MONOGRADE AND MULTIGRADE SPECIAL EDUCATION TEACHERS' SENSE OF SELF-EFFICACY BELIEFS

by

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Dedication

To my wife, Tanesha Tutt, you were my motivation to pursue and complete this degree. I cannot wait to see you instill your values into our daughter, Peyten.

Lastly, to my parents, Felix and Josephine Tutt, thank you. Every decision you made for me and experience you provided has made me who I am.

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Abstract

Challenges of teaching special needs students result in high special education teacher turnover (Dev & Haynes, 2015; Linehan, 2013). Bandura's (1977, 1994) self-efficacy theory explains how people remain resilient despite challenges. Resilience is contingent on mastery experience, vicarious experience, social persuasion, and emotional and psychological states (Bandura, 1994; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). This quantitative study examined a convenience sample of 45 special education monograde and multigrade teachers to determine if classroom type influenced self-efficacy levels in student engagement, instructional practice, and classroom management. Data collected from the Teacher's Sense of Self-Efficacy Scale (TSES) were analyzed. An unpaired, independent *t*-test assessed any mean differences between variables. The researcher found that multigrade teachers exhibited lower levels of self-efficacy than monograde teachers when assessing how much they can do to get through to and engage the most difficult students. Related to theoretical constructs, lower self-efficacy among multigrade special education teachers may be attributed to lack of individual success engaging these students or opportunities to be observed or be motivated by other successful teachers. The study also highlights that while classroom type may have some influence on teacher self-efficacy levels in student engagement, additional research is needed to identify what other aspects of the learning environment influence special education teacher self-efficacy. Improving special education teachers' self-efficacy may increase teacher resilience in the profession midst of challenges.

Chapter 1: Introduction

Chapter 1 presents a brief overview of special education in the United States. The role of the special education teacher and descriptions of special education classrooms types are examined. The research question guiding this study explored the differences in special education teachers' sense of self-efficacy in classroom management, student engagement, and instructional practice when assessing special education classroom types. The chapter provides background on special education and the theoretical framework of self-efficacy. The problem statement and purpose statement are introduced and lead into a discussion of the research questions and study significance. Assumptions, delimitations, and limitations of the study are outlined, and definitions of terms, measures, and variables are provided. The chapter concludes with a discussion of the organization of the study and chapter summary.

Background and Contextualization of the Issue

Special education teachers in the United States have the unique job of teaching students with special needs. In 2015, Over 6 million students, from the age of three to 21 were recipients of exceptional education services; however, 49 states reported a special education teacher shortage (National Center for Education Statistics, 2018; National Coalition on Personnel Shortages in Special Education and Related Services, 2018). Moreover, Cross (2017) indicated a high need for special education teachers to meet the demands of the ever-growing number of special education students. It was reported that the turnover rate for special education teachers is a little over 12% of special education, which is almost "double the rate of general education teachers" (National Coalition on Personnel Shortages in Special Education and Related Services, 2018, para. 3). With special education teachers leaving the profession at such a high rate, teacher shortage is a significant concern.

Special education teachers can be placed in various classroom environments including monograde and multigrade classroom types (Georgia Department of Education, n.d.). Monograde and multigrade classroom environments reflect different classroom structures and goals in addition to the types of supports that assist students with special needs in their academic and social development (Dev & Haynes, 2015; Jones & Hensley, 2012). Monograde classrooms are often comprised of only one grade level of students (Georgia Department of Education, n.d.; Linehan, 2013; University of London Institute of Education, n.d.). Monograde classrooms can include inclusive or co-taught classrooms in which the special and general education teachers provide instruction to students with and without disabilities (Georgia Department of Education, n.d.). Accommodations are provided as needed for students with disabilities (Dev & Haynes, 2015; Georgia Department of Education, n.d.; Gurgur & Uzuner, 2010). The inclusive classroom allows teachers to work together to adapt and provide instruction to all students of a specific grade level regardless of learning ability.

