

MULTICULTURAL TEACHING COMPETENCE AND TEACHERS' ATTITUDES
TOWARD INCLUSION

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Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY
December, 2015

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ACKNOWLEDGEMENTS

In memory of Fred J. Munsell (1946-1994)

I'd like to extend a special thanks to all of the people who supported me in my journey toward obtaining my PhD. First, thank you to the members of my committee: Dr. YoonJung Cho, Dr. Jane S. Vogler, Dr. Denni Blum, and Dr. Kimberly B. Davis. Each of you inspired me in unique ways and provided me with invaluable guidance in my teaching and research endeavors. I appreciate the time you spent mentoring me and helping me navigate my way through graduate school and into my first faculty position. Thank you to my mom, Gay Munsell, for your unwavering support and enthusiasm. Thank you to my boyfriend, Jack Wright, for listening patiently as I talked about my research ad nauseam. Who knew you would learn so much about teachers' sense of efficacy? My sister, Shelby Parfait, deserves special thanks for her excellent proofreading and editing assistance. She caught mistakes that I missed countless times when reviewing my own work. Thank you to my uncle, Dr. Joe Crocker, for convincing me that getting a PhD was possible and that the process of going to graduate school could be just as rewarding as the end product. Thank you to Dr. Abe Marrero and Dr. Frank Elwell at Rogers State University for hiring me when I was ABD and having faith in my ability to work full-time while completing my dissertation. Finally, thank you to my fellow peers in the educational psychology PhD program for making the experience an enjoyable one.

Name: SONYA ERIN MUNSELL

Date of Degree: DECEMBER 2015

Title of Study: MULTICULTURAL TEACHING COMPETENCE AND TEACHERS'
ATTITUDES TOWARD INCLUSION

Major Field: EDUCATIONAL PSYCHOLOGY

Abstract: The primary purpose of this study was to examine the relationship between multicultural teaching competence (MTC) and teachers' attitudes toward inclusion. Specifically, this study tested whether MTC has an influence on teachers' attitudes toward inclusion over and beyond the influence of teachers' sense of efficacy (TSES). Further, the study explored two possible ways in which MTC and TSES, in tandem, affect teachers' attitudes toward inclusion. First, I tested the potential role of TSES as a moderator of the relationship between MTC and teachers' attitudes toward inclusion to examine whether TSES would strengthen the degree of association between the two variables. Second, I tested whether TSES would affect teachers' attitudes toward inclusion through the mediation effect of MTC.

The participants included 370 teachers currently employed in K-12 schools in the United States. Participants responded to measures of multicultural teaching competence, teachers' sense of efficacy, and attitudes toward inclusion. Additionally, each participant completed a short demographic survey. Results indicated that MTC was significantly related to teachers' attitudes toward inclusion even when controlling for TSES. Teachers' sense of efficacy did not moderate the relationship between MTC and teachers' attitudes toward inclusion. However, MTC did partially mediate the relationship between TSES and teachers' attitudes toward inclusion. Additionally, these results indicate a mechanism through which teachers' sense of efficacy affect multicultural teaching competence, which in turn affects teachers' attitudes toward inclusion.

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CHAPTER I

INTRODUCTION

Background to the Problem

Current U.S. teachers are tasked with instructing an increasingly diverse student body. These students not only differ in terms of their cultural, linguistic, and ethnic backgrounds (Brown, 2007; Koyama, Plash, & Davis, 2011-12), but also display varied cognitive, physical, and socio-emotional abilities (Gargiulo, 2012). One of the most daunting tasks for teacher education programs is preparing pre-service teachers who are both willing and able to educate diverse learners in diverse contexts (Chu, 2013; Villegas, 2008). In order to effectively educate diverse learners, teachers must understand and appreciate the challenges and opportunities that diversity brings to the classroom and be confident in their abilities to meet the unique learning needs of all students. Teachers who possess multicultural teaching competence and positive attitudes toward inclusion may be better equipped to serve the needs of diverse students. Given the increasing student diversity in K-12 classrooms and the growth of inclusive education, it is vital to conduct empirical research in the area of teachers' multicultural teaching competence and positive attitudes toward inclusion. Although a great deal of research has investigated pre-service teachers' multicultural teaching competence and attitudes toward inclusion, it

appears that no empirical research has examined these two important constructs in tandem. The following study focused on examining the relationship between in-service teachers' multicultural teaching competence and attitudes toward inclusion.

Theoretical Framework

Teachers' Attitudes toward Inclusion

Inclusion refers to the educational practice of including students with disabilities alongside their non-disabled peers in the general education setting. Since the advent of inclusion, numerous studies have focused on teachers' attitudes toward students with disabilities and, more specifically, toward the practice of inclusion itself. Researchers have examined the attitudes of pre-service teachers (O'Toole & Burke, 2013), student teachers (Beacham & Rouse, 2012; Hastings & Oakford, 2003), in-service special education teachers (Lifshitz, Glaubman, & Issawi, 2004), and in-service general education teachers (Lifshitz et al., 2004; MacFarlane & Woolfson, 2013). Central to this research has been an exploration of how pre-service and in-service teachers' attitudes toward inclusion are formed, ways in which teaching practices reflect these attitudes, and the types of student outcomes associated with teachers' attitudes (O'Toole & Burke, 2013).

Previous research has shown mixed results regarding the factors associated with teachers' attitudes toward inclusion. Some research has found that teachers' positive attitudes toward inclusion may be related to the individual student's type of disability (Avramidis, Bayliss, & Burden, 2000), previous in-service or pre-service training in the area of inclusive educational practices (Campbell, Gilmore, & Cuskelly, 2003; Shippen, Crites, Houchins, Ramsey & Simon, 2005), or support from administration and other teachers (Avramidis & Kalyva, 2007; Cagran & Schmidt, 2011; Cook, Semmel, & Gerber, 1999), while other

research has failed to establish such relationships. Research examining the relationship between teachers' attitudes toward inclusion and experience working with students with disabilities in the classroom is mixed (Brady & Woolfson, 2008). Some studies report that teachers' positive attitudes toward inclusion increase as they gain experience working with students with disabilities (Avramidis et al., 2000; Romi & Leyser, 2006), while other research has shown the opposite position (Soodak, Podell, & Lehman, 1998; Wilczenski, 1992) or demonstrated no relationship between teaching experience and attitudes toward inclusion (Villa, Thousand, Meyers, & Nevin, 1996).

It is important to note that much of the research on teachers' attitudes toward inclusion has been conducted on pre-service and student teachers. This research study adds to the literature by focusing specifically on the in-service teacher population. Prior educational research suggests that an individual's acquisition of knowledge, skills, and competence may fail to adequately predict his/her future behaviors and actions (Pajares, 1996). In the K-12 setting this means that the knowledge, skills, and competence pre-service teachers acquire in their teacher training programs may not accurately predict how they will behave once they have their own classrooms. Similarly, although measuring pre-service teachers' attitudes toward inclusion is important, it is not a foregone conclusion that these attitudes predict their feelings toward inclusion once they begin instructing students with and without disabilities in their classrooms. By specifically focusing on the in-service teacher population, researchers may gain a more accurate picture of classroom teachers' attitudes toward including students with disabilities in the classroom.

Relationship among Teachers' Sense of Efficacy, Multicultural Teaching Competence, and Attitudes toward Inclusion

It is important to continue to examine teachers' attitudes toward inclusion as they may function as pathways, or present major barriers, to promoting successful inclusive practices in the classroom (Avramidis et al., 2000; Chow & Winzer, 1992; DeBoer, Pijil, & Minnaert, 2011). As mentioned earlier, researchers have examined various antecedents of teachers' attitudes toward inclusion. Among the numerous variables examined as predictive of teachers' attitudes toward inclusion, teachers' sense of efficacy has been investigated frequently. Teachers' sense of efficacy has been examined as a predictor of pre-service and in-service teachers' attitudes toward inclusion, with several studies demonstrating the predictive utility of the construct (Cook et al., 1999; Glaubman & Lifshitz, 2001).

Interestingly, few studies have examined teachers' multicultural teaching competence (MTC) as a predictor of their attitudes toward inclusion. This examination is important for a number of reasons. First, multiculturally competent teaching practices and inclusive education are both designed to support the needs of diverse learners, thus striving to provide equal educational opportunities for all students and promote a sense of equity in the classroom. One of the characteristics that multiculturally competent teachers possess is the ability to provide students from culturally, linguistically, and ethnically diverse backgrounds varied opportunities to learn in ways that capitalize on their strengths while meeting their unique learning needs (Gay, 2003-04). The philosophy behind inclusion is also driven by a desire to meet the needs of students who may learn in different ways. As Friend & Bursuck, 1996 note, inclusion seeks to ensure that students with disabilities are able to participate as

full members of the classroom community while still having their special needs met in that environment.

Characteristics of multiculturally competent teachers, such as their ability to connect new information to learners' background knowledge (Rychly & Graves, 2012), promote educational equity (Gay, 2013), effectively differentiate instruction, respect differences, and consider various instructional perspectives (Cartledge et al., 2009), may also characterize teachers who support inclusion. Van Garderen and Whittaker (2006) note: "Although differentiated instruction, universal design for learning, and multicultural education are rarely discussed in an integrated manner, they can be viewed as *supportive theories with multiple converging concepts*" (p. 12). While the specific challenges and opportunities teachers encounter when working with students with disabilities may differ from those encountered when instructing culturally, linguistically, and ethnically diverse (CLD) learners, the adaptive behaviors they display in the classroom may reflect aspects of multicultural teaching competence (MTC). Based on this idea, I posited that teachers with high levels of MTC would be more likely to embrace a wide range of diversity, including diversity in terms of student ability, than those who possessed lower levels of MTC.

Multicultural teaching competence and attitudes toward inclusion are conceptually distinct but related constructs. Both concepts share common characteristics that focus on working with diverse learners, but they are also distinct in that teaching competence is domain and context specific. To illustrate, research suggests that general education teachers may effectively differentiate instruction for culturally, linguistically, and ethnically diverse learners, yet not possess confidence in their abilities to meet the learning needs of students with disabilities (Chu, 2013). Alternatively, special education teachers may be confident in

their abilities to address the intellectual needs of CLD students with disabilities yet feel inadequately prepared to teach in ways that meet students' unique cultural, linguistic, and ethnic needs (Artiles, Trent, & Palmer, 2004; Dominguez, 2003; Tyler, 2006). Teachers' perceptions of their abilities to meet these students' needs may reflect their overall feelings toward diverse learners.

These findings suggest that there may be instances when MTC does not predict teachers' attitudes toward inclusion. Because scant research has examined these two important constructs jointly, within the context of this research it was important to investigate whether the characteristics that embody MTC were associated with teachers' supportive attitudes toward inclusion. In light of the fact that students from culturally, linguistically, and ethnically diverse backgrounds represent a large portion of the special education population, conducting additional research in this area is warranted (Cartledge et al., 2009).

Role of Teachers' Sense of Efficacy in the Relationship between Multicultural Teaching Competence and Attitudes toward Inclusion

Teachers' sense of efficacy, defined as teachers' subjective perceptions of their abilities to instruct students (Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998), has been well-documented as a predictor of teachers' attitudes toward inclusion (Cook et al., 1999; Glaubman & Lifshitz, 2001; MacFarlane & Woolfson, 2013). Weisel and Dror's (2006) study of 117 primary school teachers in Israel revealed that teachers' sense of efficacy was the single most important predictor of teachers' attitudes toward inclusion. Stein and Wang (1988) found that teachers with high efficacy were more likely to modify their instructional methods and take responsibility for meeting the needs of students with disabilities in their classroom than their

less efficacious counterparts. Because of the influential role that teacher efficacy appears to play in predicting teachers' attitudes toward inclusion, it was important to begin the research process by examining the relationship between MTC and attitudes toward inclusion while holding teachers' sense of efficacy constant. Based on previous research, it was hypothesized that MTC and teachers' attitudes would be related to each other even when controlling for teachers' sense of efficacy.

Due to the fact that few studies have examined teachers' sense of efficacy in relation to both teachers' MTC and attitudes toward inclusion, examining the role of teachers' sense of efficacy in this manner was exploratory. It was suggested that teachers' sense of efficacy might serve as a moderator of the relationship between teachers' MTC and attitudes toward inclusion. I hypothesized that teachers' sense of efficacy might have a synergistic effect by intensifying the positive relationship or buffering the negative relationship between the two constructs. For instance, high levels of teacher efficacy might strengthen the positive effect of teachers' MTC on attitudes toward inclusion or compensate for the negative effect of low MTC on attitudes toward inclusion.

Research indicates that teachers' sense of efficacy may not only predict teachers' attitudes toward inclusion but may also predict teachers' levels of multicultural teaching competence (Tucker, Porter, Reinker, et al., 2005). Given that culturally and linguistically diverse learners continue to be overrepresented in special education and receive inadequate services in special education programs, it was important to better understand the relationship between teachers' sense of efficacy and teachers' attitudes toward inclusion. The present study explored the potential role of teachers' MTC as a mediator of the relationship between

TSES and attitudes toward inclusion. Teachers' strong sense of efficacy was purported to affect the development of MTC, which in turn would affect attitudes toward inclusion.

Definition of Key Terms

Attitudes toward inclusion: Teachers' thoughts, feelings, and behaviors toward including learners with disabilities in the general education setting (Mahat, 2008).

Multicultural teaching competence: Teachers' abilities to meet the needs of learners from culturally, ethnically, and/or linguistically diverse backgrounds.

Teachers' sense of efficacy: Teachers' perceptions of their abilities to meet the needs of all learners; tied to their perceptions of their abilities to manage student behavior, employ various instructional strategies to meet the needs of all learners, and engage all students in classroom activities (Tschannen-Moran & Woolfolk Hoy, 2001).

CLD learners: Learners whose cultural, ethnic, and/or linguistic characteristics differ from those of their European American counterparts (Cartledge, Gardner, & Ford, 2009).

