influence and improve the practice of educators. Thank you also for your patience and gentle realism in your advice for this dissertation, for scholarly life, and for balancing my new motherhood with this academic experience. Dr. Esposito, thank you for shaping my scholarly thinking through the Socratic method and for constantly challenging me by “busting my chops” to make certain that I knew

what I believed and for what I was searching. Your enthusiasm about research design was, and still is, infectious. Through this experience, you have constantly reminded me that my work must not only be theoretically sound, but it also must be of practical use to educators. Thank you for your unwavering confidence in me as a student, researcher, and novice scholar. Pam and Espo, you both inspire me.

Thank you to several special faculty members for your teaching and guidance as well. To Dr. Robert Berry and Dr. Joanna Lee Williams, thank you for serving on my committee and offering extremely poignant critiques which have helped to challenge me to understand the in's and out's of my study and any study in general. Thank you to Dr. Sara Dexter and Dr. Daniel Duke for your excellent teaching in class and support at our conferences. It has been a privilege to be a part of the Administration and Supervision family with you two. Thank you also to Dr. Bob Covert for your mentorship in teaching. Your kind spirit and humility in teaching Multicultural Education is what I hope to model in my future endeavors as an instructor. Thank you for the opportunity to learn and grow as your assistant.

Several friends have made this experience especially rich. Camille Lawrence, Melissa and Justin Malone, Anne Hayes, Temple Walkowiak, and Kateri Thunder, you have each supported me and taught me in more ways than I can express. I thank God for each of you and your friendship and look forward to many more years of laughs, serious conversations, happy tears, and blessings. Rob Izzo, Charlie Heaton, Craig Young, and Pam Lobb, our SEEDS4Change journey has created a special place in my heart for each of you. Thank you for your dedication to social justice in each of the different parts of your lives.

To my admissions family, Phyllis Palmore, Sheilah Sprouse, Paula Price, and Dr. Joanne McNergney, thank you for giving me the opportunity to be a part of your warm community. You gave me a home in the Curry School, and I will always be grateful for your support and love.

Thank you to Aunt Laura Dial for working from home and setting aside any weekend when I needed extra help with Priyasha so that I could write and work. I am so thankful for you!

I also offer my sincere thanks to Kathryn and Ombo JohnBull, my wonderful in-laws. I couldn't have made it without all of the extra hours you also volunteered to care for our sweet Priyasha while I worked and wrote. Thank you also for your sacrifices for us in our return from Uganda, which made our transition so much smoother. Thank you so much for your love and support in this endeavor!

Mom and Dad, when I put on my robes at graduation, please know that it is because of your sacrifices as parents that this achievement has been reached. As I am being hooded, you are also being hooded. You are my heroes. I love you so much, and it is because of your love, dedication, and prayers that this day has come. I cannot thank you enough!

Priyasha, our sweet little girl, thank you for your wonderful spirit, beautiful joy, and the privilege of being your mother. You have brought me happiness through this entire dissertation experience, and I am so grateful for your generous love. I love you!!

Eric, I feel so blessed to have your hand to hold through our journey together. I thank you for your endless support, prayers, and love, and your dedication to being an amazing father and wonderful husband. Your excitement for this work gave me extra

strength when it seemed like the finish line was so far off. Thank you for helping me maintain perspective of what truly matters. Your love lifts me higher and higher! Webale nkutaka!! I love you so much!!

TABLE OF CONTENTS

Dedication.....	iv
Acknowledgements.....	v
Table of Contents.....	ix
List of Tables.....	xii
List of Figures.....	xiv
 CHAPTER	 Page
ONE - OVERVIEW OF THE STUDY.....	1
Background.....	1
Problem.....	5
Research Problem Statement.....	10
Purpose.....	11
Research Questions.....	11
Rationale.....	12
Limitations.....	14
Definition of terms.....	15
Organization of the remainder of proposal.....	16
 TWO - REVIEW OF THE LITERATURE.....	17
Introduction.....	17
Teacher Efficacy.....	18
Teacher Efficacy framework.....	18
Self-efficacy.....	19
Teacher efficacy.....	20
Sources of Teacher Efficacy.....	24
Context-specific Influences on Teacher Efficacy.....	26
Measuring Teacher Efficacy.....	29
Teacher Efficacy and Student Outcomes.....	31
Correlational evidence.....	31
Predictive evidence.....	34
Teacher Efficacy and Student Characteristics.....	36
Cultural competence.....	43
Cultural competence frameworks.....	44

Beliefs/attitudes, skills, knowledge.....	45
Ethnic identity development.....	48
Optimal Theory Applied to Identity Development.....	51
Sources of Cultural Competence.....	55
Measuring Cultural Competence.....	57
Cultural Competence and Student Outcomes.....	60
Cultural Competence and Teacher Efficacy.....	64
Summary.....	68
THREE – METHODOLOGY.....	72
Introduction.....	72
Research Design.....	72
Population and Sample.....	73
Instrumentation.....	81
Data Collection Procedures.....	88
Data Analysis Plan.....	91
Summary.....	94
FOUR - ANALYSES OF DATA.....	96
Introduction.....	96
Sample.....	97
Preliminary Analyses.....	100
Research Questions and Statistical Analyses.....	102
Additional Findings.....	114
Summary.....	117
FIVE – DISCUSSION.....	120
Introduction.....	120
Purpose of Study.....	120
Methodology.....	121
Summary of Findings.....	122
Summary of Additional Findings.....	125
Implications.....	126
General Teaching Efficacy and Cultural Competence.....	126
General teaching efficacy and cultural competence constructs.....	128
General teaching efficacy item response groups and cultural competence.....	131
Personal Teaching Efficacy and Cultural Competence.....	134
Teacher Efficacy Theory.....	138
Diversity Professional Development and Cultural Competence.....	139
Recommendations for Further Research.....	142

Recommendations for Practice.....	147
Final Thoughts.....	151
REFERENCES.....	152
APPENDICES.....	175
Appendix A – Teacher Efficacy Scale.....	175
Appendix B – Self-Identity Inventory.....	177
Appendix C – Letter to participants - I.....	183
Appendix D – Letter to participants – II	184
Appendix E – Letter to participants – III.....	185
Appendix F – ANCOVAs for GTE item 1.....	186
Appendix G – ANCOVAs for GTE item 3.....	187
Appendix H – ANCOVAs for GTE item 4.....	188
Appendix I – ANCOVAs for GTE item 7.....	189
Appendix J – Levels of affiliation with Individuation and levels of general teaching efficacy agreement.....	190
Appendix K – Assumptions Analyses for GTE item 1.....	191
Appendix L – Assumptions Analyses for GTE item 3.....	193
Appendix M – Assumptions Analyses for GTE item 4.....	195
Appendix N – Assumptions Analyses for GTE item 7.....	197
Appendix O – Self-Identity Inventory Item Bank with Stages.....	199
Appendix P – School Districts Included in the Study.....	204

LIST OF TABLES

Table	Page
1. Ecological Framework for Variables Associated with Teacher Efficacy.....	27
2. Teachers' Responses to Ethnicity-Specific Teacher Efficacy Items.....	40
3. Characteristics of a Culturally Competent Psychologist.....	47
4. Stages of Ethnic Identity Development from Four Models.....	50
5. Stages from Optimal Theory Applied to Identity Development (OTAID).....	53
6. Novice Teachers' Responses to Perceptions about Teaching Preferences.....	64
7. Characteristics of Teacher Respondents, Teachers in Virginia and the United States.....	76
8. Sample Items from the Teacher Efficacy Scale and the Self-Identity Inventory	82
9. Descriptive Statistics for Continuous Control Variables.....	98
10. Descriptive Statistics for Independent Variables and Dependent Variables...	99
11. Pearson Product Correlation Coefficients for General Teaching Efficacy, Control Variables, and Cultural Competence.....	103
12. Pearson Product Correlation Coefficients for Personal Teaching Efficacy, Control Variables, and Cultural Competence.....	105
13. Hierarchical Multiple Regression Analysis for Examining Variability in General Teaching Efficacy by Cultural Competence Total Score.....	107

14.	Hierarchical Multiple Regression Analysis for Examining Variability in General Teaching Efficacy by Cultural Competence Subscales.....	109
15.	Hierarchical Multiple Regression Analysis for Examining Variability in Personal Teaching Efficacy by Cultural Competence Total Score.....	111
16.	Hierarchical Multiple Regression Analysis for Examining Variability in Personal Teaching Efficacy by Cultural Competence Subscales.....	113
17.	Analysis of Covariance Examining Mean Differences for Response Groups to GTE item 1 on Cultural Competence and Subscales.....	186
18.	Analysis of Covariance Examining Mean Differences for GTE item 3 Response Groups on Cultural Competence and Subscales.....	187
19.	Analysis of Covariance for relationship between response to GTE item 4 and Cultural Competence Total Scores and Subscale Scores.....	188
20.	Analysis of Covariance for relationship between response to GTE item 7 and Cultural Competence Total Scores and Subscale Scores.....	189

LIST OF FIGURES

Figure	Page
1. Model of teachers' sense of efficacy and the reciprocal flow of influence..	22
2. Hypothesized theoretical relationship between cultural competence and teacher efficacy constructs.....	71
3. Relationships between cultural competence constructs and teacher efficacy constructs.....	119

CHAPTER ONE

OVERVIEW OF THE STUDY

A snapshot of the American educational landscape in 2011 reflects a strikingly similar portrait of the K-12 environment thirty years ago. From *A Nation at Risk* to No Child Left Behind (Gardner, 1983; NCLB, 2001), the state of education remains distressed: stagnant academic performance, achievement gaps, dropout rates, school failure. Sirens continue to sound around the U.S. as ethnic minority students and low-socioeconomic students maintain disparately low levels of achievement. No Child Left Behind (NCLB) (2001) pierced through the research and reports with legislation that included imperatives intended to ameliorate the persistent performance differences. Although NCLB has directed attention toward American public schools, the persistent low levels of achievement growth rates continue to frustrate practitioners and researchers.

Background

National Assessment of Educational Progress

Ten years following the inception of No Child Left Behind, student achievement growth rates returned to their pre-legislation levels (Lee, 2006). Since 1971, the National Center for Education Statistics has collected student achievement data in reading and mathematics within every state for children ages 9, 13, and 17 years old using the National Assessment of Educational Progress (NAEP) (Rampey, Dion, & Donahue, 2009). In a longitudinal analysis of the scores for all students at age 17, no significant

changes were found in the mathematics scores between 1971 and 2008 (Rampey, Dion, & Donahue, 2009). Sizable differences have persisted in the standardized test performance between American students in different regions, ethnic groups, and socioeconomic groups. Once these scores were broken down by ethnic group, the data indicated that no significant improvements have occurred in the score gaps between African American students and White students or Latino students and White students since 1988. African American students and Latino students did make gains between 1971 and 1988 in NAEP scores, but they have leveled off in subsequent decades (Rampey, Dion, & Donahue, 2009).

Low Promoting-Power

In addition to the national trends of low achievement for traditionally disadvantaged ethnic groups and socioeconomic groups found in NAEP, indicators at the school level also revealed that educational outcomes are disproportionately low in schools with these same student populations. Balfanz and Letgers (2004) examined high schools' promoting power as an indicator of high dropout rates and low graduation rates. Schools with weak promoting power are those with 50% to 60% fewer seniors than freshmen four years earlier, which signifies a less than 50/50 chance of graduation. Of the high schools where graduating on time or at all does not occur for the majority of students, those schools are attended by nearly half of the nation's African American students, approximately 40% of Latino students and only 11% of Euro-American students. "High schools with weak promoting power are overwhelmingly majority minority. A majority minority high school is five times more likely to have weak promoting power than a majority white school" (Balfanz & Letgers, 2004, p. 5).

Education is perceived as “the great equalizer,” but for nearly half of the nation’s minority students, it does very little to level the playing field. Furthermore, the problem of low student achievement among traditionally underserved minority students persists at the school level.

Graduation Rates

Balfanz and Letgers’ (2004) findings have been corroborated by studies of high school graduation rates. For example, the rate at which all students, particularly ethnic minority students, graduate from high school has continued to decline. Though the methods vary for calculating high school completion rates, the peak of high school graduation rates was 77.1% in 1969, but fell to 69.9% by the year 2000 (Barton, 2005). In addition, between the years 1990 and 2000, 44 states’ graduation rates declined between 3.9 and 13 percentage points (Barton, 2005). Further, the nation-wide percentage of all students graduating on time has averaged roughly 66% (Barton, 2000; Greene, 2002; Greene & Winters, 2005; Sum & Harrington, 2003, Swanson & Chaplin, 2003). Thus, one third of America’s youth remained behind schedule for graduation, or left school completely (Barton, 2005).

Although one third of *all* of the nation’s students have either graduated late or dropped out of high school (Barton, 2005), the number of dropouts and late graduates are disproportionately represented in different ethnic groups. In a policy report written for Educational Testing Services, Barton (2005) found the national graduation rate for the class of 1998 was 71%. Broken down by major ethnicities, the data indicated that African American students’ graduation rate was 56%, Latino students’ rate was 54%, White students’ rate was 78%, and Asian students’ rate was 70%. When examining the data by

state, graduation rates for these groups varied more dramatically (Barton, 2005). For the states where data were available, Wisconsin had the lowest graduation rate for African American students, which was 40%, and for Latinos in Georgia, the graduation rate was 32%. For African American students, the highest graduation rate was in West Virginia at 71%, and for Latinos, the graduation rate in Montana was the highest at 82%. Even in the states with the highest graduation rates for these minority groups, 29% and 18% of African American and Latino students, respectively, did not complete high school with their cohort (Barton, 2005).

College Enrollment

Although high school graduation data paint part of the picture regarding student learning and achievement, an equally powerful indicator of student achievement is post-secondary enrollment in degree-granting institutions. According to Aud et al. (2011), college enrollment in 2007 was comprised of 64% white students, 13% African American students, and 11% Hispanic students. At first glance, these percentages seemed to have parity with the national population statistics. Since degree-granting institutions included all colleges that grant associates degrees and higher, the percentages reported in an overview of college enrollment misrepresented the actual populations of students in the different types of institutions. The proportion of students of color enrolled in 4-year degree-granting institutions, in particular, was much lower than two-year degree institutions; many minority students enrolled in community colleges or trade schools. Of all college-enrolled students, 26% of those students matriculated into two-year programs. Euro-American students represent 26% of two-year-degree students, whereas 29% of African American students and 37% of Hispanic students comprise the rest of the student

population. These two traditionally underserved ethnic minority groups were overrepresented in the lower-level post-secondary institutions (Aud et al., 2011).

Problem

When examining the evidence from the inception of NCLB to the present, the glare of stunted achievement that persists among traditionally underserved minority students is blinding (Aud et al., 2011; Balfanz & Legers, 2004; Barton, 2000; Barton, 2005; Gardner, 1983; Greene, 1998; Rampey, Dion, & Donahue, 2009; Sum et al., 1998; Swanson & Chaplin, 2000). Although the challenges to minority student achievement are numerous, many factors play a role. Variables that influence the achievement of disadvantaged minority students include those that reflect community, home, school, and individual variables. Community factors include funding priorities at the school district level like policies regarding accountability, teacher compensation, and early childhood education (Hanushek & Rivkin, 2000; Ingersoll, 2003; Lankford, Loeb, & Wyckoff, 2002; Scafidi, Sjoquist, & Stinebrickner, 2007). In addition, home environment variables that contribute to student learning include income levels, parents' level of education, parental expectations and support, and outside learning opportunities (Currie, 2001; Duncan et al., 2007; Heckman & Masterov, 2007). School components that contribute to a child's achievement include school leadership, teacher quality and efficacy beliefs, and peer characteristics (Ashton & Webb, 1986; Bandura, 1977; Darling-Hammond, 1999; Hanushek & Rivkin, 1997; Murnane & Levy, 1996; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004; Summers & Wolfe, 1977; Tschannen-Moran & Hoy, 2007; Tucker et al., 2005; Wayne, & Youngs, 2003; Wheatley, 2005). Then, individually, a child's educational achievement is affected by each child's natural ability, knowledge, and self-

efficacy beliefs (Currie, 2001; Duncan et al., 2007; Heckman & Masterov, 2007). With so many factors influencing student achievement, determining how to understand and target interventions to improve stagnant student achievement among ethnic minority groups poses a serious challenge.

Teacher Efficacy

Although students' learning and achievement is in part influenced by many home and environmental factors, it is also affected by the seven hours they spend in school five days a week. Among school level factors, teacher self-efficacy has been identified as the variable that is most closely linked and predictive of student achievement (Ashton & Webb, 1986; Gibson & Dembo, 1984; Guskey & Passaro, 1994; Soodak & Podell, 1996; Tschannen-Moran & Woolfolk-Hoy, 2007; Tucker et al., 2005). Given that schools are limited in their abilities to affect students' home and environmental variables, teacher efficacy is one factor upon which schools and teacher educators have some potential opportunity to increase student achievement by positively influencing teacher efficacy.

Bandura (1977) introduced the notion of self-efficacy as the appraisal of a person's own ability to accomplish a performance goal in some area of interest. Educational researchers adopted this concept and applied it to the study of teacher beliefs concerning instructing students (Ashton & Webb, 1986; Tschannen-Moran & Hoy, 2007). A teacher's belief about whether or not they can impact student outcomes is the most general and agreed upon definition of teacher efficacy (Wheatley, 2005). Student achievement and motivation have been closely correlated with teacher self-efficacy beliefs (Ashton & Webb, 1986, Gibson & Dembo, 1984; Guskey & Passaro, 1994; Soodak & Podell, 1996; Tschannen-Moran & Woolfolk-Hoy, 2007; Tucker et al., 2005),

and it is upon this foundation that much of the research on teacher efficacy has been based.

Factors associated with teacher efficacy. Even though the majority of teachers enter the profession with high levels of general teaching efficacy, in-service teachers' efficacy beliefs vary greatly (Ashton & Webb, 1986; Gibson & Brown, 1982; Guskey & Passaro, 1994). The variability in teacher efficacy found in the research supports Ashton and Webb's (1986) theoretical framework; one tenet of this framework is: "Teachers' sense of efficacy is context-specific. It varies with specific characteristics of the teaching situation" (p. 13). Ashton and Webb (1986) identified many variables that influence teaching efficacy in specific instructional situations. Influential variables included the following: student characteristics, teacher characteristics, teacher ideology, role definitions concerning teacher role, class size, activity structure, school size, demographic characteristics, school norms, collegial relations, principal-teacher relations, decision-making structures, home-school relations, the nature of the school district, legislative and judicial mandates, conceptions of the learner, and conceptions of the role of education (Ashton & Webb, 1986). Depending on the context, teacher efficacy can be higher or lower; these beliefs manifest themselves in varied instructional methods, classroom management techniques, and student-teacher relationship interactions (Ashton & Webb, 1986).

Beliefs concerning student characteristics. Among the factors that influence teaching efficacy, beliefs concerning student characteristics may be a factor influencing teachers' assessments of their potential impact on the achievement of students from diverse backgrounds, which may ultimately be related to achievement disparities.

Although many studies do not directly examine both teacher efficacy and comprehensive beliefs concerning student background, the literature is littered with examples of teachers' multifarious attitudes toward students with one or two different personal characteristics. For example, some studies delineate how successful teachers of ethnic minority students have high expectations for all students, strong beliefs about their abilities to facilitate instruction, and culturally relevant teaching practices (Cunningham, 2006; Ladson-Billings, 1994; Lazar, 2006; Tucker et al., 1995). Other literature discusses how teacher beliefs are related to low expectations and low levels of comfort in their instructional abilities with minority students (Bell, 2000; Cockrell, Placier, Cockrell, & Middleton, 1999; Dee & Henkin, 2002; Hains, Lynch, & Winton, 2000; Middleton, 2002; Milner et al., 2003; Moore, 1999; Sleeter, 2001; Solomon, Portelli, Daniel, & Campbell, 2005). These findings suggest that a relationship may exist between teacher beliefs concerning student ethnic background and teacher efficacy.

A small number of empirical studies have supported this potential relationship (Pang & Sablan, 1998; Tasan, 2001; Tournaki & Podell, 2005). For example, one study reported that 65% of teachers surveyed did not disagree with the statement that "even a teacher with good teaching abilities may not reach African American youth" (Pang & Sablan, 1998, p. 53). Similar data were found in another study that examined beliefs concerning student language background and teacher efficacy. Results indicated a strong positive relationship between teacher efficacy and students who spoke Standard English versus those who spoke non-standard English or a non-English language (Tasan, 2001). Hence, findings from these investigations suggest that teachers' perceptions concerning student characteristics affect teacher efficacy. Given this suggested relationship in the

literature, examining teacher beliefs about student characteristics may shed light on the highly variable nature of teacher efficacy in relation to working with students from traditionally underserved minority backgrounds.

Cultural Competence

In the field of education, efforts to comprehensively measure teachers' beliefs about student background have been sparse and splintered in comparison to other professions. In the counseling field, measurement of practitioner attitudes concerning diversity has been occurring for nearly 20 years through the assessment of *cultural competence (CC)*. One definition for cultural competence is the level of awareness concerning one's own multifaceted identity and others' identities in relation to interpersonal, cultural, and institutional settings (Sevig, Highlen, & Adams, 2000). A plethora of literature is dedicated to the theoretical frameworks of cultural competence and the measurement of this construct (Banks, 1994; Bennet, 1993; Helms, 1990; McAllister & Irvine, 2001; Sevig, Highlen, & Adams, 2000; Sue, 2000). Two major frameworks differ in defining cultural competence: one consists of a beliefs/knowledge/skills platform (Sue, 2000); the other revolves around individual identity development (Banks, 1994; Helms, 1990; McAllister & Irvine, 2000; Sevig, Highlen, & Adams, 2000). The framework that most closely relates to Bandura's (1977) social cognitive theory places the construct of cultural competence on a developmental continuum (Banks, 1994; Bennet, 1993; Sevig, Highlen, & Adams, 2000). Each person's level of cultural competence corresponds to a place on a multicultural identity continuum which progresses from ethnocentric to ethnorelative (Sevig, Highlen, & Adams, 2000).

Most literature on cultural competence reveals that beliefs concerning race, ethnicity, and socioeconomic status vary widely (Tatum, 2007; Vogt & McKenna, 1998). Among the few cultural competence studies within the education profession, scholars observed that low cultural competence led to low expectations and achievement for ethnic minority students and vice versa for high cultural competence (Banks, 1994; Casteel, 1998; Ladson-Billings, 1994; McAllister & Irvine, 2000). The suggested relationship between low cultural competence and low minority student achievement also arose in qualitative data (Ladson-Billings, 1994). Since cultural competence is comprised of attitudes and beliefs concerning personal characteristics like race, ethnicity and socioeconomic status (Banks, 1994; Bennet, 1994; Sevig, Highlen, & Adams, 2000), and it is also known that beliefs of this nature impact teacher efficacy, it seems plausible to suggest that a relationship may exist between cultural competence and teacher efficacy.

Research Problem Statement

Research demonstrates that teacher efficacy is the school-related variable that is most closely associated with student achievement; however, teacher efficacy beliefs are highly variable in relation to student characteristics. Teacher cultural competence, which includes beliefs about personal characteristics, has been identified as another potential variable that influences teacher expectations and student achievement. Since teacher efficacy is influenced by beliefs about student background, and cultural competence encompasses beliefs about individual characteristics, examining the relationship between cultural competence and teacher efficacy may shed light on these achievement-related factors. Investigations into the relationship between teacher efficacy and cultural competence, however, are sorely lacking in scholarly literature (Baker, 2004; Gallavan,

2007; Golden, 2007; Swearingen, 2009). Thus, in order to fill this gap in the literature, this study attempted to identify a link between these two constructs, and by so doing, begin to better understand the variability of teacher efficacy for working with students from traditionally underserved populations.

Purpose

The purpose of this study was to determine the nature of the relationship between teacher cultural competence and teacher efficacy.

Research Questions

1. To what extent does cultural competence account for the variance in general teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?
2. To what extent do the cultural competence stages account for the variance in general teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?
3. To what extent does cultural competence account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?
4. To what extent do the cultural competence stages account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching

experience, class size, classroom diversity, and days of diversity professional development?

Rationale

Very few studies exist which examine both cultural competence and teacher efficacy. Among the research that explores these constructs, rigorous studies with appropriate sample sizes are missing, which has rendered the empirical evidence inconclusive (Gallavan, 2007; Golden, 2007; Swearingen, 2009). This study addressed the research problem by providing an empirical foundation for the theoretically proposed relationship between cultural competence and teacher efficacy. This task was accomplished using a research design that included a sample that demonstrated parity with the Virginia teaching population. The sample was also large enough to detect small significant effects. In addition, more theoretically appropriate measures were employed than previous studies (Sevig, Highlen, & Adams, 2000). These methodology alterations aided in discovering findings that yielded statistically significant empirical evidence supporting this relationship. Further, by using a random sample, these results may be generalizable to teachers within Virginia.

Although many factors have been identified that influence teacher efficacy, understanding the nature of the relationship between cultural competence and teacher efficacy may shed light on student achievement trends. This study will provide a basic overview of the teacher population within Virginia concerning their efficacy and cultural competence. Although this study did not provide a comprehensive picture, it revealed preliminary patterns concerning teacher beliefs. Future studies like this dissertation could examine these data within school districts, schools, and individual classrooms, to

investigate patterns concerning efficacy, cultural competence, and achievement of students from diverse backgrounds.

Understanding how cultural competence affects teacher efficacy compared to other school-related variables will certainly enhance scholars' and teacher educators' opportunities to discern how interventions should be developed and implemented for altering cultural competence and teacher efficacy beliefs. Since the relationship between teacher efficacy and student achievement has been established, many interventions have been created and implemented for the purpose of altering teacher efficacy. From empirical studies conducted on efficacy interventions, most have discovered very little improvement in general teaching efficacy (Carleton, Fitch, & Krockover, 2008; Crowther & Cannon, 2002; Fritz et. al, 1995; Posnanski, 2002). Furthermore, findings from these studies indicated minor improvements in teacher efficacy beliefs reported after an intervention decline to original levels following a post-test (Carleton, Fitch, & Krockover, 2008; Posnanski, 2002). Therefore, the data from this study may point researchers toward new avenues for targeting interventions, specifically directing professional development toward altering cultural competence, which may potentially influence teacher efficacy.

Since the results from this study indicate a correlational relationship between cultural competence and teacher efficacy, interventions that already exist may be examined for altering teacher beliefs. For example, cultural competence interventions have been developed and tested in many venues with a variety of different professionals. Many interventions aimed at improving cultural competence have demonstrated positive change both immediately following the intervention and after a later post-test (Knight &

Wiseman, 2005; Ladson-Billings, 2000; Tasan, 2001). Given that there is very little consensus surrounding how to alter teacher efficacy directly, the results from this study provide some preliminary support for using cultural competence interventions as potential means for also altering teaching efficacy beliefs. While both cultural competence and teacher efficacy vary, addressing one component, specifically cultural competence, may potentially influence the other. Having some data to support the relationship between teacher efficacy and cultural competence allows education leaders and researchers to test interventions that target these beliefs for empowering teachers who serve minority students.

Furthermore, this study provided a snapshot of teachers in Virginia and their beliefs concerning people who are different from them. The results from this study may be leveraged to influence educational policy at the school and district levels. Specifically, professional development in the form of in-service trainings or tuition support for diversity related courses could arguably be bolstered by these data. At the university level, faculty may use these data to support multicultural education courses or diversity-related courses in the teacher and school administrator preparation programs.

Limitations

Due to multiple constraints, this dissertation study acknowledges that some limitations exist that may have impacted the findings. The researcher has identified the following:

1. Participation in this study was optional and voluntary, which compromised the response rate and possibly the generalizability of the findings.

2. The interpretation of some constructs and terms on the surveys varied and may have rendered inconsistent results. For example, some participants may have only reported the number of days of participation in diversity professional development from the current year versus their entire career.
3. Wording for items for the control variables and from the Self-Identity Inventory were found to be confusing by some respondents. Results from some items may not represent true experiences, opinions and beliefs.
4. Only some of the variables that affect teacher efficacy and cultural competence were examined. All variables that influence teacher efficacy were not investigated.

Definition of Terms

Multiple definitions exist for each of the following terms; explicit definitions are provided for measurement purposes. This study will utilize the following:

1. General teaching efficacy (GTE) is defined by the 7 individual GTE items on the Teacher Efficacy Scale (Gibson & Dembo, 1984). It is also defined as the composite score of the 7 GTE items on the Teacher Efficacy scale.
2. Personal teaching efficacy (PTE) for this study is defined by the 7 individual PTE items on the Teacher Efficacy Scale (Gibson & Dembo, 1984). It is also defined as the composite score of the 7 PTE items on the Teacher Efficacy scale.
3. Cultural competence (CC) is defined as the total score of the items from the Self-Identity Inventory (Sevig, Highlen, & Adams, 2000). In addition, cultural competence is defined by the composite scores of the five subscales represented by the items from those subscales within the Self-Identity Inventory.

Organization of the Remainder of the Proposal

This proposal is organized into three chapters. Chapter one provides an overview of the background, purpose, and research questions for this study. Chapter two describes the constructs of teacher efficacy and cultural competence and delineates the conceptual framework that suggests a relationship between teacher efficacy and cultural competence. Chapter three describes the methods and procedures used to examine the relationship between teacher efficacy and cultural competence.

CHAPTER TWO

REVIEW OF THE LITERATURE

In an attempt to understand the problem of stagnant achievement among traditionally disadvantaged minority students in the United States, this research attempts to identify a link between teacher expectations for students and teachers' personal beliefs concerning those who are culturally or socioeconomically different from them. In order to examine these beliefs, the scope of this theoretical framework is limited to two well-defined constructs: teacher efficacy and cultural competence. The review of the literature is organized into three sections: teacher efficacy, cultural competence, and research on both teacher efficacy and cultural competence.

First, teacher efficacy literature establishes the empirical foundation that teacher efficacy is related to and predictive of student achievement. Following, another body of literature delineates how teacher beliefs about student characteristics like ethnicity and socioeconomic status influence teacher efficacy. Then, a synthesis of research outlines how teachers' beliefs about student background represent the same beliefs that comprise cultural competence. Next, a summary of cultural competence literature discusses the foundational theories and provides evidence supporting an identity development model for this particular study. Finally, this review examines studies that investigate how both constructs of teacher efficacy and cultural competence intersect.

Teacher Efficacy

In the study of human behavior, psychology scholars have developed numerous theories that explain why people choose to take certain actions in particular situations. Several of these theories comprise the framework from which teacher efficacy theory arose (Bandura, 1977; Heider, 1958; Rotter, 1966; Weiner & Kukla, 1972). Self-efficacy theory (Bandura, 1977), in particular, melded together several theories to form the foundation for teacher efficacy theory (Ashton & Webb, 1986). This review of the literature will delineate the development of teacher efficacy from previous theories. Additionally, the sources of teacher efficacy will be discussed and how these sources served as the platform for Ashton and Webb's (1986) influential context-specific variables. Finally, the measures for teacher efficacy will be outlined in order to explicate the reasons for selecting the instrument that will be utilized in this study.

Teacher Efficacy Framework

The well-formed theories concerning teacher efficacy have evolved from the theoretical and empirical works of psychology scholars. Beginning with locus of control (Rotter, 1966), the first empirical measurement of teacher efficacy was presented in a Rand Corporation study by Armor et al. (1976) where two items defined what are still considered the two basic constructs of teacher efficacy:

General Teaching Efficacy: "When it comes right down to it, a teacher really can't do much – most of a student's motivation and performance depends on his or her home environment."