In contrast to monograde classrooms, multigrade classrooms are often comprised of students from varying grade levels (Georgia Department of Education, n.d.; Linehan, 2013; University of London Institute of Education, n.d.). Resource and self-contained classrooms are two types of multigrade special education classrooms and are exclusive to students with special education needs (Dev & Haynes, 2015; Georgia Department of Education, n.d.; Gurgur, & Uzuner, 2010). Resource and self-contained classrooms require the special education teacher to provide more direct, tailored instruction to students with special education needs (Dev & Haynes, 2015; Georgia Department of Education, n.d.; Gurgur, & Uzuner, 2010). Whereas students only spend part of day in a resource classroom, self-contained classrooms have the students for the entire day (Dev & Haynes, 2015). Unlike the inclusive, monogradeenvironment

where the special education teacher has additional support and intellectual diversity, special education teachers in the multigrade resource and self-contained classrooms are solely responsible for all instruction and may not have the same classroom support (Dev & Haynes, 2015).

Studies have shown that the structures of the special education classroom can create challenges for special education teachers (Bettini, Kimberling, Park, & Murphy, 2015; Dev & Haynes, 2015; Georgia Department of Education, 2007; Gurgur & Uzuner, 2010; Hargreaves, 2001; Linehan, 2013; Little, 2007; Mariano & Kirby, 2009; Nugent, 2010; Proehl, Shelese, Elias, Johnson, & Westsmith, 2013; UNESCO, 2015; Williams & Dikes, 2015). The level of student engagement, classroom management, and instructional practices in monograde and multigrade classroom types is often contingent upon contextual factors of the classroom (e.g., types of students, teacher supports, and resources such as time; Bettini; Bettini et al., 2015; Dev & Haynes, 2015; Linehan, 2013; Little, 2007; Vincent & Ley, 1999; Williams & Dikes, 2015). Teachers in self-contained classrooms have been shown to have difficulty engaging students while implementing effective instructional strategies and classroom management techniques (Bettini et al., 2015). Designing instruction for multigrade classrooms types such as resource and self-contained classes was found to be more difficult than for monograde classes such as inclusion classrooms (Linehan, 2013; Little, 2007; Mariano & Kirby, 2009). Within the resource and self-contained multigrade environment, the teacher must cater to a variety of student ages and abilities (Linehan, 2013). In these settings, the teacher has less time to engage in instructional practices focused on individual instruction, a critical variable to identify and address student deficiencies as well as engaging in proper scaffolding, corrective action, and classroom management (Bettini et al., 2015; Linehan, 2013; Little, 2007; Vincent & Ley, 1999).

Sutherland, Lewis-Palmer, Stichter, and Morgan (2008) noted that issues with student motivation, disruptions, and aggressive behavior can overshadow a teacher's efforts to provide quality instruction, "especially within a classroom context where multiple students present multiple academic and behavioral needs" (p. 224). A study by Vannest and Hagan-Burke (2010) on use of time found that in self-contained classrooms with students diagnosed with emotional behavior disorders, special education teachers spent an average of only 32.3% of the day on instruction. In contrast, general education teachers could spend more time on instruction because they did not have to address as many student behavior issues (Vannest & Hagan-Burke, 2010). The majority of the special education teacher's classroom time was spent addressing classroom management and student engagement issues.

Research has also identified benefits of multigrade classrooms. Proehl et al. (2013) studied multigrade classes in the catholic school environment and found that multigrade classrooms promoted peer-to-peer learning and student control over individual learning. In exploring multigrade math classes, Nugent (2010) found that multigrade classes allowed the teacher to engage in various types of assessments. Multigrade environments have also been identified as more student-centered environments (Hargreaves, 2001; UNESCO, 2015). However, these particular classrooms only included general education students without special needs.

Monograde classrooms also had their own set of difficulties. Dev and Haynes (2015) found that unlike inclusive, monograde classroom teachers, multigrade teachers in self-contained and resource classrooms had more individual time with students and were better able to develop instructional plans because they understood student needs. In addition, the inclusive classroom required the special education teacher to support the general education teachers and students,

which at times created tension between the two different approaches and implementation strategies (Williams & Dikes, 2015). Similar to resource and self-contained multigrade classrooms, inclusion monograde special education teachers can have difficulty developing instruction that caters to both students with and without disabilities in the same classroom setting (Williams & Dikes, 2015).