Diverse learners: Learners whose cultural, ethnic, and/or linguistic characteristics differ from those of their European American counterparts and/or students who have been identified as having a disability and receive special education services.

Inclusion: The practice of including students with disabilities alongside their non-disabled counterparts in the social, physical, and curricular realms of the general education setting (Friend & Bursuck; Mahat, 2008).

Students with disabilities: Students in the K-12 setting who receive special education services in the classroom. Disabilities may include (but are not limited to) specific learning, and traumatic brain injuries.

This research study explored the following questions:

1. What is the relationship between teachers' multicultural teaching competence and attitudes toward inclusion when teachers' sense of efficacy is controlled for?
2. How does teachers' sense of efficacy moderate the relationship between teachers' multicultural teaching competence and attitudes toward inclusion?
3. How does MTC mediate the relationship between teachers' sense of efficacy and teachers' attitudes toward inclusion?

Chapter two will situate the key variables of this study in a historical context and examine recent literature in relationship to the study of these variables. Next, the instruments used to measure multicultural teaching competence, teachers' attitudes toward inclusion, and teachers' sense of efficacy will be introduced. The results of the data analyses will be presented in chapter four, with chapter five devoted to a discussion of the results, limitations of the study, and areas future researchers may wish to explore.

CHAPTER TWO

REVIEW OF LITERATURE

Changing Perceptions of "Disability"

Because the evolution of special education reflects society's changing views of disability, within the context of this paper it was important to examine the different ways that disability has been conceptualized in the United States. In the first half of the twentieth century, many parents of children with physical and/or intellectual disabilities were required to pay for special educational services for their children (Katsiyannis, Yell, & Bradley, 2001). Due to the prohibitive costs of these services, children with disabilities were often unable to receive an education. When a free public education was provided to children with disabilities, the instruction they received was often poor. Children were frequently instructed in rundown settings (Blanchett, 2009) and had little to no interaction with their non-disabled peers (Zigmond, Kloo, & Volonino, 2009). During this time, special education for children with disabilities was viewed not as a right, but as a privilege.

The Medical Model

The education of this era reflects the medical model of disability, which asserts that the difficulties individuals with disabilities face are a direct result of their physical and/or intellectual impairments. Viewed through the medical model lens, disability is seen as a deficit that is an immutable part of a person. Accordingly, these deficits can only be addressed and/or managed through appropriate diagnoses followed by the development and implementation of intensive treatment plans (Ashby, 2012). Critics of medical model of disability note that its oppressive nature serves to both segregate individuals with disabilities from mainstream society and marginalize these individuals (Swain & French, 2000).

Policy Prompts Changes

The first step toward holding U.S. society accountable for the education of all children began in 1954 with the *Brown v. Board of Education* decision. This legislative decision not only raised societal awareness of racial discrimination within the U.S. public school system, but also increased social awareness of the discrimination that children with disabilities faced in and out of the classroom. Parents and advocates of children with disabilities fought against what they perceived to be discriminatory practices by coming together to advocate for the establishment of federally funded educational programs to support the needs of school-aged children with disabilities (Blanchett & Shealey, 2005). The Elementary and Secondary Act of 1965 addressed some of their demands. The act mandated that federal funds be made available to states to improve the education of children who attended state schools for those referred to at that time as visually impaired, hearing impaired, and mentally retarded.

Although the education of children with disabilities was improving in the 1960s, parents and disability advocates continued to argue that these children were still being denied the right to equal access to education; a denial they deemed as a flagrant violation of the constitution (Turnbull & Turnbull, 2000). In response to this argument, Congress began making concerted efforts to more fully address the educational needs of children with disabilities. In 1970, the United States passed the Education of the Handicapped Act (EHA), which consolidated programs for the education of individuals with disabilities. The passage of this act required the public school system to provide special education teachers who were qualified to meet the needs of children with disabilities. In response, colleges and universities began designing courses to train teachers to work with students with disabilities. Courses were also designed to train researchers to conduct special education research in schools across the country (Kaff, Zabel, & Teagarden, 2011). Several key class action lawsuits passed during the 1970s (e.g. *PARC v. the Commonwealth* and *Mills v. the Board of Education*) served to further develop federal special education policies.

Section 504 of the Rehabilitation Act of 1973 was the first federal civil rights act that protected individuals with disabilities. Although much of the Act centered on ensuring the rights of adults with disabilities, it also addressed the education of children with disabilities in public schools. Section 504 required public schools to not only provide an education to children with disabilities but also mandated that this education be *comparable* to that of the education non-disabled students received in public schools (Katsiyannis et al., 2001). Two years later, the Education for All Handicapped Children Act (EHCA) was passed by Congress. As the first law *exclusively* addressing the needs of

students with disabilities, it ensured that all students with disabilities attending public schools in the United States were granted a free and appropriate education (FAPE). The landmark legislation passed during the 1970's demonstrated not only that the voices of the parents of children with disabilities and special education advocates had begun to be heard, but also that the medical model of disability was being challenged by society.

The 1990's and Beyond

The reauthorization of EHCA in 1990, renamed the Individuals with Disabilities Act (IDEA), expanded the disability categories that were included under the umbrella of special education, resulting in major changes in the manner in which students with disabilities were instructed in the classroom. The Act also mandated changes to the language educators used to describe individuals with disabilities. For instance, a child was no longer a "learning disabled student" but, instead, a "student with a learning disability" (LaNear & Frattura, 2007). This change in language conveyed an effort to recognize individuals with disabilities as people first.

When IDEA was reauthorized in 1997 it required that students with disabilities show demonstrable improvement in their educational achievement. This meant teachers were now required to devise measurable goals to track student progress throughout each academic year along with the methods that would be used to reach these annual goals. Consequently, increased emphasis was placed on tracking and improving student performance through the use of annual assessments.

In 2001, the Elementary and Secondary Act (which had initiated federally funded educational programs to support the needs of school-aged children with disabilities) was reauthorized as No Child Left Behind (NCLB). The Act was updated, adding a number of

requirements to ensure that students with disabilities were given access to the general education curriculum to the maximum extent possible and included in the general education environment whenever possible. These requirements resulted in the mainstreaming of many students with special needs, a practice known as inclusion (Yell, Katsiyannis, & Hazelkorn, 2007). This legislation had a profound effect on how all children (both those with and without disabilities) were instructed and assessed in the classroom.

The Social Model: A New Way of Viewing Disability

The sweeping changes that took place in special education from the 1960's through the first decade of the 21st century reflect a more modern view of disability, a view that is captured through the social model of disability. Individuals who ascribe to the social model view disability as something that "does not reside within the person but rather in the interaction with the larger social world" (Ashby, 2012, p.92). According to the social model, individuals with disabilities are not viewed as problems to be treated and managed by society. Instead, the social model focuses on examining and working to remove the social barriers (both external and attitudinal) that prevent individuals with disabilities from participating fully in society (Gill, 2001).

Out of this new social view of individuals with disabilities and shifts in educational policy grew a need to help educators navigate this uncharted territory. In response, preparation programs for special education teachers were further developed. As increasing numbers of children with disabilities started being educated in the general education classroom for some or all of the school day, growing numbers of colleges and universities also began to create new coursework to prepare future teachers to

successfully work with students with disabilities. Arguably, the best teacher education programs encouraged pre-service teachers to replace deficit (medical model) thinking with the idea that students with disabilities can learn alongside general education students (social model).

Paradoxically, as the social model of disability becomes a more common way to conceptualize disability on the societal level, the medical model of disability remains entrenched in the special education identification process. Notes Skritic (2005), special education is an institutional category that reflects the way that public education developed in response to increasing student diversity. In the public school system children with disabilities are not legally eligible to receive special education services until they have been labeled as "fundamentally different" from their non-disabled peers. Unfortunately, although children must receive a special education label in order to receive important support services, the effects of labeling may result in negative academic and achievement outcomes for this population. Research suggests that, once labeled, students risk being defined, and defining themselves, by the label they have been given (Ferri, 2012).

Current State of Special Education

Over time, changing views of disability prompted policies that gradually increased the amount of time students with disabilities spent in the general education classroom as well as the type of education they received. Nationwide, 12.9% of the public school student population receives special education services, with nearly half of these students spending at least 80% of their time in the general education classroom setting. Ninety-five percent of all general education teachers report that they currently

have (or have had) students with disabilities in their classrooms (U.S. Department of Education, 2015). Including students with disabilities in classes alongside their non-disabled peers is a practice known as inclusion. Caustin-Theoharis (2009) defines inclusion more specifically as "a way of thinking, a way of being, and a way of making decisions about helping everyone belong" (p. 43). As inclusion grows more common in the U.S. public school system, the number of students with disabilities receiving instruction in general education classrooms continues to increase.

For students with disabilities, inclusive education is thought to encourage academic growth and foster independence, while also providing important opportunities for them to interact with their non-disabled peers in the classroom setting. Ideally, the inclusive classroom should serve as a place where students with disabilities can be active participants in daily activities and allowed to be their full selves (Caustin-Theoharis, 2009). Unfortunately, increased access to the general education classroom environment and curriculum has not necessarily translated into improved learning and achievement outcomes for students with disabilities. Students with disabilities continue to demonstrate poorer academic performance, higher dropout rates (slightly more than half of all students with disabilities graduate from high school), and lower overall academic achievement compared to their non-disabled counterparts (Gargiulo, 2012; Richards, Brown, & Forde, 2007). Although a number of factors may be related to these negative outcomes, research suggests that one of the most salient factors is teacher's attitudes toward inclusion (Mahat, 2008; VanReusen, Shoho, & Barker, 2000).

Characteristics of Effective Teachers for Students with Diverse Needs

The Role of Teachers' Attitudes toward Inclusion

Several decades of research indicates that teachers' attitudes toward inclusive education affect the manner in which they instruct and interact with students with disabilities. Ultimately, these attitudes predict the success of inclusion efforts for students with and without disabilities (Chow & Winzer, 1992; Hayes & Gunn, 1988; Mahat, 2008; Villa, Thousand, Myers, & Nevin, 1996; Schumm & Vaughan, 1995; Van Reusen et al., 2000; Williams & Algozzine, 1977). Teachers with positive attitudes toward inclusion appear to foster optimal achievement and learning outcomes for all students, while those less receptive to inclusion may employ maladaptive teaching strategies and behaviors that lead to negative outcomes for students with disabilities (Mahat, 2008).

Because attitudes toward inclusion play such a large role in predicting teachers' instructional practices (which, in turn, influence the learning and achievement of students with disabilities), it is important to better understand the factors associated with teachers' positive attitudes toward inclusion. Past research has identified *teacher efficacy* (Glaubman & Lifshitz, 2001; MacFarlane & Woolfson, 2013), *pre-service teacher training* (Siwatu, 2007; Symeonidou & Phtiaka, 2009), *exposure to participative programs in inclusive education* (Cho & DeCastro-Ambrosetti, 2005-06), *years of classroom experience* (Romi & Leyser, 2006; Symeonidou & Phtiaka, 2009), and *administrative support* (Avramadis & Kalyva, 2007; Cagran & Schmidt, 2011; Cook et al., 1999) as predictors of positive attitudes toward inclusion.

Given the relationship between teachers' attitudes and successful outcomes for inclusive education over the past 35 years, a number of instruments have been developed

by researchers to measure teachers' attitudes toward inclusion. Some of the most well-known instruments include the *Opinions Relative to Mainstreaming Scale* (Antonak & Larrivee, 1995; Larrivee & Cook, 1979); *Attitudes toward Inclusive Education Scale*; (Wilczenski, 1992); *Attitudes toward Mainstreaming Scale* (Berryman & Neal, 1980); *Educational Attitudes Survey* (Reynolds & Greco, 1980); *Scale of Teachers' Attitudes toward Inclusion* (Cochran, 1997); and Avramidis et al.'s (2000) revised and expanded version of the *Opinions Relative to Mainstreaming Scale*.

Unfortunately, many of the instruments used to measure teachers' attitudes toward inclusion lack sound psychometric properties. The properties of the instruments measuring the construct are frequently not reported in full or are unclear. Additionally, the majority of the instruments used to measure inclusive attitudes are one dimensional, with most measuring a single facet of attitudes, namely cognition (e.g. Berryman & Neal, 1980; Wilczenski, 1992). It is noteworthy that only three instruments appear to recognize that inherent complexity of attitudes toward inclusion. The *Multidimensional Attitudes toward Inclusive Education Scale* (Mahat, 2008); *Scale of Teachers' Attitudes toward Inclusion* (Cochran, 1997); and Avramidis et al.'s (2000) revised and extended version of the *Opinions Relative to Mainstreaming Scale* measure three key multi-dimensional aspects (specifically affect, cognition, and behavior) of teachers' attitudes toward inclusion.

Mahat's (2008) *Multidimensional Attitudes toward Inclusive Education Scale* (MATIES) was chosen for this study because it measures three key aspects of teachers' attitudes toward inclusion within the realm of physical, social, and curricular inclusion.

By measuring attitudes across a variety of contexts, it is posited that researchers will be able to attain a more complete and accurate picture of teachers' attitudes toward inclusion.

Based on the research presented, it should be evident that measuring teachers' attitudes toward inclusion in a multi-dimensional manner is important. Additionally, it should be clear that teachers' attitudes toward inclusion may influence both the short and long-term academic and achievement outcomes of students with disabilities. However, it is important to refrain from rushing to the conclusion that teachers' attitudes toward inclusion are the sole determinants of the success of teachers' efforts to promote physical, social, and curricular inclusion in the classroom. In order for classroom instruction to be effective for all students, teachers must also possess competence to instruct diverse learners.

The Need for Multicultural Teaching Competence

Just as the numbers of students with disabilities attending U.S. public schools have increased, so too have the numbers of students with cultural, linguistic, and ethnic differences. U.S. Census Bureau statistics (2009) indicated that one in five children in the United States speaks a language other than English at home. By 2050 it is predicted that ethnic minority students will compose one-half of the U.S. public school population. However, although the current U.S. public school student population is growing increasingly heterogeneous, the teaching force remains surprisingly homogeneous. Eighty-three percent of current U.S. teachers are non-Hispanic whites (Boser, 2011) and 70% of the teaching force is female (National Education Association, 2010). These statistics have changed very little in the past twenty years. The majority of individuals

preparing to enter the teaching profession continue to reflect homogeneity in terms of ethnicity, race, and gender.