Personal Teaching Efficacy: "If I try really hard, I can get through to the most difficult or unmotivated students." (Armor et al., 1976, p. 73)

Following from Armor et al.'s (1976) study, Weiner and Kukla (1972) developed theoretical and research-based links concerning individuals' attributions of behavioral outcomes. Their attributional analysis broke out of the internal-external locus of control (Rotter, 1966) and examined teachers' perceptions of the sources of success or failure (Weiner, 1970). They asserted that actions were influenced by their attributional beliefs concerning the sources of success or failure. Bandura (1977) melded both Rotter's (1966) and Weiner's (1970) theories concerning human behavior and spawned social cognitive theory, which gave rise to self-efficacy theory. Essentially, self-efficacy is a person's level of confidence in herself that she will be able to perform a particular action, and that this action will produce a certain outcome (Bandura, 1977). Growing out of self-efficacy theory, Ashton and Webb (1986) observed how teachers' own beliefs about their abilities influenced their teaching behaviors, and their beliefs about whether teaching could impact students' learning also impacted their instructional decisions. Thus, from this line of inquiry, a vast body of research was born.

Self-efficacy. Combining both locus of control (Rotter, 1966) and attribution theory (Weiner & Kukla, 1970; Weiner, 1972), Bandura (1977) wove together multiple ideas to formulate social cognitive theory and self-efficacy theory, which are fundamental to the teacher efficacy constructs. Social cognitive theory is based on the notion that causation of behavior is determined by simultaneous interactions between "action, cognitive, affective and other personal factors, and environmental events" (Bandura, 1986). Thus, in contrast to Rotter's (1966) locus of control where external or internal forces exclusively determine one's behavior or motivation, social cognitive theory

explains that behavior results from the interaction of many forces at the same time which includes both internal and external influences (Bandura, 1986).

From this social cognitive theory foundation, Bandura (1977) developed the construct of self-efficacy as the appraisal of a person's own ability to accomplish a performance goal in some area of interest to produce a certain outcome. This theory asserts that each person possesses two types of beliefs: outcome expectancy and self-efficacy. Outcome expectancies represent judgments that particular behaviors will lead to certain outcomes, or a belief that some behaviors will lead to desirable outcomes no matter who is performing the behavior. Self-efficacy, a second construct but very closely related, reflects an individual's belief concerning her ability to perform behaviors that will result in certain outcomes. In other words, self-efficacy is a person's belief that she has the skills and competencies to bring about the outcome. Furthermore, given a high-level of efficacy, she will be more likely to exert more effort toward a task and "persist in the face of obstacles and aversive experiences" (Bandura, 1977, p. 194). It is from these two basic concepts, outcome expectancy and self-efficacy, that the teaching efficacy constructs evolved (Ashton & Webb, 1986).

Teacher efficacy. Ashton and Webb (1986) broke stride from other scholars studying the notion of teacher efficacy by following the social cognitive theory from Bandura (1977). Instead of using Rotter's locus of control (Armor et al., 1976) where behavior is determined by *either* external *or* internal forces, Ashton and Webb (1986) designed the teacher efficacy constructs using social cognitive theory (Bandura, 1977). This theory, like Rotter's theory, uses a cognitive mechanism to explain behavior, but social cognitive theory encompasses the interaction of *both* internal and external

influences on behavior (Bandura, 1977). Hence, building upon self-efficacy and outcome expectancy constructs, a teacher's sense of efficacy breaks into two dimensions: sense of general teaching efficacy (GTE) and sense of personal teaching efficacy (PTE).

Ashton and Webb (1986) specifically define general teaching efficacy (GTE) as "teachers' expectations that teaching can influence student learning" (Ashton & Webb, 1986, p. 4); in other words, it is a belief about whether teaching, in general, actually impacts or raises a student's academic achievement. This definition can also be interpreted as whether a teacher believes a student is capable of learning from teaching in general, or whether the child has the ability to learn. It is an outcome expectancy related to the act of teaching and whether teaching will result in student learning and achievement. Personal teaching efficacy (PTE) refers to a teacher's sense of competence in the role of teacher. PTE is the "individuals' assessment of their own teaching competence" (Ashton & Webb, 1986, p. 4); essentially, this is a teacher's personal assessment about whether she feels that she possesses the ability and knowledge to perform the necessary behaviors and facilitate the activities involved in teaching.

In their model of teacher efficacy as shown in Figure 1, Ashton and Webb (1986) depict the two constructs of GTE and PTE in a theoretical model that is derived from a teacher's generalized beliefs about response-outcome contingencies. One's response-outcome contingencies influence both a teacher's general sense of teaching efficacy (GTE) and one's generalized beliefs about perceived self-efficacy. GTE and beliefs about self-efficacy in general then influence one's sense of personal teaching efficacy (PTE). In this model, the relationships are reciprocal in nature. Thus, theoretically, if one's sense of personal teaching efficacy increases, then the teacher's sense of general teaching efficacy

also increases; in other words, if a teacher sees himself succeeding in facilitating the learning for low-achieving students, then he will also have an increased belief that any teaching, in general, can influence the learning and achievement of low-achieving students.

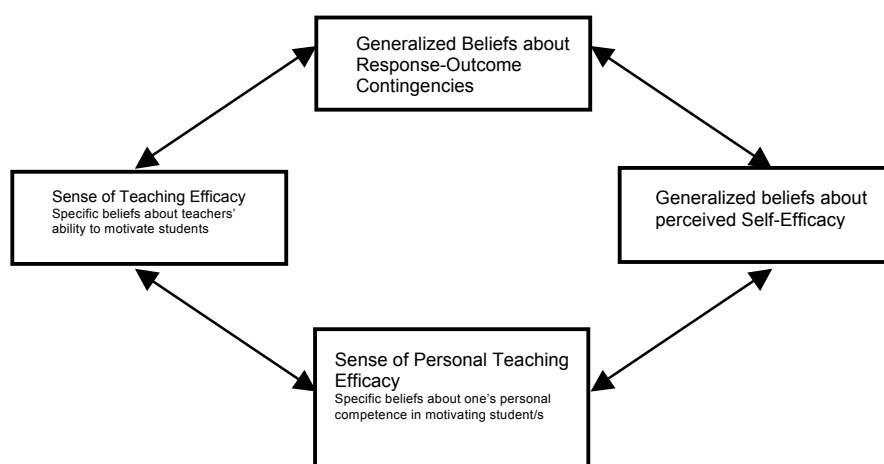


Figure 1. Model of teachers' sense of efficacy and the reciprocal flow of influence. Adapted from *Teachers' Sense of Efficacy and Student Achievement*, by P. T. Ashton and R. B. Webb, 1986, p. 5. Copyright 1986 by Longman.

When teachers with low general teaching efficacy beliefs fail to see their work resulting in high student achievement, they generally refuse to own responsibility for the stunted learning (Ashton & Webb, 1986); they do not believe that teaching can make an impact on particular students' learning and achievement (Enochs & Riggs, 1990). If students do not achieve, the teachers explain the lack of progress as the students' inability to learn, not their own lack of teaching competency. In Ashton & Webb's (1986) study, a teacher with low GTE said:

I don't want to teach grammar and I told the principal that...I said I'm not interested in teaching grammar to illiterates. He (principal) said that's because I don't like teaching grammar. But I said, wrong. I love grammar. I'm a whiz at grammar. It's the easiest thing in the world to teach. But these students can't get it, and I don't agree with teaching it to them. (p. 6-7)

Thus, this teacher felt she was capable of facilitating instruction effectively (high levels of PTE), but she did not believe that these particular students were capable of learning grammar (low levels of GTE) (Ashton & Webb, 1986). This teacher had high PTE, but low GTE for “these” specific students; no guilt was felt for the low achievement, rather, the responsibility for low achievement was placed on the child or the child’s background (Ashton & Webb, 1986). Based on prior vicarious or firsthand experiences (Bandura, 1977), this teacher’s efficacy beliefs color her perceptions of the students’ abilities before engaging in educational instruction with them.

Ashton & Webb (1986) provided another clear example of how efficacy affects a teacher’s motivation. In this situation, the teacher’s PTE is low and GTE is high. The teacher believes that the child can learn and teaching can impact his learning and achievement, but the teacher does not believe he has the capabilities and competencies to teach a specific child or children of a particular group. The teacher is likely to feel very guilty when students do not learn and achieve (Ashton & Webb, 1986). Illustrative of this set of beliefs, another teacher in Ashton and Webb’s (1986) study said:

For a while I thought I’d quit teaching. I just felt kind of useless because I was going through long periods of time thinking that I wasn’t doing any good for anybody. (p. 7)

Low PTE can precipitate a feeling of “personal helplessness” (p. 6) that negatively affects teachers’ practice. Low teacher efficacy beliefs usually result in “lowering teaching standards, less teacher effort, and watered-down curriculum for underachieving students” (Beliafore, Auld, & Lee, 2005, p. 856). These choices directly affect how students perceive themselves as learners and achievers; consequently, students’ learning and achievement is compromised (Ashton & Webb, 1986).

In contrast to manifestations of low efficacy beliefs, two different reviews of teacher efficacy literature (Kagan, 1992; Ross, 1994) consistently found that teachers with high levels of efficacy consistently engage in achievement-enhancing activities, which was demonstrated by different populations of teachers in various locations. Teachers with high efficacy beliefs tended to use more challenging teaching techniques, were more open and likely to implement new and creative curriculum, and promoted high achievement for all students through setting higher academic goals and building stronger relationships. More specifically, high efficacy teachers praised rather than criticized their students and were more receptive to student opinions than low efficacy teachers. Especially in the case of low-achievers, teachers with high efficacy beliefs maintained positive attitudes toward these students and their ability to grow academically, which translated into higher levels of student self-efficacy as well (Kagan, 1992; Ross, 1994). These behaviors are congruent with Bandura's (1977) and Ashton and Webb's (1986) theory that teachers with higher levels of efficacy will persevere and persist in the face of challenges.

Sources of Teacher Efficacy

According to Bandura (1977), self-efficacy beliefs develop from four different sources: mastery experiences, verbal persuasion, vicarious experiences, and physiological arousal. In personal mastery experiences, the person engages in the activities in which efficacy for the task is sought. After experiencing success in particular tasks, one's efficacy increases for performing that task. Additionally, vicarious experiences provide another source of self-efficacy. Through observation of people similar to oneself in a challenging situation or task, one's self-efficacy is also impacted in the direction of the

observed person. This case is especially true when the observed person is experienced and the observer is a novice. Less direct than mastery experiences and vicarious experiences, but still influential is verbal persuasion. Through social pressure and influence, people are convinced that they have the capabilities to succeed in a certain activity, or that a certain behavior will actually produce a particular result. Conversely, people, like teachers, can also be verbally persuaded that certain actions will not result in a desired outcome because of the context or people involved. Verbal persuasions can positively or negatively influence efficacy. Finally, physiological arousal also influences one's sense of self-efficacy. Each person experiences stress mentally as well as physically. When one is faced with a threatening situation, a physiological response that results in high arousal due to anxiety will often decrease one's self-efficacy pertaining to that situation or task (Bandura, 1977).

In Tschannen-Moran and Hoy's (2007) study, they examined Bandura's (1977) factors impacting self-efficacy beliefs of novice and experienced teachers. They sought to discover which experiences outside of mastery experiences impacted teacher self-efficacy. Mastery experiences were those activities that a teacher had undertaken over time that enabled them to feel confident about their abilities to reach students through instruction (Tschannen-Moran & Hoy, 2007). Their findings were congruent with Bandura's (1977) conclusions that outside of mastery experiences, teacher self-efficacy is impacted more by vicarious experiences, verbal persuasion by colleagues and administrators, and physiological arousal (Tschannen-Moran & Hoy, 2007). Responses on the Teacher Self-Efficacy Scale (TSES) indicated that experienced teachers' self-efficacy beliefs were less likely to be impacted by contextual factors and verbal

persuasion due to their grounding in their mastery experiences and thus, self confidence; mastery experiences significantly accounted for about 4% of the variance in personal teaching efficacy compared to verbal persuasion which accounted for 1%. Conversely, novice teachers who lacked mastery experiences were much more susceptible to vicarious experiences, verbal persuasion, and contextual factors influencing their sense of self-efficacy; verbal persuasion accounted for about 10% and mastery experiences accounted for approximately 20% of the variance in personal teaching efficacy (Tschannen-Moran & Hoy, 2007).

Findings from this study suggest that experienced teachers' successes and failures in instructing students have a potential impact on novice teachers' efficacy beliefs through verbal persuasion. Furthermore, if an experienced teacher has a high level of teaching efficacy for teaching some students but not others, like students from specific ethnic groups, these beliefs can be verbally conveyed to novice teachers who do not have mastery experiences on which to base their own efficacy beliefs (Bandura, 1977; Tschannen-Moran & Hoy, 2007).

Context-specific Influences on Teacher Efficacy

Bandura (1977) discussed that some efficacy expectations are situation-specific, whereas others "instill a more generalized sense of efficacy that extends well beyond the specific treatment situation" (p. 194). Building upon Bandura's (1977) four sources of efficacy, Ashton and Webb (1986) expounded upon the notion that teaching efficacy beliefs are situation specific. Ashton and Webb (1986) identified a number of factors that play a role in influencing teacher efficacy through the medium of mastery experiences, vicarious experience, verbal persuasion, or physiological arousal. Since self-efficacy is a

context-specific belief, teacher efficacy is similarly affected by factors associated with different circumstances. In this seminal work, 16 context-specific factors were identified that were likely to influence teacher efficacy beliefs. These factors are organized into ecological levels of the school and community in which they are embedded. From observational and qualitative data, the following factors were identified as shown in Table 1.

Table 1

Ecological Framework for Variables Associated with Teacher Efficacy

System Level	Influential Variables
Microsystem	Student characteristics Teacher characteristics Teacher ideology Role definitions Class size Activity structure
Mesosystem	School size and demographic characteristics School norms Collegial relations Principal-teacher relations Decision-making structures Home-school relations
Exosystem	Nature of the school district Legislative and judicial mandates
Macrosystem	Conceptions of the learner Conceptions of the role of education

Note. Adapted from *Teachers' Sense of Efficacy and Student Achievement*, by P. T. Ashton and R. B. Webb, 1986, p. 14-24. Copyright 1986 by Longman.

In order to examine the context-specific nature of teacher efficacy, Beady and Hansell (1981) looked at whether the race of elementary school teachers in majority African American schools was associated with differential expectations for student achievement. The sample included 129 African American teachers and 312 Euro-American teachers from Michigan elementary schools. In both low- and high-achieving

elementary schools, a significant difference was found between African American teachers and Euro-American teachers. African American teachers had distinctly higher expectations for their students' future success in college than their Euro-American counterparts (Beady & Hansell, 1981).

In John Ross's (1994) extensive analysis of 88 teacher efficacy studies delineated numerous variables that supported the variables from Ashton & Webb's (1986) framework for context-specific influences. From these studies, several variables were consistently associated with higher levels of teaching efficacy: female gender, teacher's attribution of student success and failure being under their control, elementary levels rather than middle or high school levels, reading and language arts subject matter versus mathematics, students who were well behaved and of higher academic ability, schools where stress levels were relatively low, and responsive leadership.

In a similar study on teacher beliefs, Kagan (1992) synthesized literature on teacher beliefs and teacher efficacy and implications related to research in these fields. She also identified studies that bolstered Ashton and Webb's (1986) framework for influential factors associated with teacher efficacy. In this review, one prominent variable associated with teacher efficacy was years of teaching experience. Several studies demonstrated that as years of teaching increase, efficacy beliefs tend to decline. Further, other recent studies have validated this finding, but have parsed results to look at the differences between personal and general teaching efficacy. As years of experience increase, general teaching efficacy tends to decrease while personal teaching efficacy increases (Dembo & Gibson, 1985; Chester & Beuadin, 1996; Glickman & Tamashiro, 1982; Hoy & Woolfolk, 1990).

One exemplary study by Ross, Cousins, and Gadalla (1996) supported the findings from prior research concerning the context-specific nature of teacher efficacy, which was demonstrated by Raudenbush, Rowen, and Cheong, (1992). The researchers examined predictors of teacher efficacy within each subject by investigating levels of teacher efficacy for teaching different classes. Results from 52 participants revealed that within-teacher variables accounted for 21% of the variance in teacher efficacy ($p < .001$). Of the within-teacher variables, teacher perceptions of student engagement significantly predicted teacher efficacy ($p < .05$). This data suggests that teachers' efficacy beliefs are dependent on the particular students present in their classes. Although within-teacher factors predicted teacher efficacy, between-teacher variables (subject, experience, education, gender, preference for student-directed instruction and innovative assessment) moderated the effects of the within-teacher variables (Ross, Cousins, & Gadalla, 1996). Thus, it is the context-specific nature of teacher efficacy that most likely contributes to the observed inconsistency in levels of teacher efficacy from one teacher to another.

Measuring Teacher Efficacy

In order to investigate teacher efficacy, a valid and reliable instrument must be utilized. Many instruments have been developed in order to capture teachers' sense of efficacy (Ashton et al., 1982; Ashton, Buhr, & Crocker, 1984; Bandura, 1997; Gibson & Dembo, 1984; Riggs & Enochs, 1990; Tschannen-Moran & Hoy, 2000). Gibson and Dembo's (1984) measure of teacher efficacy remains the most widely used instrument for measuring this construct. In an effort to operationalize the teaching efficacy constructs, Gibson and Dembo (1984) developed the Teacher Efficacy Survey. Teachers responded to 30 statements using a 6-point Likert-type scale that ranges from strongly agree to

strongly disagree. After examining statistical analyses of responses from elementary school teachers to the Teacher Efficacy Survey, two constructs were identified as statistically different. They named one construct Teaching Efficacy; this construct mirrors Bandura's (1977) outcome expectancy construct. In the teaching context, this refers to the "degree to which students can be taught given their family background, socioeconomic status (SES), and school conditions" (Gibson & Dembo, 1984, p. 574). The other construct was labeled Personal Teaching Efficacy, which refers to a "teacher's rating of his or her own abilities to perform the necessary tasks to bring about positive student change" (p. 574). Both of these constructs buttress Bandura's (1997) delineation of the notion of self-efficacy as well as Ashton and Webb's (1982) model of teacher efficacy. This study will refer to Teaching Efficacy as General Teaching Efficacy, or GTE, and Personal Teaching Efficacy will remain the same with the shortened initials, PTE.

Confusion concerning the Gibson and Dembo (1984) instrument provoked further validation studies (Guskey & Pasaro, 1994; Soodak & Podell, 1996), as well as the development of different instruments (Tschannen-Moran & Hoy, 2000). Each of the studies that sought to elucidate the teaching efficacy constructs found two distinct constructs (Guskey & Pasaro, 1994; Henson, Kogan, & Vacha-Haase, 2001; Soodak & Podell, 1996). Even though these scholars manipulated the signs (+ and -) of the statements, the two constructs still maintain two unique orientations; one represents internal control (PTE) whereas the other represents the power of the environment or external sources over teaching (GTE). These constructs confirm Bandura's (1977) and Ashton and Webb's (1986) definitions of efficacy and teaching efficacy, respectively.

Thus, although other instruments have been developed, they do not represent those two original concepts as accurately as Gibson and Dembo's (1984) Teacher Efficacy Scale. Therefore, this study will measure teacher efficacy with a shortened version of the Teacher Efficacy Scale.

Teacher Efficacy and Student Outcomes

In an effort to illuminate the various processes involved in student achievement, Ashton and Webb (1986) observed how expectations, attitudes, and beliefs about a teacher's ability to implement instructional activities for students are coupled with dispositions concerning the educability of children in the construct of teacher efficacy. Following this seminal piece of research, many scholars have examined the role of teacher efficacy in student outcomes, particularly concerning the outcomes related to student achievement and achievement itself.

Correlational evidence. Attempting to elucidate the relationship between the context variables of teachers' sense of efficacy, teacher empowerment, and school climate, Moore and Esselman (1992) surveyed 1,802 Kansas teachers concerning their perceptions of those contextual factors. Teachers' perceptions of context variables included measures of teacher efficacy, which were analyzed in relation to student achievement as measured by the Iowa Test of Basic Skills. A multivariate analysis of covariance yielded findings concerning the nature of the relationship between teacher efficacy, contextual factors and student achievement. Among the organizational factors, teacher efficacy correlated significantly with influence in decision making ($r = .54, p = .000$), staff collegiality ($r = .58, p = .000$), and minimal barriers to effective teaching ($r = .71, p = .000$). Their results also indicated that reading achievement as measured by the

ITBS was significantly related to personal teaching efficacy ($r = .35, p = .03$), but it was non-significantly related to general teaching efficacy ($r = .22, p = .17$). These data begin to validate some of the claims from Ashton and Webb (1986) concerning the relationship between efficacy and student achievement. Specifically, the data indicates a notable relationship between personal teaching efficacy and reading achievement.

In addition to reading achievement, Ross (1992) investigated the relationship between teacher efficacy of history teachers and student achievement. In a rural Ontario school district, 18 teachers from 36 history classes participated in this study that investigated the implementation of a new history curriculum with three major resources available to them: printed curriculum materials, three half-day workshops during the year, and contact with history coaches. Student learning was measured pre- and post-implementation using A and B forms of items from the Ontario Assessment Instrument Pool. An analysis of correlations between student achievement and teacher efficacy revealed a significant relationship between the combined teacher efficacy score and student achievement ($r = .70, p < .05$), personal teaching efficacy and student achievement ($r = .59, p < .05$), and general teaching efficacy and student achievement ($r = .54, p < .05$). Additionally, significant correlations were discovered between teachers' use of coaches and teacher efficacy ($r = .54, p < .05$) and teachers' use of coaches and student achievement ($r = .67, p < .05$). These findings indicate that teachers with higher levels of teaching efficacy were associated with higher student achievement, and high efficacy teachers were more likely to work closely with the coaches available to them. Low efficacy teachers were associated with low student achievement and little contact with the history coaches.

Similar to Ross' (1992) study, in Ross's (1994) analyses of 88 teacher efficacy studies, two major themes arose from the research on teacher efficacy and student achievement. Personal teaching efficacy was significantly related to achievement and learning in language arts (Anderson et al., 1988; Ashton & Webb, 1986; Tracs & Gibson, 1986; Watson, 1991), and general teaching efficacy was significantly related to mathematics achievement (Ashton & Webb, 1986; Moore & Esselman, 1992; Ross & Cousins, 1993; Watson, 1991). Ross (1994) proposed "many teachers view math as a talent that is given and see language as a set of skills that can be acquired" (p. 23). Further, Ross (1994) conjectured that teachers might believe that their personal skills can be leveraged to assist students in learning and achieving in reading because this knowledge is learned, whereas with mathematics, students' natural abilities may not be overcome by additional instruction.

In a related vein of inquiry, a doctoral dissertation by Ledford (2002) sought to shed light on the relationship between teacher efficacy and the achievement of students with disabilities for mathematics and reading. Data were examined from 92 teachers using the Gibson and Dembo (1984) Teacher Efficacy Scale, and 402 student scores on the current and previous school year's Metropolitan Achievement Test for mathematics and reading. Ledford's (2002) correlation and regression analyses indicated that personal teaching efficacy did not bear a significant relationship with student achievement data. In contrast to this result, general teaching efficacy was significantly related to both mathematics ($r = .210, p < .05$) and reading achievement ($r = .310, p < .01$) with a stronger relationship to reading achievement.

In each of the previously mentioned studies, correlational data are presented that describe patterns between teacher efficacy and student achievement. In the scientific process of testing and retesting a hypothesis, these correlational data create a canvas of consistent patterns that buttress Ashton and Webb's (1986) theoretical framework: teachers with high efficacy beliefs are associated with higher student achievement, and low efficacy teachers are associated with low student achievement; some evidence indicates a relationship between student achievement and either one or both of the teaching efficacy constructs (Ledford, 2002; Moore & Esselman, 1994; Ross, 1992; Ross 1994). Although the correlational evidence provides some insight into the relationship between teacher efficacy and student achievement, it does not illuminate which variable precedes the other. Thus, the correlational relationships established above gave rise to the following research that examines whether teacher efficacy is actually predictive of student achievement.

Predictive evidence. Many studies have undertaken the task of associating teacher efficacy with student achievement in hopes of demonstrating that teacher efficacy accounts for some of the variance in student achievement and achievement-related outcomes. Looking at variables that are predictors of student engagement and achievement, Nelson's (2007) dissertation investigated the relationship between teacher efficacy and student interest, enjoyment, and intrinsic motivation, postulating that these three variables mediate the relationship between teacher efficacy and student achievement. Participants in this study included 11 teachers of 5th grade mathematics and data from 168 of their students. Data for students were obtained using the My Class Activities scale and the Academic Motivation Scale-Elementary, and teacher efficacy

data were collected using Gibson and Dembo's (1984) Teacher Efficacy Scale. Nelson's (2007) path analysis revealed that general teaching efficacy was not significantly related to students' level of interest and enjoyment in academics ($b = .07, p = .36$). Personal teaching efficacy, however, significantly predicted students' level of interest and enjoyment in academics ($b = .21, p < .05$). Additionally, interest and enjoyment in academics accounted for 19.0% of the variance in intrinsic motivation ($p < .001$). Nelson's (2007) path analysis indicates that factors associated with student achievement, particularly students' academic interest, enjoyment, and intrinsic motivation, are influenced by personal teaching efficacy.

Another study found similar results when examining teacher efficacy and student achievement over a 16-week period. Allinder's (1995) quasi-experimental study examined the relationship between teacher efficacy, curriculum-based measurement, and student achievement of 19 special-education teachers who each monitored two students with mild disabilities. Curriculum-based measurement was utilized to assess students' math computation growth over the course of 16 weeks using a pre- and post-test design. Allinder's (1995) findings indicated that teachers with high personal and general teaching efficacy set higher end-of-year goals for their students ($p < .05$). Results also revealed significantly greater gains in mathematics computation assessments in digits ($p < .05$); for problems ($p < .05$); and for slope ($p < .05$). These findings suggest that teacher efficacy is most likely a *causal* factor in student achievement, and not just a correlate of student achievement.

In a rigorous study, Midgley, Feldlaufer, and Eccles (1989) examined the changes in students' expectancies for mathematics performance, perceived performance, and

perceived task difficulty as they related to changes in their mathematics teachers' sense of teaching efficacy. A longitudinal study was undertaken using repeated measures multivariate analysis of variance based on the responses of 1,329 students and their teachers from before and after the transition to junior high school. For students whose teachers were high-efficacy before and low-efficacy after transition, Midgley et al. (1989) discovered a statistically significant decrease in both expectancies ($F = 11.89, p < .001$) and perceived performance ($F = 8.82, p < .001$) and these students also reported the highest perceptions of task difficulty ($F = 14.84, p < .001$). This increase in the level of task difficulty exceeded the perceptions of students whose teachers had low efficacy for both years before the transition to junior high school. Furthermore, teachers' efficacy beliefs were more strongly related to student outcomes of those who were low-achieving versus high-achieving. This finding suggests that teachers' efficacy and expectations play a *causal* role in the achievement of those who need the most assistance.

Teacher Efficacy and Student Characteristics

Given that teacher efficacy is both associated with and predictive of student outcomes, some scholars have investigated which context-specific variables impact teachers' efficacy for working with particular student populations. Although each of these factors from Ashton and Webb's (1986) list play a role in influencing teacher efficacy in various contexts, a couple of factors in particular are involved in influencing teacher efficacy when working with students from different ethnic, racial or socioeconomic groups. Specifically, student characteristics, teachers' conceptions of the learner, and conceptions of the role of education directly impact the dispositions of teachers

concerning the educability of particular students and their own abilities in facilitating learning.

An extensive body of literature has examined the various ways in which teachers' beliefs and dispositions are differentially impacted by individual student characteristics like racial, ethnic, and socioeconomic background. Among this literature, many findings indicated that teachers are poorly prepared to serve students who are ethnically different from the teachers (Bell, 2000; Middleton, 2002; Scott & Anthony, 2001; Sleeter, 2001; Talbert-Johnson, 2006). Other studies have illuminated the low-levels of awareness concerning issues that impact students from diverse backgrounds (Cockrell, Placier, Cockrell, & Middleton, 1999; Dee & Henkin, 2002; Henze, Lucas, & Scott, 1998; Martinez, 2005; Milner, Flower, Moore, Moore, & Flowers, 2003; Moore, 1999; Vogt & McKenna, 2005). Further, related research on teacher expectations and instructional behaviors demonstrated how expectancy beliefs result in disparate educational treatment of students of color compared to Euro-American students (Brophy, 1983; Brophy & Good, 1970; Casteel, 1998). These findings suggest that traditionally disadvantaged students' differential educational experiences result from teachers' lack of awareness and sensitivity to their own biases and their ignorance concerning oppressive cultural norms of schools and society.

In the literature on teacher beliefs and dispositions concerning student characteristics, some researchers have explored the well-defined construct of teacher efficacy and its relationship to student background on which this dissertation study will focus. For example, in order to elucidate how student characteristics impact teachers' predictions of student success, Tournaki and Podell (2005) examined responses of 384

general education teachers in a quasi-experimental study. Each teacher was asked to respond to one of 32 possible case studies which depicted a student's characteristics, specifically the student's gender, reading achievement, social behavior, and attentiveness. These four factors were manipulated in each case to examine teacher responses to variability in student characteristics. Teacher efficacy was measured using a 16-item teacher efficacy scale. Findings suggested several conclusions concerning the relationship between teacher efficacy and the influence of student characteristics.

Teachers with high efficacy beliefs made less negative predictions about students, whereas low efficacy teachers tended to hone in on one characteristic when making predictions about student success (Tournaki & Podell, 2005). Additionally, no noticeable differences existed between teachers' responses to students who were both aggressive and inattentive. Further, all teachers made higher predictions of success for students who were on grade level, which was true for aggressive students as well. Conversely, teachers did not make consistently high predictions for students who were on low-reading levels and friendly in nature. Overall, the researchers found that teacher efficacy and student characteristics had statistically significant interactions regarding student success predictions. Specifically, *general teaching efficacy* interacted with student characteristics far more often than personal teaching efficacy (Tournaki & Podell, 2005). Since general teaching efficacy concerns the belief that all students can benefit from teaching in general, or that each student is educable (Ashton & Webb, 1986), the findings support the original framework concerning the context-specific influence of student characteristics on teacher efficacy and indicate a need to examine teacher beliefs about student background.

Attempting to explore whether teacher efficacy varies in relation to race and ethnicity, Pang and Sablan's (1998) study examined how students' African American ethnicity impacted both pre-service and in-service teachers' efficacy beliefs. They collected data using a modified version of Gibson and Dembo's (1984) self-efficacy scale. The items were adapted to specifically mention how teachers felt about their impact on African American students (Pang & Sablan, 1998). Participants included 100 pre-service and 75 in-service teachers enrolled in multicultural courses at a university in California. Pang and Sablan (1998) discovered that most teachers' beliefs were affected by student ethnicity as seen in Table 2. Generally, teachers reported mixed beliefs about their abilities to help African American students and the students' abilities to achieve given their background. Results from the data analyses also indicated that pre-service teachers generally had higher efficacy beliefs than in-service teachers. This finding led the researchers to surmise that once teachers enter into the teaching profession, optimism and efficacy beliefs about helping African American students achieve decrease dramatically. These beliefs could be affected by vicarious experiences in which novice teachers see career teachers failing to assist African American students in raising achievement (Pang & Sablan, 1998).

Table 2

Teachers' Responses to Ethnicity-Specific Teacher Efficacy Items^a

Strongly Disagreed or Disagreed	Uncertain, Agreed, or Strongly Agreed	Adapted Teacher Efficacy Items
59%	41%	The hours in my class have little influence on African American students compared to the influence of their home environment.
56%	44%	If African American students aren't disciplined at home, they aren't likely to accept any discipline.
66%	34%	A teacher is very limited in what he or she can achieve because an African American's home environment is a large influence on his or her environment.
35%	65%	Even a teacher with good teaching abilities may not reach many African American students.
54%	36% ^b	If an African American student did not remember information I gave in a previous lesson, I would know how to increase his or her retention in the next lesson
37%	63% ^c	When I really try, I can get through to the most difficult African American student.
73%	27%	Some African American students need to be placed in slower groups so that they are not subjected to unrealistic expectations.
83%	17%	Teachers are not a very powerful influence on African American student achievement when all factors are considered.

Note. Adapted from "Teacher efficacy: How do teachers feel about their abilities to teach African American students?" by V. O. Pang and V. A. Sablan, 1998, in M. E. Dilworth's (Ed.), *Being responsive to cultural differences: How teachers learn*, pp. 45-65. Copyright 1998 by Corwin Press.

^aPercentages represent the total group of both pre-service and in-service teachers' responses. ^bResults reported for this item were 36% for Strongly Agreed and Agreed, and 54% for Uncertain, Disagreed, and Strongly Disagreed. ^cResults reported for this item were 63% for Strongly Agreed and Agreed, and 73% for Uncertain, Disagreed, and Strongly Disagreed.

The findings from Pang & Sablan's (1998) study are consistent with results from other research, which revealed that when teachers do not have mastery experiences of their own upon which to base their efficacy beliefs, they rely on veteran teachers' experiences with students and teaching (Bandura, 1977; Tschannen-Moran & Hoy, 2007). If career teachers with high efficacy beliefs do not experience success with students of color, then it is logical to conjecture that novice teachers will also begin believing that they are also unable to facilitate minority student achievement. Responses to an item on this topic supported this assertion: 65% percent of those surveyed did not disagree with the statement that "even a teacher with good teaching abilities may not reach African American youth" (Pang & Sablan, 1998, p. 53). Thus, teachers with high

levels of personal teaching efficacy may feel a low sense of general teaching efficacy for working with African American students.

In an attempt to influence teacher efficacy, Tucker and her colleagues (2005) developed and tested a training program for promoting teacher efficacy for working with African American students. The training program focused on Tucker's Self-Empowerment Theory (SET), a research-based education program for African American children. Through this training, teachers learned how to empower their students to engage in "pro-social behaviors" that help facilitate academic success. Sixty-two teachers participated in a 6-hour workshop of the SET method, 37 teachers comprised the experimental group and the control group included 25 teachers. Using pre- and post-measures, the researchers explored differences in general teaching self-efficacy, culturally sensitive teacher self-efficacy, and prejudice.

Results from the surveys indicated that teachers who were trained reported a significantly higher sense of efficacy in working with diverse children compared to the control group who received no training. This finding strengthens Ashton and Webb's (1986) theory that teacher efficacy both influences and is influenced by student motivation and student self-efficacy. When teachers begin to see students achieve who are from stereotypically low-achieving groups, the teachers then believe that these students can attain high levels of learning and simultaneously, they believe they can assist students in their learning (Ashton & Webb, 1986). While this study demonstrated results for improving teacher efficacy, the researchers emphasized the importance of addressing teachers' cultural sensitivity. Specifically, they suggested training for teachers on differences in cultural norms,

judgments about differences in norms, and adjusting norm beliefs to filter out personal judgments and biases (Tucker et al., 2005).

Similar to both Pang and Sablan (1998) and Tucker et al. (2005), Tasan (2001) examined the differences in teacher efficacy beliefs in relation to student language background, teachers' ethnic identities, and teacher participation in diversity training. Data from a modified version of Gibson and Dembo's (1986) Teacher Efficacy Scale was collected from 234 public elementary teachers across Connecticut. The modified version of the instrument included questions that were tailored to student language background: standard English speakers, non-standard English speakers, and non-English speakers. Results from analysis of variance indicated a significant relationship between the variation in student language background and teacher efficacy. Teachers felt significantly more efficacious for working with students of standard-English backgrounds than with non-standard English students ($t = 5.134, p < .001$) and non-English students ($t = 6.326, p < .001$). These findings further substantiate the notion that teacher efficacy beliefs are influenced by student characteristics like student ethnicity and language background (Ashton & Webb, 1986).

Tasan's (2001) results also revealed the nature of the relationships between efficacy and student language based on teacher ethnicity. Findings indicated that teacher ethnicity did not play a significant role in explaining the relationship between efficacy and student language background. Based on this finding, Tasan (2001) inferred that teacher ethnicity does not automatically equate to higher levels of efficacy for working with students of similar cultures or ethnicities; further, she suggested that increasing the ethnic diversity of a staff may not necessarily ameliorate low student achievement for ethnic minority

students. A more compelling finding from Tasan's (2001) surveys indicated that teachers who participated in diversity training had higher efficacy levels versus those who did not participate in diversity training (Tasan, 2001). Although these data are correlational, the findings from this research draw attention to teachers' belief frameworks concerning student characteristics.

Tasan's (2001) study confirms evidence presented in the previous studies concerning the suggested relationship between teacher efficacy and beliefs about student characteristics (Pang & Sablan, 1998; Tournaki & Podell, 2005; Tucker et al., 2005). Although each of the previous researchers attempted to elucidate factors related to teacher efficacy, definitions for teacher beliefs about student characteristics has varied widely. Without a consistent definition for the construct related to teacher beliefs about student background, research has been splintered in efforts to follow this line of inquiry. Educators and researchers have understood the importance of these beliefs in relation to teacher efficacy, but an absence persists concerning streamlined research and interventions to improve these beliefs. In order to substantiate and unify previous research, a comprehensive operational definition for beliefs about student characteristics must first be identified. Once defined, these beliefs about student background can be measured and analyzed with teacher efficacy beliefs in order to explicitly determine the nature of the relationship and identify areas for further investigation and intervention.

Cultural Competence

Given that the U.S. population is comprised of numerous racial, ethnic, and cultural groups, beliefs concerning the different groups are as diverse and multihued as the people themselves (Cornell & Hartman, 2007; Delgado & Stefancic, 2001; Schuman

& Steeh, 1996). In response to the increasing diversity in student populations, some education scholars have identified a need for culturally relevant pedagogy. Three requirements of culturally relevant pedagogy recurred in the literature: emphases on academic achievement, cultural competence, and sociopolitical critique (Banks, 1994, 1996; Grant & Gillette, 2006; Ladson-Billings, 1994, 1995; Sleeter, 2001; Villegas & Lucas, 2002). Because this dissertation research concerns teachers' beliefs about student characteristics, cultural competence literature was explored for insights concerning teacher dispositions about student background. Cultural competence surfaced as the construct used in education and psychological literature to describe beliefs and dispositions concerning people similar and different from oneself (Banks, 1994; Helms, 1990; Sue et al., 1982). In addition to a discussion concerning the development of frameworks for cultural competence, the sources of cultural competence and measures of cultural competence are outlined. Following this section, the review synthesizes the literature regarding how cultural competence influenced actions in certain situations, particularly with teachers in educational settings (Gallavan, 2007; Golden, 2007; Swearingen, 2009).

Cultural Competence Frameworks

Various scholars have identified the processes in which individuals develop cultural competence, or their beliefs about people from different and similar ethnic and socioeconomic groups (Arrendondo et al., 1996; Cross, Bazron, Dennis, & Isaacs, 1989; Ridley, Mendoza, Kanitz, Angermeier, & Zenk, 1994; Sue et al., 1982). A person who is culturally competent is:

[one] who has achieved an advanced level in the process of becoming intercultural and whose cognitive, affective and behavioral characteristics are not

limited but are open to growth beyond the psychological parameters of only one culture... The intercultural person possesses an intellectual and emotional commitment to the fundamental unity of all humans and, at the same time, accepts and appreciates the differences that lie between people of different cultures. (Gudykunst & Kim, 1984, p. 230)

Bennet (1995) clarifies and expounds on the awareness of oppression in that the culturally competent person works to combat “all forms of prejudice and discrimination, through the development of appropriate understanding, attitudes, and social action skills” (p. 263).

Two prominent camps of thought have evolved from scholarship on cultural competence frameworks. One group defines cultural competence through a set of beliefs, skills, and knowledge that a person possesses (Sue et al., 1982). Another group of scholars defines cultural competence through identity development processes that are specific to different ethnic groups (Banks, 1994; Helms, 1990; McAllister & Irvine, 2000; Sevig, Highlen, & Adams, 2000). In this study, the criteria for identifying a model and instrument for cultural competence included the applicability of the framework and instrument to all ethnic and cultural groups. Also, the cultural competence model needed to encompass awareness of multiple levels of prejudice: interpersonal, cultural, and institutional (Sue, 2001). From the research that follows, a cultural competence model and survey instrument were identified, both of which met the criteria (Sevig, Highlen, & Adams, 2000).

Beliefs/attitudes, skills, and knowledge. Scholarly literature on cultural competence in the field of education has followed the foundational research from counseling. The counseling and nursing professions dominate the literature on cultural competence and defining this phenomenon, particularly in relation to serving clients who

are culturally different from the counselor or health professional. Specifically, Sue et al.'s (1982) seminal work describes a tripartite model for delineating cultural competence. The components include the following categories as shown in Table 3: beliefs/attitudes, knowledge, and skills. Each category includes several competencies that define a component of cultural competence.

Table 3

Characteristics of a Culturally Competent Psychologist

Categories	Competencies
Beliefs/Attitudes	<ol style="list-style-type: none"> 1. The culturally skilled counseling psychologist is one who has moved from being culturally unaware to being aware and sensitive to his/her own cultural heritage and to valuing and respecting differences. 2. A culturally skilled counseling psychologist is aware of his/her own values and biases and how they may affect minority clients. 3. A culturally skilled counseling psychologist is one who is comfortable with differences that exist between the counselor and client in terms of race and beliefs. 4. The culturally skilled counseling psychologist is sensitive to circumstances (personal biases, stage of ethnic identity, sociopolitical influences, etc.) which may dictate referral of the minority client to a member of his/her own race/culture.
Knowledge	<ol style="list-style-type: none"> 1. The culturally skilled counseling psychologist will have a good understanding of the sociopolitical system's operation in the United States with respect to its treatment of minorities. 2. The culturally skilled counseling psychologist must possess specific knowledge and information about the particular group he/she is working with. 3. The culturally skilled counseling psychologist must have a clear and explicit knowledge and understanding of the generic characteristics of counseling and therapy. 4. The culturally skilled counseling psychologist is aware of institutional barriers which prevent minorities from using mental health services.
Skills	<ol style="list-style-type: none"> 1. At the skills level, the culturally skilled counseling psychologist must be able to generate a wide variety of verbal and nonverbal responses. 2. The culturally skilled counseling psychologist must be able to send and received both verbal and non-verbal messages accurately and "appropriately." 3. The culturally skilled counseling psychologist is able to exercise institutional intervention skills on behalf of his/her client when appropriate.

Adapted from Sue et al.'s (1982) "Position Paper: Cross-Cultural Counseling Competencies," by D. W. Sue, J. B. Bernier, M. Durran, L. Feinberg, P. Pedersen, E. Smith, and E. Vasquez-Nutall, 1982, *The Counseling Psychologist*, 10(2), p. 49. Copyright 2008 by SAGE Social Science Collections.

The characteristics listed in Table 3 are not only applicable to counselors and other health professionals, but they serve as a strong framework for expectations of any professional in a service career like teachers working with students in schools. In the explanations of the different points in this model, Sue et al. (1982) discussed that culturally competent persons are those who have moved from an ethnocentric world view to one that respects and values differences between the service provider and client. In

short, the culturally competent person is one who is aware of her own cultural identity, how that identity is viewed within society, and how others' identities operate within the United States on an individual, cultural, and institutional level (Sue, 2001; Sue et al., 1982).

Ethnic identity development. In Sue et al.'s (1982) model of a culturally competent psychologist, references are made to the importance of understanding one's own identity and the clients' ethnic identity development. By delineating the characteristics of a person who has achieved cultural competence, Sue et al. (1982) helped describe the attributes that one must achieve on the continuum of cultural competence development. Even though the competencies are comprehensive, Sue et al. (1982) did not clearly explain the process by which a person becomes culturally competent. Becoming culturally competent is not necessarily just a process of acquiring new beliefs, attitudes, skills, and knowledge. Rather, it is a process that involves the development of one's own identity: moving from culturally unaware to culturally aware and actively resistant to cultural and racial oppression, acquiring different "competencies" at each stage of development (Banks, 1994; Helms, 1990; McAllister & Irvine, 2000).

Using Sue's (2001) framework, the search for a holistic multicultural identity development model included three criteria: awareness of interpersonal, cultural, and institutional oppression and bias. A body of psychological literature (Allport, 1954; Duckitt, 1992; Pettigrew, 1998) delineated processes of personal growth and development concerning cultural awareness in a variety of identity development models. Most identity frameworks are tailored specifically for people of particular racial and

ethnic groups. In particular, several identity developmental models addressed groups like African Americans (Cross, 1971; Parham & Helms, 1985), Latino/a people (Berry, 1980; Keefe & Padilla, 1987), Asian Americans (Sue, 1981; Sue & Sue, 1971), minority people in general (Atkinson, Morton, & Sue, 1989), and Euro-American or White identity (Carney & Kahn, 1984; Gaertner, 1976; Helms, 1984; Ponterotto, 1988). Other identity development models have included non-ethnic groups like gay or lesbian identity development (Cass, 1979). Very few described processes are applicable to all people (Banks, 1994; Bennet, 1993; Sevig, Highlen, & Adams, 2000). In each model, the progression involves acknowledging bias, prejudice, and systemic oppression and how facing these disadvantages affect one's growth and readiness.

Each of the previously mentioned identity models consists of several stages. The minority member identity models conform to stages similar to Atkinson et al.'s (1989) model, and the Euro-American identity models follow comparable stages to Helm's (1985) continuum. Two identity development models emerged from the literature, which were not specific to minority members or majority members. Banks (1994) proposed a typology of ethnic identity development that included members from both marginalized and dominant ethnic groups. Similar to Banks' (1994) inclusive model, Bennet (1993) proposed a stage model for intercultural sensitivity. Each of these models, ethnicity-specific and ethnicity-neutral, have comparable stages of development which are shown in Table 4.

Table 4

Stages of Ethnic Identity Development from Four Models

Stage	Minority Identity Development ^a	White Racial Identity Development ^b	Typology of Ethnic Identity ^c	Developmental Model of Intercultural Sensitivity ^d (DMIS)
1	<i>Conformity</i> : Preference for dominant culture. Racial self-denial or hatred. Desire to belong to dominant culture.	<i>Contact</i> : Perceives others as racial beings but no self. Believes everyone is the same. Individual difference not cultural.	<i>Ethnic psychological captivity</i> : People internalize negative racial and ethnic stereotypes and beliefs.	<i>Denial</i> : People lack knowledge of differences between groups. Individuals assume their worldviews are the only world views and behave accordingly.
2	<i>Dissonance</i> : Confusion and questioning of dominant values and hierarchy. Need to deal with conflicting internal beliefs.	<i>Disintegration</i> : Knows prejudice/discrimination exist and sees self as majority. Experiences guilt and needs not to be seen as the direct oppressor.	<i>Ethnic encapsulation</i> : Dominant members internalize the myth about the inferiority of other ethnic groups. Marginalized groups become insular out of fear or strong ethnic identity.	<i>Defense</i> : Individuals realize differences exist but, they strive to preserve their own cultural views by denigrating another culture, uplifting their own as superior, or uplifting a particular community as superior.
3	<i>Resistance/Immersion</i> : Total rejection of dominant culture. Total endorsement of won minority culture.	<i>Reintegration</i> : Focus on self as majority member, negative towards minority experience. Focus on won group issues and needs.	<i>Ethnic identity clarification</i> : All ethnic groups begin to see both positive and negative aspects of their own groups. Self-acceptance permeates this stage.	<i>Minimization</i> : People claim to be “color blind.” Individuals minimize the differences and continue to interact within their own cultural paradigms, living under the assumption that their behaviors and perceptions are shared by others.
4	<i>Introspection</i> : Rigid acceptance/rejection is questioned. Individuality within ethnic group actively sought. Cultural context explored.	<i>Pseudo-Integration</i> : Accept minority members’ friends if they are similar to self. Sees systematic prejudice but does not actively combat it.	<i>Bi-ethnicity</i> : Individuals have the skills and desire to function in two cultures.	<i>Acceptance</i> : Individuals leave the ethnocentric realm and begin the first stage of ethnorelativism. People recognize that others have different values and worldviews, and they begin to accept and respect different behaviors and communication styles.
5	<i>Synergistic articulation and awareness</i> : Self-fulfillment with own identity. Individuality cultural context realized. Active attempt to eliminate oppression of all forms not just of own group.	<i>Autonomy</i> : Seeks inter-cultural experience. Values diversity. Gathers knowledge of other within cultures. Actively addresses systematic inequities.	<i>Multi-ethnicity and reflective nationalism</i> : Individuals have developed cross-cultural competency that enables them to understand values, symbols, and institutions of other cultures and their own culture.	<i>Adaptation</i> : People are able to change their processing of reality; modify their behaviors so they are more appropriate, and be able to think and/or act from another cultural perspective. They exhibit empathy.
6				<i>Integration</i> : Individuals are not merely sensitive to other cultures, but they are continually becoming a part of and apart from a given cultural context.

Note. ^aAdapted from *Counseling American Minorities: A Cross-Cultural Perspective* by D. Atkinson, G. Morton, and D. Sue, 1989. Copyright 1989 W. C. Brown Company Publishers. ^bAdapted from “Toward a Theoretical Explanation of the Effects of Race on Counseling: a Black and White Model,” by J. E. Helms, 1984, pp. 155-156. Copyright 1984 Sage Publications, Inc. ^cAdapted from *Multiethnic Education: Theory and Practice*, by J. A. Banks, 1994. Copyright 1994 Allyn and Bacon. ^dAdapted from “Measuring Intercultural Sensitivity: The intercultural development inventory,” by M. R. Hammer, M. J. Bennet, and R. Wiseman, 2003, p. 424. Copyright 2003 Elsevier Ltd.

Because the ethnicity-specific and ethnicity-neutral identity models focused on only one personal characteristic, Sevig et al. (2000) claimed that the continuums fail to capture the spectrum of growth that occurs through the acknowledgement of the intersecting components of an individual's identity. Although ethnicity remains one of the most salient identity characteristics for individuals within U.S. society (Sue, 2001), that one characteristic does not completely explain all situations of bias and prejudice (Myers et al., 1991; Sevig, Highlen, & Adams, 2000). These models have omitted the intersections of identity development for each person's multiple characteristics by leaving out a person's concurrent memberships to both minority and majority groups. For example, an African American man is both an ethnic minority and a gender majority member. Given this particular limitation to the ethnic identity models, this researcher investigated the existence of models that included individual's multiple identities, which included ethnicity as one of the characteristics.

Optimal Theory Applied to Identity Development (OTAID). Encompassing interpersonal, cultural, and institutional levels of prejudice and oppression, Sevig, Highlen, and Adams (2000) proposed a pancultural model that applies to all people through inclusion of each individual's multiple identities: the Optimal Theory Applied to Identity Development (OTAID). Most of the other identity development models address only one aspect of a person's identity (Banks, 1994; Bennet, 1993; Carney & Kahn, 1984; Cross, 1971; Gaertner, 1976; Helms, 1984; Parham & Helms, 1985; Ponterotto, 1988). Scholars asserted that individuals have multiple identities, which allow them to relate differently to others in various contexts (Myers et al., 1991). For example, a Euro-American woman from a low-socioeconomic background experiences her reality in the

United States in several frames. She is considered a member of the dominant Euro-American population, yet she is also a member of two non-dominant groups: women and a low-socioeconomic population. This woman may experience advantages in certain situations and disadvantages in others based on which part of her identity is more salient in her particular contexts of life. Furthermore, she may have a sense of appreciation for her intersecting identities and how those different facets of her background influence her personal treatment and her access to desired opportunities. Conversely, she may believe that situations in which she experiences advantages or disadvantages are not related to prejudice or bias concerning her multiple identities; essentially, she may be ignorant to the systems of preferential treatment that exist within American society (Myers et al., 1991).

According to Myers et al. (1991) and Sevig, Highlen, and Adams (2000), an individual's multicultural identity development involves becoming more aware of one's own identity, other's identities, how one's own and others' multifaceted identities are influenced by society, and how stereotypes and biases in American society operate to systematically advantage or disadvantage people from various groups based on those identities. As one becomes more culturally competent, awareness increases in each of the areas previously mentioned. As a person progresses along a continuum of multicultural identity development, he becomes more aware of how he is an oppressor in some situations, and oppressed in other situations based on the intersection of different personal characteristics (Myers et al., 1991; Sevig, Highlen, & Adams, 2000). Thus, one's level of cultural competence is defined by one's multicultural identity stage; this level of awareness or lack of awareness illustrates a consciousness of one's own identity,

others' identities, and how they operate within the context of the United States (Myers et al., 1991; Sevig, Highlen, & Adams, 2000).

Similar to the stages of ethnic identity development (Atkinson et al., 1989; Banks, 1993; Bennet, 1994; Helms, 1984), the Optimal Theory Applied to Identity Development is defined through six stages that move from a narrow to broad worldview which are shown in Table 5.

Table 5

Stages from Optimal Theory Applied to Identity Development (OTAID)

Stage	Definition
1	<i>Individuation:</i> People experience separateness but feel a connection to societal conventions and may not question how much they have been shaped by society. Consequently, they are more likely to ascribe to group stereotypes and identify with mainstream culture.
2	<i>Dissonance:</i> People begin to experience a feeling of alienation from mainstream society, often as a result of vicarious or direct discrimination and exclusion.
3	<i>Immersion:</i> Feelings of pride and a sense of belonging can occur when people identify with their subculture group (or part of their identity they have previously devalued and not explored). Negative feelings about the dominant culture may be present, as well as negative feelings toward other subcultures or members of their own group who do not share similar perceptions of oppression.
4	<i>Internalization:</i> People positively integrate their subgroup identity into their self-concept. People are more tolerant and accepting of others, because those who are different no longer threaten their newfound sense of self and because they are starting to understand the nature of oppression more fully.
5	<i>Integration:</i> People recognize that the American social structure creates and perpetuates oppression, thus people in this phase exhibit greater unconditional positive regard for themselves, others, and all of life. Differences among all people are recognized and embraced.
6	<i>Transformation:</i> People encounter a transformation by experiencing spiritual-material unity and a conscious recognition of the interrelatedness of life, so self is defined even more holistically.

Note. Adapted from "Development and Validation of the Self-Identity Inventory (SII): A Multicultural Identity Development Instrument," by T. D. Sevig, P. S. Highlen, and E. M. Adams, 2000, pp. 170-171. Copyright 2000 Educational Publishing Foundation.

The OTAID continuum illustrates how cultural competence increases as one discovers his/her own identity, how beliefs about self and others are shaped by society, and how these societal beliefs serve to promote the advantages of some and maintain the

disadvantages of others. Like the Sue et al. (1982) model, the OTAID model is also tripartite in levels of awareness: personal, interpersonal, and institutional. Specifically, this model is situated in the context of American society, which centers on life experiences within a Eurocentric and systemically oppressive national culture. The contextual placement of this model within American society is demonstrated through various questions on the Self-Identity Inventory (SII). Items on the SII are stated in a manner that assumes the reader is familiar with the American context (Sevig, Highlen, & Adams, 2000). No other model of ethnic identity development includes each of these levels of awareness *and* is also universally applicable to all dominant and non-dominant membership groups in the U.S. (Banks, 1994; Bennet, 1993; Helms, 1990; Sevig, Highlen, & Adams, 2000).

In addition to upholding the tenets for models of identity development from the psychological literature (Atkinson et al., 1989; Banks, 1994; Bennet, 1993; Helms, 1990), the OTAID also is congruent with the literature concerning cultural competence (Arrendondo et al., 1996; Cross, Bazron, Dennis, & Isaacs, 1989; Ridley, Mendoza, Kanitz, Angermeier, & Zenk, 1994; Sue et al., 1982); this model includes levels of awareness on the personal, interpersonal, cultural, and institutional levels (Sevig, Highlen, & Adams, 2000). Further, cultural competence has been identified as one of the foundational requirements for culturally relevant teaching (Banks, 1994; Banks, 1996; Grant & Gillette, 2006; Ladson-Billings, 1994; Ladson-Billings, 1995; Sleeter, 2001; Villegas & Lucas, 2002). Hence, based on the congruence of the OTAID model with culturally relevant pedagogy literature, cultural competence research, and identity

development models, this study will utilize the OTAID model for defining and measuring cultural competence.

Sources of Cultural Competence

Given that cultural competence is a level of self-awareness of one's multifaceted identity, awareness of beliefs concerning others' identities, and an awareness of how these identities operate in interpersonal, cultural, and institutional situations (Sevig, Highlen, & Adams, 2000), the core of cultural competence concerns beliefs about self and others. In *The Nature of Prejudice*, Allport (1954) describes how each person forms beliefs about others initially from interactions and the spoken language found in the home. Children first hear language that signifies negative stereotypes. Then, as they develop, they attach labels to the referents of their parents' conversations. Tatum (1999) also contends that children learn stereotypes from the media, which surrounds each person in the home and in society. Media outlets include television programs, commercials, news reports, billboards, music, and movies. Negative depictions are attached to some membership groups like African Americans and Latinas/os, while other groups receive positive stereotypes like Euro-Americans and Asians (Tatum, 1999). Vicarious experiences with others who are different from oneself develop into personal bias, stereotypes, and prejudices (Allport, 1954; Solorzano & Yosso, 2001; Sue, 2004; Tatum, 1999).

After a set of beliefs about others is ingrained in one's psyche, firsthand experiences may serve to reinforce these stereotypes and biases (Allport, 1954; Pettigrew, 1979; Tatum, 1999). In particular, if one has a negative experience with a person from a stereotyped group, the negative interaction will likely be attributed to the "genetic

makeup” of that person (Pettigrew, 1979). Conversely, if one has a positive interaction with a person from a different membership group, the stereotype may not be altered, particularly if the stereotype is deeply set and associated with extreme emotions. Instead, this person may be labeled the “exception” to their membership group. Similarly, the positive experience may be attributed to luck or advantage, or special circumstances (Allport, 1959; Bandura, 1977; Pettigrew, 1979; Solorzano & Yosso, 2001; Tatum, 1999). Thus, in most cases, vicarious experiences comprise the foundational sources for beliefs associated with cultural competence, and firsthand experiences reinforce beliefs established from vicarious experiences.

Some studies documented how teachers’ beliefs concerning people different from themselves originated from vicarious experiences. In Pang and Sablan’s (1999) study of teachers’ efficacy beliefs for working with African American students, results were divided for teachers’ familiarity with African American people. They reported that “when asked if they had many African American friends, 46% ($n = 81$) of the teachers indicated that they did have many African American friends, 45% ($n = 78$) said they did not, and 9% ($n = 16$) were uncertain” (Pang & Sablan, 1999, p. 51). In response to a similar item, teachers were asked whether they had attended school where African American students were also enrolled: “the majority of the teachers, 70% ($n = 122$), indicated they had not; 28% ($n = 49$) indicated that they had; and 2% ($n = 4$) were uncertain” (Pang & Sablan, 1999, p. 51). Thus, many teachers often have only vicariously interacted with people different from themselves; these vicarious experiences include shared accounts from veteran teachers about low behavior expectations for students of color (Pang & Sablan, 1999; Tatum, 1999). These conversations shape novice teachers’ beliefs about particular

students from different ethnic groups, and in some cases, this leads to negative beliefs concerning the educational abilities of traditionally disadvantaged students (Pang & Sablan, 2005; Solorzano & Yosso, 2001). Pang and Sablan's (1999) study supports the cultural competence theory that most people form beliefs about others through vicarious experiences due to lack of first-hand interactions (Allport, 1959; Bandura, 1977; Pettigrew, 1979; Solorzano & Yosso, 2001; Tatum, 1999).

Measuring Cultural Competence

Numerous instruments have been developed to measure cultural competence in general and for specific professions (LaFrombroise, Coleman, & Hernandez, 1991; Sowdowsky, Taffe, & Gutkin, 1994). The criteria for selecting an instrument for measuring cultural competence in this study are as follows:

1. The instrument must include the three levels of prejudice: interpersonal, cultural, and institutional (Sue et al., 1982).
2. The instrument must measure cultural competence on an identity development continuum (Banks, 1994; Bennet, 1993; Sevig, Highlen, & Adams, 2000).
3. The instrument must include individuals' multiple identities (Myers et al., 1992).
4. The instrument must be ethnicity-neutral and profession-neutral (Banks, 1994; Sevig, Highlen, & Adams, 2000).

Using these four criteria, a review of cultural competence instruments was conducted and the measure for this study was identified.

The most widely used measures of cultural competence are instruments based upon Sue et al.'s (1982) three-pronged model of cultural competence for counselors

which include items aimed at measuring beliefs, knowledge, and skills (D'Andrea, Daniels, & Heck, 1991; Ponterotto et al., 1993). Although these measures focus on some of the understandings, competencies, and skills that one must possess, they lack grounding in the process of gaining these insights. Furthermore, these instruments may inform the counselor or the counselor educator as to which pieces of knowledge are missing, but they fail to divulge where the practitioner stands in the developmental process of becoming more culturally competent. Further, these particular instruments are specifically focused on the audience of counselors or pre-service counselors. Because these instruments lack a developmental component and are also specified for a specific profession, this study will not use these instruments from the counseling field.

Two scales have been developed to capture both cultural competence and teacher efficacy (Guyton & Wesche, 2005; Siwatu, 2006). The Multicultural Efficacy Scale was created by Guyton and Wesche (2005); the Culturally Responsive Teaching Efficacy Scale and Culturally Responsive Outcome Expectancy Scales were developed by Siwatu (2006). A common assumption fueled the development of these instruments: teacher efficacy and cultural competence are related. Although the literature is replete with examples of how teacher efficacy and cultural competence are theoretically related, no studies establish this relationship empirically. In addition to these unsubstantiated assumptions, both scales define cultural competence through a cultural difference model (Guyton & Wesche, 2005; Siwatu, 2006). These scales do not measure any sense of understanding of systemic oppression or the perpetuation of disadvantage through personal bias and stereotyping. Further, these instruments do not incorporate the

developmental process of becoming culturally competent. Hence, this study will not use either of these scales for measuring cultural competence.

Among the instruments that measure cultural competence using identity development, only two measures apply universally to people from dominant and non-dominant membership groups (Hammer, Bennet, & Wiseman, 2003; Sevig, Highlen, & Adams, 2000). The Intercultural Development Inventory, which was developed by Hammer, Bennett, and Wiseman (2003), has been used extensively to measure an individual's developmental levels of intercultural sensitivity. This instrument, however, is based on a cultural difference model that only addresses one's view of others interpersonally and culturally. It does not, however, capture one's sense of understanding concerning how culture and ethnic identity are involved in systemic oppression (Hammer, Bennet, & Wiseman, 2003). This missing key element *is* included in the Self-Identity Inventory developed by Sevig, Highlen, and Adams (2000).

The Self-Identity Inventory (Sevig, Highlen, & Adams, 2000) captures the understanding that one's identity and others' identities may provide advantages or disadvantages due to the existence and persistence of systemic oppression. The Self-Identity Inventory includes all essential components; it captures beliefs, attitudes, and knowledge concerning interpersonal, cultural, and societal bias, discrimination and oppression. Furthermore, the instrument places a person's understandings on a developmental continuum of multicultural identity (Sevig, Highlen, & Adams, 2000). One alteration will be made to the scale. Since teacher efficacy does not include issues related to spirituality, and given that spirituality is not a common component of cultural competence (Banks, 1994; Bennet, 1993; Sue et al., 1982), the Transformation scale of

the SII will not be included in this study as a means of measuring cultural competence. Thus, meeting each of this researcher's criteria for measuring cultural competence, this study will use the Self-Identity Inventory, omitting the Transformation scale, to assess levels of teacher cultural competence.