Differences between teachers' and students' cultural backgrounds can present communication challenges that may lead to serious misunderstandings in the classroom (Garcia & Guerra, 2004). Teachers may punish students for exhibiting behaviors they deem inappropriate within the school context, even though these same behaviors are considered appropriate, and sometimes optimal, for children to exhibit at home. For instance, socially demonstrative behavior, while regarded as a cultural tendency within the African American male community (Ishii-Jordan, 1997), may not be recognized as such by public school classroom teachers. As a result, African American male students may be punished with culturally biased disciplinary practices, such as detention or suspension. These so-called inappropriate behaviors may also lead teachers to erroneously refer African American males for special education testing (Cartledge & Kourea, 2008). In fact, research suggests that the over-identification of African American males as emotionally disturbed may be more indicative of cultural misunderstandings between students and teachers than of the actual presence of a disability (Hosp & Reschly, 2004).

Teachers may also struggle to understand and meet the needs of ever-increasing numbers of English language learners (ELL students) in the U.S. public school system. Teachers may attribute ELL students' apparent challenges in the classroom to low ability and not, as is frequently the case, simply a sign of their struggle to acquire a second language. Once a teacher believes that an ELL student possesses low ability, she may lower her expectations of the student, spend less time directly instructing the student,

and/or place fewer academic demands on the student (Chu, 2013). Research indicates that teachers refer ELL students for special education testing at a higher rate than their European American, English-speaking counterparts (McCollin & O'Shea, 2005). Once students are referred for testing, they are likely to receive a special education label that remains with them throughout their K-12 careers.

So, why are some teachers able to successfully instruct CLD learners while others are unable to do so? One theory is that teachers' abilities to meet the needs of CLD learners are related to their levels of *multicultural teaching competence*. Broadly defined, multicultural teaching competence (MTC) is teachers' ability to work successfully with students from diverse cultural, linguistic, and ethnic backgrounds. Over the years, several instruments have been created to measure MTC as a construct. Similar to the instruments used to measure teachers' attitudes toward inclusion, many of these instruments lack sound psychometric properties (Burstein & Cabello, 1989; Burstein, Cabello, & Hamann, 1993; Sue et al., 1982) or have offered, at best, inconclusive results (Ocampo et al., 2003; Prieto, 2012; Spanierman, Oh, & Heppner, 2011).

Another limitation of the instruments used to examine MTC is their failure to recognize the multi-faceted nature of the construct. Several of the instruments are one dimensional, with the majority measuring only the cognitive components of the construct. Others are two dimensional, consisting primarily of cognitive and behavioral subscales. Interestingly, although multicultural affective competence has been shown to play an important role in teachers' multicultural competence (DeMuse & Hostager, 2001; Stanley, 1996) it is a neglected area in most cultural competence research.

According to Yang, Cho, & Cox (2013) multicultural teaching competence (MTC) refers to how teachers think about, feel, and behave toward students from culturally, linguistically, and ethnically diverse backgrounds. Teachers with high levels of MTC are able to combine their positive feelings about diversity with teaching practices that support CLD learners in ways that result in effective classroom instruction for all students. These teachers are 1) aware of their own cultural views and biases; 2) knowledgeable of ways to integrate diversity into multiple aspects of classroom content; and 3) understand how to use their instructional skills in ways that empower students and facilitate the learning process. Yang et al.'s (2013) instrument, the Multicultural Teaching Inventory (MTI), was used for this study because it exhibits sound psychometric properties and captures the important affective, behavioral, and cognitive components of MTC.

Multicultural Teaching Competence and Attitudes toward Inclusion

In the context of this research it was posited that teachers' positive attitudes toward inclusion were related to teachers' adoption of a broad concept of diversity; a conceptualization that would lead to a full understanding of multicultural teaching. Because students from diverse backgrounds include not only students with disabilities but also learners with cultural, linguistic, and ethnic differences, this understanding is particularly important. Although teachers' multicultural teaching competence could be related to teachers' attitudes toward inclusion, scant research has examined the manner in which teachers' multicultural teaching competence might predict teachers' attitudes toward inclusion.

Examining how MTC may predict teachers' attitudes toward inclusion was warranted for several reasons. First of all, research suggests that instructional characteristics of multiculturally competent teachers, such as their ability to differentiate instruction, engage learners, and positively address behavior issues, may also be common to teachers with positive attitudes toward inclusion (Cartledge et al., 2008). Secondly, culturally, linguistically, and ethnically diverse (CLD) learners are at risk for inaccurate placement in special education programs (Gay, 2002). For instance, an English language learner may be placed in a special education program for a learning disability in reading when, in fact, the student has mastered his first language and is simply struggling to acquire a second one. Artiles and Trent (1994) noted that although literature consistently supported "a correlation between ethnicity, school failure, and placement in special education programs...this intricate interaction of variables has not yet been explained satisfactorily" (p. 42). Over 20 years later, researchers are still struggling to make sense of this correlation.

Literature suggests that teachers' attitudes toward inclusion and multicultural teaching competence are related but separate constructs capturing different aspects of diversity (e.g., Gao & Mager, 2012). In short, neither the constructs of multicultural teaching competence nor teachers' attitudes toward inclusion can fully capture teachers' overall competence to work with diverse learners. For example, a teacher who effectively educates culturally, linguistically, and ethnically diverse learners may not possess the competence to educate students with disabilities. While the teacher may successfully differentiate her instruction in ways that meet her students' varied cultural needs, she may not feel comfortable or equipped with the skills to modify coursework for her students

with learning disabilities. As a result, this teacher may not possess positive attitudes toward inclusion. Conversely, a teacher may feel confident in her abilities to include students with severe/profound disabilities in classroom activities yet waiver in her confidence to engage students who are English language learners in daily work. This teacher may possess positive attitudes toward inclusion, yet possess low levels of multicultural competence (Chu, 2013).

Although researchers have examined both MTC and attitudes toward inclusion separately, the constructs have not been examined simultaneously. In the context of this research it was posited that teachers with high MTC would be more likely to embrace a wide range of diversity, thereby being more receptive to the idea of working with students with disabilities in the classroom. This research added to the literature by examining the predictive utility of MTC toward teachers' attitudes toward inclusion. It also added to current research by examining the complex role that teachers' sense of efficacy might play in terms of this relationship.

The Complexity of Teacher Effectiveness

Teachers' Sense of Efficacy in the Relationship between Multicultural Teaching Competence and Attitudes toward Inclusion

In order to understand teachers' sense of efficacy, it is important to briefly describe self-efficacy as a construct and explain how teachers' sense of efficacy grew from this construct. According to Bandura (1977), self-efficacy refers to an individual's judgments of her ability to act in ways that attain designated types of performance. Early research suggested that high self-efficacy was linked to high outcome expectations, while low self-efficacy was linked to low outcome expectations. However, Bandura

acknowledged that there were instances when external forces could cause individuals with high self-efficacy to adopt low outcome expectations and vice versa. Because of this, he theorized that an individual's outcome judgments and efficacy beliefs should not be viewed in terms of high and low, but instead be viewed as existing on a continuum.

Research indicates that teachers' sense of efficacy, defined as teachers' perceptions of their abilities to effectively educate students, plays an important role in shaping students' academic, social, and emotional outcomes (Gibson & Dembo, 1984; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Teachers with high levels of teaching efficacy are also more likely to encourage their students' ideas, address their students' needs, and create a positive classroom environment. These adaptive teaching behaviors have a positive impact on student learning and motivation. Furthermore, teachers with high efficacy are more willing and better able to meet the learning needs of students with disabilities than their less efficacious counterparts (MacFarlane & Woolfson, 2013; Umhoefer, Beyer, and Vargas, 2013). Highly efficacious teachers make accommodations and modifications for students with special needs and devote extra time to working with struggling students. Teachers with high efficacy also successfully recognize and address challenges in the inclusive classroom while working to develop the instructional approaches that will be most effective for the population of students they serve (MacFarlane & Woolfson, 2013; Umhoefer et al., 2013).

In contrast, teachers with low levels of efficacy are less flexible in their instructional approaches. Teachers with low efficacy tend to employ rigid and prescribed teaching practices in the classroom. They are less likely to persist in working with

struggling students, find additional teaching material that might foster student understanding, or re-teach material in novel ways. Research suggests that these inflexible teaching methods undermine students' cognitive achievement and often lead to negative achievement outcomes for all students (Schunk, Pintrich, & Meece, 2008).

Research also suggests a relationship between teachers' levels of efficacy and their abilities to educate diverse learners. Teachers with low efficacy frequently harbor low expectations for students from culturally, linguistically, and/or ethnically diverse backgrounds (e.g., Guerra, Attar, & Weissberg, 1997). These low expectations, in turn, often lead to poor achievement and learning outcomes for CLD learners and higher levels of placement in special education programs when compared to their European American peers. The practices of highly efficacious teachers, on the other hand, appear to support the needs of CLD learners. Several studies have addressed the role of teachers' sense of efficacy when working with CLD learners (Siwatu, 2007; Tucker et al., 2005). Tucker et al.'s (2005) research indicates that focusing on teachers' sense of efficacy in teacher training programs may help develop teachers who are better able to interact with, and advance the achievement of, CLD learners. Literature indicates that teachers' sense of efficacy and their attitudes toward including students with disabilities in the classroom may also be related constructs. MacFarlane and Woolfson (2013) used Ajzen's (1991) theory of planned behavior as a framework for examining general education teachers' attitudes and behaviors toward students with social, emotional, and behavioral disorders. Their study revealed that levels of instructional efficacy and years of teaching experience were related to teachers' willingness to work with students with disabilities.

Taken together, neither knowledge of multicultural teaching practices, belief in the positive outcomes of culturally responsive teaching, nor demonstration of competence to work with CLD learners as pre-service teachers is enough to guarantee MTC in the classroom (Siwatu, 2007; Wasonga, 2005;). Teachers must also believe in their own competence. As Chu (2013) notes: "Although there have been numerous ethnographic and qualitative studies (e.g. Ladson-Billings, 1994) describing what culturally responsive teaching 'looks like', there is little information on how teachers develop cultural responsiveness or how it related to teacher efficacy" (p. 391). Within the context of this research, therefore, it was essential to examine the potential role of teachers' sense of efficacy in the relationship between teachers' multicultural teaching competence and attitudes toward inclusion.

Research suggests that teachers with high efficacy exhibit adaptive instructional behaviors that facilitate the learning of students with disabilities and/or CLD learners. Additionally, highly efficacious teachers may demonstrate positive attitudes toward one or both types of learners. Because of this, it was important to control for teachers' sense of efficacy when examining the relationship between multicultural teaching competence and teachers' attitudes toward inclusion. At the same time, it was important to examine the potential role of 1) teachers' sense of efficacy as a moderator of the relationship between teachers' multicultural teaching competence and attitudes toward inclusion and 2) multicultural teaching competence as a mediator of the relationship between teachers' sense of efficacy and their attitudes toward inclusion.

CHAPTER III

METHODOLOGY

This chapter describes the study design and the methods that were used to gather and analyze the research data. The chapter begins by identifying the participants, defining the measures used in the study, and describing the procedures that were used for data collection. Next, the chapter details the methods used to test the main hypothesis and exploratory questions as well as the methods used to analyze the data in this study. Finally, a complete data analysis is included.

Participants

Once IRB approval was obtained, potential participants were contacted by the researcher, who sent them a survey link via e-mail and social media. The individuals who received the survey link were asked to forward the survey to other K-12 teachers that they knew. In doing so, a purposive snowball method was employed. Participants were also contacted through various listservs, including the Oklahoma Open Teacher Records listserv. Although the researcher received IRB approval to contact principals and superintendents for permission to survey their teachers either online or face to face, the high response rate received from online participants did not necessitate this contact.

Participants completed online surveys designed to assess their multicultural competence, teaching efficacy, and attitudes toward inclusion. The order of the three measures was randomized, as were the individual questions within each measure. After completing the three measures, participants completed a short demographic survey. Following this, participants were asked if they wanted to be included in a drawing to win one of 15 \$20 Amazon gift cards. Those who were interested clicked on a link that took them to a separate page (unconnected to their survey responses) where they were able to type their e-mail addresses.

Of the individuals who received a link to the survey, 545 teachers began the survey, 370 teachers completed more than half of the survey, and 337 participants completed the entire survey. A decision was made to include data from the 370 participants who answered at least half of the survey questions. The statistics that follow are the “valid percentages” as listed in the SPSS output. The valid percentages were used because there was some missing data in the demographic portion of the survey. The demographic characteristics of the participants are located in Table 1.

Table 1. Demographic Characteristics

Gender

82.4% Female
17.6% Male

Type of Teacher

82.7% General Education
17.3% Special Education

Age of Teacher

5.3% between 21-25 years old
8.8% between 26-30 years old
13.5% between 31-35 years old
10.9% between 36-40 years old
14.1% between 41-45 years old
11.4% between 46-50 years old
36.1% over 50 years old

Years Working as a K-12 Teacher

1.2% less than 1 year
21.2% between 1-5 years
19.5% between 6-10 years
17.1% between 11-15 years
12.7% between 16-20 years
28.3% over 20 years

Type of School

96.8% Public School
48.4% Suburban
36.6% Rural
15% Urban

Community where School is Located

36.6% Rural area
48.4% Suburban area
15.0% Urban area

First Teaching Certification Obtained

37.4% within the last 10 years
28.8% between 11-20 years ago
33.8% over 20 years ago

Type of Teacher

40.27% K-5 Teacher
59.73% 6-12 Teacher

Where Students with Disabilities are Served*

13.4% General education classroom all day
44.7% General education classroom with special education pull out
*Remaining teachers listed a combination of placements

Years' Experience Including Students with Disabilities in the Classroom

1.2% less than 1 year
23.5% between 1-5 years
21.4% between 6-10 years
15.8% between 11-15 years
14.0% between 16-20 years
24.1% over 20 years

Grades Taught

40.27% K-5
59.73% 6-12

Pre-service Courses Related to Working with CLD Learners

26.5% none
50.3% 1-2 courses
14.3% 3 or more courses

Pre-service Courses Related to Working with Learners with Disabilities

17.1% none
57.4% 1-2 courses
25.5% 3 or more courses

Amount of Support School Provides for Teachers Related to Working with Learners with Disabilities

3.6% none
67.1% some
29.4% a lot

Amount of Support School Provides for Teachers Related to Working with CLD Learners

18.7% none
69.1% some
29.4% a lot

95% Interact with Students with Disabilities on a Daily Basis

8.7% Plan to Pursue Special Education Certification

*Interactions with Students with Disabilities Take Place in Multiple Environments

Measures

Three questionnaires were used to measure the following three key constructs: multicultural teaching competence, teachers' attitudes toward inclusion, and teachers' sense of efficacy. The Multicultural Teaching Inventory was used to assess teachers' competence to work with culturally, linguistically, and ethnically diverse learners (Yang et al., 2013). The Multidimensional Attitudes toward Inclusive Education Scale was used to measure teachers' attitudes toward inclusion (Mahat, 2008). Third, the Teachers' Sense of Efficacy short form was used to measure teachers' perceptions of their abilities to meet the needs of all learners (Tshannen-Moran & Woolfolk Hoy, 2001). In addition to completing these measures, participants were asked to complete a short demographic questionnaire. Each of the measures and their psychometric properties are discussed in the following sections.

Multicultural Teaching Competence

The Multicultural Teaching Inventory (MTI) is a multidimensional instrument based on an ABC (affect, behavior, and cognition) model of multicultural teaching competence (Yang et al., 2013). The MTI is the first instrument to date that appears to measure multicultural teaching competence in a psychometrically sound manner while simultaneously capturing the multi-faceted nature of the construct. The MTI has been piloted on the pre-service and student teacher population but has not been used with the in-service teacher population. This study will fill a gap in the literature by using the MTI to measure in-service teachers' levels of multicultural teaching competence.

The MTI is based on the notion that teachers with high levels of MTC are affectively, behaviorally, and cognitively competent. According to Yang et al. (2013)

teachers with affective MTC perceive CLD learners positively and react to them in ways that are both empathetic and authentic. Teachers with high levels of behavioral MTC behave in ways that support the needs of all learners. The third dimension of the MTI measures the cognitive component of MTC, namely how teachers conceptualize and think about multicultural issues. The three subscales of the MTI draw on the theoretical work of Banks (1991 & 1993); Bennett (1993); Camphina-Bacote (1998); NCATE (2008); and Sue, Arrendondo, & McDavis (1992).

There are a total of 18 items on the MTI. The response to each item is indicated on a Likert scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree). Participants' ratings of each aspect of multicultural teaching competence were averaged to obtain the scores for each subscale. Sample items from the MTI include: "Student diversity is stressful for me" (affective subscale); "I help students work through problem situations caused by stereotypical attitudes toward cultural differences" (behavioral subscale); "Understanding how a student is both similar and different from me helps me get to know him or her" (cognitive subscale). All six items on the affective subscale are reverse scored. Yang et al.'s (2013) pilot study of the MTI revealed acceptable internal consistency for each of the three aspects of teachers' multicultural teaching competence. Cognitive, affective, and behavioral subscales yielded Cronbach's alphas of .83, .84, and .75 respectively. The data for the current study revealed acceptable reliability coefficients for the affective and cognitive components, with both yielding a Cronbach's alpha of .83.

A factor analysis was conducted using principal-axis factoring along with oblimin rotation. During the analysis, factors that exceeded Eigen values greater than one were

retained. In addition, a scree plot was examined. The result of this analysis indicated a two-factor structure. The six affective component items loaded on the first factor and the six cognitive component items loaded on the second factor. Factor loading criteria of .30 was used. Loadings for the items on the two different factors ranged from .452 to .816, with the majority of items exceeding .5. The two factors (affective MTC and cognitive MTC) ultimately accounted for 56.2% of the item variance. A pattern matrix with the item loadings for each of the two factors and a scree plot can be found in the appendix.

Teachers' Attitudes toward Inclusion

The MATIES (Mahat, 2008) is unique in that it measures teachers' affective, cognitive, and behavioral attitudes toward inclusion within three different realms. Items for the MATIES were developed based on Ajzen's (1991) theory of planned behavior. Ajzen's theory posits that behavior intent is the most important determinant of a person's behavior and that, specifically, three independent determinants of intentions exist: attitudes toward the behavior, degree of perceived behavior control, and subjective norms. Since its appearance in 1991, Ajzen's theory of planned behavior has been used extensively in educational research. Researchers have used the theory as a lens through which to examine K-12 in-service teachers' instructional beliefs and intentions (Underwood, 2012). The theory has also been used as a basis for examining teaching practices of physical education teachers who work with students with disabilities (Wang, L., Wang, M., Wen, 2015) and for identifying factors that may be related to physical education teachers' inclusion behaviors, specifically when working with students with Autism Spectrum Disorder (Morgan, 2013).

Although the MATIES is a fairly new measure of teachers' attitudes toward inclusion, it has been successfully adapted for use in several research studies (e.g. MacFarlane & Woolfson, 2013; Yan & Sin, 2014), consistently exhibiting strong psychometric properties. The scale consists of 18 items, with six items in each subscale. The response to each item is indicated on a Likert scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree). Participants' ratings of each aspect of teachers' attitudes toward inclusion were averaged to obtain the three attitudinal scores. Sample items from the MATIES include: "I believe that an inclusive school is one that permits academic progression of all students regardless of their ability" (cognitive subscale); "I get frustrated when I have to adapt the curriculum to meet the individual needs of all students" (affective subscale); and "I am willing to adapt my communication techniques to ensure that all students with an emotional and behavioral disorder can be successfully included in the regular classroom" (behavioral subscale). All items on the affective subscale are reverse scored. Three of the negatively worded items on the cognitive subscale are also reverse scored.

Mahat (2008) noted that the scores on the scale exhibited acceptable internal consistency for each of the three aspects of teachers' attitudes toward inclusive education. Mahat reported that the cognitive, affective, and behavioral subscales yielded Cronbach's alphas of .77, .78, and .91, respectively. The current study yielded acceptable reliability coefficients for the affective and behavioral components with Cronbach's alphas of .78 and .79, respectively. As with the first scale, a factor analysis was conducted using principal-axis factoring along with oblimin rotation. Factors with Eigen values of one or greater were retained. Additionally, a scree plot was created and examined. Ultimately, a

two factor solution emerged. All six of the behavior items of the MATIES loaded on the first factor and five of the six affective items loaded on the second factor. The tables for the factor loadings and the scree plot for the items can be found in the appendix.

Teachers' Sense of Efficacy

The Teachers' Sense of Efficacy Scale Short Form (TSES-S) was created by Tschannen-Moran and Woolfolk Hoy (2001). The TSES-S is the most widely used measure of teachers' sense of efficacy. The scale measures three components: efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. The scale consists of 12 items, with four items in each subscale. The response to each item is indicated on a Likert scale ranging from 1 (Nothing) to 9 (A Great Deal). Participants' ratings of each aspect of teachers' sense of efficacy were averaged to obtain the three scores. Sample items from the TSES-S include: "How much can you do to get students to believe they can do well in schoolwork?" (efficacy in student engagement); "To what extent can you provide an alternative explanation or an example when students are confused?" (efficacy in instructional strategies); and "How much can you do to control disruptive behavior in the classroom?" (efficacy in classroom management).

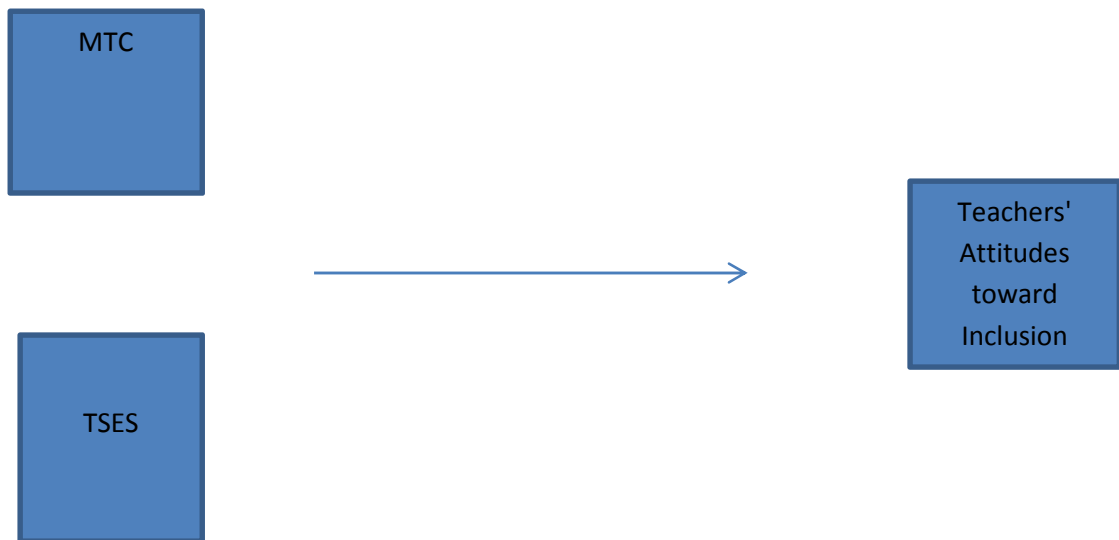
Tschannen-Moran and Woolfolk Hoy (2001) reported that the scores on the scale exhibited acceptable internal consistency for each of the three subscales of teachers' sense of efficacy. Efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management yielded Cronbach's alphas of .81, .86, and .86, respectively. The Cronbach's alpha for the composite scale in this study was .9

Although each of the factors had an Eigen value of at least one, because the first factor accounted for most of the variance, it was decided to examine the composite teachers' sense of efficacy score.

Hypothesis

1. It was hypothesized that teachers' multicultural teaching competence would be positively related to teachers' attitudes toward inclusion even when teachers' sense of efficacy was controlled for (See Figure 1).

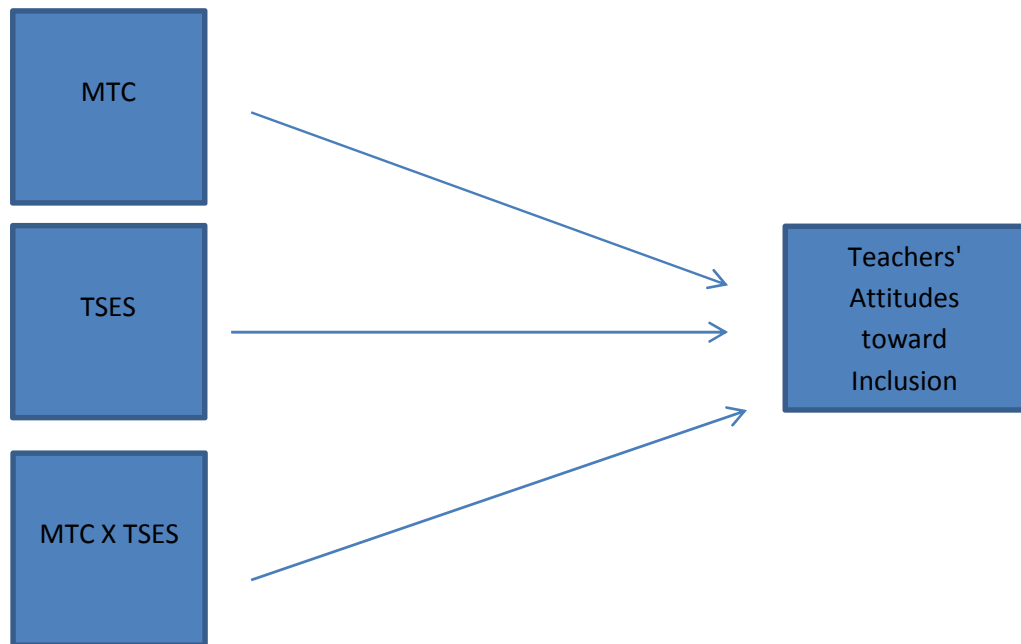
Figure 1. Testing the Relationship between MTC and Teachers' Attitudes toward Inclusion while Controlling for TSES



Exploratory Analysis I

1. This research study explored teachers' sense of efficacy as a potential moderator of the relationship between teachers' multicultural teaching competence and attitudes toward inclusion (See Figure 2).

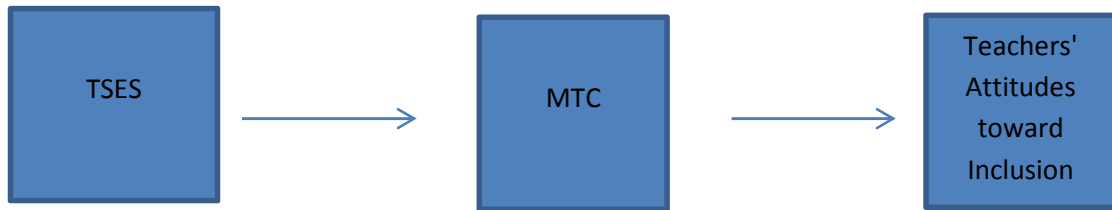
Figure 2. Testing the Potential Moderating Effect of TSES



Exploratory Analysis II

2. This research study also explored multicultural teaching competence as a potential mediator of the relationship between teachers' sense of efficacy and teachers' attitudes toward inclusion (See Figure 3).