Cultural Competence and Student Outcomes

Many studies have explored teacher cultural competence, either directly through measures of cultural competence, through assessments of beliefs toward diversity, or dispositions toward working with "urban" populations (Cockrell et al., 1999; Dee & Henkin, 2002; Henze, Lucas & Scott, 1998; Martinez, 2005; Milner et al., 2003; Moore, 1999; Vogt & McKenna, 2005). Through observational data, much research has delineated how teachers with high levels of cultural competence or culturally relevant teaching practices tend to be associated with high-achieving students of color (Casteel, 1998; Kagan, 1992; Ladson-Billings, 1994; Ross, 1994; Thompson, Ransell, & Rousseau, 2005). This body of research conducted on teacher cultural competence, cultural sensitivity, and cultural relevance all share one common assumption: teacher beliefs about students affect student outcomes.

Thompson, Ransdell, and Rousseau (2005) followed this line of qualitative inquiry by examining teacher behaviors as indicators of beliefs and dispositions. Their theoretical framework rested upon the research explaining that student achievement is influenced by teacher effectiveness, which is related to teacher behaviors; these behaviors arise from beliefs and dispositions (Collier, 2005; Delpit, 1995; Irvine, 2002; Nieto, 2003). Principals from low-income, urban Professional Development Schools identified effective teachers as those whose students consistently achieved high scores on the state

standardized exams. The researchers conducted 40 observations over a seven-week period of 14 effective teachers. While observing, they documented behaviors and analyzed patterns for indications of teacher beliefs and dispositions. Their findings indicated that teachers operated from a teacher-centered instructional style, had very strong classroom management and organizational skills, used repetition as a means of reinforcing concepts, and fostered caring relationships with their students (Thompson, Ransdell, & Rousseau, 2005). Also, the teachers believed their students were capable of learning and expressing themselves effectively. Furthermore, the teachers reported that students deserved respect from teachers and peers (Thomson, Ransdell, & Rousseau, 2005).

Given the high levels of achievement on standardized tests for students of the teacher participants, the researchers concluded that the dispositions of teachers in these urban schools resulted in higher student success. They did caution, however, that the lack of student-centered instruction might indicate that high levels of deeper learning among students may not be occurring. Rather, Thompson et al. (2005) postulated that the teachers' behaviors may represent low-levels of confidence in students' abilities to learn in less structured settings where less control would be maintained by the teacher (Thompson, Ransdell, & Rousseau, 2005).

According to Ladson-Billings (2000), teacher experts in teaching minority students all believe in three main propositional notions about teaching, which contributes to their culturally relevant pedagogy: academic achievement, cultural competence, and sociopolitical critique. Ladson-Billings' (1994) discovered these patterns in her exemplary qualitative study of eight successful teachers of African American students,

which took place over the course of three years. Principals and parents from the sample schools designated the successful teachers of their students. The most effective teachers she observed not only believed that students could succeed, but they also demonstrated it.

For example, in one classroom, the teacher had a cubicle for each student's work to be displayed. This teacher varied the different types of learning activities so that each student would find success, and then she built her reading lessons around those successes (Ladson-Billings, 1994). In another classroom, the researcher observed the teacher setting goals with students at the beginning of the day and reflecting upon those goals at the end of the day. She asserted, "God doesn't make junk! ... They need to identify for themselves what they know they can do and then do it" (Ladson-Billings, 1994, p. 48). Through another teacher's critique of the use of "discover" in the social studies text, this teacher demonstrated how authors of textbooks have skewed accounts of history. Using sociopolitical critique in class, this teacher enlightened fourth graders about how the discovery of a new land for Europeans was interpreted as an invasion by the people native to this land, yet it was reported as a "discovery" in the textbooks (Ladson-Billings, 1994). Thus, these teachers demonstrated support for academic achievement through multiple methods of instruction, cultural competence through their verbal communication with the students, and sociopolitical critique by resistance to mediocre learning standards through acquiring challenging instructional materials for their students' success (Ladson-Billings, 1994; Ladson-Billings, 2000).

Similarly, Kagan's (1992) review of teacher belief literature involved identifying significant correlates of teacher beliefs, which revealed several studies that empirically linked student achievement with teacher beliefs. Using questionnaires to measure teacher

beliefs and school records for student achievement, the researchers reported that teacher perceptions of parental attitudes were associated with student achievement (Johnson, Brookover, & Farrell, 1989). Another study indicated that teacher beliefs were related to mathematics problem solving and teacher practices (Peterson, Fenema, Carpenter, & Loef, 1989). An additional study showed that teachers' beliefs as measured by questionnaires were also related to their students' scores on problem solving (Prawat & Anderson, 1989).

From this review, Kagan (1992) asserted that teacher beliefs about students play a role in student achievement. Although the author proposed this conclusion, Kagan's (1992) assessment concurred with other scholars' assertions that the lack of consistent definitions for teacher dispositions makes it difficult to connect these beliefs and attitudes to student achievement (Thompson, Ransdell, & Rousseau, 2005). Furthermore, Ladson-Billings (2000) specifically identifies cultural competence as one of the integral beliefs for successful teaching of students of color. Since cultural competence has not been empirically linked to student achievement, this study proposed examining cultural competence as the encompassing construct for teacher beliefs concerning people and their characteristics. Thus, this research proposes a study that will investigate the nature of the relationship of cultural competence with another variable which is predictive of student achievement: teacher efficacy. Although this study will not examine student achievement, the proposed research will examine how much cultural competence accounts for variance in teacher efficacy, with the understanding that teacher efficacy is a potential mediating variable for cultural competence and student achievement.

Cultural Competence and Teacher Efficacy

As student populations in the U.S. have become more diverse, attention to the issue of cultural competence in relation to teacher efficacy has been growing. A few studies have attempted to establish how both sets of beliefs are critical to teaching students of color and students from disadvantaged backgrounds. One study by Gallavan (2007) investigated the different perceptions that influence novice teachers' sense of efficacy and cultural competence. From 62 usable surveys, responses were analyzed to determine how accurately the following seven statements represented novice teachers' feelings. A large majority of teachers agreed with the seven perception items which are shown in Table 6.

Table 6

Novice Teachers' Responses to Perceptions about Teaching Preferences

Percentage	Novice Teachers' Perception Items
97%	Teachers want and tend to teach the ways they were taught.
92%	Teachers want to teach near their homes or in neighborhoods like their own or the neighborhoods where they were raised.
89%	Teachers want to teach students like their own children or the children they knew growing up.
97%	Teachers want to teach students who cooperate and behave in ways that are similar to ways the teacher behaves.
97%	Teachers want to teach students who achieve and who express their learning in ways similar to ways the teacher expresses learning.
89%	Teachers <i>do not</i> want to teach topics and issues associated with multicultural education.
97%	Teachers <i>do not</i> want the responsibility of ensuring equity for all students in their classrooms and schools.

Note. Adapted from "Seven Perceptions Influencing Novice Teachers' Efficacy and Cultural Competence," by N. P. Gallavan, 2007, p. 13.

Although each of the teacher participants in this study had previously completed a multicultural education course, the teachers' interest in promoting equity and social justice in their classroom was considerably low given that 97% of respondents indicated they did not want to bear this responsibility. Gallavan (2007) explains that these

perceptions perpetuate social reproduction in schools and impact both teacher efficacy and cultural competence, neither of which was measured empirically. Alternately, cultural competence and multicultural education scholars would argue that these perceptions comprise a piece of one's cultural competence (Banks, 1994; Helms, 1984; Sue, 1982). Furthermore, this dissertation research proposes that it is cultural competence and the perceptions, beliefs, attitudes, and knowledge, which are enveloped in cultural competence that are related to a teachers' sense of efficacy.

While Gallavan (2007) postulated that efficacy and cultural competence are affected by perceptions, Golden's (2007) mixed-methods dissertation research explored how teacher efficacy and cultural awareness act as independent variables to influence pedagogy in the classroom. With sixteen initial participants, teacher efficacy was measured using Tchannen-Moran & Hoy's (2001) Teachers' Sense of Efficacy Scale (TSES) and the Multicultural Competency Index (MCI; Roysicar, 2004). From these data, Golden (2007) identified 1 or 2 participants who fit the following profiles: high efficacy/high cultural competence, low efficacy/low cultural competence, high efficacy/low cultural competence, and low efficacy/high cultural competence. Six teachers were selected who fit these profiles for further in-depth qualitative study of classroom pedagogy patterns. Findings indicated that teachers with high efficacy and high cultural competence utilized varied instructional methods to reach all students and also displayed some of the characteristics of culturally relevant teachers – those who emphasize academic achievement, have high cultural competence, and demonstrate sociopolitical critique. The identified effects of cultural competence and teacher efficacy

on teacher behaviors and instructional practice suggest future research examining the relationship between cultural competence and teacher efficacy.

Although Gallavan (2007) and Golden (2007) both investigated the relationship between teacher efficacy and cultural competence, the results of the studies did not clearly determine an empirical relationship between these two constructs. Two other studies, though, explicitly explored the nature of this relationship (Baker, 2004; Swearingen, 2009). In a master's thesis, Baker (2004) examined the correlations between teacher efficacy and cultural receptivity, a similar construct to cultural competence. In this study, four instruments were distributed to 50 teachers to assess the relationship between teacher efficacy, cultural receptivity, and the decision to refer students to special education services. The four instruments included the Teacher Efficacy Scale (Gibson & Dembo, 1984), Quick Discrimination Index (Ponterotto et al., 1995), Special Education Referral Questionnaire (Baker, 2004), and the Student Referral History Form (Baker, 2004). Although Baker (2004) received all 50 returned packets, only 24 participant packets were usable. For each of the hypotheses, only non-significant positive correlations existed between the variables. For example, statistically non-significant relationships existed between teacher efficacy and referral rate, teacher efficacy and cultural receptivity, knowledge of the student referral process and referral rate, and cultural receptivity and referral rate. Although the theory was sound, the small sample size may have influenced the lack of statistically significant findings in this study. To capture an accurate picture of teachers' beliefs concerning their efficacy and cultural receptivity, and to also have external validity, a study must include a sample that is representative of teachers and large enough to make generalizable claims about the findings.

Investigating a similar relationship in a longitudinal study, Swearingen's (2009) dissertation research examined the degree to which teacher efficacy and cultural receptivity predicted burnout in novice urban teachers after one year of teaching. Data were collected from 120 first-year teachers and 73 returning teachers from the Teach for America program in 2007. Data from three surveys were collected at the beginning and the end of the school year to determine changes in levels of efficacy, cultural receptivity, and perceptions of burnout. To measure each of these constructs, following the surveys were utilized: The Ohio State Teacher Efficacy Scale (Tschannen-Moran & Hoy, 2001), Cultural Receptivity in Fostering Scale (Coakely & Orme, 2006), and the Teacher Burnout Scale (Friedman, 2003).

Results indicated that cultural receptivity was not significant in predicting levels of teacher efficacy and burnout one year later (Swearingen, 2009). Additionally, cultural receptivity did not contribute to the explanation of the relationship between teacher efficacy and burnout. Since these teachers did not progress through regular teacher preparation programs, Swearingen (2009) attributes these unexpected results to lack of reference with the teaching context, to which each of the surveys refers. In addition to the researcher's assessment of the results, an alternate explanation stems from relating cultural receptivity to a scale of efficacy that does not also capture beliefs germane to cultural competence. The TSES items capture Gibson and Dembo's (1984) personal teaching efficacy construct, which refers to a teacher's level of confidence in her own abilities, skills, and competencies to teach. This scale, however, specifically omits the construct concerning general teaching efficacy, which deals with beliefs about the educability of children given their background. A more robust study would include a

sample representative of in-service teachers at all grade levels, with diverse years of teaching experience, measured by an instrument, which captures both personal *and* general teaching efficacy beliefs.

Summary

The state of student achievement in the U.S. has remained relatively inert for the past several decades (Rampey, Dion, & Donahue, 2009). Of the many school factors that influence student achievement, teacher efficacy has been identified as the most closely correlated and predictive of student outcomes (Midgley, Feldlaufer & Eccles, 1989). Ashton and Webb (1986) define and explain the construct of teachers' sense of efficacy as the "teachers' situation specific expectation that they can help students learn. That expectation rests on assumptions of how much students are capable of learning what schools have to teach" (p. 3). Limited research suggests that teachers with high efficacy for working with traditionally disadvantaged students facilitate high achievement (Golden, 2007; Ladson-Billings, 1994); however, most teachers of students of color report low efficacy beliefs (Golden, 2007; Pang & Sablan, 2005). Since teacher efficacy is context-specific, student characteristics like race, ethnicity, and socioeconomic status affect a teacher's analysis of the difficulty of the teaching task (Ashton & Webb, 1986; Tasan, 2001; Tschannen-Moran & Hoy, 2000). If teachers believe students of color will not achieve high levels regardless of the instructional strategies, teachers' instructional choices will reflect those convictions (Gallavan, 2007; Golden, 2007). Thus, teacher beliefs concerning student characteristics are a critical variable to examine.

Given that cultural competence is comprised of attitudes and beliefs concerning these specific personal characteristics of students (Arrendondo et al., 1996; Cross,

Bazron, Dennis, & Isaacs, 1989; Ridley, Mendoza, Kanitz, Angermeier, & Zenk, 1994; Sue et al., 1982), and since beliefs about student characteristics influences teacher efficacy (Ashton & Webb, 1986; Pang & Sablan, 1998; Tasan, 2001; Tournaki & Podell, 2005; Tucker et al., 2005), it is logical to hypothesize that cultural competence may have a theoretical and empirical relationship to teacher efficacy. (Banks, 1994; Bennet, 1994; Sevig, Highlen, & Adams, 2000). Moreover, given that each teacher enters the classroom with a level of cultural competence, low or high, these teacher beliefs and dispositions may affect student achievement through the mediating variable of teacher efficacy. Teacher efficacy is comprised of personal teaching efficacy and general teaching efficacy. According to Ashton and Webb's model in Figure 1, these constructs influence each other. Cultural competence, consequently, may affect personal teaching efficacy via general teaching efficacy or vice versa as seen in Figure 2, or cultural competence may directly affect personal and general teaching efficacy. This theoretical relationship calls for a scholarly inquiry.

Several studies have attempted to demonstrate how cultural competence and teacher efficacy operate similarly when both are studied as independent variables or as dependent variables (Gallavan, 2007; Golden, 2007). Only two studies have attempted to examine the empirical relationship *between* the two constructs, specifically looking at cultural competence and total teacher efficacy. Due to small sample sizes and poor instrument selection, neither of those studies found statistically significant relationships (Baker, 2005; Swearingen, 2009). Thus, with the aim of illuminating the relationship between influential factors associated with student achievement, this review of the literature has discovered a need for rigorous empirical research, which examines the

theoretical relationship between teacher cultural competence and teacher efficacy, which includes the association of cultural competence to both general teaching efficacy and personal teaching efficacy.

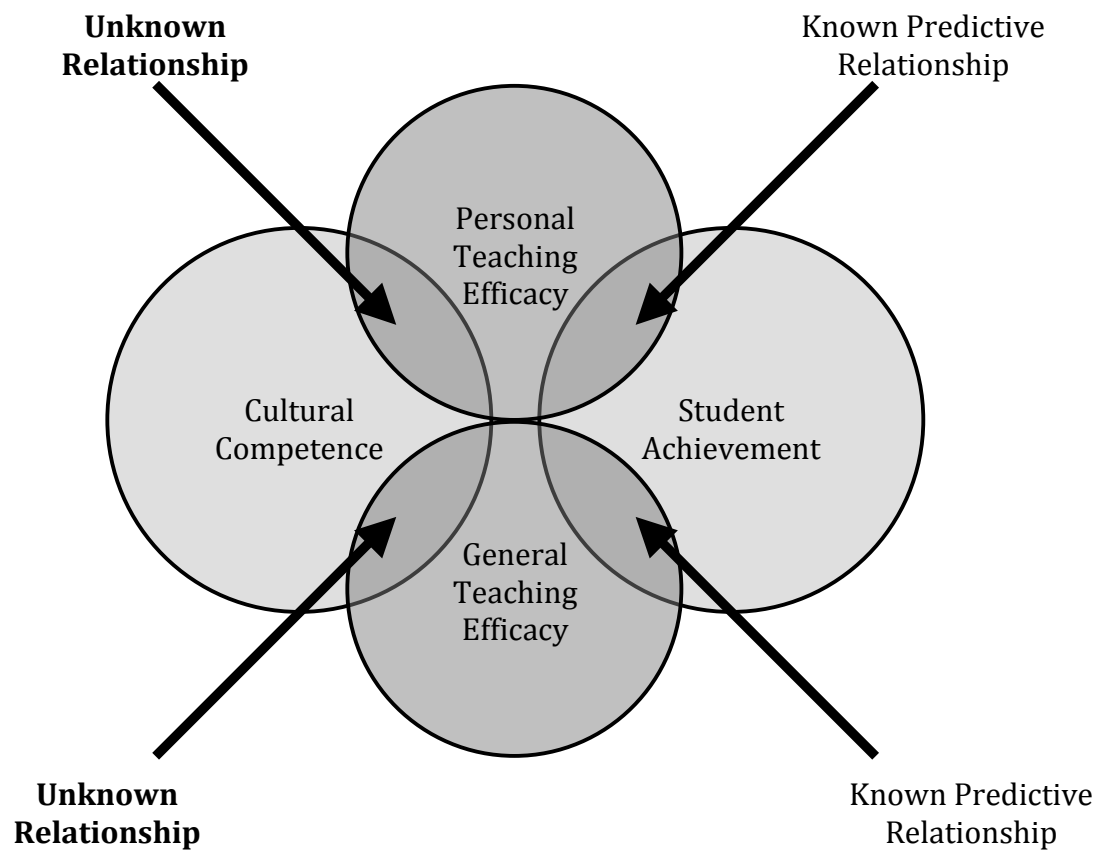


Figure 2. Hypothesized theoretical relationship between cultural competence and teacher efficacy constructs.

CHAPTER THREE

METHODOLOGY

The theoretical framework delineated in the previous chapter described the research on teacher efficacy and cultural competence. This literature suggests that a theoretical relationship exists between teacher efficacy and cultural competence. Previous studies directly investigating these two phenomena failed to find significant relationships due to small sample sizes and inappropriate measures. This study investigated the relationship between teacher efficacy and cultural competence through a post-positivist lens using quantitative data. In order to determine the nature of the relationship between these two variables, this chapter outlines a survey research design that included a representative sample and theoretically sound measures, which allowed for detection of significant and practical results. The data were collected through the use of online questionnaires. The remainder of this chapter describes the research design, study participants, instruments, data collection, and data analysis plan.

Research Design

Quantitative data were collected through survey research methods and analyzed using descriptive and correlational statistics. This research design suited this study for the reason that each of the phenomena examined, teacher efficacy and cultural competence, have been thoroughly observed and described in qualitative terms; this initial phenomenological research laid the foundation for quantitative research, which has

explicitly defined teacher efficacy (Ashton & Webb, 1986; Gibson & Dembo, 1984; Guskey & Pasaro, 1994) and cultural competence (Banks, 1994; Helms, 1994; Sue et al., 1982; Sevig, Highlen, & Adams, 2000). In an effort to fill a hole in the literature regarding the relationship between these two phenomena, this study also employed a correlational design. Using the descriptive quantitative data collected on teacher efficacy and teacher cultural competence, correlations between these two phenomena were analyzed to identify patterns and ultimately examine the theoretically proposed relationship that cultural competence accounts for some of the variance in teacher efficacy.

Population and Sample

Given that teacher efficacy and cultural competence represent beliefs of individuals, the teacher will be the unit of analysis for examining the relationship between these two phenomena. The teacher was defined as any full-time teacher who has instructional contact with students. Thus, the sample included classroom elementary teachers, secondary subject teachers, reading and mathematics specialists, music teachers, art teachers, P.E. teachers, vocational teachers, and special education teachers. Not included in this sample were teaching assistants, teaching coaches, administrators, psychologists, social workers, and counselors.

Because the researcher was familiar with the Virginia school systems, the population consisted of all teachers in the Commonwealth of Virginia. In order to determine a sample size that allowed for the detection of both statistically and practically significant results, an a priori power analysis was calculated as well as a calculation for determining a representative size for the sample. To ensure that the participants were

representative of all Virginia teachers, the sample was randomly selected from this defined population.

Population

The Virginia teacher population is described in Table 7. In brief, the total number of teachers in Virginia in 2009 was 70,827, and they worked in 2,164 schools divided among 207 school districts (U.S. Department of Education, 2008a). Within this population, nearly 80 percent of teachers were female, and around 85 percent were ethnically White or Euro American. Virginia teachers had an average of 13.5 years of teaching experience with the bulk of this population concentrated in the categories of “4-9 years of experience” or “over 15 years of experience.” From these population parameters, an estimated sample size was calculated for meeting the standards of an a priori power analysis and for procuring a representative number of participants.

Sample

A random sample of teachers was selected from the Virginia teacher population who had valid email addresses listed on their school websites. For inclusion in the study, the school division must not have listed an additional research review process that was needed. A list of the included districts is found in Appendix P. The participant sample is described in Table 7, which includes the statistics for the Virginia teacher population as well as the U.S. teacher population. In general, the respondents to this survey seem to have parity with the Virginia teacher population in terms of basic demographic characteristics. The main differences between the sample and the Virginia teacher population are found in two areas. The major disparity is seen in the population of teachers in Virginia in the category of less than 4 years of experience, which is reported

as 19.5%. Only 11.3% of the sample respondents fell in this category. In the ethnic representation of teachers, the sample included 7.3% of teachers reporting Black ethnicity versus 11.9% of the population. This mismatch may be balanced by the percentage of teachers reporting a multiethnic or multiracial ethnicity; for the sample, 3.2% identified themselves as multiethnic versus 0% of the Virginia teacher population in this category. In general, the sample characteristics are very similar to the Virginia teacher population characteristics with the exception of those two aforementioned categories.

Table 7

Characteristics of Teacher Respondents, Teachers in Virginia and the United States

Category	Sample	Virginia	United States
Total population	600	70,827	3,404,500
Sex, %			
Female	80	79.9	75.9
Male	20	20.1	24.1
Ethnicity, %			
White, not Hispanic or Latino	84.5	84.5	83.1
Black, not Hispanic or Latino	7.3	11.9	7
American Indian/Alaska Native, not Hispanic or Latino	0.7	0	0.5
Asian, not Hispanic or Latino	0.7	0	1.2
Native Hawaiian or other Pacific Islander, not Hispanic or Latino	0.5	0	0.2
Hispanic or Latino, regardless of race	2.2	2.3	7.1
Two or more races, not Hispanic or Latino ¹	3.2	0	0.9
Other – not identifying with a listed category	1.0	n/a	n/a
Teaching experience, %			
Less than 4 years	11.3	19.5	19
4-9 years	28.9	27.4	28
10-14 years	19.0	14.5	16.2
15 or more years	40.8	38.6	36.8
Average (years)	14.2	13.5	13
Grade level, %			
Elementary	42.7	49.7	61.9
Secondary	51.5	50.3	32.3
Both	5.8	n/a	n/a
Class size (average)			
Elementary	18.2	20.3	18.84
Secondary	20.5	23.3	21.61
Both	20.3	n/a	n/a

Note. Teachers include both full-time and part-time teachers. Detail may not sum to totals because of rounding. Adapted from "Public School Teacher, BIE School Teacher, and Private School Teacher Data Files" and "Public School Teacher Data File" by the U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), 2007-2008.

A Priori Power Analysis

In order to determine the sample size required for finding statistical significance given specified parameters, an a priori power analysis was conducted. Erdfelder, Faul, and Buchner (1996) discussed the persistent problem of low power statistical analyses in social science research and how researchers have determined the power of their statistical tests after conducting an experiment with a fixed sample size. Post hoc power analyses have informed researchers of the power, or the likelihood that a beta error did not occur. Post hoc tests, though, do not allow for changes to research designs, specifically sample sizes, to support higher power statistical analyses. Thus, Erdfelder et al. (1996) developed the G Power program in order to provide a tool for researchers to use before beginning a study. This program aids in determining a sample size for a statistical procedure to detect significance given a specified alpha error probability level, power (1-beta), number of independent variables and effect size ($f^2 = R^2/(1-R^2)$).

Based on the research and literature delineated in the previous chapter that theoretically links teacher efficacy and cultural competence (Ashton & Webb, 1986; Gallavan, 2007; Golden, 2007; Pang & Sablan, 1998; Swearingen, 2009; Tasan, 2001; Tournaki & Podell, 2005; Tucker et al., 2005), this researcher expected to detect a small effect size for the contribution of cultural competence to the explained variance of teacher efficacy. According to Cohen (1988), a small effect size for multiple regression analyses is translated to $R^2 = .02$ ($R^2 = f^2 / 1 + f^2$). In multiple regression analyses, R^2 represents the proportion of variance in the dependent variable accounted for by a particular independent variable. Although the literature findings are sparse in studies with multiple regression analyses of the teaching efficacy constructs, one recent study found

that mastery experiences accounted for approximately 4%-20% of the variance in teaching efficacy for career and novice teachers (Tschannen-Moran & Hoy, 2007). Given that mastery experiences have been determined to be the most influential source for efficacy (Bandura, 1977), it is likely that cultural competence accounts for less variance in efficacy than mastery experiences because cultural competence is derived in part from vicarious experiences. Thus, this researcher expected to find that cultural competence would account for approximately 2% of the variance in teacher efficacy. Cohen (1988) discussed both a medium effect size of .13 and a small effect size of .02 were determined to be of practical significance depending on the research subject and content. Ultimately, Cohen (1988) suggested that the researcher interpret the guidelines for effect sizes in relation to the subject matter of the study. Thus, this researcher specified the effect size for .02.

In addition to the effect size, the power analysis requires a specific alpha probability level. An alpha probability level allows a researcher to determine the probability that the results are true and that the null hypothesis can be rejected (Pagano, 2006). In this study the null hypothesis states: For the sample of Virginia teachers, cultural competence does not account for a significant proportion of explained variance in teacher efficacy. In order to have a 95% chance of rejecting this null hypothesis, the alpha level was set at .05, which is the conventional alpha level for social science research (Pagano, 2006).

The G Power program also requests a specified power. Power is equal to $1 - \beta$, where β is the probability of committing a Type-II error. Type-II errors occur when the null hypothesis is retained when it should have been rejected because a difference was

actually present in the population. Thus, the power of a study is the probability of correctly rejecting the null hypothesis when a statistically significant relationship actually exists. Current conventions suggest that power levels should match the alpha probability (Erdfelder et al., 1996). Thus, this study will use a power of .95. This means that the study has a .95 chance of detecting a statistically significant result and not retaining the null hypothesis when a significant relationship actually exists.

The number of predictors is also required in the G Power calculation. This study will use 12 predictors which include general teaching efficacy, personal teaching efficacy, years of teaching experience, class size, time spent in diversity-related courses, total cultural competence score, gender, grade level, cultural competence total, and the 5 individual cultural competence scales. Each predictor included in this study is based upon factors related to teacher efficacy, which were identified in the literature review in the previous chapter.

Finally, using 12 different predictors, an alpha level of .05, desired power of .95, and an expected effect size of .02, the G Power program calculated a sample size of 652 participants for this study.

Representative Sample Size Calculation

Although a sample size of 652 will allow for the detection of a statistically significant relationship, this sample estimate will not necessarily meet the number of participants required for a representative sample of all Virginia teachers. An additional calculation was conducted to identify the size of a representative sample of the 70,827 Virginia teachers. Using the following formula: $n_0 = (Z^2 * p * q) / e^2$ where Z is the desired level of confidence (1.96 for an alpha of .05). The term p is the estimate of the proportion

of an attribute in the population; for example, for a dichotomous variable, if $p = .50$, the likelihood of an individual with a certain trait would be 50%. The term $q = 1 - p$, and e is the desired level of precision or the sampling error. In this study, the researcher used $p = .50$, which will assume the largest variability, and q , which is $1 - p$, is $.5$. Also, a sampling error of $+ \text{ or } - 3$ percent was used which is represented by $e = .03$. The resulting calculation computed is:

$$n_0 = (1.96^2 * .5 * .5) / .03^2 = 1,067$$

Cochran (1977) created an additional formula to make adjustments for a known finite population. The formula is $n = n_0 / (1 + n_0 / \text{Population})$. Thus, the final population calculation is:

$$n = 1067 / (1 + 1067 / 70827) = 1051$$

According to Bartlett, Kotrilik, and Higgins (2001), Cochran (1977), and Israel (1992), the sample calculated from Cochran's formulas will serve as a representative sample when using random sampling techniques.

Given that each teacher was given a questionnaire which requests information concerning school level, grade level, and subject taught, the sampling method did not include stratification procedures, which would have controlled for those factors. Instead, statistical controls were employed using hierarchical multiple regression, which determined the variance in the dependent measures associated with the independent variables. Thus, teachers were randomly sampled from each school within the state of Virginia that had a public list of teachers and teachers' email addresses on their websites, but that also did not require a separate research review process.

The current full-time teacher population in Virginia is 70,827 (U.S. Department of Education, 2008a), and the desired sample size was 1,051. This sample size estimate was 1.5% of the Virginia teacher population. In order to increase the likelihood of obtaining the target sample, 6.7% or approximately 4800 Virginia teachers, were randomly selected.

Instrumentation

A questionnaire was distributed to each participant via an online survey system to collect data concerning teacher efficacy, cultural competence, and teacher background. The questionnaire included three sections: demographics, teacher efficacy, and cultural competence. The demographics section requested the following information: gender, ethnicity, years of teaching experience, grade level (elementary, secondary, both), size of class (average), approximate percentage of White students in their class(es) (Classroom Diversity), and number of days spent in diversity-related courses or professional development. Teacher efficacy was measured using items from the Teacher Efficacy Scale (TES), which was developed by Gibson and Dembo (1984). Cultural competence was measured using the Self-Identity Inventory (SII) developed by Sevig, Highlen, and Adams (2000). The Teacher Efficacy Scale and Self-Identity Inventory have been tested for reliability and validity, and these data are presented in the following sections. Sample items for each of the teaching efficacy constructs and the cultural competence constructs are found in Table 8.

Table 8

Sample Items from the Teacher Efficacy Scale and the Self-Identity Inventory

Constructs	Items
General Teaching Efficacy ^a	<ol style="list-style-type: none"> 1. A teacher is very limited in what she/he can achieve, because a student's home environment is a large influence on her/his achievements. 2. Even a teacher with good teaching abilities may not reach many students. 3. The hours in my class have little influence on students compared to the influence of the home environment.
Personal Teaching Efficacy ^a	<ol style="list-style-type: none"> 1. When I really try, I can get through to the most difficult students. 2. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson. 3. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly.
Individuation ^b (Stage 1)	<ol style="list-style-type: none"> 1. I am who I am, so I don't think much about my identity. 2. Sometimes I get tired of people complaining about racism. 3. I believe there is justice for all in the United States of America.
Dissonance ^b (Stage 2)	<ol style="list-style-type: none"> 1. I am starting to feel angry about discrimination in this country. 2. I am just beginning to see that society doesn't value people who are "different." 3. I understand that everyone is expected to follow the same rules even if they don't seem to be right for everyone.
Immersion ^b (Stage 3)	<ol style="list-style-type: none"> 1. My identity as a member of my group is the most important part of who I am. 2. Being with people from my group helps me feel better about myself. 3. I focus most of my time and efforts on issues facing my group.
Internalization ^b (Stage 4)	<ol style="list-style-type: none"> 1. I recently realized that I don't have to like every person in my group. 2. My oppressed identity doesn't not primarily define who I am as it did in the past. 3. I have <i>recently</i> seen the depth to which oppression affects many groups.
Integration ^b (Stage 5)	<ol style="list-style-type: none"> 1. People in the U.S.A. have been socialized to be oppressive. 2. I would be happy if a member of my family were openly gay/lesbian/bisexual, regardless of my sexual orientation. 3. I would have as a life partner a person of a different race.