Figure 3. Testing the Potential Mediating Effect of MTC



Data Analyses

To test the first hypothesis, a multiple regression analysis was conducted. The composite score and subscale scores for teachers' attitudes toward inclusion were regressed on MTC and TSES. Predictor variables (subscale scores of multicultural teaching competence and composite score of teachers' sense of efficacy) were entered simultaneously. Simultaneous entering method is useful as a tool for determining the influence of multiple dependent variables on an outcome variable (Keith, 2006). The use of composite score and/or subscale scores was determined based on factor analyses results.

To explore the moderation model, a multiple hierarchical regression was conducted. First, centered variables (MTC and TSES) were created. Next, an interaction term (TSES x MTC: TE_MTC) was created. The centered main predictor variables were entered in the first step and the interaction term was added in the second step. The composite scores as well as the subscale scores for MTC were tested.

To explore the potential role of MTC as a mediator, I followed Baron and Kenny's (1986) procedure describing four steps to test mediation effects. First, the independent variable (i.e., teachers' sense of efficacy in the present study) is related to the dependent variable (i.e., attitudes toward inclusion). Second, the independent variable is related to the mediator (i.e., multicultural teaching competence in the present study). Third, the mediator (i.e., multicultural teaching competence) predicts the dependent variable (i.e., attitudes toward inclusion) while controlling for the independent variable (i.e., teachers' sense of efficacy). Fourth, the independent variable (i.e., teachers' sense of efficacy) does not predict the dependent variable (i.e., attitudes toward inclusion) while controlling for the mediator.

All data analyses in the present study were computed using Statistical Package for Social Sciences (SPSS) Version 23. As noted earlier, prior to conducting the analyses, the characteristics of all data were examined. The reliability and validity of each of the instruments was tested. Additionally, the data was checked for confounding variables and tested for violations of the assumptions for regression.

CHAPTER IV

FINDINGS

This chapter describes the data analyses findings. Descriptive statistics for the major variables and their correlations between one another are included. Additionally, the results of the data analyses are compared to the research study hypotheses.

Table 2 includes the means, standard deviations, ranges, and correlation coefficients for the principle variables of this study. Table 3 presents the zero-order correlations among the major variables.

Table 2. Descriptive Statistics for the Major Variables

	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>α</i>
<i>Multicultural Teaching Competence</i>				
Affective Competence	5.12	.811	1-6	.83
Cognitive Competence	4.98	.746	1-6	.83
<i>Attitudes toward Inclusion</i>				
Affective Attitude	4.64	.935	1-6	.78
Behavioral Attitude	5.14	.670	1-6	.79
<i>Teachers' Sense of Efficacy</i>	7.57	.875	1-9	.90

Table 3. Correlation Matrix for the Major Variables

	1	2	3	4	5
1. AFF MTC	—				
2. COG MTC	.360**	—			
3. AFF ATI	.486**	.324**	—		
4. BEH ATI	.395**	.570**	.551**	—	
5. TSES	.270**	.366**	.311**	.446**	—

Note:

AFF MTC= Affective component of multicultural teaching competence
COG MTC= Cognitive component of multicultural teaching competence
AFF ATI= Affective component of teachers' attitudes toward inclusion
BEH ATI= Behavioral component of teachers' attitudes toward inclusion
TSES= Teachers' sense of efficacy

** $p < .001$

Relationship between Teachers' Multicultural Teaching Competence and Teachers' Attitudes toward Inclusion

Hypothesis

It was hypothesized that teachers' multicultural teaching competence would be positively related to teachers' attitudes toward inclusion even when controlling for teachers' sense of efficacy.

Results: To test the first hypothesis, a step-wise multiple regression analysis was conducted. The composite score for teachers' attitudes toward inclusion was entered as the dependent variable. The composite score for teachers' sense of efficacy was entered as the independent variable in step one, affective MTC was entered in the second step, and cognitive MTC was entered in the third step. The variables met all of the assumptions of regression.

- A. When teachers' sense of efficacy was entered alone, it significantly predicted teachers' attitudes toward inclusion: [$F(1, 336) = 75.04, p < .001$]. The adjusted R^2 of .18 indicated that teachers' sense of efficacy accounted for 18% of the variance in teachers' attitudes toward inclusion ($\beta = .427, t = 8.662, p < .001$). Adding the affective component of MTC resulted in ΔR^2 of .161, demonstrating that affective MTC contributed an additional 16.1% toward explaining teachers' attitudes toward inclusion. When affective MTC was added to the model, TSES β and t values dropped: ($\beta = .314, t = 6.816, p < .001$). Affective MTC contributed the following β and t values: ($\beta = .418, t = 9.078, p < .001$). Entering the cognitive component of MTC resulted in ΔR^2 of .065 (an additional 6.5% of explained variance in the dependent variable). The addition of cognitive MTC

resulted in the following new β and t values for the independent variables: TSES ($\beta = .223, t = 4.823, p < .001$); affective MTC ($\beta = .338, t = 7.392, p < .001$); and cognitive MTC ($\beta = .289, t = 6.071, p = .032$). Taken together, these results indicate that the two components of MTC significantly contributed toward predicting teachers' attitudes toward inclusion even when controlling for teachers' sense of efficacy.

- B. The subsequent analysis was also run using subscale scores for teachers' attitudes toward inclusion. First, teachers' affective attitudes toward inclusion was entered into the model as the dependent variable. Teachers' sense of efficacy significantly contributed to predicting affective attitudes toward inclusion: [$F(1, 336) = 40.23, p < .001$]. The adjusted R^2 of .104 indicated that 10.4% of the variance in affective attitudes toward inclusion was predicted by teachers' sense of efficacy ($\beta = .327, t = 6.343, p < .001$). Adding the affective component of MTC to the model resulted in ΔR^2 of .178, contributing an additional 17.8% of explanatory power to the model. Adding the affective component dropped the β and t values for teachers' sense of efficacy ($\beta = .208, t = 4.323, p < .001$); affective MTC ($\beta = .438, t = 9.120, p < .001$). Adding the cognitive component of MTC resulted in a small ΔR^2 of .01. With the addition of cognitive MTC, the beta coefficients and t values for TSES, affective MTC, and cognitive MTC were as follows: TSES ($\beta = .172, t = 3.418, p = .001$); affective MTC ($\beta = .407, t = 8.156, p < .001$); and cognitive MTC ($\beta = .112, t = 2.160, p = .032$).
- C. Next, teachers' behavioral attitudes toward inclusion was entered into the model as the dependent variable. Teachers' sense of efficacy was a more significant

predictor of teachers' behavioral attitudes toward inclusion, [$F(1, 339) = .81.42, p < .001$], ($\beta = .440, t = 9.023, p < .001$) explaining 19.1% of the variance (adjusted $R^2 = .191$), than it was toward predicting affective attitudes toward inclusion. Controlling for teachers' sense of efficacy, affective MTC explained an additional 8.0% of the variance in behavioral attitudes toward inclusion ($\Delta R^2 = .08$; adjusted $R^2 = .270$). Beta and t values for TSES dropped ($\beta = .358, t = 7.432, p < .001$) with the addition of affective MTC ($\beta = .295, t = 6.110, p < .001$). The model remained significant: [$F(2, 338) = 63.737, p < .001$]. The addition of cognitive MTC resulted in the following beta and t values for the final model: TSES ($\beta = .228, t = 4.968, p < .001$); affective MTC ($\beta = .177, t = 3.892, p < .001$); cognitive MTC ($\beta = .422, t = 8.905, p < .001$). Once again, the model was significant: [$F(3, 337) = 78.771, p < .001$]. The adjusted R^2 of .407 indicated that, taken together, the independent variables explained 40.7% of the variance in teachers' behavioral attitudes toward inclusion.

Exploratory Analysis I

Teachers' sense of efficacy was explored as a potential moderator of the relationship between teachers' multicultural teaching competence and attitudes toward inclusion.

Results: To test for moderation effects centered variables for teachers' sense of efficacy (TSES_Centered) and attitudes toward inclusion (ATIAC_CENTERED) were created. Next, interaction terms (TE_MTCAFF and TE_MTCCOG), representing teachers' sense of efficacy by affective diversity and teachers' sense of efficacy by cognitive diversity were created.

The data met the assumptions for multiple regression. A stepwise multiple regression was run, with teachers' affective attitudes toward inclusion entered as the dependent variable. The centered main predictor variables were entered in the first step and the interaction term was added in the second step. Results indicated that there was not a significant interaction between teachers' sense of efficacy and affective MTC or teachers' sense of efficacy and cognitive MTC. The process was repeated, this time using the behavioral subscale for teachers' attitudes toward disability as the dependent variable. Once again, there was not a significant interaction.

Exploratory Analysis II

Multicultural teaching competence was explored as a mediator of the relationship between teachers' sense of efficacy and teachers' attitudes toward inclusion.

Results: Testing mediation effects consisted of completing four steps.

A. Testing the relationship between the IV (TSES) and the DV (attitudes toward inclusion)

For the first regression TSES was entered as the IV and teachers' affective attitudes toward inclusion was entered as the DV. The overall model was significant: $F [(1, 345) = 36.857, p < .001]$. $\beta = .311, t = 6.071, p < .001$. The adjusted R^2 of .094 indicates that teachers' sense of efficacy predicted 9.4% of the variance in teachers' affective attitudes toward inclusion. For the second regression TSES was entered as the IV and teachers' behavioral attitudes toward inclusion was entered as the DV. The relationship of the variables was also significant: $F [(1, 348) = 86.359, p < .001]$. $\beta = .446, t = 9.293, p < .001$. The adjusted R^2 of .197 indicated that TSES predicted 19.7% of the variance in

teachers' behavioral attitudes toward inclusion. It is important to note that TSES contributed over 10% more toward predicting behavioral attitudes toward inclusion than toward predicting their affective attitudes.

B. Testing the relationship between the IV (TSES) and the mediator (MTC)

TSES was entered as the independent variable and affective MTC was entered as the dependent variable. Overall results were significant: [$F(1, 352) = 27.765, p < .001$]. TSES ($\beta = .270, t = 5.269, p < .001$). The adjusted $R^2 (.070)$ indicated that 7.0% of the variance in affective MTC could be explained by TSES. The analysis was repeated, this time with cognitive MTC entered as the dependent variable. Overall results were significant: [$F(1, 351) = 54.124, p < .001$]. TSES ($\beta = .366, t = 7.357, p < .001$). The adjusted $R^2 (.131)$ indicated that 13.1% of the variance in cognitive MTC could be explained by TSES. This is nearly twice as much explained variance as in the first model.

C. Testing to see if the mediator (MTC) predicts the DV (attitudes toward inclusion) while controlling for the IV (TSES)*

Here, two subscale variables of MTC (affective and cognitive) were tested as mediators separately by changing the order of variable entry into the regression model. To test the corresponding subscale variable as a mediator, it was entered in the second step. Because there were two mediators (affective MTC and cognitive MTC) and two dependent variables (affective attitudes toward inclusion and behavioral attitudes toward inclusion) a total of four analyses were conducted.

1. For the first analysis, teachers' affective attitudes toward inclusion was entered as the dependent variable. Teachers' sense of efficacy was entered as

the independent variable in the first step; affective MTC was added in the second step; and cognitive MTC was added in the final step. The overall model was significant [$F(3, 343) = 46.54, p < .001$]. The adjusted R^2 of .228 indicates that, together, affective and cognitive MTC predicts 28.8% of the variance in teachers' affective attitudes toward inclusion. Affective MTC predicted the dependent variable (affective attitudes toward inclusion) while controlling for the independent variable (TSES). Affective MTC alone explained 17.8% ($\Delta R^2 = .178$) of the variability in teachers' attitudes toward inclusion. The beta coefficients for TSES dropped from .327 in the first step to .208 in the second step (Table 4). *The beta coefficients, t values, R^2 and ΔR^2 for each step of this analysis are listed in table form below each respective description.

Table 4. Testing the Relationship between the Mediator (affective MTC) and the DV (affective attitudes toward inclusion) while Controlling for the IV (TSES)

Variable	β	t	R^2	ΔR^2
Step 1				
TSES	.327	6.343***	.107	.107
Step 2				
TSES	.208	4.323***		
Affective MTC	.438	9.120***	.285	.178
Step 3				
TSES	.172	3.418**		
Affective MTC	.407	8.156***		
Cognitive MTC	.112	2.160*	.294	.010

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

2. For the second analysis, teachers' behavioral attitudes toward inclusion was entered as the dependent variable. Teachers' sense of efficacy was entered in the first step, affective MTC was entered in the second step, and cognitive MTC was entered in the third step. The overall model was significant $F [(3, 337) = 78.771, p < .001]$. The adjusted R^2 of .407 indicates that the overall model accounts for 40.7% of the variance in teachers' behavioral attitudes toward inclusion. Cognitive MTC still predicted teacher' behavioral attitudes toward inclusion while controlling for TSES. Cognitive MTC added a unique 8% ($\Delta R^2 = .08$) of explanatory power to the model. The beta coefficients for TSES dropped from .440 in the first step to .359 in the second step- with the addition of affective MTC as the mediator (Table 5).

Table 5. Testing the Relationship between the Mediator (affective MTC) and the DV (behavioral attitudes toward inclusion) while Controlling for the IV (TSES)

Variable	β	t	R^2	ΔR^2
Step 1				
TSES	.440	9.023***	.194	
Step 2				
TSES	.359	7.432***		
Affective MTC	.295	6.110***	.274	.080
Step 3				
TSES	.228	4.968***		
Affective MTC	.177	3.892***		
Cognitive MTC	.422	8.905***	.412	.138

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

3. For the third analysis (testing the mediation effect of cognitive MTC in the relationship between TSES and affective attitudes toward inclusion), teachers'

affective attitudes toward inclusion was entered as the dependent variable. TSES was entered as the independent variable in the first step, cognitive MTC was added in the second step, and affective MTC was added in the final step. The overall model was significant [$F(3, 334) = 46.454, p < .001$]. The adjusted R^2 of .288 indicates that the overall model accounted for 28.8% of the variance in teachers' affective attitudes toward inclusion. The mediator (cognitive MTC) predicted the dependent variable (affective attitudes toward inclusion) while controlling for the independent variable (TSES). The ΔR^2 of .047 indicates that cognitive MTC added 4.7% explanatory power when controlling for TSES. The β and t values for TSES dropped from $\beta = .327, t = 6.343$ in the first step to $\beta = .236, t = 4.324$ in the second step (Table 6).