^aItems selected from the Teacher Efficacy Scale (Gibson & Dembo, 1984). ^bItems selected from the Self-Identity Inventory (Sevig, Highlen, & Adams, 2000).

Teacher Efficacy Scale

To assess levels of teacher efficacy, Gibson and Dembo (1984) developed the Teacher Efficacy Scale. Responses to the items are based on a 6-point Likert type scale which includes the following responses: "strongly disagree, moderately disagree, disagree slightly more than agree, agree slightly more than disagree, moderately agree,

strongly agree.” On this scale, strongly disagree is rated 1 and strongly agree is rated 6. The original scale consisted of 30 items that measure two distinct constructs, personal teaching efficacy and general teaching efficacy. These two factors were extracted based on Catell’s screen test. The two factors were only moderately correlated ($r = -.19$); Gibson and Dembo (1984) along with later researchers concluded that these factors represent independent constructs that are loosely related, or completely independent (Anderson, Greene, & Loewen, 1988; Burley, Hall, Villeme, & Brockmeier, 1991; Hoy & Woolfolk, 1993; Moore & Esselman, 1992; Saklofske, Michaluk, & Randhawa, 1988; Soodak & Podell, 1993).

For inclusion in the final scale, 16 of the original items met the criteria of factor loadings greater than or equal to .45 (Gibson & Dembo, 1986; Soodak & Podell, 1993; Woolfolk & Hoy, 1990). Internal consistency reliability data analysis from these studies yielded Cronbach’s alpha coefficients ranging from .75 to .81 for the Personal Teaching Efficacy (PTE) factor, and from .64 to .77 for the General Teaching Efficacy (GTE) factor. For the 16 items that were retained, Cronbach’s alpha coefficient was .79. Research on pre-service and in-service teachers revealed that these two factors combined (total Teacher Efficacy) accounted for 18% to 30% of the variance in efficacy scores.

Although some scholars debate the meaning of the efficacy constructs, Gibson and Dembo’s (1984) validity data reveals that the items measuring the constructs are distinctly different from measures of similar constructs. Using a multitrait-multimethod analysis for establishing construct validity involved a two-step process: examining convergent and discriminant validity. Assessing the monotrait-heteromethod diagonal of correlations, teacher efficacy passed the test for convergent validity along with flexibility

and verbal ability (.43, .39, and .30, respectively using an alpha level of .05). This test demonstrates that teacher efficacy, when measured by two different methods, has a correlation that is statistically different from zero; essentially, teacher efficacy converges with teacher efficacy measured by two different methods. This convergent validity indicates that regardless of the method, the trait that is theoretically being measured in two different formats is, in reality, measuring the same construct.

After convergent validity was established, discriminant validity was examined through a two-step heterotrait-heteromethod and heterotrait-monomethod analysis. This procedure involved comparing correlations between teacher efficacy and constructs very similar to teacher efficacy: verbal ability and flexibility. Findings revealed that teacher efficacy met the criterion for discriminant validity; teacher efficacy had higher correlations when measured by different methods ($r = .42$) compared to heteromethod correlations of teacher efficacy and verbal ability (TE method 1 and Verbal ability method 2, $r = .08$; TE method 2 and Verbal ability method 1, $r = .09$) and heteromethod correlations of teacher efficacy and flexibility (TE method 1 and Flexibility method 2, $r = .21$; TE method 2 and Verbal ability method 1, $r = -.06$). Essentially, when using different methods ($r = .42$), teacher efficacy is more strongly correlated with itself than correlations of teacher efficacy and other constructs using different methods.

The second step in the discriminant validity test consists of comparing the heteromethod-monotrait validity value of teacher efficacy ($r = .42$) to the correlations of teacher efficacy and the other constructs when using the same method. The teacher efficacy heteromethod-monotrait validity value of .42 indicated that teacher efficacy trait variance was greater than the heterotrait-monomethod correlations between teacher

efficacy and verbal ability (TE method 1 and Verbal ability method 1, $r = .27$; TE method 2 and Verbal ability method 2, $r = -.06$) and teacher efficacy and flexibility (TE method 1 and Flexibility method 1, $r = .22$; TE method 2 and Verbal ability method 2, $r = .09$).

Thus, the teacher efficacy construct holds together independent of method when comparing it with two very similar constructs using the same method. Thus, teacher efficacy is significantly different from two other constructs (verbal ability and flexibility), which are associated with effective teachers (Gibson & Dembo, 1984).

Even though general consensus exists among researchers concerning the meaning of personal teaching efficacy (Anderson, Greene, & Loewen, 1988; Burley, Hall, Villeme, & Brockmeier, 1991; Gibson & Dembo, 1984; Hoy & Woolfolk, 1993; Moore & Esselman, 1992; Saklofske, Michaluk, & Randhawa, 1988; Soodak & Podell, 1993), some disagreement has arisen concerning the meaning of the second factor called general teaching efficacy (Soodak & Podell, 1993; Woolfolk & Hoy, 2000). In spite of the disagreements concerning the meaning of the factors, analyses consistently indicate that total teacher efficacy, general teaching efficacy, and personal teaching efficacy predict teacher behaviors associated with the original theory proposed by Bandura (1977) and later endorsed by Ashton and Webb (1986) (Gibson & Dembo, 1986; Tschannen-Moran et al., 1998). For the purposes of this study, the original definitions will be retained (Gibson & Dembo, 1984):

1. General teaching efficacy (GTE) “refers to teachers’ expectations that teaching can influence student learning” (Ashton & Webb, p. 4). Gibson and Dembo (1984) further define GTE as the teacher’s outcome expectancy belief that

“essentially reflect[s] the degree to which students can be taught given their family background, socioeconomic status, and school conditions” (p. 574).

2. Personal teaching efficacy (PTE) is defined by Gibson and Dembo (1984) as the “belief that one has the skills and abilities to bring about student learning” (p. 573).

Self-Identity Inventory

Teachers completed the Self-Identity Inventory to determine their levels of cultural competence. This instrument is based on the Optimal Theory Applied to Identity Development, which was developed “to provide a pluralistic model, applicable across identity or cultural groups (e.g. race, ethnicity, sex, sexual orientation, socioeconomic class, age, religion, and disability status), within the explicit context of a Euro-centric dominant culture of the United States” (Sevig, Highlen, and Adams, 2000, p. 170). The instrument reflects a model based on six stages of development: individuation, dissonance, immersion, internalization, integration, and transformation. Responses to the 71 items are given based on a Likert-type scale that includes the following choices: strongly disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree. A rating of one is given to strongly disagree and six is assigned to strongly agree.

The authors of this instrument used a sample of 325 people recruited through 19 contacts at different universities across the United States. Each participant was asked to complete several instruments in the following order: Background Information Form, the Self Identity Inventory (SII), the Tolerance Scale (Gough, 1987), the Social Desirability and Infrequency Scales (Jackson, 1984), and the Beliefs Systems Analysis Scale (BSAS) (Montgomery, Fine, & Myers, 1990). These measures were administered in order to

establish validity of the SII. To establish the reliability of the items in the instrument, confirmatory factor analysis (CFA) was employed for each subscale separately due to the small sample size ($N = 325$) and the large number of potential items ($N = 195$). Cronbach alphas for the final SII scales were: Individuation (.89), Dissonance (.90), Immersion (.84), Internalization (.72), Integration (.78), and Transformation (.90). In addition, all test-retest reliability correlations were significant (p 's $< .01$); the test-retest coefficients were: Individuation (.92), Dissonance (.81), Immersion (.72), Internalization (.83), Integration (.90), and Transformation (.87).

After excluding items with a poor fit, 71 items remained in the instrument that met all of the authors' criteria (Sevig, Highlen, & Adams, 2000). Goodness-of-fit indices indicated that the hypothesized factor structure was supported by the obtained factor structure using an acceptable value of .90 for goodness-of-fit, which supports the construct validity of the SII based on the OTAID model. To examine content validity, the authors examined Pearson correlation coefficients between each of the final SII items and the corresponding scales. All of the scales except for scale 4 demonstrated good item-scale correlations of .30 or above ranging from .46 to .69 (Nunnally, 1978; Sevig, Highlen, & Adams, 2000). For scale 4 (Internalization), only 4 items were below .30 and each item was .25 or higher (.25, .26, .27, and .29). The authors took the remaining 71 items and matched each one with the revised OTAID model phase descriptions. Since all of the phase dimensions were addressed in the items, the authors suggested that this supported content validity of the SII measuring phases of the OTAID model.

Construct validity was supported through examination of CFA interscale correlations: five of the six scales were most highly correlated with their adjacent scales,

with scale 2 being highly correlated with 1 but not 3. Additionally, scales 5 and 6 were negatively correlated with scale 1. External validity was determined through inspections of correlations between SII subscales and other measures purportedly assessing similar constructs. The Tolerance Scale was negatively correlated with SII scales 1-4, and positively correlated with SII scales 5 and 6. The BSAS was negatively correlated with scales 1 and 2 and also positively correlated with SII scales 5 and 6. Thus, the earlier stages of the OTAID model are associated with low levels of tolerance, and the latter stages are associated with higher levels of tolerance and a sense of ethnorelativity (Sevig, Highlen, & Adams, 2000). The authors acknowledged the limitation of this analysis lay in the composition of the participant sample and the lack of representation parity relative to the U.S. population, particularly in regard to the low representation of ethnic minorities and males. Recommendations included conducting further reliability and validity studies with samples that more closely resemble the U.S. population.

Data Collection Procedures

To obtain teacher email addresses, the researcher examined all school district websites in Virginia to see if a research review process was required for sending surveys via email to teachers. Districts that required an additional research review process were excluded from the sample due to time constraints on the part of the researcher. Districts that did not require this process were included. The researcher examined each school website, copied and pasted the email addresses of the teachers into an excel file, then randomly selected teachers from these lists. For larger school districts, the researcher randomly selected every 7th teacher from the list. For smaller school districts, the

researcher selected every 6th teacher from the list. The final number of teacher email addresses included in the sample was 4783.

The literature on response rates to both mail and web-based surveys indicated that response rates vary widely with both modes of surveys (Fox, Crask, & Kim, 1994; Yun & Trumbo, 2000). Due to financial and time constraints, this research utilized a web-based survey system, QuestionPro, for the purposes of collecting the data. In order to maximize the opportunity to collect the target number for this study, emails with the survey link were sent to the randomly selected in-service teachers. The surveys were administered in the following order:

1. Demographics Questionnaire
2. Teacher Efficacy Scale (TES)
3. Self-Identity Inventory (SII)

The TES was intentionally positioned first in the order of the items in the questionnaire. Since teacher efficacy, personal teaching efficacy, and general teaching efficacy are the dependent variables in this study, measuring these factors before cultural competence may have allowed for more true scores that were less likely to be influenced by social desirability factors (Sevig, Highlen, & Adams, 2000). In Sevig et al.'s (2000) study, they postulated that placing the SII before other instruments may influence participants' responses for the following surveys. Thus, the following the rationale of the authors of the SII, the TES is placed first, followed by the SII, then the demographics questionnaire. The demographics items were placed first in the survey to collect information concerning participants who took the entire survey and for those who dropped out of the survey before completing all parts.

According to the studies on response rates (Cook, Heath, & Thompson, 2000; Fox, Crask, & Kim, 1988; Yun & Trumbo, 2000), several factors were associated with increasing the response rates of emailed or web-based surveys. These factors primarily included number of contacts: pre-notification and follow-up. When a follow-up contact is made with a web-based survey, the response rate can be expected to double (Kittleson, 1997). Mailed survey response rates have been positively influenced by university sponsorship and a cut-off deadline (Fox, Crask & Kim, 1988), which may translate to web-based surveys as well. The length of surveys was not found to significantly affect responses to web-based surveys (Cook et al., 2000). Thus, to address each of these issues, the following actions were taken:

1. An initial introductory email was sent to the participants, which included the instructions. This and the following emails were sent from the researcher's university-affiliated email. The initial email can be found in Appendix C.
2. Two follow-up emails were sent to participants after 1 week and 2 weeks with the survey web address link. These emails can be found in Appendices D and E.
3. The cut-off deadline was included in the last reminder email, which was the third email to participants.
4. An incentive of a lottery for prizes was included. For every 100 participants, \$15 was raffled to one randomly selected participant. All participants were included in the final drawing for a \$100 VISA gift card.

By taking these actions, the researcher expected to increase the likelihood of teacher participation in the study.

The total number of email addresses that were invalid or undeliverable totaled to 201. Thus, the final number of possible participants was 4582. From this potential participant pool, 767 participants began the survey, but only 608 respondents completed it. Of the 608 completed surveys, 600 contained responses to every item. The majority of the respondents who did not complete the entire survey ended participation at the first or second set of cultural competence questions. Respondents who completed all of the demographics questions and the Teacher Efficacy Survey totaled to 727. Approximately 127 respondents ended participation before answering any of the first set or the second set of cultural competence items. Thus, the final response rate was $600/4582 = 13.1\%$.

Post-hoc Power Analysis

The previously described Gpower program also includes a function for determining the power of multiple regression analyses after the data have been collected. Using the sample size of 600, alpha err probability of 0.05, total number of predictors of 12, number of tested predictors of 5 (five cultural competence stages), and an effect size of 3.5% (based on findings in chapter 4), the Gpower program determined the power of this study to be 0.965. This means that there was only a 3.5% chance that the null hypothesis was incorrectly rejected.

Data Analysis Plan

Data entered by respondents into the QuestionPro surveys were exported directly into SPSS for analysis using the Statistical Package for Social Sciences (SPSS). Means, frequencies, and percentages were calculated to describe the sample of teachers. In order

to roughly determine if the sample had parity with both the state and national populations of teachers, sample statistics were visually examined in comparison to state and national parameters for characteristics such as gender, ethnicity, grade level, teaching experience, and class size. Because the sample seems to have parity with the state and national teacher population, external validity could be argued and the results from this study may be generalizable to those broader teacher populations. Means, frequencies, percentages, and standard deviations were also be reported for teachers concerning the sample composition in terms of total teacher efficacy, general teaching efficacy, personal teaching efficacy, cultural competence, years of teaching experience, grade levels, class size, school division type, and time spent in diversity-related courses. In addition, hierarchical multiple regression analyses were conducted to answer the following research questions:

1. To what extent does cultural competence account for the variance in general teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?
2. To what extent do the cultural competence stages account for the variance in general teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?
3. To what extent does cultural competence account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching

experience, class size, classroom diversity, and days of diversity professional development?

4. To what extent do the cultural competence stages account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?

The two dependent variables are:

Y1: General Teaching Efficacy

Y2: Personal Teaching Efficacy

The 12 independent variables are:

X1: Years of teaching experience

X2: Sex

X3: Grade level (elementary, secondary, both)

X4: Class size (average)

X5: Classroom diversity (percentage of White students in the teacher's

class(es))

X7: Time spent in diversity-related courses (in days)

X8-13: Cultural competence stages as defined by the OTAID

X8: Cultural competence total score

X9: Individuation score

X10: Dissonance score

X11: Immersion score

X12: Internalization score

X13: Integration score

Hierarchical multiple regression analyses were conducted to analyze the extent to which cultural competence accounts for the variance in general teaching efficacy and personal teaching efficacy over and above the other independent variables entered into the regression model. In each regression model for questions 1 and 3, independent variables X1-X7 were entered first. Then, independent variables X8 will be entered into the model to determine how much variance is accounted for above variables X1-X7. For research questions 2 and 4, independent variables X1-X7 will be entered into the model first, then independent variables X9-X13 will be entered one at a time to determine how much each variable contributes to the explanation of variance in the dependent variables.

Summary

In order to examine the relationship between teacher efficacy and cultural competence, this researcher proposed a study using a descriptive and correlational research design. All Virginia teachers served as the population from which a random sample was drawn, excluding teachers from districts that required a separate research review process. According to an a priori power analysis and a calculation for a representative sample, an estimate of 1,051 teacher participants was determined to meet a standard of representativeness for the Virginia teacher population. However, examination of the 600 respondents in comparison to the characteristics of the Virginia and U.S. teacher population, this researcher determined that the sample has parity with the broader populations. In addition, the post-hoc power analysis determined that the sample size was adequate for meeting a power level of .95.

To answer the research questions presented in this chapter, data were collected using an online survey system, QuestionPro. Participants received emails with a link to the survey, which included the Teacher Efficacy Scale (Gibson & Dembo, 1984), the Self-Identity Inventory (Sevig, Highlen, & Adams, 2000), and some demographics questions. Descriptive analyses, hierarchical multiple regression analyses, and analyses of covariance were conducted. Through these statistical analyses, the researcher hoped to further illuminate the nature of the relationship between teacher efficacy and cultural competence. Results are described in Chapter Four and further discussed in Chapter Five.

CHAPTER FOUR

ANALYSES OF DATA

In an effort to understand factors associated with teacher efficacy for working with students from diverse backgrounds, this descriptive and correlational study sought to determine the nature of the relationship between general teacher efficacy (dependent variable) and cultural competence (independent variable) as well as the relationship between personal teaching efficacy (dependent variable) and cultural competence (independent variable). Presented in this chapter are the results from statistical analyses on data collected using survey methods described in Chapter Three. This chapter is organized into three sections. First, a description of the data collected from the participant sample and descriptive statistics for each of the variables measured are reported. Next, results are delineated from preliminary analyses that were conducted on the data to ensure that statistical assumptions were met. Then, data analyses computed to respond to the research questions are presented. Following the analyses for the first set of research questions are two final sections. The results from preliminary analyses for testing assumptions are presented followed by the results for the final research questions.

Sample

As described in Chapter Three, a random sample of teachers were selected from the Virginia teacher population who had valid email addresses listed on their school websites. The participant sample characteristics are listed in Table 7. The sample seems

to have parity with the Virginia teacher population and the national population of teachers. The discrepancies in parity are minor, and they are fully described in the previous chapter.

In order to answer the research questions posed in chapter 3, several pieces of data were collected from the participants in order to serve as control variables. A summary of these data is found in Table 9. Teacher efficacy research reviewed in Chapter 2 described that various contextual and personal variables influence teacher efficacy. Four variables that served as controls for this study included: years of teaching experience, average class size, estimated days spent in professional development or coursework related to diversity, and approximate classroom diversity, which was answered with an estimation of the percentage of White students in most classes.

Participants in this study reported teaching experience that ranged from 0 to 44 years. The average was 14 years experience, and the median was 12 years. Although the experience of participants ranged from 0 to 44 years, the majority of participants had less than 15 years of experience. Average class size ranged from 1 to 50 students which makes sense given that all teachers (special education, reading specialists, music, P.E., etc.) were included. The average class size was approximately 20 students, which is consistent with Virginia classes as well. Participants had an approximate mean of 61% White-American student representation in their classrooms, with a median of 70%. Classroom diversity ranged from 0% to 100% White student representation. Lastly, respondents reported an average of approximately 26 days of professional development related to diversity issues over their careers. The median was 10 days of diversity professional development, which indicates that most of the teachers had participated in

15 days or less in discussions or trainings related to issues concerning working with students from diverse backgrounds. A few teachers reported participating in more than 100 days of diversity professional development. These reports were recoded to 100 days. Qualitatively, the experience of participating in 100 days of diversity professional development versus 150 is not likely to be dramatically different when compared to the difference between 100 and 50 days, or 50 and 1 day of professional development. (Henze, Lucas & Scott 1998; Garcia & Guerra, 2004; Scott & Anthony, 2001).

In addition, two categorical control variables were measured: gender and grade level. Female teachers composed 80% of the sample or 480 and male teachers composed 20% of the sample or 120. For grade level, 256 teachers were elementary level, 309 participants were secondary teachers, and 35 participants reported teaching at both levels. Since specialist teachers (e.g. music, P.E., art, reading specialists) were included in the population, the “both” category was created for this contextual variable.

Table 9

Descriptive Statistics for Continuous Control Variables

Contextual Variables	N	Mean	Median	Minimum	Maximum	Standard Deviation
Years of teaching experience	600	14.17	12	1	44	9.88
Class size	600	20.33	21	1	50	6.71
Classroom Diversity (% of White students)	600	61.17	70	0	100	31.90
Diversity Professional Development (total days)	600	25.93	10	0	100	32.63

The dependent variables for this study were general teaching efficacy and personal teaching efficacy, which were examined in relation to the independent variables, which included cultural competence total score and the five individual subscale scores from the Self-Identity Inventory: Individuation (stage 1), Dissonance (stage 2),

Immersion (stage 3), Internalization (stage 4), and Integration (stage 5). The descriptive statistics for the dependent and independent variables are reported in Table 10. Both the Self-Identity Inventory and the Teacher Efficacy Scale used Likert-type ratings.

Participants responded to each item from 1 to 6 where 1 represented “Strongly Disagree” and 6 represented “Strongly Agree.” The means listed in Table 10 represent the means of total scores for each subscale. The cultural competence total represents the sum score of all of the five subscales; the maximum, minimum, mean, and standard deviation of cultural competence total reflect the sum score of the five subscales as well. High scores for each construct represent beliefs that are in agreement with the construct. Low-scores indicate lower efficacy for the efficacy items, or lower affiliation with that particular stage of cultural competence development on the Self-Identity Inventory items.

Table 10

Descriptive Statistics for Independent Variables and Dependent Variables

Constructs	N	Minimum	Maximum	Mean	Standard Deviation
Cultural Competence Total	600	73	155	112.46	15.82
Individuation (CC Level 1)	600	10	43	26.17	6.11
Dissonance (CC Level 2)	600	6	36	17.20	5.04
Immersion (CC Level 3)	600	6	33	17.50	5.48
Internalization (CC Level 4)	600	7	37	21.59	6.16
Integration (CC Level 5)	600	15	39	30.00	4.36
General Teaching Efficacy	600	10	40	25.40	5.58
Personal Teaching Efficacy	600	19	42	31.59	3.82

For the dependent variables, 7 items for each construct measured general teaching efficacy and personal teaching efficacy. General teaching efficacy scores averaged to 25.40 and had a range of 30 where scores spanned the sums of 10 to 40. Personal teaching efficacy scores were higher, with a mean of 31.59 and a narrower range from 19 to 42. For the Self-Identity Inventory, the number of items for each subscale varied. The total number of items was 34, which summed to produce the cultural competence total score for analysis. Cultural competence total scores had a mean of 112.46, ranging from 73 to 155. The Individuation construct, which represents the first cultural competence stage, was comprised of 8 items. Scores ranged from 10 to 43 with a mean of 26.17. Dissonance scores had a lower mean of 17.20; however, the number of items measuring this construct totaled to 6, which could account for a slightly lower mean. Immersion scores, measured by 7 items, ranged from 6 to 33 with a mean of 17.50, lower than the Individuation constructs and the latter stage constructs as well. Responses to the 7 Internalization items and the 7 Integration items yielded higher means than the Dissonance and Immersion scales as well. Internalization scores had a mean of 21.59 and Integration had the highest mean of 30. Integration, the last cultural competence stage, also had the lowest variability represented by a standard deviation of 4.36 compared with other stages standard deviations which ranged from 5.04 to 6.16.

Preliminary Analyses

In order to answer the four research questions, regression analyses were employed. Before running regression analyses, preliminary tests were conducted to ensure that the statistical assumptions had been met (Osborne & Waters, 2002). The four assumptions addressed include reliability, normality, linearity, and homoscedasticity.

Reliability of the measures was supported through the research presented in Chapter Three. Statistical tests were utilized to examine normality, linearity, and homoscedasticity. Normality and linearity were preliminarily checked for all four research questions. The homoscedasticity assumption was tested and reported for each research question because the variables and residuals are different for each question.

Normality means that each of the variables measured has a normal distribution, not overly skewed or kurtotic. Each of the measured variables (general teaching efficacy, personal teaching efficacy, cultural competence total, individuation, dissonance, immersion, internalization, integration) was examined for normality through scatter plots and histograms with normality curves. Visual inspection of scatter plots and histograms showed a normal distribution of each of the variables measured. In addition, each variable had skew and kurtosis measurements that fell between the range of -1 to 1, which supports normality as well.

Linearity is assumed for multiple regression, which means that each independent variable is expected to have a linear relationship with the dependent variables. If this assumption is not met, then employing multiple regression to explain the relationships is faulty. Therefore, simple scatter plots with fit lines were used to examine the linearity assumption for each independent variable (cultural competence and the subscales) with each dependent variable (general and personal teaching efficacy). Visual examination of the scatter plots as well as the fit lines indicated linear relationships between general teaching efficacy and each of the independent variables. Linearity was also supported by visual inspection of scatter plots and fits lines for the relationships between personal teaching efficacy and each of the independent variables.

Research Questions and Statistical Analyses

This section includes statistical analyses utilized to answer each of the research questions using the computer program SPSS (Statistical Package for Social Sciences). The first four research questions involve regression analyses, and these analyses are based upon correlations between dependent and independent measures. Thus, the first section includes the correlation matrices for both general teaching efficacy and personal teaching efficacy with the independent measures found in Tables 11 and 12, respectively. Then, each subsequent section begins with a research question followed by the statistical analyses utilized to answer the question.

General Teaching Efficacy and Independent Variables

The correlations between general teaching efficacy and the independent measures and control variables are found in Table 11. Correlation coefficients ranged from $-.203$ to $.095$. Statistically significant negative correlations were found between general teaching efficacy and three control variables: class size, grade level, and gender. These correlations were significant at the $.001$ level. The correlations indicate that higher general teaching efficacy is more closely associated with smaller class sizes, the elementary grade level, and female teachers. Statistically significant correlations were found between general teaching efficacy and the following cultural competence total and the subscales. Among the subscales, Individuation presented the highest correlation at $-.201$, which was significant at the $.001$ level. Further discussions concerning these correlations are presented in chapter 5 in conjunction with the regression analyses findings.

Table 11

Pearson Product Correlation Coefficients for General Teaching Efficacy, Control Variables, and Cultural Competence

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. GTE Total	1.000												
2. Years Tch Exp	-.019	1.000											
3. Class Diversity	-.047	.067	1.000										
4. Diversity PD	.030	.176***	-.007	1.000									
5. Class Size	-.142***	.006	.096**	-.018	1.000								
6. Grade Level	-.203***	.012	.021	.037	.152***	1.000							
7. Gender	-.136***	-.053	.025	-.037	.163***	.262***	1.000						
8. CC Total	-.145***	-.051	-.139***	.014	.002	-.043	.052	1.000					
9. Individuation	-.201***	-.028	-.005	-.067 [†]	.021	.022	.089*	.430***	1.000				
10. Dissonance	-.114**	-.027	-.145***	-.017	.012	-.013	.085*	.784***	.230***	1.000			
11. Immersion	-.072*	-.051	-.077*	.021	-.017	-.066	.050	.643***	.035	.386***	1.000		
12. Internalization	-.084*	-.060	-.138***	.046	-.039	-.081*	.005	.840***	.177***	.658***	.436***	1.000	
13. Integration	.095*	.033	-.041	.072*	.038	.027	-.104**	.125***	-.401***	-.047	-.034	.080*	1.000

***Correlation is significant at $p < .001$ (1-tailed).

**Correlation is significant at $p < .01$ (1-tailed).

*Correlation is significant at $p < .05$ (1-tailed).

[†]Correlation approaching significance, $p = .052$.

Personal Teaching Efficacy and Independent Variables

Correlations between personal teaching efficacy, the independent measures, and control variables are found in Table 12. Correlation coefficients ranged from $-.164$ to $.241$. Statistically significant correlations arose between personal teaching efficacy and three control variables: years of teaching experience, grade level, and gender. Years of teaching experience was positively correlated with personal teaching efficacy at the $.01$ significance level, which means that as years of teaching experience increase, personal teaching efficacy also increases. Grade level and gender were negatively correlated with personal teaching efficacy at the $.001$ significance level, which means that personal teaching efficacy is more closely associated with elementary teachers and female teachers; female was coded as “1,” and male was coded as “2.” Cultural competence was significantly correlated with personal teaching efficacy at the $.001$ significance level. Among the subscales, Internalization and Integration subscales were positively correlated with personal teaching efficacy at the $.001$ level, and Immersion had a significant positive correlation at the $.05$ significance level. Discussions of these relationships are presented in Chapter 5 with the regression analyses findings.

Table 12

Pearson Product Correlation Coefficients for Personal Teaching Efficacy, Control Variables, and Cultural Competence

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. PTE Total	1.000												
2. Years Tch Exp	.115**	1.000											
3. Class Diversity	.008	.067	1.000										
4. Diversity PD	-.017	.176***	-.007	1.000									
5. Class Size	-.027	.006	.096**	-.018	1.000								
6. Grade Level	-.153***	.012	.021	.037	.152***	1.000							
7. Gender	-.164***	-.053	.025	-.037	.163***	.262***	1.000						
8. CC Total	.134***	-.051	-.139***	.014	.002	-.043	.052	1.000					
9. Individuation	-.042	-.028	-.005	-.067 ⁺	.021	.022	.089*	.430***	1.000				
10. Dissonance	.020	-.027	-.145***	-.017	.012	-.013	.085*	.784***	.230***	1.000			
11. Immersion	.072*	-.051	-.077*	.021	-.017	-.066	.050	.643***	.035	.386***	1.000		
12. Internalization	.137***	-.060	-.138***	.046	-.039	-.081*	.005	.840***	.177***	.658***	.436***	1.000	
13. Integration	.241***	.033	-.041	.072*	.038	.027	-.104**	.125***	-.401***	-.047	-.034	.080*	1.000

***Correlation is significant at $p < .001$ (1-tailed).

**Correlation is significant at $p < .01$ (1-tailed).

*Correlation is significant at $p < .05$ (1-tailed).

⁺Correlation approaching significance, $p = .052$.

Research Question 1: To what extent does cultural competence total score account for the variance in general teaching efficacy over and above years of teaching experience, class size, White student representation, and days of diversity professional development?

Before employing regression analyses, the data were examined to ensure that the residuals, or the variance of the errors, were evenly distributed at all levels of the independent variables, which would indicate that the homoscedasticity assumption was upheld. Through the inspection of scatter plots of the studentized residuals, which represent the error, against the predicted general teaching efficacy scores, visual examination supported the assumption of homoscedasticity. Residuals were evenly distributed at all levels of the independent variables, which supported the assumption of homoscedasticity.

Data were also screened for univariate and multivariate outliers. One univariate outlier was identified ($z = 3.4, z > |3.3|$). Mahalanobis distance revealed one multivariate outlier ($p = 0.0001$) on the combined variables from the centroid using the critical value at $p = 0.001$. Hierarchical multiple regression analyses were run with and without the outliers. Very little change was observed in the correlation or the multiple squared correlations after excluding the outliers from the regression analyses. Ultimately, the outliers were not influential on the regression line, and they did not distort the relationship found with the inclusion of all cases. Thus, reported below are the results from the regression analyses with the inclusion of the participants, including the statistical outliers.