Table 6. Testing the Relationship between the Mediator (cognitive MTC) and the DV (affective attitudes toward inclusion) while Controlling for the IV (TSES)

Variable	β	t	R^2	ΔR^2
Step 1				
TSES	.327	6.343***	.107	
Step 2				
TSES	.236	4.324***		
Cognitive MTC	.235	4.312***	.154	.047
Step 3				
TSES	.172	3.418**		
Cognitive MTC	.112	2.160*		
Affective MTC	.407	8.156***	.294	.141

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

- For the fourth analysis, I tested the potential mediating effect of cognitive MTC. Teachers' behavioral attitudes toward inclusion was entered as the

dependent variable. TSES was entered in the first step, cognitive MTC was added in the second step, and affective MTC was added in the final step. The adjusted R^2 of .288 indicates that the overall model was significant, accounting for 28.8% of the variance in teachers' behavioral attitudes toward inclusion. Additionally, the mediator (cognitive MTC) predicted the dependent variable (teachers' behavioral attitudes toward inclusion) while controlling for the independent variable (TSES). Cognitive MTC explained an additional 19.2% ($\Delta R^2 = .192$) of the variance in teachers' behavioral attitudes toward inclusion. The beta coefficients for TSES dropped from $\beta = .440$, $t = 9.023$ in step one to $\beta = .256$ ($t = 5.538$) in step two (Table 7).

Table 7. Testing the Relationship between the Mediator (cognitive MTC) and the DV (behavioral attitudes toward inclusion) while Controlling for the IV (TSES)

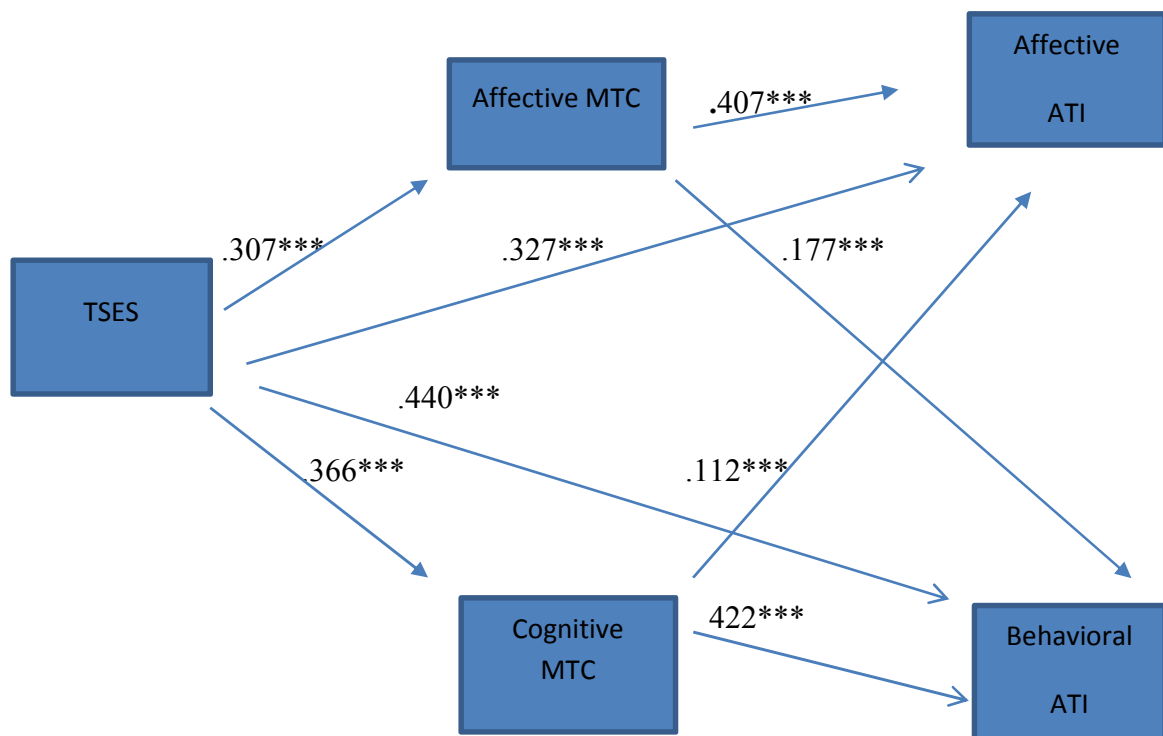
Variable	β	t	R^2	ΔR^2
Step 1				
TSES	.440	9.023***	.194	
Step 2				
TSES	.256	5.538***		
Cognitive MTC	.475	10.282***	.386	.192
Step 3				
TSES	.228	4.968***		
Cognitive MTC	.422	8.905***		
Affective MTC	.177	3.892***	.412	.026

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

D. Finally, I explored the possibility that teachers' sense of efficacy would not predict teachers' attitudes toward inclusion (or that its predictive power would be significantly reduced) when controlling for teachers' MTC. Teachers' affective attitudes toward inclusion was entered as the dependent variable. Teachers' sense of efficacy was entered in the first step and affective/cognitive MTC was entered in the second step. The regression was significant when controlling for MTC: [$F(1, 336) = 40.230, p < .001$]. Teachers' sense of efficacy had a unique predictive contribution of 10.7% ($\beta = .327, t = 6.343, p < .001$) toward explaining teachers' affective attitudes toward inclusion. When affective/cognitive MTC was added, beta weights and t values for TSES dropped: $\beta = .152, t = 2.986, p < .001$. Affective/cognitive MTC values were as follows: $\beta = .442, t = 8.707, p < .001$. Affective/cognitive MTC contributed a unique 16.5% toward explaining affective attitudes toward inclusion. Teachers' sense of efficacy still predicted affective attitudes toward inclusion, but that the predictive power of the construct was weakened, when controlling for MTC was added to the model [$F(2, 335) = 62.5, p < .001$]. The analysis was repeated, this time with behavioral attitudes toward inclusion entered as the dependent variable. Teachers' sense of efficacy was entered in the first step; affective/cognitive MTC was entered in the second step. The regression was significant when controlling for MTC: [$F(1, 339) = 81.419, p < .001$]. Teachers' sense of efficacy had a unique predictive contribution of 19.1% ($\beta = .440, t = 9.023, p < .001$) toward explaining teachers' behavioral attitudes toward inclusion. Adding affective/cognitive MTC dropped the TSES beta and t values for TSES: ($\beta = .248, t = 5.352, p < .001$). MTC: ($\beta = .482, t = 10.392, p <$

.001). The overall regression was significant: [$F(2, 338) = 107.561, p < .001$]. Although in both cases the mediator (MTC) predicted the dependent variable (affective attitudes toward inclusion and behavioral attitudes toward inclusion), while controlling for the independent variable (TSES), the beta coefficients for TSES were reduced from step one to step two. Figure 4 displays the beta coefficients from the various regression analyses.

Figure 4. Mediation Effects



One of the most interesting findings of this research related to the mediation analyses. The use of subscale scores allowed me to examine a combination of variables. Ultimately, I discovered that affective and cognitive MTC served as mediators of both affective and behavioral attitudes toward inclusion.

CHAPTER V

CONCLUSION

The primary purpose of this study was to investigate the relationship between multicultural teaching competence and teachers' attitudes toward inclusion. Over the past 20 years, researchers have examined a number of predictors of teachers' attitudes toward inclusion. As mentioned earlier in the literature review, predictors that have been studied extensively include teachers' sense of efficacy, years of classroom teaching experience, exposure to participative programs in inclusive education, pre-service teacher training, and administrative support (Cagran & Schmidt, 2011; Cho & DeCastro-Ambrosetti, 2005-06; MacFarlane & Woolfson, 2013; Symeonidou & Phtiaka, 2009). However, there is little evidence of studies examining the relationship between multicultural teaching competence and teachers' attitudes toward inclusion. By examining multicultural teaching competence as a predictor of attitudes toward inclusion this study adds important information to the current literature on inclusion.

This study also investigated the role that teachers' sense of efficacy might play in the relationship between MTC and teachers' attitudes toward inclusion. Including teachers' sense of efficacy as a variable in this study was vitally important since substantial research demonstrates that the construct is related to both multicultural teaching competence (Tucker et al., 2005) and teachers' attitudes toward inclusion (Cook

et al., 1999; Glaubman & Lifshitz, 2001). In the first analysis, which examined the relationship between MTC and attitudes toward inclusion, teachers' sense of efficacy was controlled for. In the second analysis the construct was examined as a potential moderator of the relationship between MTC and teachers' attitudes toward inclusion. Finally, the study explored the role of multicultural teaching competence as a potential mediator of the relationship between teachers' sense of efficacy and teachers' attitudes toward inclusion.

It was important to consider these different relationships among the main variables in light of the fact that growing numbers of culturally and linguistically diverse (CLD) learners are also identified as having a disability. Teachers must recognize that these learners have multiple needs: needs stemming from both their cultural, linguistic, and ethnic differences as well as from their specific disabilities. However, recognition is only the first step toward effectively working with CLD learners with disabilities. Teachers must also possess 1) instructional skills to work with diverse learners (multicultural teaching competence), 2) confidence in their abilities to apply these skills in the classroom (high levels of efficacy), and 3) positive attitudes toward including learners with disabilities in their classrooms (positive attitudes toward inclusion).

This final chapter is broken into four sections. The first section is devoted to a discussion of the results of the study. The next section articulates the implications of these results within the context of teacher education and instructional practices. The third section identifies the limitations of the study. Finally, the last section indicates future research possibilities related to the main variables of interest.

Discussion

In the present research, one research question was investigated and two exploratory analyses were conducted. The relationship between the three main variables in this study (multicultural teaching competence; teachers' sense of efficacy; and teachers' attitudes toward inclusion) was examined in a variety of ways. Multicultural teaching competence was tested as a predictor of teachers' attitudes toward inclusion while controlling for teachers' sense of efficacy. Next, teachers' sense of efficacy was explored as a potential moderator of the relationship between MTC and teachers' attitudes toward inclusion. Finally, multicultural teaching competence was explored as a potential mediator of the relationship between teachers' sense of efficacy and teachers' attitudes toward inclusion.

The current study indicates a significant positive relationship between MTC and teachers' attitudes toward inclusion even when controlling for TSES. These results demonstrate that teachers' positive attitudes toward inclusion are not simply the result of high levels of TSES. Past research (MacFarlane & Woolfson, 2013) suggests that improving teachers' sense of efficacy leads to more positive attitudes toward inclusion. However, results of the current study indicate that increasing teachers' sense of efficacy is not enough. Multicultural teaching competence also appears to exert an independent influence on teachers' attitudes toward inclusion.

It is important to note that when controlling for TSES, affective MTC contributed more toward predicting teachers' affective attitudes toward inclusion than did cognitive MTC. This is not surprising, given that both variables were affective in nature. In terms of behavioral attitudes toward inclusion, cognitive MTC offered more explanatory power

than did affective MTC. Intuitively, it makes sense that how people think about diverse learners (CLD learners in the context of this study) might affect their behavioral attitudes toward including other types of diverse learners (learners with disabilities in the context of this study) in the classroom.

As the study demonstrated, TSES did not moderate the relationship between MTC and teachers' attitudes toward inclusion. These results indicate that high (or low) levels of teachers' sense of efficacy do not significantly change the relationship between the two main variables. This provides further evidence that multicultural teaching competence is important in terms of shaping teachers' attitudes toward inclusion and that high levels of TSES can't replace a lack of multicultural teaching competence. Both multicultural teaching competence and teachers' sense of efficacy contributed explanatory power independently by showing "additive effects" in the regression analyses. Additionally, each construct had its own unique independent contribution toward explaining both the affective and behavioral components of teachers' attitudes toward inclusion.

Results of the analysis indicate that teachers' sense of efficacy is a powerful predictor of in-service teachers' attitudes toward inclusion. These findings are aligned with previous findings related to TSES and attitudes toward inclusion in both pre-service and in-service teachers. (Stein & Wang, 1988; Weisel & Dror, 2006) In short, higher levels of TSES lead to more positive attitudes toward inclusion, while lower levels cause teachers' attitudes toward inclusion to become more negative. However, when MTC was added as a mediator to the model, the predictive power of TSES was greatly reduced.

Mediation effects are tested when researchers are seeking to understand the mechanism behind the relationship between two variables. In this study, the significant

mediation effects demonstrate why TSES is associated with teachers' attitudes toward inclusion. Teachers' sense of efficacy in the areas of classroom management, teaching practices, and student engagement is not directly related to the field of inclusive education. Although prior to this analysis I understood that that teachers' sense of efficacy (in general) could affect teachers' attitudes toward diverse learners, I wasn't exactly sure why this was the case. The current study provides valuable insight that TSES affects MTC, which then affects teachers' attitudes toward inclusion.

One of the principle aims of this study was to better understand the relationship between MTC and teachers' attitudes toward inclusion. The results of the study suggest that MTC and teachers' attitudes toward inclusion are distinct, but related, constructs. These results point to the need to offer teacher education courses that focus not on student diversity in a generic sense, but in a specific manner. In short, teacher education programs should include coursework specifically related to working with CLD learners and coursework specifically related to inclusive education practices. Interestingly, in this study a large number of in-service teachers indicated that they had taken no prior coursework related to working with CLD learners (26.5%) or related to working with individuals with disabilities (18.7%).

Although adding this coursework is an important first step, it does not guarantee an increase in pre-service teachers' MTC or attitudes toward inclusion during their college career. Furthermore, even if pre-service teachers enter the classroom with high MTC and positive attitudes toward inclusion, there is no guarantee that their MTC will remain high or that their attitudes toward inclusion will remain positive after they have spent time in their own classrooms. Research suggests that graduates of teacher education

programs often experience a reality shock when they enter the classroom as newly hired teachers and, along with this, a reduction in their overall perceptions of their teaching competence (Mahmood, 2013). Therefore, when conducting any type of research on pre-service teachers it is important to avoid generalizing the results to the larger in-service teacher population. By conducting research on in-service teachers I was able to make my data generalizable to a larger in-service teacher population.

Results regarding the role of teachers' sense of efficacy in this study mirror current research. Clearly, TSES is an important variable that functions as a predictor of both MTC and teachers' attitudes toward inclusion. However, in terms of predicting teachers' attitudes toward inclusion, TSES does not provide sole explanatory power. Multicultural teaching competence also contributes to explaining teachers' attitudes toward inclusion, above and beyond the explanatory power TSES provides. This point is important for several reasons. First of all, much of the research on teachers' attitudes toward inclusion has focused solely on the predictive power of TSES. These results indicate that while important, there are other forces at work that may positively or negatively impact teachers' attitudes toward inclusion, namely MTC. It further underscores the fact that MTC and TSES are related but separate constructs.

There are several limitations that are important to mention within the context of this research. First of all, by failing to include a demographic question regarding teachers' ethnicity, I was unable to determine whether or not ethnically diverse teachers had higher levels of multicultural teaching competence than their European American counterparts. Additionally, I did not include a demographic question related to whether or not the teacher participants had a disability. Because I did not include this question, I was unable

to determine whether teachers with disabilities held more positive attitudes toward students with disabilities than non-disabled teachers.

Although the scales used to measure the main constructs of multicultural teaching competence, attitudes toward inclusion, and teachers' sense of efficacy (the Multicultural Teaching Inventory- MTI, the Multidimensional Attitudes toward Inclusive Education Scale- MATIES, and Teachers' Sense of Efficacy Scale-TSES Short Form, respectively) exhibited sound psychometric properties in the research literature, none of the instruments captured and/or differentiated all of their purported dimensions in the current study. Items on the MTI, an instrument created to measure affective, behavioral, and cognitive components of multicultural teaching competence, loaded on only two factors (affect and cognition). One explanation for this phenomenon may relate to the differences between learning about CLD learners in a college course versus teaching them in a classroom. Over 80% of the participants in this research study indicated that they had taken at least one course related to working with CLD learners. In these courses, teacher education students learn about CLD learners and are given advice on how to successfully instruct this population in the classroom. However, for many pre-service teachers, the reality of educating CLD learners may not "set in" until they have their own classrooms. Once this occurs, they may find that although they theoretically understand how to work with CLD learners, they are unable to act on what they know they should do in order to foster optimal outcomes for these learners. These teachers may view multicultural teaching competence as primarily attitudinal and cognitive in nature, failing either to recognize and/or understand the behavioral aspects of the construct.

Another possible explanation for this phenomenon relates to the fact that many of

the teachers in this study (85%) worked in either suburban or rural schools. Teachers in suburban and rural schools may come into contact with CLD learners less frequently than teachers who work in urban school settings. If this is the case, teachers in suburban and rural schools may not be able to comment on their behaviors toward CLD learners (as they do not come into contact with them on a regular basis).

Items on the MATIES, an instrument created to measure the affective, behavioral, and cognitive aspects of teachers' attitudes toward inclusion, failed to fully capture the cognitive component. When examining the factor structure of the MATIES scale, the cognitive components loaded alongside the behavioral components. This may be due to the fact that the behavioral and cognitive stems for the items were not distinct enough from one another. Changing the MATIES behavioral stem from “I am willing to” (which sounds somewhat 'thoughtful' in nature)...to “I will” might serve to better separate the behavioral components from the cognitive components, resulting in a greater (and deeper) understanding of the components that underlie teachers' attitudes toward inclusion.

Finally, principal axis factoring revealed that the instrument used to measure teachers' sense of efficacy (the TSES-S) did not, with this sample, exhibit a clear three factor structure. Because of this, rather than using the subscale scores of classroom management, instructional strategies, student engagement, I had to use the composite score for teacher efficacy.

It is important to consider the unique demographic characteristics of the teachers in this study. First of all, most of the teachers in the study were general education teachers. If there had been a more equal number of special education and general

education teachers, results might have been different. Also, the teacher participants were both older and had more years of teaching experience than the average teacher working in the United States. Age and years of experience may have influenced (either positively or negatively) all three of the main variables: multicultural teaching competence, teachers' attitudes toward inclusion, and teachers' sense of efficacy. As noted earlier, the majority of teachers in this study worked in rural and suburban schools. Because of this, they may not have had as many encounters with diverse learners as would teachers employed in large, urban school settings. In order to generalize these results even further, it would be important to draw an equal number of teachers from urban, suburban, and rural areas. Additionally, since research indicates that many new teachers are placed in urban schools when they first begin teaching, I might also end up having a younger teacher population to consider.

There is much additional research to be conducted in the areas of multicultural teaching competence, teachers' attitudes toward inclusion, and teachers' sense of efficacy. For instance, researchers could conduct a cross sectional study (using the same measures), collecting survey information from pre-service and in-service teachers and then comparing the two groups of participants. Even better, researchers could conduct a year-long study with the same two groups of participants. Participants could complete the survey at the start of their final semester of their teacher education program and again after the first semester of their in-service teaching. Comparing the responses of teachers with undergraduate degrees to those of teachers with master's degrees would likely capture additional important information, particularly because master's programs in education often require additional coursework related to working with diverse learners.

It would be interesting to administer the three different measures (TSES, MATIES, and MTI) in a set order. Participants who complete the teachers' sense of efficacy measures first might have a more inflated view of their abilities to educate all learners effectively than they might if they had first completed the MATIES and MTI. Future researchers could also examine teachers' views as they relate to working with learners with specific types of disabilities in the classroom. For instance, a general education teacher might feel positive regarding including students with specific learning disabilities or physical disabilities in their classroom. However, they might feel less positive about including learners with intellectual disabilities that are severe/profound or learners with emotional/behavioral disabilities in their classroom. By unpacking the word "disability" researchers might be able to gain important information regarding teachers' views of inclusion as a function of students' type of disability.

Focusing on the various demographic variables is also warranted. For instance, researchers could examine whether the number of pre-service teacher education courses participants take related to working with CLD learners and/or students with disabilities is related to their levels of multicultural teaching competence and/or their attitudes toward inclusion. Also, might age be a factor in terms of attitudes toward inclusion? As noted earlier, many of the teachers in this study indicated that they had been in the profession for over 20 years. During those years, these general education teachers went from having only students without disabilities in their classrooms, to experiencing increasing levels of inclusion of students with disabilities in their classrooms, initiated by the passage of legislation such as IDEA 1997, NCLB, and the reauthorization of NCLB. Teachers who have witnessed these changes first-hand might have very different views of inclusion than

would teachers who are new to the profession and have always worked in the inclusive classroom setting.

Although a question was asked related to the amount of support teachers feel they receive from their schools regarding working with diverse learners, the responses they had to choose from were "none", "some", or "a lot". Having teachers note their levels of support on a Likert scale might offer more concise data. If significant differences between the scores on measures were found in terms of demographic variables, then those variables could be controlled in future studies.

Structural equation modeling would provide more accurate information. By using structural equation modeling, researchers could control for the error variance that is unable to be controlled when using hierarchical regression analyses. Additionally, variables other than teachers' sense of efficacy likely play a role in the relationship between MTC and teachers' attitudes toward inclusion. Researchers should continue to evaluate these variables.

An inherent limitation of the survey method is that participants each have unique definitions of the various constructs being measured. In the context of this research, this means that each participant defined terms such as diversity, inclusion, disability, and teacher efficacy in different ways. One way to counteract this would be to add a strict definition of each construct. Another way to counteract this phenomenon would be to add a qualitative component to the study. Including qualitative data, even if it is only the addition of a few short answer questions to the survey, might help capture both new and experienced teachers' definitions of terms such as "diverse learners" and "inclusive education". Adding a limited number of interviews and/or focus groups would also

improve the ability to understand the survey responses of the teacher participants. Observations of teachers would likely improve our understanding of the relationship between the three variables.

Whatever direction future researchers choose to take, it is incumbent for them to remember that there is an inherent complexity that accompanies the measurement of constructs such as multicultural teaching competence and attitudes toward inclusion. Although labeling students as "CLD learners" or "disabled" provides a framework for examining diversity, the process of labeling requires that researchers set standards as to who is different. Researchers must be sensitive to the fact that in researching diverse learners they may unwittingly be perpetuating the "othering" of large populations of students.

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APPENDICES

APPENDIX A

Oklahoma State University Institutional Review Board

Date: Thursday, April 30, 2015
IRB Application No ED1559
Proposal Title: Teachers' attitudes toward working with diverse learners in the classroom

Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 4/29/2018

Principal Investigator(s):

Sonya E. Munsell	Jane S. Vogler
4990 E. 113th St.	424 Willard
Tulsa, OK 74137	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval. Protocol modifications requiring approval may include changes to the title, PI advisor, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of the research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Dawnett Watkins 219 Cordell North (phone: 405-744-5700, dawnett.watkins@okstate.edu).

Sincerely,


Dawnett Watkins, Chair
Institutional Review Board

APPENDIX B

Consent for Participation in Research

Teachers' Attitudes toward Working with Diverse Learners in the Classroom

Conducted By: Sonya E. Munsell, Graduate Student

415 Willard Hall, Stillwater, OK 74078

918-899-1931

sonya.munsell@okstate.edu

Faculty Supervisor: Jane S. Vogler, PhD. (jane.vogler@okstate.edu)

School of Applied Health and Educational Psychology, Oklahoma State University

You are being asked to participate in a study about teachers' attitudes and behaviors in classrooms with diverse learners. Before you consent to participate in this study, please read the following information. If you have any questions, please contact Sonya Munsell by email (sonya.munsell@okstate.edu) or phone (918-899-1931).

THE PURPOSE OF THIS STUDY is to gain a better understanding of teachers' attitudes toward working with diverse learners in the classroom. The goal of this study is to use what we learn to improve pre-service and in-service training for teachers who work with diverse learners.

IF YOU AGREE TO PARTICIPATE, you will be asked to fill out a questionnaire consisting of 68 items. The first 48 items are on a Likert-scale, with no right/wrong answers. The final 20 items request some basic demographic information.

TOTAL ESTIMATED TIME TO PARTICIPATE is approximately 15-20 minutes total.

RISKS OF PARTICIPATION: There are no known risks associated with this study beyond those which would be encountered on a daily basis.

BENEFITS OF PARTICIPATION: By participating in this research you will have an opportunity to provide valuable information to researchers that can be used to improve pre-service and in-service teacher training.

COMPENSATION: Those who complete the survey will be entered into a drawing for a chance to win one of fifteen \$20 gift cards from Amazon. To be entered in the drawing, you will need to provide a valid email address. If you are selected as the winner, the gift

card will be sent to this email address. Your email address will not be linked to your survey responses in any way.

ALTERNATIVES TO THIS RESEARCH: There is no other alternative procedure other than what is described. However, your participation in this study is entirely voluntary, and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can also withdraw your participation at any time simply by closing your internet browser or turning in your incomplete paper version of the survey. Your withdrawal will not impact current or future relationships with Oklahoma State University, the College of Education, or the School of Applied Health and Educational Psychology.

CONFIDENTIALITY: You have a right to privacy, and all information identifying you will remain anonymous and confidential. Your answers on all questionnaires will not be linked to your name, and no one (including the researcher) will be able to link your name with your responses. The results of this study may be published in scientific journals or presented at psychological meetings in aggregate form.

If you have questions about your rights as a research volunteer, you may contact the Oklahoma State University Institutional Review Board (IRB) Chair, Dr. Hugh Crethar at 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

It is encouraged and recommended that you keep/print a copy of this consent page for your records before you begin the study.

ACKNOWLEDGMENT

By clicking the “next” (>>) button or by turning to the next page, you are expressing consent to participate in this study.

APPENDIX C

Multicultural Teaching Inventory Items

Affect

1. Student diversity is stressful for me. (R)
2. I only feel at ease with people from my culture. (R)
3. I feel frustrated by student diversity. (R)
4. I feel annoyed when students do not speak regular English. (R)
5. I feel annoyed when communicating with students from other racial or ethnic backgrounds. (R)
6. I often feel irritated by students from a different culture. (R)

Cognition

1. Knowing about the experiences of students from different cultures increases my self-understanding.
2. Knowing students from different ethnic groups improves my understanding of myself.
3. Knowledge of how a student differs from me greatly enhances our friendship.
4. Understanding how a student is both similar and different from me helps me get to know him or her.
5. Knowing about the different types of experiences of students improves my understanding of my own problems.
6. I think students from other cultures could teach me things I could not learn elsewhere.

Behavior

1. I help students work through problem situations caused by stereotypical attitudes toward cultural differences.
2. I assist all students to understand the perspectives of people from other ethnic groups.
3. I effectively utilize ethnic resources in the community.
4. I seek out cultural biases in materials used in instruction.
5. I present diversity of cultures as a strong positive feature of American heritage.
6. I investigate how language affects performance on certain test items.

Note: R= Reverse coding

APPENDIX D

Multidimensional Attitudes toward Inclusive Education Items

Cognitive

1. I believe that an inclusive school is one that permits academic progression of all students regardless of their ability.
2. I believe that students with a disability should be taught in special education schools. (R)
3. I believe that inclusion facilitates socially appropriate behavior amongst all students.
4. I believe that any student can learn in the regular curriculum of the school if the curriculum is adapted to meet their individual needs.
5. I believe that students with a disability should be segregated because it is too expensive to modify the physical environment of the school. (R)
6. I believe that students with a disability should be in special education schools so that they do not experience rejection in the regular school. (R)

Affective

1. I get frustrated when I have difficulty communicating with students with a disability. (R)
2. I get upset when students with a disability cannot keep up with the day-to-day curriculum in my classroom. (R)
3. I get irritated when I am unable to understand students with a disability. (R)
4. I am uncomfortable including students with a disability in a regular classroom with other students without a disability. (R)
5. I am disconcerted that students with a disability are included in the regular classroom, regardless of the severity of the disability. (R)
6. I get frustrated when I have to adapt the curriculum to meet the individual needs of all students. (R)

Behavioral

1. I am willing to encourage students with a disability to participate in all social activities in the regular classroom.
2. I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability.
3. I am willing to physically include students with a severe disability in the regular classroom with the necessary support.
4. I am willing to modify the physical environment to include students with a disability in the regular classroom.
5. I am willing to adapt my communication techniques to ensure that all students with an emotional and behavioral disorder can be successfully included in the regular classroom.
6. I am willing to adapt the assessment of individual students in order for inclusive education to take place.