Table 13

*Hierarchical Multiple Regression Analysis for Examining Variability in General**Teaching Efficacy by Cultural Competence Total Score*

Variable	Stdzd Beta	r	r ²	R	Cum R ²	R ² Change	F	F Change	Sig. F Change
Years Teaching	-.031	-.019	.000	.019	.000	.000	.210	.210	.647
Grade Level	-.178	-.203	.041	.204	.041	.041	12.91	25.59	.000**
Class Size	-.098	-.142	.020	.233	.054	.013	11.37	7.98	.005*
White Student Representation	-.052	-.047	.002	.235	.055	.001	8.67	.621	.431
Diversity Prof. Devt.	.040	.030	.001	.238	.057	.002	7.12	.921	.338
Gender	-.064	-.136	.018	.248	.062	.005	6.50	3.25	.072
Cultural Competence	-.159	-.145	.021	.293	.086	.024	7.97	15.82	.000**

Note. Standardized Betas are displayed under the category "Stdzd Beta."

*F change is significant beyond $p = .01$

**F change is significant beyond $p = .001$

Once the assumptions were met and data were screened, hierarchical regression analyses were employed in order to answer research question 1. As seen in Table 13, cultural competence accounted for 2.4% of the variance in general teaching efficacy above the control variables R^2 change = .024, F change = 15.82, $p < .001$. The full model with the four control variables and cultural competence explain approximately 9% of the variance seen in general teaching efficacy scores, $R^2 = .086$, $F = 7.97$, $p < .001$. The two control variables that accounted for a statistically significant amount of variance were grade level, R^2 change = .041, F change = 25.59, $p < .001$, and class size, R^2 change = .013, F change = 7.98, $p < .01$. Grade level and class size accounted for 5.4% of the variance.

Research Question 2: To what extent do the cultural competence stages account for the variance in general teaching efficacy over and above control variables?

Before employing hierarchical regression analyses, the data were checked to ensure the homoscedasticity assumption was upheld. Visual inspection of scatter plots of the predicted Y values against the studentized residuals revealed a normal distribution of the variance of errors across the levels of the independent variables. Normally distributed histograms with normality curves also supported the homoscedasticity assumption. No violation of the homoscedasticity assumption was found.

Data were also examined for potential outliers that might unduly influence the regression line and distort the relationships being examined. No univariate outliers were found through inspection of studentized residual cases (all z 's $< |3.3|$). Through inspection of Mahalanobis' Distance, four outliers were found, p 's $< .001$; however, the Cook's Distance statistic for each of these cases indicated that none of the multivariate outliers were influential on the regression model, (Cook's D scores $< |1|$). Thus, all cases were included for the following hierarchical regression analyses found in Table 14.

Because SPSS only allows 9 blocks of variables to be entered into a hierarchical regression model, three variables were entered into the model at the same time as one block: Diversity PD, Classroom Diversity, and Years of experience. These variables were chosen because prior regression analyses indicated that each of these control variables were non-significant in the explanation of general teaching efficacy (all p 's $> .05$). Then, each variable was entered one at a time following the first block. The statistical analyses for this configuration are reflected in Table 14.

Table 14

Hierarchical Multiple Regression Analysis for Examining Variability in General Teaching Efficacy by Cultural Competence Subscales

Variable	Stdzd Beta	r	r ²	R	Cum R ²	R ² Change	F	F Change	Sig. F Change
<u>Block</u>									
Diversity PD	.028	.030	.001						
Class Diversity	-.044	-.047	.002	.060	.004	.004	.714	.714	.544
Years Exp	-.032	-.019	.000						
Class Size	-.102	-.142	.020	.150	.023	.019	3.43	11.54	.001*
Grade Level	-.179	-.203	.041	.238	.057	.034	7.12	21.42	.000*
Gender	-.049	-.136	.018	.248	.062	.005	6.50	3.25	.072
Individuation	-.160	-.201	.040	.311	.097	.035	9.07	23.07	.000*
Dissonance	-.032	-.114	.013	.320	.102	.005	8.43	3.65	.056
Immersion	-.051	-.072	.005	.325	.105	.003	7.74	2.10	.148
Internalization	-.042	-.084	.007	.326	.106	.001	7.00	0.40	.529
Integration	.032	.095	.009	.327	.107	.001	6.41	0.54	.463

Note. Standardized Betas are displayed under the category "Stdzd Beta."

*F change is significant beyond $p = .01$

Hierarchical regression analyses were employed to answer research question 2.

The Individuation subscale, stage 1 of the Self-Identity Inventory, accounted for 3.5% of the variance in general teaching efficacy scores over and above the control variables, R^2 change = .035, F change = 23.07, $p < .001$. The results also revealed that the full regression model accounted for approximately 11% of the variance in general teaching efficacy scores, $R^2 = .107$, $F = 6.41$, $p < .001$. Statistically non-significant variables in the explanation of the variance included years of teaching experience, diversity in the classroom, days of diversity professional development, gender, and stages 2 through 5 of the Self-Identity Inventory (all p 's $> .05$).

Examination of the contribution of control variables showed that class size accounted for 1.9% of the variance, R^2 change = .019, F change = 11.54, p = .001. Affiliation with Grade Level categories accounted for 3.4% of the variance general teaching efficacy, R^2 change = .034, F change = 21.42, p < .001. The two control variables together accounted for 5.3% of the variance in general teaching efficacy.

Research Question 3: To what extent does cultural competence total score account for the variance in personal teaching efficacy over and above control variables?

Like the previous analyses, the homoscedasticity assumption was checked through visual inspection of scatter plots of standardized residuals with the predicted Y values. Scatter plots displayed an even distribution of the variance of errors across all values of predicted Y values. For predicted personal teaching efficacy scores, the homoscedasticity assumption was met.

Data were also screened for both univariate and multivariate outliers. One univariate outlier was found ($z = -3.31$) by examination of studentized residuals; this case was not excluded because the Cook's distance value was not greater than 1. Thus, this case was not influential. Through examination of Mahalanobis' distance, one multivariate outlier was identified, p 's < 0.001. However, upon cross checking this case's Cook's D value, it was determined that this outlier did not have sufficient influence on the regression model that would warrant exclusion from the analyses (Cook's $D < |1|$). Thus, regression analyses were run with the entire sample of 600 cases.

Table 15

Hierarchical Multiple Regression Analysis for Examining Variability in Personal Teaching Efficacy by Cultural Competence Total Score

Variable	Stdzdz Beta	r	r ²	R	Cum R ²	R ² Change	F	F Change	Sig. F Change
Years Teaching	.122	.115	.013	.115	.013	.013	8.04	8.04	.005*
Class Size	.009	-.027	.001	.118	.014	.001	4.25	.46	.497
Classroom Diversity	.025	.008	.000	.118	.014	.000	2.83	.00	.949
Diversity Prof. Devt.	-.041	-.017	.000	.124	.015	.001	2.34	.88	.348
Grade Level	-.113	-.153	.023	.193	.038	.023	7.69	14.38	.000*
Gender	-.139	-.164	.027	.231	.053	.015	5.58	9.47	.002*
Cultural Competence	.147	.134	.018	.190	.074	.021	4.43	12.61	.000*

Note. Standardized Betas are displayed under the category "Stdzdz Beta."

*F change is significant beyond $p = .01$

The results from the hierarchical regression analyses, which were utilized to answer research question 3, are presented in Table 15. Cultural competence total scores accounted for 2.1% of the variance in personal teaching efficacy above the control variables (F change = 12.61, $p < .001$). Findings also revealed that the full regression model with all control variables and cultural competence accounted for 7.4% of the variance in personal teaching efficacy. Class size, classroom diversity, and diversity professional development accounted for statistically non-significant proportions of variance (p 's $> .05$). Statistically significant control variables included teaching experience, grade level, and gender. Years of teaching experience, accounted for approximately 1.3% of the variance in personal teaching efficacy (R^2 change = .013, F = 8.04, $p = .005$). Grade level accounted for 3.7% of the variance, R^2 change = .037, F change = 14.38, $p < .001$. Gender accounted for 1.5% of the variance in personal teaching efficacy, R^2 change = .015, F = 9.47, $p = .002$.

Research Question 4: To what extent do the cultural competence stages account for the variance in personal teaching efficacy over and above control variables?

Prior to running the statistical analyses to answer research question 4, data were examined to see if the homoscedasticity assumption was upheld. Through visual inspection of the scatter plots and histograms with normality curves, a normal distribution of the errors was observed at all levels of the independent variables. This observation indicates that the homoscedasticity assumption was upheld for these data.

Data were also screened for potential univariate and multivariate outliers. One univariate outlier was identified with a studentized residual value of -3.44 ($z > |3.3|$); for this case, though, the Cook's Distance value indicated that this case was not influential on the regression line (Cook's $D < |1|$). Four multivariate outliers were revealed through Mahalanobis Distance probability values ($p's < .001$). Similar to the univariate outlier, these four cases also had Cook's Distance values that indicated no influence on the regression line (Cook's $D's < |1|$). Given that the outliers did not significantly change the regression line or model, all cases were included in the following regression analyses.

Table 16

Hierarchical Multiple Regression Analysis for Examining Variability in Personal Teaching Efficacy by Cultural Competence Subscales

Variable	Stdzd Beta	r	r ²	R	Cum R ²	R ² Change	F	F Change	Sig. F Change
Block:									
Class Size	.001	-.027	.000						
Diversity PD	-.060	-.017	.000	.034	.001	.001	.224	.224	.880
Class Diversity	.026	.008	.000						
Years Teaching	.123	.115	.013	.124	.015	.014	2.34	8.68	.003*
Grade Level	-.120	-.153	.023	.196	.038	.023	4.73	14.10	.000**
Gender	-.105	-.164	.027	.231	.053	.015	5.58	9.47	.002*
Individuation	.060	-.042	.002	.233	.054	.001	4.85	.481	.488
Dissonance	-.084	.020	.000	.236	.056	.002	4.37	.993	.319
Immersion	.056	.072	.005	.246	.061	.005	4.23	3.02	.083
Internalization	.142	.137	.019	.286	.082	.021	5.24	13.52	.000**
Integration	.245	.241	.058	.359	.129	.047	7.92	31.97	.000**

Note. Standardized Betas are displayed under the category "Stdzd Beta."

**F change is significant beyond $p = .001$

*F change is significant beyond $p = .01$

Hierarchical regression analyses were utilized to answer research question number four, and the results are found in Table 16. Among the cultural competence stage variables, two stages explained statistically significant proportions of variance above the control variables. Internalization, stage 4, accounted for 2.1% of the variance in personal teaching efficacy, R^2 change = .021, F change = 13.52, $p < .001$. Also, Integration scores accounted for 4.7% of the variance above control variables, R^2 change = .047, F change = 31.97, $p < .001$. Together, stage 4 and 5 variables explained 6.8% of the variance in personal teaching efficacy scores.

The results also indicated that the full regression model accounted for approximately 13% of the variance in personal teaching efficacy scores. From the control

variables, years of teaching experience accounted for 1.4% of the variance in personal teaching efficacy, R^2 change = .014, $F = 8.68$, $p = .003$. Statistically non-significant control variables in the model included class size, classroom diversity, and diversity professional development (all p -values $> .05$). Non-significant cultural competence stage variables included Individuation scores, Dissonance scores, and Immersion scores, which represent stages one through three of the Self-Identity Inventory (all p -values $> .05$).

Additional Findings

Cultural Competence Trends in Relation to GTE Responses

Following the regression analyses, supplemental analyses of covariance were employed in order to determine if responses to general teaching efficacy items were related to differences in cultural competence and cultural competence stage constructs. These analyses were specifically employed in order to gain insights on how cultural competence varies in relation to responses to efficacy items, which could practically inform and guide the development of interventions. Control variables included years of teaching experience, class size, classroom diversity, and diversity-related professional development. Four general teaching efficacy items were chosen based upon the high variability in responses, GTE items 1, 3, 4, 7:

1. The hours in my class have little influence on students compared to the influence of the home environment.
3. If students are not disciplined at home, they are not likely to accept my discipline.
4. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.

7. Even a teacher with good teaching abilities may not reach many students.

For each of the four items, six separate ANCOVA's were examined for differences between the six GTE item response groups (Strongly Agree, Agree, Slightly Agree, Slightly Disagree, Disagree, and Strongly Disagree) on cultural competence means and all five construct means.

Analyses of covariance were employed to determine the nature of the differences in cultural competence based upon responses. Participants were grouped according to their responses on each item. For example, the cultural competence means of participants who responded "Strongly Agree" were compared to the means of those who responded, "Agree," "Slightly Agree," "Slightly Disagree," "Disagree," and "Strongly Disagree"; all other combinations of comparisons were also inspected to check whether differences in cultural competence were related to participants' responses to the general teaching efficacy items. All results from these analyses are found in Appendices E through J. Analyses of the assumptions associated with each ANCOVA are found in Appendices K through N. Assumptions for normality and homogeneity of variance were met in the majority of the cases for the ANCOVA's. These analyses are robust to minor violations of the assumptions; thus, the ANCOVA's were conducted to further investigate the relationship between cultural competence and general teaching efficacy responses.

Specifically, the focus for these analyses centered on differences in Individuation means. From the hierarchical regression analyses for general teaching efficacy, results revealed that the Individuation construct accounted for a statistically significant proportion of variance in general teaching efficacy, and the other constructs were non-significantly related. For this reason, the following reporting focuses on the ANCOVA's

for differences in Individuation based on response groups. The comprehensive results of the ANCOVA's for all constructs are found in the tables in Appendices E through J.

Results from the ANCOVA's revealed that response groups to each GTE item had statistically significant differences in Individuation means based on response groups (item1: $F(5,594) = 2.70, p = .020$; item 3: $F(5,594) = 3.20, p = .007$; item 4: $F(5,594) = 5.71, p < .001$; item 7: $F(5,594) = 3.77, p = .002$). Bonferroni post-hoc analyses revealed that statistically significant mean differences existed between the participants who responded in the Agree categories from those who responded in the Disagree categories (p 's $< .05$). Means on the Individuation subscale were higher for those who responded Agree versus those who responded Disagree. A linear trend was observed in each of ANCOVA's for means of response groups: Individuation scores decreased as agreement with the GTE items decreased. Specifically, in Appendix J, the summary of the trend of Individuation with GTE items is obvious. Respondents with high affiliation with Individuation, people who were extremely culturally unaware, had low levels of general teaching efficacy. A major decrease in affiliation with Individuation is seen between respondents who had the lowest general teaching efficacy responses (strongly agree response) and the higher levels general teaching efficacy (disagree responses). A discussion of the meaning and implications of these analyses for practice are found in Chapter Five.

Diversity Professional Development and Cultural Competence

Pearson product correlation coefficients were generated between each of the variables. One control variable, diversity professional development, was measured by the number of days that the respondent had participated in diversity training or courses

related to diversity issues over the course of the teaching career. Only one significant correlation existed between this variable and the others. Diversity professional development and the Integration construct had a statistically significant positive relationship ($r = .072, p < .05$). Also, diversity professional development had a statistically non-significant negative relationship with the Individuation construct ($r = -.067, p = .052$). Individuation is the lowest level of awareness and Integration is the highest level of awareness on the cultural competence continuum of the OTAID model (Sevig, Highlen, & Adams, 2000). Diversity professional development was not statistically correlated with cultural competence total ($r = .014, p = .364$).

Hierarchical regression analyses revealed that diversity professional development did not significantly explain variance in either general teaching efficacy or personal teaching efficacy. These findings are also reflected in the correlation coefficients with general teaching efficacy ($r = .030, p = .228$) and personal teaching efficacy ($r = -.017, .341$).

Summary

In summary, for each of the four research questions posed, statistical analyses were employed to answer the questions. Correlations were examined for statistically significant relationships among the control variables. General teaching efficacy was significantly related to class size, grade level, and gender. Personal teaching efficacy was significantly related to years of teaching experience, grade level, and gender. General teaching efficacy and personal teaching efficacy were both related to cultural competence and cultural competence constructs.

Hierarchical regression analyses were employed for research questions 1 through 4. In each case, statistically significant relationships were found between general teaching efficacy and cultural competence, general teaching efficacy and cultural competence constructs, personal teaching efficacy and cultural competence, and personal teaching efficacy and cultural competence constructs. A graphical representation of the relationship can be found in Figure 3.

The significant relationships between general teaching efficacy and cultural competence were further investigated by analyses of covariance. The focus of the analyses was the differences in Individuation means based on responses to the four general teaching efficacy items. In each ANCOVA for each item, significant differences were found between response groups on Individuation construct means. A linear trend was discovered in relation to responses on the GTE items.

An additional finding included the relationships between diversity professional development and cultural competence constructs. The number of days in which respondents participated in diversity professional development was significantly and positively correlated with the Integration construct. Diversity professional development was also negatively correlated with the Individuation construct, and this correlation was almost met the alpha level of significance ($p = .052$). These findings are discussed in chapter 5 in relation to their connection to previous research and implications for future practice and research.

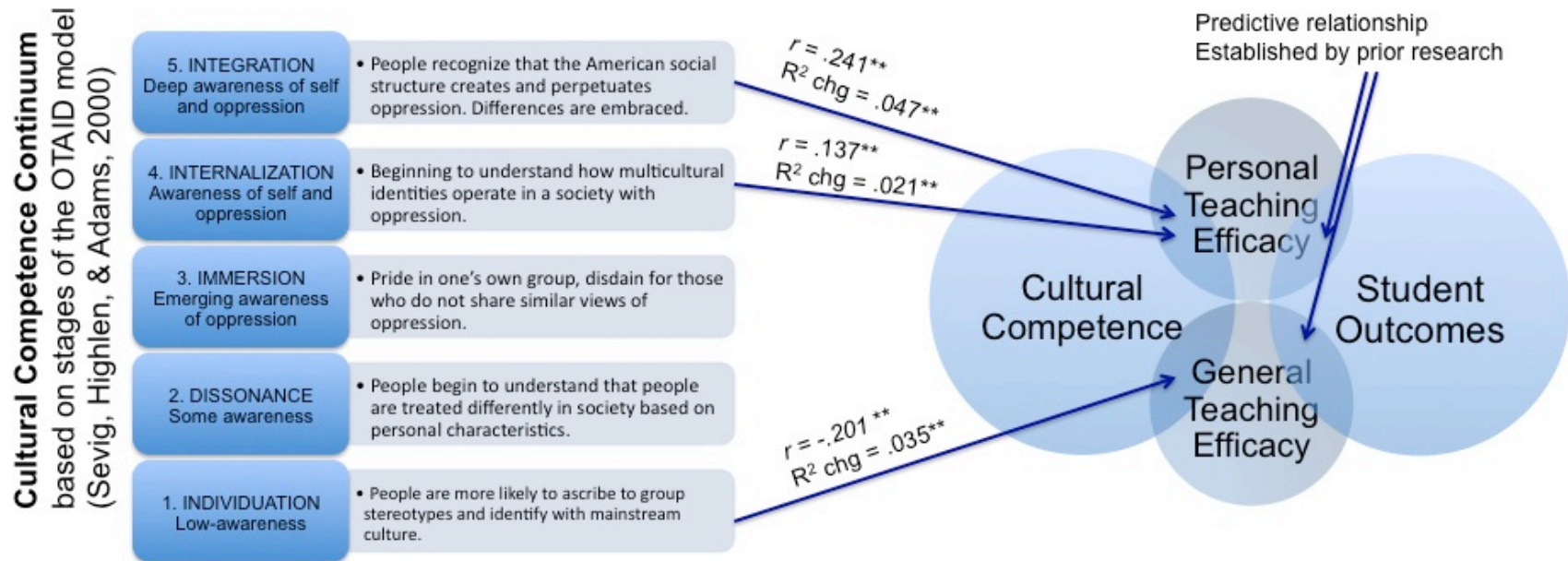


Figure 3. Relationships between cultural competence constructs and teacher efficacy constructs.

CHAPTER FIVE

DISCUSSION

This chapter presents a summary of the study and findings. Following this summary, a discussion of the results and implications is offered. Next, implications for further research and implications for practice are discussed.

Purpose of Study

In order to better understand the theoretically proposed relationship between cultural competence and teacher efficacy, this study attempted to determine the nature of the relationship between the two constructs. Specifically, this study sought to examine how much cultural competence and its constructs contribute to the explanation of variance in teacher efficacy constructs. In order to investigate this issue, the following questions guided this study:

1. To what extent does cultural competence account for the variance in general teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?
2. To what extent do the cultural competence stages account for the variance in general teaching efficacy over and above gender, grade level, years of teaching

experience, class size, classroom diversity, and days of diversity professional development?

3. To what extent does cultural competence account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?
4. To what extent do the cultural competence stages account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?

Methodology

This was a descriptive/correlational study that sought to explore the nature of the relationship between cultural competence (independent variable) and teacher efficacy (dependent variable). Hierarchical multiple regression analyses were utilized to answer research questions 1 through 4 to determine the amount of variance in both general and personal teaching efficacy that was explained by cultural competence or cultural competence constructs over and above control variables. Additional analyses of covariance were conducted in order to assess whether differences in responses to general teaching efficacy items were related to difference in cultural competence means or construct means when controlling for control variables. The population consisted of a random sample of Virginia teachers who had publicly-listed email addresses. A number of school divisions were excluded from the sample. The number of completed surveys totaled 600.

Summary of Findings

Results from the hierarchical regression analyses are presented in this section in order to answer research questions 1 through 4. Following the summary of results to research questions 1 through 4, a summary of the results from the additional analyses is presented.

Research Question 1: To what extent does cultural competence account for the variance in General Teaching Efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?

Cultural competence total scores accounted for 2.4% of the variance in general teaching efficacy scores above all of the control variables, which was statistically significant. Among the six control variables, only two control variables significantly explained some of the variance. Grade level accounted for 4.1% and class size accounted for 1.3% of the variance in general teaching efficacy. Thus, cultural competence explains more variance than class size and is more than half of the contribution of grade level in explaining variance in general teaching efficacy.

Research Question 2: To what extent do cultural competence constructs account for the variance in General Teaching Efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?

Individuation accounted for 3.5% of the variance in general teaching efficacy. Individuation also had the highest significant Pearson's correlation with general teaching efficacy ($r = -.201, p < .001$). The full regression model with all control variables and the five constructs accounted for 10.7% of the variance in general teaching efficacy. Two control variables were significant in accounting for variance in general teaching efficacy: class size accounted for 1.9%; grade level accounted for 3.4%. The five cultural competence constructs together accounted for 4.6% of the variance in general teaching efficacy, which is double the contribution of cultural competence as a total score from analyses to research question 1.

Although all cultural competence constructs accounted for 4.6%, only the Individuation construct was statistically significant in explaining variance in general teaching efficacy. No other constructs significantly explained variance in general teaching efficacy over and above control variables. The contribution to the explanation of variance by Individuation is equal to the proportion explained by grade level, and it is nearly double the proportion of variance in general teaching efficacy explained by class size.

Research Question 3: To what extent does cultural competence account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?

Cultural competence total score accounted for 2.1% of the variance in personal teaching efficacy, which was statistically significant. Personal teaching efficacy concerns teachers' assessment of their own abilities and skills to teach (Ashton & Webb, 1984).

The full regression model with control variables and cultural competence accounted for 7.4% of the variance in personal teaching efficacy. Among the control variables, years of teaching experience accounted for 1.3%, grade level accounted for 2.3%, and gender accounted for 1.5% of the variance.

Thus, cultural competence total score contributed more to the explanation of variance than years of teaching experience and gender, and it was almost equal to grade level. Cultural competence is as significant in the explanation of personal teaching efficacy as contextual factors like grade level and personal factors like years of teaching experience and gender.

Research Question 4: To what extent do the cultural competence stages account for the variance in personal teaching efficacy over and above gender, grade level, years of teaching experience, class size, classroom diversity, and days of diversity professional development?

Two of the cultural competence constructs, Internalization (2.1%) and Integration (4.7%), together accounted for 6.8% of the variance. Years of teaching experience accounted for 1.3%, grade level accounted for 2.3%, gender accounted for 1.5% of the variance, and each of these control variables were statistically significant. Thus, the contribution of cultural competence subscales to the explanation of the variance in personal teaching efficacy was greater than the contribution of the control variables. Teachers who had higher levels of personal teaching efficacy also had higher levels of cultural competence stage scores for Internalization and Integration, which are defined by a greater sense of awareness concerning personal identity, cultural differences, and systemic oppression (Sevig, Highlen, & Adams, 2000).

The full regression model, which includes all of the control variables, accounted for about 13% of the variance in personal teaching efficacy. Non-significant variables included class size, days of diversity professional development, classroom diversity levels, and stages one through three of the cultural competence constructs.

Summary of Additional Findings

Cultural competence trends with GTE responses. These analyses of covariance explored whether differences in GTE items were related to differences in levels of cultural competence. Four general teaching efficacy items were analyzed:

1. The hours in my class have little influence on students compared to the influence of the home environment.
3. If students are not disciplined at home, they are not likely to accept my discipline.
4. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.
7. Even a teacher with good teaching abilities may not reach many students.

After controlling for years of teaching experience, class size, classroom diversity, and days of diversity professional development, six different analyses of covariance were employed to examine the differences between means on cultural competence and constructs with a focus on the Individuation construct. Response groups included: Strongly Agree, Agree, Slightly Agree, Slightly Disagree, Disagree, and Strongly Disagree. Responses of strongly agree indicated lower levels of general teaching efficacy, and disagree responses corresponded with high levels of general teaching efficacy.

Significant means differences were found between Individuation means for the different response groups. For each of the items, participants from the Agree categories had higher levels of Individuation than those who responded in the Disagree categories. A linear trend was observed across the response groups for the means on Individuation: Individuation means decreased as the responses moved from Agree to Disagree.

Diversity professional development and cultural competence. Diversity professional development correlations with cultural competence and constructs revealed two findings. Diversity professional development was positively correlated with the Integration construct at a statistically significant level. The Integration construct represents the highest level of awareness on the cultural competence continuum. The correlation suggests that as the days of diversity professional development increase, the level the Integration also increases.

Also, diversity professional development was negatively correlated with the Individuation construct, which almost met the criteria for statistical significance ($p = .052$). The Individuation construct represents the lowest level of awareness on the cultural competence continuum. This correlation suggests that fewer days of diversity professional development are associated with lower levels of awareness, which is indicated by higher levels of Individuation.

Implications

General Teaching Efficacy and Cultural Competence

The findings for the first two research questions revealed that cultural competence accounted for a significant proportion of variance in general teaching efficacy. This means that teachers' general teaching efficacy varies in similar ways to teachers' level of

cultural competence; it can also be interpreted that the way in which general teaching efficacy varies can be partially explained by teachers' cultural competence. Only the study conducted by Pang and Sablan (1998) came close to discovering a similar finding. In their study, teacher efficacy items were altered to include only African American students in the statements instead of students in general (Pang & Sablan, 1998). For example, one item stated "If an African American student did not remember information I gave in a previous lesson, I would know how to increase his or her retention in the next lesson" (Pang & Sablan, 1998); 54% of the participants responded that they were Uncertain, Disagreed, or Strongly Disagreed with this item. This study only looked at differences in efficacy beliefs between novice and experienced teachers. They did not examine other influential factors related to teacher efficacy, which this dissertation research did explore.

Although Pang & Sablan's (1998) study began to elucidate the notion that teaching efficacy was influenced by beliefs about student characteristics, they called for further research to investigate whether teacher efficacy is affected by teachers' beliefs about students from additional ethnic groups like Latinos and Asians. The findings from this dissertation not only address this question, but the findings also add to the literature base with the inclusion of cultural competence defined by the OTAID model (Sevig, Highlen, & Adams, 2000), which encompasses much more than just ethnicity within the construct of cultural competence. Results from this study explicitly revealed that beliefs concerning personal characteristics account for variance in general teaching efficacy, which includes beliefs about race, ethnicity, gender, socioeconomic status, sexuality, and systems of advantage within the context of the United States.

General teaching efficacy and cultural competence constructs. Research question 2 further clarifies the relationship between cultural competence and general teaching efficacy by examining whether the stage constructs of cultural competence explain variance in general teaching efficacy. This question served the purpose of parsing whether one or more particular stage constructs were more important in explaining general teaching efficacy than other stage constructs. The Individuation construct explained even more variance than cultural competence as a total score in relation to control variables, and it was the only stage that was significant in explaining variance among the five stage constructs.

A high level of Individuation indicates a strong sense of affiliation with the lowest level on the cultural competence continuum. This is important because people who agree with Individuation items tend to have a low level of awareness concerning their own identity, others' identities, and how society shapes the perceptions and outcomes of each individual concerning personal characteristics (Sevig, 1993; Sevig, Highlen, & Adams, 2000). Teachers with a high affiliation with the Individuation stage tend to hold stereotypic views of groups of people that are consistent with socialization in American society (Sevig, 1993; Sevig, Highlen, & Adams, 2000). Many of these societal stereotypes incorporate generalizations about intelligence as it relates to particular ethnic groups and socioeconomic statuses. Essentially, this means that as teachers' Individuation beliefs increase, their general teaching efficacy beliefs decrease, which was revealed through the negative correlation between the Individuation construct and general teaching efficacy. Put another way, teachers who hold stereotypic views of people within the U.S. also hold expectations for student achievement reflecting those biases, which ultimately

influence their teaching behaviors in the classroom when interacting with students from negatively stereotyped populations. Thus, it makes sense that the Individuation construct accounts for a significant proportion of the variability in general teaching efficacy.

General teaching efficacy is an outcome expectancy that concerns whether one believes that teaching, in general, can influence achievement more than home variables; teachers with low general teaching efficacy believe that student achievement is more highly influenced by students' home environment and background than the ability of teachers (Ashton & Webb, 1984). Outcome expectancy beliefs influence behaviors based on whether they believe a behavior, like teaching, will actually produce a desirable outcome, like higher achievement (Bandura, 1977). When coupled with strong attributions to negative educational stereotypes, low general teaching efficacy beliefs impact teachers' instructional methods, classroom management, and interactions with students from those groups (Ashton & Webb, 1986; Ladson-Billings, 1994), which substantiates Bandura's (1977) original self-efficacy theory as well as Ashton and Webb's (1986) teacher efficacy theory. Thus, based on the findings, it can be postulated that a teacher possessing a high affiliation with the Individuation stage is more likely to believe negative stereotypes about students from traditionally disadvantaged ethnic or socioeconomic groups, which will lower general teaching efficacy and student outcomes via altered instructional behaviors.

The amount of variance that was explained by cultural competence and the Individuation construct also substantiates and expounds upon research that demonstrates that within-teacher factors and between-teacher factors influence teacher efficacy found in studies by Raudenbush, Rowen, and Cheong, (1992) and Ross, Cousins and Gadalla

(1996). Both studies demonstrated that within-teacher factors (feeling well-prepared and feeling successful) and between-teacher factors (class size, track, and grade) were all diminished once perceptions of student engagement were included in the regression models. Findings from this dissertation support these scholars' assertions and illustrate the teacher perceptions of student engagement. A teacher's level of cultural competence, especially their level of Individuation, reflects how much or how little he ascribes to societal stereotypes for various ethnic groups. If a teacher has a high level of Individuation, his beliefs strongly align with societal stigmas associated with traditionally disadvantaged minority groups. Stereotypes of traditionally disadvantaged minorities include the following: low achievers, lazy, at-risk, oppositional, low-ability (Tatum, 1999). Based on the findings from questions 1, 2, and the ANCOVA's, it can be speculated that if teachers have high levels of Individuation and unconsciously ascribe to societal stereotypes, these beliefs could plausibly influence perceptions of student engagement, which will serve to lower a sense of general teaching efficacy when working with students from negatively stereotyped groups.