Note: R = Reverse coding

APPENDIX E

Teachers' Sense of Efficacy Scale Items- Short Form

Efficacy in student engagement

1. How much can you do to motivate students who show low interest in school work?
2. How much can you do to get students to believe they can do well in school work?
3. How much can you do to help your students value learning?
4. How much can you assist families in helping their children do well in school?

Efficacy in instructional strategies

1. To what extent can you craft good questions for your students?
2. How much can you use a variety of assessment strategies?
3. To what extent can you provide an alternate explanation or an example when students are confused?
4. How well can you implement alternative strategies in the classroom?

Efficacy in classroom management

1. How much can you do to control disruptive behavior in the classroom?
2. How much can you do to get children to follow rules?
3. How much can you do to control a student who is disruptive or noisy?
4. How well can you establish a classroom management system with each group of students?

APPENDIX F

Demographic Survey

Please answer the following questions:

What is your gender?

Male

Female

What is your age?

21-25

26-30

31-35

36-40

41-45

46-50

Over 50 years old

Are you currently working primarily as a special education or general education teacher?

Special education

General education

If you are not a special education teacher, do you have (or plan to pursue) your special education certification?

Yes

No

How many years ago did you receive your first teacher certification?

Less than 1 year ago

1-5 years ago

6-10 years ago

11-15 years ago

16-20 years ago

Over 20 years ago

Please mark the response that best describes the total number of years you have worked as a K-12 teacher.

Less than 1 year

1-5 years

6-10 years

11-15 years

16-20 years

Over 20 years

Please mark the response that best describes the community in which your school is located.

- Rural
- Suburban
- Urban

Please mark the response that best describes the type of school in which you work.

- Public
- Private
- Community
- Charter

Please mark the response(s) that best represents where students with disabilities are served in your school. (Mark all that apply.)

- General education classroom all day
- Special education classroom all day
- General education classroom with special education (subject specific) pull-out
- General education classes for electives only
- Students with disabilities do not attend my school

Please mark the response below that best describes the number of years' experience you have including students with disabilities in your classroom.

- Less than 1
- 1-5
- 6-10
- 11-15
- 16-20
- More than 20 years

Do you interact with students with disabilities on a daily basis at your school?

- Yes
- No

If you interact with students with disabilities, where do these interactions take place?

Please check all that apply.

- General education classroom all day
- Special education classroom all day
- General education classroom with special education (subject specific) pull-out
- General education classroom for electives only
- During lunch and/or bus duty
- Students with disabilities do not attend my school

Please mark the response that corresponds to the amount of support (in the form of special education resources for teachers) you have access to at your school.

- None
- Some
- A lot

Please mark the response below that best describes the number of pre-service teaching courses you completed that focused on including students with disabilities in the general education classroom setting.

- No courses
- 1-2 courses
- 3 or more courses

Please mark the response below that best describes the number of pre-service teaching courses you completed that focused on multicultural teaching practices.

- No courses
- 1-2 courses
- 3 or more courses

Have you attended an in-service workshop related to teaching culturally and/or linguistically diverse learners in the classroom within the past two years?

- Yes
- No

Please mark the response that corresponds to the amount of support (in the form of resources for teachers working with culturally, linguistically, and/or ethnically diverse learners) you have access to at your school.

- None
- Some
- A lot

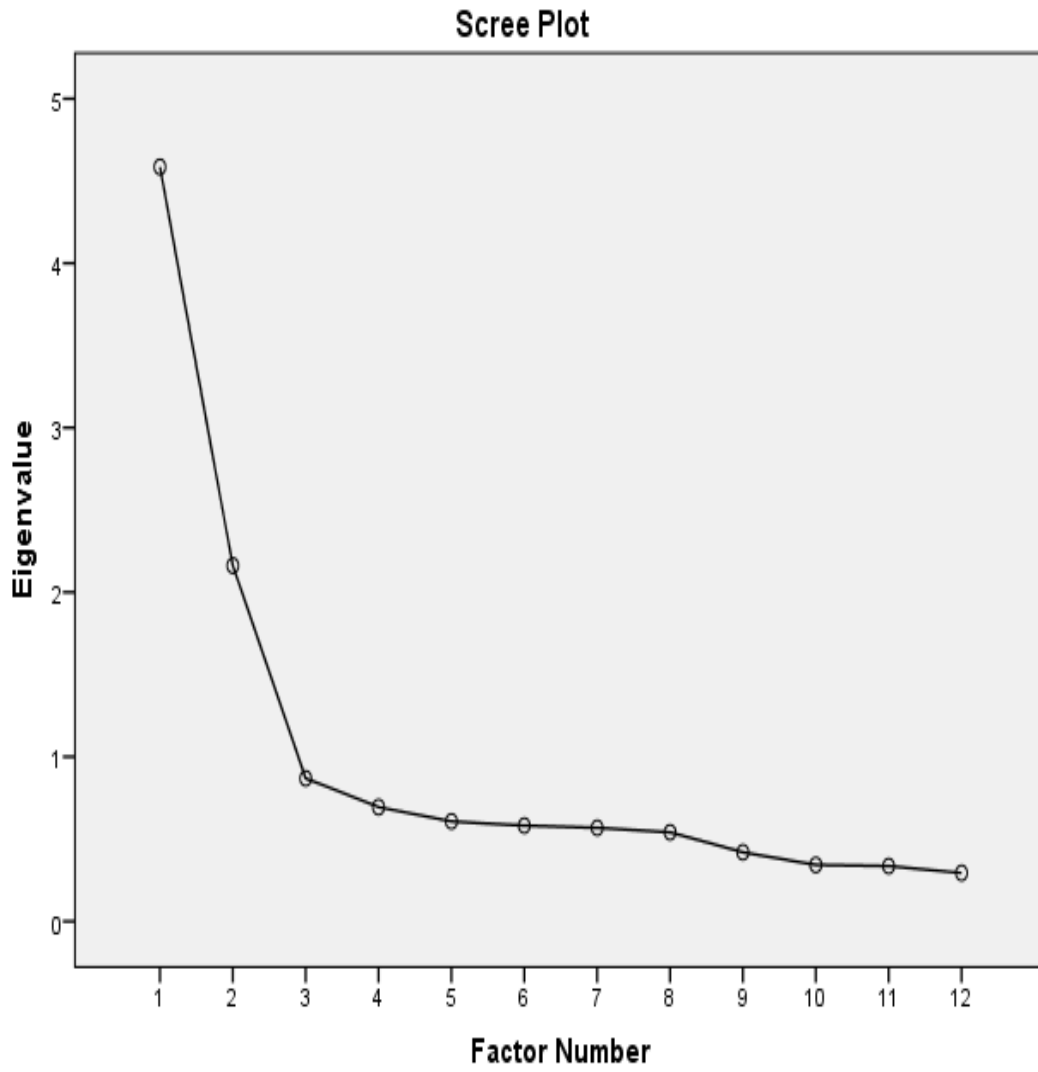
APPENDIX G

Pattern Matrix: Multicultural Teaching Competence

	Factor	
	1	2
MTCAFF1 Student diversity is stressful for me. (R)	.709	
MTCAFF2 I only feel at ease with people from my own culture. (R)	.545	
MTCAFF3 I feel frustrated by student diversity. (R)	.713	
MTCAFF4 I feel annoyed when students don't speak regular English. (R)	.535	
MTCAFF5 I feel annoyed when communicating with students from other racial or ethnic backgrounds. (R)	.808	
MTCAFF6 I often feel irritated by students from another culture. (R)	.773	
MTCCOG1 Knowing about the experiences of students from different cultures increases my self-understanding.		.806
MTCCOG2 Knowing students form different ethnic groups improves my understanding of myself.		.816
MTCCOG3 Knowing how a student differs from me greatly enhances our friendship.		.606
MTCCOG4 Understanding how a student is both similar and different from me helps me get to know him or her.		.601
MTCCOG5 Knowing about the different types of experiences of students improves my understanding of my own problems.		.731
MTCCOG6 I think students from other cultures could teach me things I could not learn elsewhere.		.452

APPENDIX H

Scree Plot: Multicultural Teaching Competence Items



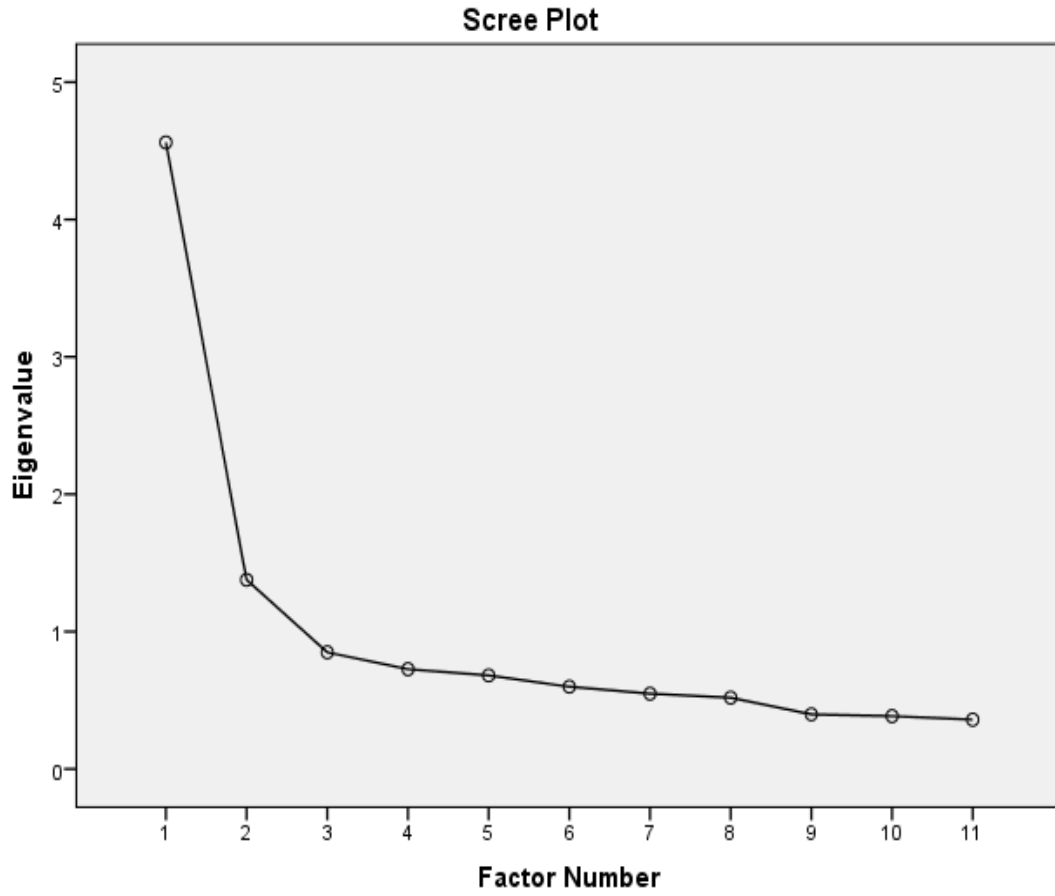
APPENDIX I

Pattern Matrix: Teachers' Attitudes toward Inclusion

	Factor	
	1	2
ATIAFF1 I get frustrated when I have difficulty communicating with students with a disability. (R)		-.735
ATIAFF2 I get upset when students with a disability cannot keep up with the day-to-day curriculum. (R)		-.571
ATIAFF3 I get irritated when I am unable to understand students with a disability. (R)		-.838
ATIAFF5 I am disconcerted that students with a disability are included in the classroom, regardless of the disability. (R)	.325	-.246
ATIAFF6 I get frustrated when I have to adapt the curriculum to meet the individual needs of all students. (R)		-.567
ATIBEH1 I am willing to encourage students with a disability to participate in all social activities in the regular classroom.	.661	
ATIBEH2 I am willing to adapt the curriculum to meet the individual needs of all students regardless of their ability.	.651	
ATIBEH3 I am willing to physically includes students with a severe disability in the regulate classroom with the necessary support.	.514	
ATIBEH4 I am willing to modify the physical environment to include students with a disability in the regular classroom.	.715	
ATIBEH5 I am willing to adapt my communication techniques in order to ensure that all students with an emotional and behavioral disorder can be successfully included in the regular classroom.	.651	
ATIBEH6 I am willing to adapt the assessment of individual students in order to inclusive education to take place.	.644	

APPENDIX J

Scree Plot: Teachers' Attitudes toward Inclusion Items



Candidate for the Degree of

Doctor of Philosophy

Thesis: Multicultural Teaching Competence and Teachers' Attitudes toward Inclusion

Major Field: Educational Psychology

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma, in December 2015.

Completed the requirements for the Master of Arts in Teaching, Learning, Leadership (Special education option) at Oklahoma State University, Stillwater, Oklahoma in December, 2007.

Completed the requirements for the Master of Arts in Modern Dance at the University of Utah, Salt Lake City, Utah, in December 1999.

Completed the requirements for the Bachelor of Fine Arts in Dance Performance at Southwest Missouri State University in Springfield, Missouri, in August, 1994.

Experience: College instructor in the School of Psychology, Sociology, and Criminal Justice at Rogers State University. Classes include statistics, psychological testing, quantitative research methods, internship II, and developmental psychology.

Professional Memberships: American Psychological Association, American Educational Research Association, Kappa Delta Pi, and Council for Exceptional Children.