These explanations concerning the direction of influence are somewhat speculative in that this researcher assumes that cultural competence precedes teacher efficacy, initially. In the case of novice teachers, this assertion holds true (Tschannen-Moran & Hoy, 2007). Every person has a level of cultural competence, whether he is a teacher or not (Allport, 1954; Sevig, Highlen, & Adams, 200). However, once a person enters teaching, the influence of cultural competence is more than likely reciprocal with the influence of teacher efficacy. Certain experiences may serve to increase general teaching efficacy, which also may decrease the level of Individuation, signifying a higher

level on the cultural competence continuum (Sevig, Highlen, & Adams, 2000). As Bandura (1977) and Allport (1954) point out, experiences change beliefs and beliefs influence behaviors, which alter future behaviors and experiences. Thus, cultural competence and teacher efficacy beliefs are more than likely reciprocal in their direction of influence once a person becomes a teacher. Further research could investigate this postulate in the form of a longitudinal study. Descriptions of possible follow-up studies are discussed in the Recommendations for Further Research section.

General teaching efficacy item response groups and cultural competence. The results from additional analyses of covariance not only support the findings from the regression analyses, but they also have practical implications. These questions were posed in reaction to the notion that the general teaching efficacy mean or total score represent an assumption of equifinality between the beliefs represented by individual items, which may not necessarily be true. Assuming each general teaching efficacy item bears the same weight in influencing behavior may mask some important differences from item to item, belief to belief. Quite simply, different GTE items may be more important in relation to cultural competence than other items, and looking at the individual items could be instructive for targeting interventions for changing specific beliefs. The four items that were chosen for analysis were identified based upon the variability in responses. Each of the four items had high variances, indicating that teachers' beliefs were distributed in each of the levels of general teaching efficacy more evenly than items not included in the ANCOVA's, where responses were slightly skewed in one direction.

The results further elucidate the differences between groups and the trends of cultural competence constructs with trends in efficacy. Specifically, the differences between construct means provide a better picture of the relationship between levels of awareness and teaching efficacy than the differences between cultural competence total score means. For the cultural competence total, it is difficult to gauge exactly with which construct stage a participant was more strongly affiliated. For example, a participant could have had high scores on Individuation and Dissonance items and low scores on Internalization and Integration items resulting in one cultural competence total; another participant could have oppositely rated the construct items (low Individuation and Dissonance, high Internalization and Integration) yielding a very similar cultural competence total. Thus, examining the differences between means on the cultural competence *constructs* reveals much more than the cultural competence total or the mean of the cultural competence totals, because the stage constructs explain more accurately the participant's level of awareness. Furthermore, from the regression analyses, it was found that the Individuation construct, in particular, accounted for the most variance in general teaching efficacy than the other stage constructs (3.5%). Thus, the following discussion focuses on differences in Individuation means between GTE item response groups.

In all four questions, findings indicated that participants whose GTE responses were Strongly Agree or Agree had significantly different cultural competence and construct means from those whose GTE responses were Strongly Disagree or Disagree. In general, respondents who had low levels of general teaching efficacy (Agree groups) also had lower cultural competence, which was represented by higher Individuation

scores, which is a low level of awareness. This particular trend buttresses the findings from the regression analyses, and it also helps describe how Individuation beliefs correlate with general teaching efficacy. High Individuation scores equate to low cultural competence, which also correlates with low general teaching efficacy; conversely, low Individuation scores indicate higher levels of cultural competence and higher general teaching efficacy. This means that when teachers are unaware of their own biases and unconsciously ascribe to societal stereotypes (high Individuation scores), student success and failure are likely to be attributed to the student, the student's home environment, and the student's characteristics rather than time spent in class or teachers' influence in improving achievement (low general teaching efficacy) (Ashton & Webb, 1986; Gibson & Dembo, 1984). This finding is also consistent with previous research that found that teachers who had experienced some level of diversity training had significantly higher efficacy than those who had no diversity training (Tasan, 2001; Tucker et al., 2005).

Another interesting finding included the non-significant differences between Individuation means. Specifically, participants who responded Slightly Agree did not have significantly different Individuation means from those who Slightly Disagreed or Disagreed. This absence of difference between the Slightly Agree, Slightly Disagree, and Disagree groups indicates that people who are somewhat neutral in their general teaching efficacy do not possess strong differences in their Individuation levels compared to those who have very high or very low general teaching efficacy. This information could be instructive for scholars and teacher educators who might develop cultural competence interventions aimed at altering cultural awareness and improving efficacy. Improving teachers' cultural competence to the point that teachers no longer strongly agree with the

GTE items but only slightly agree could mean that these teachers will be primed to believe that their influence on students' achievement is more powerful than student characteristics or the home environment. Altering general teaching efficacy beliefs would ultimately influence instructional behaviors as well (Ashton & Webb, 1986). The change in cultural competence from no awareness (Individuation) to some awareness of biases (Dissonance) has the potential to stimulate development along the cultural competence continuum, which should theoretically improve expectations for student performance.

Personal Teaching Efficacy and Cultural Competence

The results also revealed that a statistically significant proportion of the variance in personal teaching efficacy was explained by cultural competence and two of the latter cultural competence stage constructs: Internalization and Integration. The significant relationship between cultural competence and personal teaching efficacy was an unexpected finding. The theoretical underpinnings of personal teaching efficacy describe it as a self-efficacy belief; basically, it concerns one's assessment of personal skills and abilities in performing a particular task (Ashton & Webb, 1986; Tschannen-Moran & Hoy, 2001). Personal teaching efficacy has always been measured and described as a belief about one's skills and abilities to teach, which is influenced by training and mastery experiences in using those skills (Bandura, 1977; Tschannen-Moran & Hoy, 2001). To date, this is the first study to demonstrate that personal teaching efficacy is also influenced by cultural competence or beliefs that do not concern personal skills.

The two constructs associated with higher levels of personal efficacy are stages in the cultural competence continuum that represent an awareness of one's own multiple identities, others' multiple identities, and how societal oppression and systems operate in

relation to those identities (Sevig, Highlen, & Adams, 2000). Those with a high level of Internalization “positively integrate their subgroup identity into their self-concept. People are more tolerant and accepting of others, because those who are different no longer threaten their newfound sense of self and because they are starting to understand the nature of oppression more fully” (Sevig, Highlen, & Adams, 2000, p. 171). Similarly, those who report a high affiliation with the Integration stage “recognize that the American social structure creates and perpetuates oppression, thus people in this phase exhibit greater unconditional positive regard for themselves, others, and all of life. Differences among all people are recognized and embraced” (Sevig, Highlen, & Adams, 2000, p. 171).

In this study, high levels of personal teaching efficacy significantly correlated with high levels of Internalization and Integration. This means that teachers with high levels of Internalization and Integration also assess themselves highly concerning their abilities to teach, redirect students, and raise achievement (Gibson & Dembo, 1984). Not only do these teachers disregard negative societal stereotypes regarding student ability, they also believe that they can improve student achievement and redirect behavior. These findings support Ladson-Billings’ (2000) descriptions of successful teachers of African American students. These teachers were those who emphasized academic achievement, were culturally competent, and engaged in sociopolitical critique (Ladson-Billings, 2000). These three components are the basis of Ladson-Billings’ (1994) culturally relevant pedagogy, and the empirical findings in this study provide empirical evidence that may support employing culturally relevant pedagogical practices. The findings suggest that cultural competence may influence personal teaching efficacy, which is

predictive of student achievement (Allinder, 1995; Midgley, Feldlaufer, & Eccles, 1989; Nelson, 2007). These implications provide some fledgling support for integrating multicultural education courses and programs for pre-service and in-service teachers, which is discussed further in the recommendations for practice found in the following section.

In addition to providing an empirical rationale for employing culturally relevant pedagogy, the findings also indicated that cultural competence may be as important as contextual *and* experiential variables found in other studies. One exemplary study examined the extent to which particular variables contributed to the explanation of personal teaching efficacy. Tschannen-Moran and Hoy (2007) investigated the extent to which demographic variables, contextual variables, verbal persuasion, and mastery experiences contributed to the explanation of personal teaching efficacy of novice and career teachers. For both sets of teachers, mastery experiences explained the most variance in personal teaching efficacy. For this sample of 74 novice teachers, mastery experiences explained approximately 20% of the variance in personal teaching efficacy above contextual variables. For the sample of 181 career teachers, mastery experiences explained an additional 4% of variance in personal teaching efficacy above contextual variables. Both proportions of variance are based upon the adjusted R^2 , which accommodates for small sample sizes. In this dissertation, which included a randomly selected sample of 600 participants, cultural competence accounted for 2.1% of the variance in personal teaching efficacy above control variables. More importantly, two constructs, Internalization and Integration, accounted for 6.8% of the variance in personal teaching efficacy.

Comparing results of the two studies, the contribution of cultural competence is 50% greater than the contribution of mastery experiences to career teachers' personal teaching efficacy. Also, the two constructs explained approximately one-third the variance of mastery experiences for novice teachers. This study did not separate novice teachers from career teachers, which might mean that even greater explanation of the variance could be attributed to cultural competence or constructs for one group over the other. However, despite the single group analysis, the findings still indicate that cultural competence accounts for comparable proportions of variance in personal teaching efficacy as mastery experiences. This comparison points to implications for developing and testing interventions for improving cultural competence and personal teaching efficacy.

The rationale for this study was partially based upon the lack of empirical support for diversity training, multicultural education courses, and interventions that improve cultural competence or culturally relevant pedagogy given an unknown relationship between these interventions and student outcomes. No quantitative research demonstrates how becoming culturally aware or implementing culturally relevant approaches to pedagogy actually impacts student outcomes. Implicitly, using culturally relevant pedagogy and being culturally competent seem like they matter for the instruction of students from diverse backgrounds. Certainly, qualitative data demonstrate that teachers who feel more culturally competent are more successful in facilitating high achievement for students from diverse backgrounds (Ladson-Billings, 1994, 2000; Thompson, Ransdell, & Rousseau, 2005). Similarly, teachers who feel unprepared to teach students from diverse backgrounds are associated with being ineffective in raising student

achievement (Gallavan, 2007; Ladson-Billings, 2000; Tucker et al., 2005). A plethora of literature suggests that some level of cultural awareness or culturally relevant pedagogy influences student achievement. To date, though, only this study has made the explicit connection between *how* cultural competence and student achievement might be related.

The findings revealed that cultural competence accounts for a significant proportion of both general teaching efficacy and personal teaching efficacy, which both influence teacher behaviors and student outcomes. The literature is replete with investigations that provide evidence that teacher efficacy beliefs are the most closely correlated school-level factor to student achievement (Anderson et al., 1988; Ashton & Webb, 1986; Moore & Esselman, 1992; Tracs & Gibson, 1986; Watson, 1991). Moreover, teacher efficacy is *predictive* of student achievement (Allinder, 1995; Midgley, Feldlaufer, & Eccles, 1989; Nelson, 2007). This research provides nascent empirical evidence for understanding a factor that influences student achievement through teacher efficacy: cultural competence. Not only does cultural competence influence one construct, but it accounts for variance in *both* constructs of teacher efficacy.

Teacher Efficacy Theory

The discovery that cultural competence explains variance in both general and personal teaching efficacy is consistent with and reinforces Bandura's (1977) original theory of self-efficacy. Bandura (1977) asserted that self-efficacy beliefs arise from and are influenced by four sources: mastery experiences, vicarious experiences, verbal persuasion, and physiological arousal. Most teachers gain higher levels of efficacy through mastery experiences (Tschannen-Moran & Hoy, 2001). Then, after mastery

experiences, vicarious experiences and verbal persuasion are the most influential variables in accounting for variance in teaching efficacy (Tschannen-Moran & Hoy, 2007). Cultural competence is a set of beliefs that are formed based upon first-hand experiences and vicarious experiences with people who are different and similar to oneself (Allport, 1954; Myers et al., 1991; Sevig, Highlen, & Adams, 2000). Many people who have a low level of cultural competence (Individuation stage) believe stereotypes about traditionally disadvantaged students because they have not had enough contact with people from these groups (Allport, 1954). Therefore, their beliefs reflect vicarious experiences and biases based upon those vicarious experiences from others and the media. Thus, through these findings, the original theory is supported that vicarious experiences, which shape cultural competence, account for variance in the teaching efficacy constructs.

Diversity Professional Development and Cultural Competence

Although diversity professional development did not explain a significant proportion of the variance in general or personal teaching efficacy, some interesting relationships were revealed through examinations of the correlations. Diversity professional development was significantly positively correlated with the Integration stage construct. This means that higher levels of Integration and awareness are associated with more time spent in diversity-related professional development. Also, diversity professional development was negatively correlated with the Individuation construct. This means that fewer days of diversity professional development were correlated with lower levels of cultural competence, which corresponded with higher levels of Individuation.

The correlations are consistent with literature and previous research on cultural competence and interventions that seek to alter cultural competence. Findings from studies on the impact of diversity trainings or diversity professional development for teachers have revealed that teachers are more aware of stereotypes and power relations that exist within society after engaging in these experiences (Garcia & Guerra, 2004; Knight & Wiseman, 2005; Ladson-Billings, 2000; Tatum, 2007). A greater level of awareness of societal stigmas and oppression is indicative of the Integration stage in the cultural competence continuum of the OTAID model (Sevig, Highlen, & Adams, 2000). Although correlations do not equate to causation, these correlational findings between diversity professional development and levels of awareness seem to support the findings of prior research that demonstrate increased cultural competence following diversity-related professional development.

In this study, though, the relatively weak correlations between cultural competence constructs and diversity professional development could be attributed in part to limitations of this study. One limitation included the inability of the researcher to determine the quality of the diversity professional development experiences of the participants. Professional development research provides many examples of high quality versus low quality experiences for teachers which result in differential levels of teacher change (Carleton, Fitch, & Krockover, 2008; Crowther & Cannon, 2002; Fritz et. al, 1995; Posnanski, 2002; Riley & Roach, 2006). Although some teachers reported past participation in diversity professional development, these experiences may have been poorly developed or inadequately implemented (Lindsay, 1994). The criteria for implementing high quality diversity professional development is beyond the scope of this

study, but the limitation of measuring the quality of these experiences provides one alternative explanation for the low correlations.

Additionally, the low correlations between diversity professional development and the cultural competence constructs could have arisen through measurement error. A few participants emailed the researcher inquiring whether this question referred to the number of days per year or the number of days over the course of their careers. It is plausible to assume that other participants may have reported their days of diversity professional development for the year and not their careers; collecting the number of days over their careers was the intent of the question. Thus, this misunderstanding of the question and lack of clarity in the question composition may have impacted the strength of the correlations between diversity professional development and cultural competence constructs.

Furthermore, these two limitations may have prevented the discovery of correlations between diversity professional development and the efficacy constructs. Because the findings indicated that diversity professional development is related to cultural competence constructs, and cultural competence constructs are also related to teaching efficacy constructs, it seems plausible to expect to have found a correlation between diversity professional development and teaching efficacy. This study did not find this correlation, but previous studies have found correlations between participation in diversity training and higher levels of efficacy (Tasan, 2001; Tucker et al., 2005). The correlations that were discovered in this study in conjunction with the missing correlations between cultural competence and teacher efficacy constructs have

implications for further research studies that could investigate this relationship, the details of which are discussed in the Recommendations for Further Research section.

Recommendations for Further Research

These findings provide support for new lines of inquiry into the relationships between cultural competence, teaching efficacy, student achievement, and interventions to improve teacher cultural competence and efficacy. If future investigations validate this study's results, find interventions that impact cultural competence and teaching efficacy, and find associations with student outcomes, universities and school leaders will have evidence-based rationales for integrating programs for altering educator cultural competence into teacher education preparation sequences and in-service professional development. Therefore, the following recommendations for future research are offered:

1. Replication of this study is the first priority. Although the sample size allowed for a power that was sensitive enough to detect significant results, the response rate was low. To validate the findings, a replication study would be needed where a higher response rate was obtained to examine whether non-responders biased the results by excluding their data from the analyses. For example, the researcher speculates that it is probably not the case that 12% of teachers have participated in 100 or more days of diversity professional development in the total population. This sample seemed to have parity with both the Virginia teacher population and the U.S. national population of teachers on most factors. However, no parameters were available regarding the amount and content of professional development.
2. Implementing longitudinal studies would also further the understanding of how cultural competence and teacher efficacy are related. Specifically, implementing a

cultural competence intervention with pre- and post-measures for both teacher efficacy and cultural competence would add to the conceptual model concerning the direction of influence between the variables. The direction of the relationship between cultural competence and teacher efficacy is unknown. Theory supports the path of cultural competence influencing teaching efficacy (Allport, 1954; Bandura, 1977), but investigations are needed to support this theory.

An important component of this type of longitudinal study would be student outcomes assessments. If these programs are aimed at improving the education quality and educational outcomes for traditionally disadvantaged students, then measuring and analyzing student outcomes in relation to teaching efficacy and cultural competence is an essential component.

3. Even though a high number of teachers reported participating in diversity professional development, no relationship was found between that variable and teacher efficacy. Previous research indicated that teachers who had participated in diversity training had higher levels of teacher efficacy (Tasan, 2001; Tucker et al., 2005). This dissertation study, however, did not find any significant correlation between diversity professional development and teacher efficacy. This insignificant relationship may have resulted from the limitations of this study, including wording of the items. A relationship between efficacy and experiences in diversity professional development might have been revealed if the days of diversity professional development were categorized. Further analyses of this data set may reveal different findings. Suggested analyses includes grouping teachers

who responded to the diversity professional development into the following categories:

- a. No PD = those who reported 0 days of professional development
- b. 1-10 = Indicate some professional development
- c. 11-100 = Indicates more than two weeks' worth of professional development or possible participation in a university course or courses.

Then, analyses of the data with hierarchical multiple regression could explore whether participation in diversity professional development changes the amount of variance explained by cultural competence. These alternative categorical groupings could alter the findings of future studies in which the analyses are replicated.

4. Another related finding revealed that cultural competence and constructs were significantly correlated with classroom diversity. In classes with higher numbers of ethnic minority students, teachers had higher levels of cultural competence. An investigation into the factors that influence cultural competence could elucidate the process of becoming more culturally competent and its directionality. These potential findings could guide the development of interventions or university multicultural education course components.
5. The pattern of survey respondent attrition was of interest to the researcher. The majority of the participants that dropped out of the study did so following the teacher efficacy items. Approximately 80 participants exited the survey once they reached the questions from the Self-Identity Inventory. Several questions arise in light of the content of the items and the pattern of attrition. Do teachers feel

threatened by responding to questions concerning culture, race, gender, and societal oppression, even when the responses are anonymous? Are teachers offended by these questions in relation to efficacy questions? One teacher wrote the following regarding the survey and agreed to allow inclusion of the anonymous comments in this research:

While I can appreciate what you are trying to do with this survey, I am really concerned that this academic exercise ... will do more to create additional work and difficulty for the classroom teacher. Differentiation and sensitivity to ethnic issues are not the reasons students are not learning. Students are not learning because we no longer treat education as something of value in itself. It has become for most a means to an end. We do not insist that immigrants actually learn to assimilate and learn English. We no longer insist that students follow consistent forms of behavior. We are now TOO politically correct! We, unfortunately, no longer teach respect for country, authority, parents, classmates. It seems that "new" methods and forms are thrown at the teaching profession by those in higher education and administration as justification for their existence. We have forgotten what education is all about.

The main assessment in this teacher's response is an aversion concerning the content of the cultural competence questions, the possible implications for professional development, and the association of cultural competence with student learning. Further research could examine whether other teachers feel similarly about these topics and potential professional development related to diversity topics.

Several other teachers wrote that the survey was too long and that they did not "have 15 minutes to spare with all of the other responsibilities." Including a free response box in the online survey for participants who exit the survey may yield some interesting data concerning survey attrition. For future research using a similar online survey, a suggestion would be to include an extra question as the respondent exits the survey. A question could be posed like: Why did you decide

to end your participation? Some respondents may share that time is a factor, but others may share more insights concerning reactions to content or other unanticipated reasons.

6. The teacher feedback concerning the length of the survey has implications concerning making the survey more concise. A study could be conducted to examine which items of each scale significantly predict each construct. For example, a question could be, “Which Individuation items significantly predict the Individuation total?” A question modeled after the aforementioned one could be altered for each cultural competence construct and the teaching efficacy constructs. Based upon the results of this type of investigation, a much shorter survey could be constructed which may encourage higher response rates. Then, based upon those influential items and beliefs associated with those items, teacher educators could base professional development interventions upon altering responses to those particular items.
7. In previous studies, affective questions concerning grade level and class size have been measured in order to control for the effects of those two variables. In this present study, only the actual class size and grade levels were requested from teachers. Thus, just the mere fact of having larger class sizes and being in an upper grade level is significantly associated with the teacher efficacy constructs. The fact that these two variables are ipsative, meaning not from the same domain or realm, is an interesting finding that previous research has not explored. What about the experience of teaching larger class sizes and upper grade levels explains the lower levels of efficacy? Further analyses of these data with the full sample of

teachers that responded to the teacher efficacy survey portion may elucidate the relationship further.

8. Several other studies have examined factors associated with teacher efficacy, and these studies separated the participants into two categories: novice teachers and veteran teachers. A follow-up study to this dissertation research could examine whether differences exist between novice and career teachers on cultural competence and teacher efficacy. Also, this follow-up study could examine whether cultural competence accounted for more variance in teaching efficacy constructs based on years of experience.

Recommendations for Practice

Findings revealed that cultural competence explained some of the variance in both general and personal teaching efficacy. Since cultural competence may influence teaching efficacy, and given that both general and personal teaching efficacy are predictive of student achievement, it may be conjectured that cultural competence contributes to student outcomes. Furthermore, the findings suggest that cultural competence may be as important in explaining variance in teaching efficacy as mastery of pedagogical skills and knowledge are in explaining teaching efficacy variance (Tschannen-Moran & Hoy, 2007). For practical purposes, these results point to investigations into interventions that might impact both cultural competence and teaching efficacy.

Given that some professional development programs and interventions claim to improve teacher cultural competence, findings from this study may tentatively support implementing interventions. Specifically, to use these data to support interventions for in-

service teachers, it might be plausible to say that a professional development program, which has a record of improving cultural competence, may also increase teachers' general teaching efficacy by as much as 3.5% and personal teaching efficacy by 6.8%, which could theoretically increase student achievement by between 3.5-6.8% on standardized exams, assuming a perfect correlation between teaching efficacy and student outcomes. School leaders would have to weigh whether a potential, but theoretical, increase of 3.5-6.8% of passing scores on Virginia SOL exams be would worth the professional development funds to implement diversity professional development.

Ultimately, the aim of this study was to provide evidence to advance avenues for preparing culturally competent and efficacious educators. Using these data to support implementation of interventions, though, may be premature at this point given that the direct influence of teacher efficacy on student achievement is unknown. However, a more appropriate practical use of the findings could be aimed at developing and testing interventions. Discovering that personal teaching efficacy is also associated with cultural competence bolsters the argument for developing interventions because many different interventions have been tested and implemented that improve teachers' sense of personal teaching efficacy. These programs consist of training teachers in a particular skill and providing experiences for them to practice and master the skill (Carleton, Fitch, & Krockover, 2008; Crowther & Cannon, 2002; Fritz et. al, 1995; Posnanski, 2002). In most cases, personal teaching efficacy increases following the intervention. General teaching efficacy, however, does not change or reverts back to previous levels upon post-assessment. This study provides some nascent evidence that supports developing and testing interventions related to diversity issues and improving cultural competence, which

may then plausibly improve *both* personal teaching efficacy and general teaching efficacy.

For teacher educators and scholars who are interested in developing or altering an existing intervention, the findings could inform the generation of professional development experiences specifically targeted at altering teachers' responses to efficacy items. By increasing teachers' levels of awareness through discussions and first-hand experiences centering on the components of efficacy items (Allport, 1954; Bandura, 1977), their Individuation affiliation would theoretically decrease, which means that they would move positively along the cultural competence continuum. Improving a person's cultural competence should, in theory, also change the way they respond to GTE and PTE items, and ultimately change their beliefs, because they would no longer ascribe to societal stereotypes. When teachers become more aware of the differences that exist within a group of people, they are less likely to believe negative educational stereotypes about groups (Ladson-Billings, 2000; Tatum, 2007). Alterations of beliefs may potentially result in higher levels of persistence with individual students from traditionally disadvantaged groups (Bandura, 1977; Ashton & Webb, 1986; Tschannen-Moran & Woolfolk-Hoy, 2001), especially if this type of intervention is coupled with practical strategies for student-teacher relationship development, instructional methods, or classroom management (Ashton & Webb, 1986).

In addition to developing and testing interventions, school leaders could tentatively utilize these findings for screening professional development providers. Many school districts implement diversity trainings of some sort, which are intended to improve teachers' abilities to work with students from traditionally disadvantaged backgrounds.

School leaders might use these data to support professional development programs that focus on altering teachers' responses to efficacy items. Specifically, school leaders could ask diversity training consultants to provide syllabi of activities and discussions that would be specifically aimed at altering responses on teaching efficacy items through the vein of cultural competence growth. Leveraging these data for professional development selection purposes could potentially improve the outcomes of trainings and workshops related to diversity issues.

Additionally, in schools of education in colleges and universities, it is not common to find compulsory courses that focus on teacher's cultural awareness, identity development, knowledge of oppression and social contexts of education, or how education plays a role in those social contexts. This research has preliminarily demonstrated that beliefs concerning differences and oppression are related to teacher efficacy beliefs, which ultimately influence how teachers interact with students who are different from them. Teacher educators and principal educators can plausibly use these findings to support developing and refining courses and activities that may increase cultural competence and thereby theoretically increase efficacy in the university setting.

Finally, these data could be leveraged to support policies for integrating programs for altering educator cultural competence into teacher education preparation and school leader preparation sequences. According to Bandura (1977), efficacy beliefs are most malleable at the early learning stages. Thus, ensuring that pre-service teachers and school leaders engage in courses that examine beliefs concerning diversity could put these educators one step further along the cultural competence continuum before entering classrooms and schools.

Final Thoughts

These findings revealed that cultural competence is related to teachers' beliefs about whether teaching will make a difference and whether it's worth their time and effort. Implicated in these findings is the possibility that working with diverse student populations may not only necessitate learning different approaches to pedagogy, but it requires examining and altering perspectives about other people. Thus, it is imperative that educators and teacher educators fight the prejudices to which all people are exposed. Whether people of color or White Americans, female or male, heterosexual or homosexual, Christian or Muslim, or any of the other pieces that comprise identity, every person is affected by stereotypes that exist in this society (Tatum, 1999). Interacting with students is not just about what they bring to the classroom; what educators bring to the classroom also matters. If scholars, teacher educators, and educators want to see improvements in student achievement, change must begin within each scholar and teacher educator, pursuing personal development along the cultural competence continuum, and continuing to help pre-service and in-service educators become more self-aware and culturally-aware so they may ultimately see *all* students reach their dreams.

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Appendix A
Teacher Efficacy Scale
Shortened Version

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Please indicate the degree to which you agree or disagree with each statement by clicking on the appropriate numeral to the right of each statement.

1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree

1. When a student does better than usual, many times it is because I exerted a little extra effort.
2. The hours in my class have little influence on students compared to the influence of their home environment.
3. The amount that a student can learn is primarily related to family background.
4. When a student is having difficulty with an assignment, I am usually able to adjust to his her level.
5. If students aren't disciplined at home, they aren't likely to accept any discipline.
6. When I really try, I can get through to most difficult students.

7. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on her/his achievement.
8. When the grades of my students improve it is usually because I found more effective teaching approaches.
9. If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that concept.
10. If parents would do more with their children, I could do more.
11. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.
12. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him quickly.
13. The influences of a student's home experiences can be overcome by good teaching.
14. Even a teacher with good teaching abilities may not reach many students.

Appendix B

Self-Identity Inventory

Instructions:

Listed on the following pages are statements about attitudes, feelings, and behaviors.

Please respond to all items. There are no correct answers. For questions that refer to “my group,” please answer this by thinking about how you describe your identity. Some examples are African American, Asian American, Poor person, male, human, Native American with a disability, European American female who is Jewish, Hispanic gay male, and elderly female.

Some of the statements that you’re about to read will use phrases such as “Recently I have started to ...” or “I’m just starting to ...” these phrases indicate a new awareness about certain beliefs or attitudes. Therefore, if you have held that belief for some time, you would need to disagree with the entire statement, even if you agree with the specific belief addressed in the statement. There are no correct answers. Use the 6-point scale below to rate each of the statements as it applies to you. Do not spend too much time on any item; record the first response that comes to your mind.

1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agree

Example:

1. I like to go to concerts.

(If you strongly agree with this statement, you would circle the “6” on the answer sheet.”

1. I understand that everyone is expected to follow the same rules even if they don’t seem to be right for everyone. (original wording: I am just starting to see that...)
2. Whenever anyone tells a joke that puts down any group (e.g., gas, Jews, Native Americans, Poles, Italians), I voice my objections.
3. I do not understand what social activist groups are trying to accomplish.
4. What people do in private is their own business, but I wish gays and lesbians would keep their personal lives to themselves.
5. People in the U.S.A. have been socialized to be oppressive.
6. My oppressed identity does not primarily define who I am as it did in the past.
7. I am *starting* to feel angry about discrimination in this country.
8. I *recently* realized for the first times that I was a target of discrimination, and it hurt.
9. I am *starting* to see that people from some groups are treated differently in this society.
10. I have a deep understanding of myself that comes from examining the different parts of my identity.

11. I feel intense excitement and pride when I think about my group.
12. All people can succeed in this country if they work hard enough.
13. My identity as a member of my group is the most important part of who I am.
14. I primarily focus my political awareness and activity on issues facing members of my group.
15. It is all right when people tell jokes that are discriminatory as long as they are meant to be funny and don't hurt anyone.
16. I feel sad when people tell jokes about oppressed groups because I know how these jokes hurt people in those groups.
17. I am who I am, so I don't think much about my identity.
18. I would be happy if a member of my family were openly gay/lesbian/bisexual, regardless of my sexual orientation.
19. Sometimes I get tired about people complaining about racism.
20. I feel most connected to members of my own group.
21. I am *just beginning* to realize that society doesn't value people who are "different."
22. Being with people from my group helps me feel better about myself.
23. I am *just starting* to see how my different identities affect me.
24. I have not been oppressed or discriminated against.
25. I feel better about who I am because my group identity is clearer to me.
(Original wording: "I have recently felt better...")
26. I *recently* realized there are many parts of my identity, and I have accepted them as important parts of who I am.

27. I feel most comfortable when I am with my group.
28. I *recently* realized I don't have to like every person in my group.
29. I believe there is justice for all in the United States of America.
30. I *recently* have started to question some of the values I grew up with.
31. I feel connected to people from different groups.
32. I would have as a life partner a person of a different race.
33. I *recently* have started to accept more people different from me, because I feel good about myself.
34. I have *recently* seen the depth to which oppression affects many groups.

Excluded items from Stages 1 through 5

1. I would feel most comfortable working for a boss/supervisor who is a White male.
2. I am *just beginning* to realize that society doesn't value people like me.
3. People in my group experience the most discrimination in this country.
4. I'm not as angry at people outside my group as I used to be, but I still don't socialize much with these people.
5. I am *just starting* to see that certain people are expected to act in certain ways.
6. I have *recently* realized that society devalues parts of who I am.
7. I have not really examined in depth how I view the world.
8. I actively support the rights of all oppressed groups (e.g., Jews, gays, Asian American, the elderly, people with disabilities, African Americans, Native Americans).

9. Issues facing my group are the most important in this country.
10. I am *starting* to realize I don't agree with some of society's standards.
11. Personally knowing people in other oppressed groups, I see how much we have in common.
12. I am *starting* to see that people from some groups are treated differently in this society.
13. I focus most of my time and efforts on issues facing my group.
14. Although I am concerned about other groups who are discriminated against, I'm mostly concerned about my own group.
15. I have difficulty trusting anyone outside my own group.
16. It's great for a woman to have a career, as long as she doesn't forget her responsibilities as a homemaker, wife, and mother.
17. Most of my beliefs and views are similar to ones I grew up with.
18. My relationships with others have been enhanced now that I see the commonalities among us.

Eliminated Items from Scale 6 – Transformation

1. People who hurt others do so because they don't feel an inner spiritual connection with all people.
2. Because I share my humanness with all people everywhere, whatever affects them affects me.
3. The physical worlds and the spiritual world are inseparable.

4. Although I may not understand it, order exists in the universe that allows me to live in peace and harmony, regardless of the situations I confront.
5. No one is free until everyone is free because we are all so deeply connected.
6. I hurt for the oppression I experience and for the oppression that all people feel because this violates the spiritual connection in all of us.
7. I believe that if I could fully know myself, I would know God (or Great Spirit).
8. All of life is connected.
9. Rocks and streams and all parts of the Earth have spirits.
10. Oppression exists because we aren't in touch with what connects us to each other.
11. I base reality on my spiritual awareness, irrespective of any religious affiliation I might have.
12. I see myself in all others, including criminals and all oppressors, because we are all part of the same collective spirit.
13. The spirit within all connects us.
14. I have overwhelming feelings of connectedness with others and with nature.
15. Because the Earth is a living, spiritual being, I am sad we are destroying her.

Appendix C

Letter to study participants - I

Dear fellow teacher,

I am writing to kindly request your participation in my study by taking an online survey. I am a graduate student in the Curry School of Education at the University of Virginia, and I am interested in teacher opinions. I would greatly appreciate your anonymous involvement in responding to an opinionnaire to help me complete my degree.

As a former public school teacher, I understand that your time is extremely valuable. The online survey should not take much time to complete (less than 15 minutes). Your responses will remain anonymous. If you choose to participate, anonymous data cannot be withdrawn. Submission of this anonymous data constitutes consent to participate. The results of this study from the anonymous data will be shared at professional conferences and with the faculty of the Curry School of Education. If you would like a copy of the results, I will be happy to share them with you.

Raffle: If you decide to participate in this study, you may choose to enter your name into a raffle. For every 100 participants, one **\$15 VISA gift card** will be raffled. All participants who choose to enter will also have a chance in the final raffle for one **\$100 VISA gift card**.

To access the survey, please click on the following QuestionPro link:
<http://RanjiniSurvey.questionpro.com>

If you have any questions regarding this survey, please feel free to email me at RMJ6V@virginia.edu (*please do not reply to this message*). Thank you for your help and your time. I greatly appreciate your participation! Happy New Year!

Sincerely,
 Ranjini JohnBull

Raffle Information:

-After completing the survey, a field for your email address will be provided to enter the raffles. This is also completely voluntary. Your email address will **not** be linked with the data entered in the surveys.

-For every 100 participants who enter the raffle, I will randomly select one person from the list of email addresses to receive the \$15 gift card. If you are selected, I will email you and request your school address or your home mailing address. Then, I will mail the gift card to you using the address you provide.

-The same procedure will take place for the \$100 VISA gift card. This raffle will include all participants who enter the raffle.

Appendix D

Letter to study participants – II

Dear fellow teacher,

Earlier I sent an email regarding participation in my doctoral research study. I randomly selected your name from a list of Virginia teachers to potentially participate in this study that I am conducting as part of my doctoral work at UVA's Curry School of Education. I would sincerely appreciate it if you might consider participating to help me complete my degree. (If you have already responded to the survey, thank you!)

To access the survey, please click on the following QuestionPro link:

<http://RanjiniSurvey.questionpro.com>

The details from the first message are below. I will draw winners for the raffle for VISA gift cards at the end of the month. Thank you again for considering this request!

Best wishes,
Ranjini JohnBull

Appendix E

Letter to study participants – II

LAST CHANCE for the \$100 and \$15 VISA gift cards raffle!

Dear fellow teacher,

The data collection for my dissertation study will be complete this **Friday, February 3rd**. (The survey will close at midnight on Friday.) If you have not had a chance to participate, I would still greatly appreciate your anonymous help with this study. I will draw the email addresses for the raffles on Saturday, February 4th and send out emails to the winners and all who submitted their responses. To participate and submit anonymous information, please click on the link below to go to the survey:

<http://RanjiniSurvey.questionpro.com>

If you decided not to participate or did not finish your survey, I would be very eager to hear your reasons for not taking or finishing the survey. This information could help me improve my work. I would be happy to hear any reasons or feedback on the survey. If you share this valuable information, **I will enter your email into the drawings as well**. Also, if you email me this feedback, may I have your permission to use it anonymously in my research?

If you already responded or will respond, thank you very much! I welcome any comments or feedback on the survey from you as well. Also, if you email me feedback, may I also have your permission to use the comments anonymously in my research?

Thank you for taking the time to read this request and consider participating and giving feedback. The original email is below with all pertinent details.

Sincerely,
Ms. Ranjini JohnBull

Appendix F

ANCOVAs for GTE item 1

Table 17

Analysis of Covariance Examining Mean Differences for Response Groups to GTE item 1 on Cultural Competence and Subscales

	<u>Strongly Agree</u>			<u>Agree</u>			<u>Slightly Agree</u>			<u>Slightly Disagree</u>			<u>Disagree</u>			<u>Strongly Disagree</u>				
Constructs	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD	F	p
Cultural Competence	37	113.38	17.20	100	109.67	15.31	122	114.37	14.46	122	116.13	16.22	171	110.49	15.59	48	110.40	17.18	2.70	.020*
Individuation	37	29.30	5.71	100	26.24	6.71	122	26.26	6.05	122	26.23	5.54	171	25.28	5.85	48	26.35	6.93	2.56	.027*
Dissonance	37	17.78	4.93	100	16.72	5.05	122	17.57	4.91	122	18.16	5.59	171	16.52	4.78	48	16.79	4.58	1.86	.100
Immersion	37	16.22	5.66	100	16.84	5.87	122	18.07	4.92	122	18.93	5.57	171	17.09	4.85	48	16.25	6.93	3.10	.009**
Internalization	37	21.57	6.74	100	20.42	5.86	122	22.05	5.60	122	22.75	6.47	171	21.16	6.11	48	21.46	6.73	1.53	.179
Integration	37	28.51	5.29	100	29.45	4.04	122	30.41	4.41	122	30.06	4.58	171	30.44	3.97	48	29.54	4.67	1.83	.104

Note. GTE item 1: The hours in my class have little influence on students compared to the influence of the home environment. Means reported are actual means, not the adjusted means. Covariates included teaching experience, class size, classroom diversity, and diversity professional development. Participants who “strongly agree” had a rating of 1 on this Likert scale, which indicates a low sense of general teaching efficacy on this particular belief. Participants who strongly disagreed with this item had a rating of 6, which corresponds to a high level of general teaching efficacy for this particular belief.

*F is significant beyond $p = .05$.

**F is significant beyond $p = .01$.

Appendix G

Table 18

Analysis of Covariance Examining Mean Differences for GTE item 3 Response Groups on Cultural Competence and Subscales

	Strongly Agree			Agree			Slightly Agree			Slightly Disagree			Disagree			<u>Strongly Disagree</u>			F	p
Constructs	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD		
Cultural Competence	68	115.11	14.38	121	112.96	15.96	137	113.93	15.81	95	110.52	15.50	135	111.35	16.52	44	110.00	15.84	1.28	.270
Individuation	68	28.50	5.77	121	26.41	6.75	137	26.42	5.71	95	25.66	6.03	135	25.43	5.59	44	24.43	6.83	3.20	.007**
Dissonance	68	17.72	5.02	121	17.55	5.06	137	17.93	4.91	95	16.49	5.02	135	16.75	5.09	44	16.07	5.06	1.86	.100
Immersion	68	17.91	4.88	121	17.34	5.92	137	17.41	5.51	95	17.15	5.18	135	18.02	5.52	44	16.75	5.65	.603	.698
Internalization	68	22.09	5.84	121	21.47	5.75	137	22.47	6.31	95	21.01	6.28	135	20.90	6.28	44	21.75	6.49	1.13	.344
Integration	68	28.90	4.90	121	30.18	4.19	137	29.69	4.22	95	30.20	4.03	135	30.24	4.13	44	31.00	5.48	1.75	.121

Note. GTE item 3: If students are not disciplined at home, they are not likely to accept my discipline. Means reported are actual means, not the adjusted means. Covariates included teaching experience, class size, classroom diversity, and diversity professional development. Participants who “strongly agree” had a rating of 1 on this Likert scale, which indicates a low sense of general teaching efficacy on this particular belief. Participants who strongly disagreed with this item had a rating of 6, which corresponds to a high level of general teaching efficacy for this particular belief.

*F is significant beyond $p = .05$.

**F is significant beyond $p = .01$.

Appendix H

Table 19

Analysis of Covariance for relationship between response to GTE item 4 and Cultural Competence Total Scores and Subscale Scores

	Strongly Agree			Agree			Slightly Agree			Slightly Disagree			Disagree			Strongly Disagree				
Constructs	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD	F	p
Cultural Competence	17	124.59	14.59	63	112.79	12.45	161	113.45	15.81	125	113.87	15.99	180	110.69	16.22	54	107.91	16.02	3.87	.002**
Individuation	17	30.53	8.09	63	27.65	6.20	161	26.98	5.76	125	26.22	5.67	180	25.22	6.02	54	23.70	6.26	5.71	.000**
Dissonance	17	20.06	5.62	63	16.84	4.49	161	17.55	5.19	125	17.71	5.12	180	16.66	4.98	54	16.30	4.69	2.29	.044*
Immersion	17	18.24	4.93	63	17.78	5.23	161	17.73	5.67	125	18.30	5.15	180	17.01	5.49	54	16.06	5.85	1.76	.120
Internalization	17	24.76	4.49	63	20.90	5.16	161	21.66	6.09	125	22.19	6.37	180	21.28	6.26	54	20.81	6.80	1.60	.159
Integration	17	31.00	4.78	63	29.62	4.47	161	29.53	4.27	125	29.46	4.19	180	30.53	4.26	54	31.03	4.85	2.11	.063

Note. GTE item 4: A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement. Means reported are actual means, not the adjusted means. Covariates included teaching experience, class size, classroom diversity, and diversity professional development. Participants who "strongly agree" had a rating of 1 on this Likert scale, which indicates a low sense of general teaching efficacy on this particular belief. Participants who strongly disagreed with this item had a rating of 6, which corresponds to a high level of general teaching efficacy for this particular belief.

*F is significant beyond $p = .05$.

**F is significant beyond $p = .01$.

Appendix I

Table 20

Analysis of Covariance for relationship between response to GTE item 7 and Cultural Competence Total Scores and Subscale Scores

	Strongly Agree			Agree			Slightly Agree			Slightly Disagree			Disagree			Strongly Disagree				
Constructs	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD	N	X	SD	F	p
Cultural Competence	35	114.11	15.49	130	116.08	16.99	150	114.85	15.83	93	108.47	14.77	155	109.12	13.88	37	112.49	18.01	4.67	.000**
Individuation	35	26.37	7.96	130	27.32	5.92	150	27.05	6.03	93	25.74	5.61	155	24.57	6.04	37	26.11	5.38	3.77	.002**
Dissonance	35	16.57	4.71	130	18.36	5.45	150	17.61	4.96	93	16.28	4.69	155	16.45	4.56	37	17.54	6.12	2.96	.012*
Immersion	35	18.03	6.57	130	17.88	5.91	150	18.51	5.00	93	15.99	5.26	155	16.93	4.84	37	17.78	6.86	2.92	.013*
Internalization	35	22.74	5.97	130	22.55	6.59	150	21.93	6.12	93	20.65	6.02	155	20.82	5.67	37	21.32	6.75	1.93	.088
Integration	35	30.40	4.38	130	29.97	4.75	150	29.75	4.28	93	29.81	4.23	155	30.35	4.30	37	29.73	4.03	.401	.848

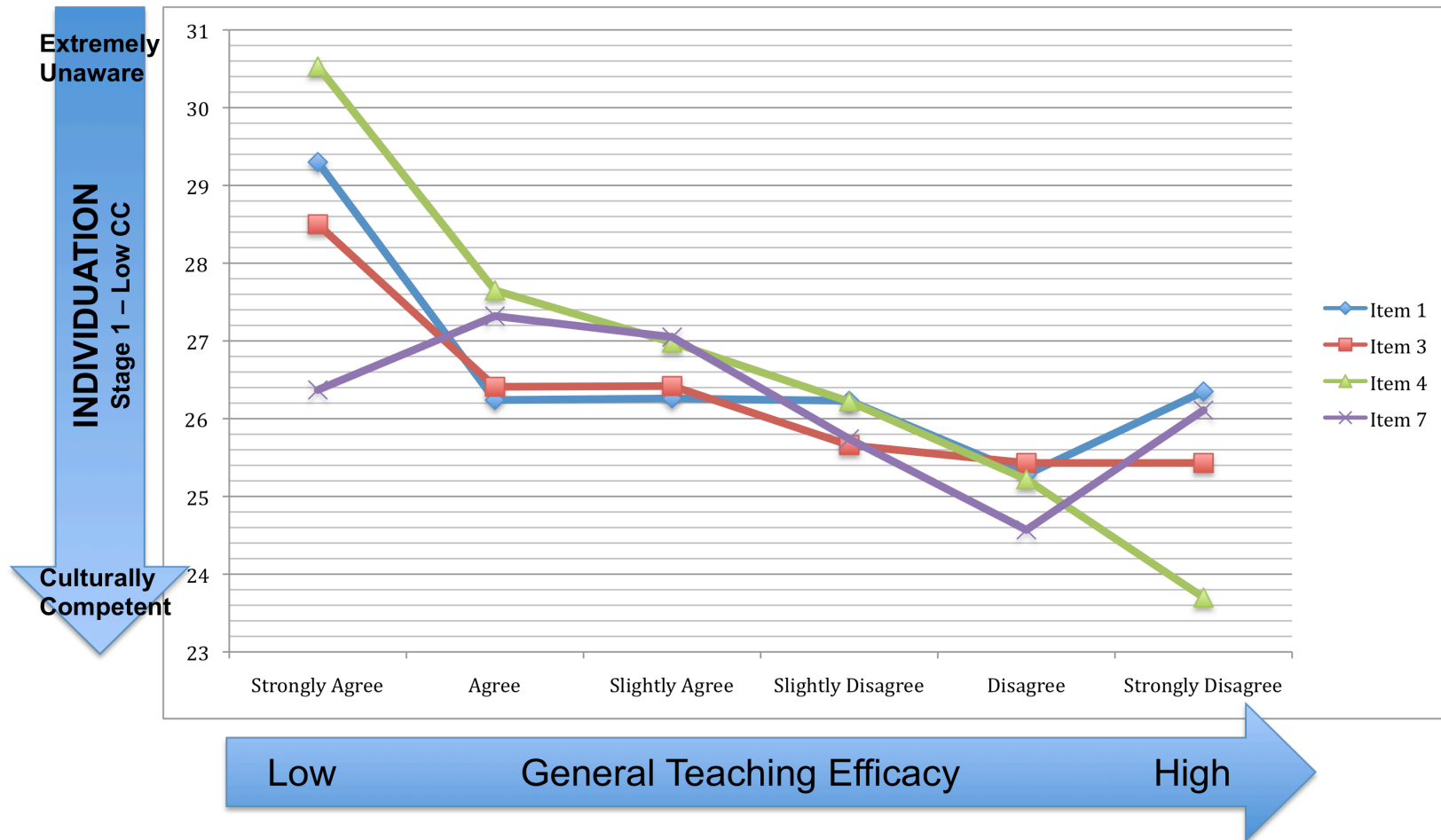
Note. GTE item 7: Even a teacher with good teaching abilities may not reach many students. Means reported are actual means, not the adjusted means. Covariates included teaching experience, class size, classroom diversity, and diversity professional development. Participants who “strongly agree” had a rating of 1 on this Likert scale, which indicates a low sense of general teaching efficacy for this particular belief. Participants who strongly disagreed with this item had a rating of 6, which corresponds to a high level of general teaching efficacy for this particular belief.

*F is significant beyond $p = .05$.

**F is significant beyond $p = .01$.

APPENDIX J

Levels of Affiliation with Individuation and Levels of General Teaching Efficacy Agreement



Appendix K

Assumptions Analyses for GTE item 1

Prior to evaluating the differences in cultural competence in relation to responses to GTE item 1 found in Appendix E, two assumptions supporting analysis of covariance were examined. Normality was supported by the Shapiro-Wilk test for each of the six levels, all p 's $> 0.05/6$. For homogeneity of variance, Levene's test indicated that the null hypothesis of homogeneity was retained; the variances for the six groups were not statistically different, $F(5,594) = .772$, $p = .607$, and p -value was evaluated at $\alpha = 0.05$.

For Individuation and GTE item 1 response groups, assumptions of normality were upheld through the Shapiro-Wilk test for all six levels, all p 's $> 0.05/6$. Levene's test indicated the assumption of homogeneity of variance was retained, $F(5,594) = 1.533$, $p = .178$. For Dissonance and GTE item 1 groups, normality was upheld for four groups, p 's $> 0.05/6$. Two groups, Disagree and Agree were statistically non-normal, p 's $< 0.05/6$.

For Immersion and GTE item 1 response groups, all groups demonstrated normality on the Shapiro-Wilk test, all p 's $> 0.05/6$. Levene's test indicated that the homogeneity of variance assumption was violated; variances for the six groups were statistically different, $F(5,594) = 3.96$, $p = .002$. For Internalization and GTE 1 item response groups, Shapiro-Wilk's test indicated normality for 5 groups, p 's $> 0.05/6$; the Agree group did not meet the normality assumption, $p < 0.05/6$. Levene's test for homogeneity of variance upheld the assumption, $F(5,594) = .911$, $p = .473$.

For Integration and GTE item 1 response groups, both assumptions of normality and homogeneity of variance were upheld through examination of Shapiro-Wilk's test (all p 's $> 0.05/6$) and Levene's test, $F(5,594) = 1.22$,

$p = .299$. ANCOVA tends to be robust to some violations of assumptions. However, a more stringent p -value must be used to evaluate tests of statistical significance.

Appendix L

Assumptions Analyses for GTE Item 3

Prior to evaluating the differences in cultural competence in relation to responses to GTE item 3, two assumptions supporting analysis of covariance were examined. Normality was supported by the Shapiro-Wilk test for each of the six levels, all p 's $> 0.05/6$. For homogeneity of variance, Levene's test indicated that assumption of homogeneity was retained, $F(5,594) = 1.005, p = .414$. For Individuation and GTE item 3 response groups, the assumption of normality were upheld through the Shapiro-Wilk test for five groups, all p 's $> 0.05/6$; the Disagree response group was non-normal, $p = .001$. Levene's test indicated the assumption of homogeneity of variance was retained, $F(5,594) = 1.82, p = .107$. For Dissonance and GTE item 3 groups, normality was upheld for four groups, p 's $> 0.05/6$. Two groups, Disagree and Agree were statistically non-normal, p 's $< 0.05/6$, which were the same non-normal groups for the previous analyses. Homogeneity of variance was upheld through inspection of Levene's test, $F(5,594) = .078, p = .996$.

For Immersion and GTE item 3 response groups, all groups demonstrated normality on the Shapiro-Wilk test, all p 's $> 0.05/6$. Levene's test indicated that the homogeneity of variance assumption was upheld, $F(5,594) = .567, p = .725$. For Internalization and GTE 3 item response groups, Shapiro-Wilk's test indicated normality for all six groups, p 's $> 0.05/6$. Levene's test for homogeneity of variance upheld the assumption, $F(5,594) = .623, p = .682$. For Integration and GTE item 3 response groups, both assumptions of normality and homogeneity of variance were upheld through examination of Shapiro-Wilk's test (all p 's $> 0.05/6$) and Levene's test, $F(5,594) = 2.02$,

$p = .074$. ANCOVA tends to be robust to some violations of assumptions, though, a more stringent p -value must be used to evaluate tests of statistical significance.

Appendix M

Assumptions Analyses for GTE Item 4

Before evaluating mean differences in cultural competence and constructs for GTE item 4 response groups, assumptions supporting analysis of covariance were examined. Normality was supported for cultural competence and GTE item 4 response groups by the Shapiro-Wilk test for each of the six groups, all p 's $> 0.05/6$. For homogeneity of variance, Levene's test indicated that assumption of homogeneity was upheld, $F(5,594) = 2.19, p = .054$. For Individuation and GTE item 4 response groups, the assumption of normality was upheld through the Shapiro-Wilk test for five groups, all p 's $> 0.05/6$; the Slightly Disagree response group was non-normal, $p = .003$. Levene's test indicated the assumption of homogeneity of variance was retained, $F(5,594) = 738, p = .595$. For Dissonance and GTE item 4 groups, normality was upheld for four groups, p 's $> 0.05/6$. Two groups, Slightly Disagree and Agree were statistically non-normal, p 's $< 0.05/6$; the Agree group was non-normal for the previous analyses as well. Homogeneity of variance was upheld through inspection of Levene's test, $F(5,594) = .671, p = .646$.

For Immersion and GTE item 3 response groups, five groups demonstrated normality on the Shapiro-Wilk test, p 's $> 0.05/6$; the Agree group was non-normal, $p = .007$. Levene's test indicated that the homogeneity of variance assumption was upheld, $F(5,594) = 1.06, p = .383$. For Internalization and GTE 4 item response groups, Shapiro-Wilk's test indicated normality for five groups, p 's $> 0.05/6$; the Agree group was non-normal, $p = .003$. Levene's test for homogeneity of variance upheld the assumption, $F(5,594) = 2.14, p = .060$. For Integration and GTE item 3 response groups, normality was supported for five groups, p 's $> 0.05/6$; the Strongly Agree group had a non-normal

distribution, $p = .006$. Homogeneity of variance was upheld through examination Levene's test, $F(5,594) = .331, p = .895$. As mentioned earlier, ANCOVA tends to be robust to some violations of assumptions, though, a more stringent p -value was used to evaluate tests of statistical significance.

Appendix N

Assumptions Analyses for GTE Item 7

Prior to evaluating the differences in cultural competence and constructs in relation to responses to GTE item 7, assumptions supporting analysis of covariance were examined. Normality was supported for cultural competence and GTE item 7 response groups by the Shapiro-Wilk test for each of the six levels, all p 's $> 0.05/6$. For homogeneity of variance, Levene's test indicated that assumption of homogeneity was upheld, $F(5,594) = 1.54, p = .177$. For Individuation and GTE item 7 response groups, the assumption of normality was upheld through the Shapiro-Wilk test all six groups, all p 's $> 0.05/6$. Levene's test indicated the assumption of homogeneity of variance was retained, $F(5,594) = 1.97, p = .082$. For Dissonance and GTE item 7 groups, normality was upheld for five groups, p 's $> 0.05/6$. The Disagree group was statistically non-normal, $p = .001$. Homogeneity of variance was violated which was observed in Levene's test, $F(5,594) = 2.38, p = .038$.

For Immersion and GTE item 7 response groups, five of the six groups demonstrated normality on the Shapiro-Wilk test, p 's $> 0.05/6$; the Agree group was non-normal, $p < .001$; this was non-normal in the previous analyses of GTE item 4 groups. Levene's test indicated that the homogeneity of variance assumption was violated, $F(5,594) = 2.66, p = .022$. For Internalization and GTE 7 item response groups, Shapiro-Wilk's test indicated normality for all six groups, p 's $> 0.05/6$. Levene's test for homogeneity of variance upheld the assumption, $F(5,594) = 1.46, p = .203$. For Integration and GTE item 7 response groups, normality was supported for five groups, p 's $> 0.05/6$; the Disagree group had a non-normal distribution, $p = .001$. Homogeneity of

variance was upheld through examination Levene's test, $F(5,594) = .256, p = .937$.

Although ANCOVA tends to be robust to some violations of assumptions, a more stringent p -value must be used to evaluate tests of statistical significance.

APPENDIX O

Self-Identity Inventory Item Bank with Stages

This is the original scale with all items from the first five constructs included. The number in parentheses indicates the level of cultural competence or level of multicultural identity development stage on the five-stage continuum of the OTAID model.

OTAID Model Stages:

- (1) Individuation – Lowest level of awareness - People are more likely to ascribe to group stereotypes and identify with mainstream culture.
- (2) Dissonance – Some awareness – People begin to understand that people are treated differently in society based on personal characteristics.
- (3) Immersion – Emerging awareness of oppression – Pride in one's own group, disdain for those who do not share similar views of oppression.
- (4) Internalization – Awareness of self and oppression – Beginning to understand how multicultural identities operate in a society with oppression.
- (5) Integration – Deep awareness of self and oppression – People recognize that the American social structure creates and perpetuates oppression. Differences are embraced.

Self-Identity Inventory Item Bank

1. I admire members of different cultures who adapt to the American way of life.
(1)
2. I am *just starting* to see that everyone is expected to follow the same rules even if they don't seem to be right for everyone. (2)
3. I am proud of parts of myself that I previously did not accept. (4)
4. I don't always do what my group expects me to, although I did so in the recent past. (4)
5. Whenever anyone tells a joke that puts down any group (e.g., gas, Jews, Native Americans, Poles, Italians), I voice my objections. (5)
6. I do not understand what social activist groups are trying to accomplish. (1)
7. I have a strong sense of inner security that comes from fully affirming all people. (5)
8. The different parts of my identity (e.g., race, sex) do not really affect who I am. (1)
9. What people do in private is their own business, but I wish gays and lesbians would keep their personal lives to themselves. (1)
10. People in the U.S.A. have been socialized to be oppressive. (5)
11. My oppressed identity does not primarily define who I am as it did in the past.
(4)
12. I am *starting* to feel angry about discrimination in this country. (2)
13. I *recently* realized for the first times that I was a target of discrimination, and it hurt. (2)

14. My identity as a member of my group is the most important part of who I am.
(3)
15. I primarily focus my political awareness and activity on issues facing
members of my group. (3)
16. It is all right when people tell jokes that are discriminatory as long as they are
meant to be funny and don't hurt anyone. (1)
17. I have a deep understanding of myself that comes from examining the
different parts of my identity. (5)
18. I would feel most comfortable working for a boss/supervisor who is a White
male. (1)
19. I am *just beginning* to realize that society doesn't value people like me. (2)
20. People in my group experience the most discrimination in this country. (3)
21. I'm not as angry at people outside my group as I used to be, but I still don't
socialize much with these people. (4)
22. I am *just starting* to see that certain people are expected to act in certain ways.
(2)
23. I feel intense excitement and pride when I think about my group. (3)
24. I have *recently* realized that society devalues parts of who I am. (2)
25. All people can succeed in this country if they word hard enough. (1)
26. I have not really examined in depth how I view the world. (1)
27. I feel sad when people tell jokes about oppressed groups because I know how
these jokes hurt people in those groups. (5).
28. I am who I am, so I don't think much about my identity. (1)

29. I would be happy if a member of my family were openly gay/lesbian/bisexual, regardless of my sexual orientation. (5)
30. Sometimes I get tired about people complaining about racism. (1)
31. I feel most connected to members of my own group. (3)
32. I actively support the rights of all oppressed groups (e.g., Jews, gays, Asian American, the elderly, people with disabilities, African Americans, Native Americans). (5)
33. I am *just beginning* to realize that society doesn't value people who are "different." (2)
34. Being with people from my group helps me feel better about myself. (3)
35. Issues facing my group are the most important in this country. (3)
36. I am *just starting* to see how my different identities affect me. (2)
37. I have not been oppressed or discriminated against. (1)
38. I am *starting* to realize I don't agree with some of society's standards. (2)
39. I *recently have* felt better about who I am because my group identity is clearer to me. (4)
40. Personally knowing people in other oppressed groups, I see how much we have in common. (5)
41. I am *starting* to see that people from some groups are treated differently in this society. (2)
42. I *recently* realized there are many parts of my identity, and I have accepted them as important parts of who I am. (4)
43. I feel most comfortable when I am with my group. (3)

44. I focus most of my time and efforts on issues facing my group. (3)
45. I *recently* realized I don't have to like every person in my group. (4)
46. Although I am concerned about other groups who are discriminated against, I
'm mostly concerned about my own group. (4)
47. I have difficulty trusting anyone outside my own group. (3)
48. I believe there is justice for all in the United States of American. (1)
49. I *recently* have started to question some of the values I grew up with. (2)
50. I feel connected to people from different groups. (5)
51. It's great for a woman to have a career, as long as she doesn't forget her
responsibilities as a homemaker, wife, and mother. (1)
52. I would have as a life partner a person of a different race. (5)
53. I *recently* have started to accept more people different from me, because I
feel good about myself. (4)
54. Most of my beliefs and views are similar to ones I grew up with. (1)
55. I have *recently* seen the depth to which oppression affects many groups. (4)
56. My relationships with others have been enhanced now that I see the
commonalities among us. (5)

APPENDIX P

School Districts Included in the Study

All participants were volunteers. Although a small percentage of randomly selected teachers from each of the following counties were invited to participate, the researcher cannot be sure that all counties were represented in the sample of respondents due to the anonymous data. Randomly selected teachers from some districts may not have responded.

1. Accomack County Public Schools
2. Albemarle County Public Schools
3. Alexandria City Public Schools
4. Allegheny County Public Schools
5. Amelia County Public Schools
6. Amherst County Public Schools
7. Arlington County Public Schools
8. Augusta County Public Schools
9. Bath County Public Schools
10. Buena Vista County Public Schools
11. Bedford County Public Schools
12. Bland County Public Schools
13. Botetourt County Public Schools
14. Bristol City Public Schools
15. Buchanan County Public Schools
16. Buckingham County Public Schools
17. Caroline County Public Schools
18. Carroll County Public Schools
19. Chesterfield County Public Schools
20. Clarke County Public Schools
21. Colonial Heights City Public Schools
22. Covington City Public Schools
23. Craig County Public Schools
24. Cumberland County Public Schools
25. Danville County Public Schools
26. Dickenson County Public Schools
27. Dinwiddie County Public Schools
28. Essex County Public Schools
29. Falls Church City Public Schools
30. Fauquier County Public Schools
31. Floyd County Public Schools
32. Fluvanna County Public Schools

33. Franklin City Public Schools
34. Franklin County Public Schools
35. Frederick County Public Schools
36. Galax City Public Schools
37. Giles County Public Schools
38. Gloucester County Public Schools
39. Grayson County Public Schools
40. Halifax County Public Schools
41. Hampton City Public Schools
42. Harrisonburg City Public Schools
43. Highland County Public Schools
44. Hopewell City Public Schools
45. Isle of Wight County Public Schools
46. King George County Public Schools
47. King William County Public Schools
48. King & Queen County Public Schools
49. Lancaster County Public Schools
50. Lee County Public Schools
51. Lexington City Public Schools
52. Lunenburg County Public Schools
53. Lynchburg City Public Schools
54. Manassas Park City Public Schools
55. Martinsville City Public Schools
56. Mecklenburg County Public Schools
57. Middlesex County Public Schools
58. Montgomery County Public Schools
59. Newport News City Public Schools
60. Norton City Public Schools
61. Orange County Public Schools
62. Page County Public Schools
63. Patrick County Public Schools
64. Petersburg City Public Schools
65. Pittsylvania County Public Schools
66. Poquoson County Public Schools
67. Portsmouth City Public Schools
68. Powhatan County Public Schools
69. Prince Edward County Public Schools
70. Prince George County Public Schools
71. Prince William County Public Schools
72. Pulaski County Public Schools
73. Radford County Public Schools
74. Roanoke County Public Schools
75. Rockbridge County Public Schools
76. Salem City Public Schools
77. Surry County Public Schools
78. West Point County Public Schools

- 79. Westmoreland County Public Schools
- 80. Williamsburg-James City County Public Schools
- 81. Winchester City Public Schools
- 82. Wythe County Public Schools