Ongoing research has tried to clarify what factors may contribute to the high turnover rates among special education teachers (Dewey et al., 2017; Higher Education Consortium for Special Education, 2014; McLeskey, Tyler, & Saunders-Flippin, 2004; National Center for Education Statistics, 2016; Samuels, 2015). Issues such as lack of support, burnout, lack of student achievement, lack of training, and low job satisfaction have all been attributed to special education teacher attrition (Aragon, 2016b; Berry, Petrin, Gravelle, & Farmer, 2011; Billingsley, 2004; Brownell, Ross, Colon, & McCallum, 2005; Center on Personnel Studies in Special Education, 2004; McKinney, Berry, Dickerson, & Campbell-Whately, 2007; Miller, Brownell, & Smith, 1999; Sutherland et al., 2008). Targeting these factors can help improve teacher self-efficacy.

Teacher self-efficacy is one factor that has been explored as an indicator of teachers' ability to remain resilient and effective in the classroom despite the obstacles (Bandura, 1994, 1997; Eberle, 2011; Lee, Cawthon, & Dawson, 2013; Lee, Patterson, & Vega, 2011; Protheroe, 2008; Shoulders & Krei, 2015; Skaalvik & Skaalvik, 2010; Tschannen-Moran & Hoy, 2001). Studies on the influence of teacher self-efficacy began in the late 1970s when researchers explored the potential link between teacher self-efficacy and student achievement (Caprara, Barbaranelli, Steca, & Malone, 2006; Tournaki & Podell, 2005; Zee & Kooman, 2016). Teacher self-efficacy was linked to enhanced teacher effectiveness, learning opportunities, and better

student learning outcomes (Shoulders & Krei, 2015). Researchers explored the association between teacher self-efficacy and factors such as student achievement, teacher psychological well-being, and classroom and instructional quality (Caprara et al., 2006; Chang & Engelhard, 2015; Guo, McDonald, Yang, Roehring, & Morrison, 2012; Holzberger, Philipp, & Kunter, 2013; Pfitzner-Eden, 2016; Skaalvik & Skaalvik, 2016; Tournaki & Podell, 2005; Zee & Kooman, 2016). The relationships between self-efficacy and school context were also investigated and found that the type of school a teacher works in can influence self-efficacy beliefs (Chang & Engelhard, 2015; Klassen, Tze, Betts, & Gordon, 2011; Pajares, 2007; Siwatu, 2011).

The aforementioned research studies support the notion that various aspects of the learning environment can influence self-efficacy and may help explain some of the retention challenges in the field of special education. However, more can be learned about the factors that can influence special education teacher self-efficacy. One such factor warranting further exploration is the influence of monograde and multigrade classrooms on special education teacher self-efficacy levels with varying aspects of instruction. Increasing knowledge on this phenomenon may assist in determining what can be done to increase special education teacher retention and support effective special education classroom management, instructional practice, and student engagement (Caprara et al., 2006; Chang & Engelhard, 2015; Guo et al., 2012; Holzberger et al., 2013; Pfitzner-Eden, 2016; Skaalvik & Skaalvik, 2016; Tournaki & Podell, 2005; Zee & Kooman, 2016).

Problem Statement

The special education teacher turnover rate is double that of general education teachers (National Coalition on Personnel Shortages in Special Education and Related Services, 2018).

However, the number of students with special needs is steadily increasing, with 6.7 million between the ages of three and 21 years receiving special education services in the 2015-2016 school year (National Center for Education Statistics, 2018). With almost all 50 states in the United States reporting special education teacher shortages and school districts struggling to secure enough special education teachers to meet student needs, identifying factors that contribute to teacher attrition can help educational systems know how to effectively use resources to bolster these areas (Cross, 2017; Dewey et al., 2017; Higher Education Consortium for Special Education, 2014; McLeskey et al., 2004; National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Samuels, 2015).

Research indicates that special education teachers confront many obstacles when trying to engage, manage, and deliver effective instructional practice for students with special education needs (Bettini et al., 2015; Dev & Haynes, 2015; Georgia Department of Education, 2007; Gurgur & Uzuner, 2010; Hargreaves, 2001; Linehan, 2013; Little, 2007; Mariano & Kirby,2009; Mulryan-Kyne, 2004; Nugent, 2010; Proehl et al., 2013; UNESCO, 2015;Vincent & Ley, 1999; Williams & Dikes, 2015). Although these obstacles vary depending on the classroom environment, one common factor associated with overcoming these challenges is the teachers' sense of self-efficacy (Bandura, 1994; Eberle, 2011; Lee et al., 2011; Protheroe, 2008; Skaalvik & Skaalvik, 2016; Tschannen-Moran & Hoy, 2001). Self-efficacy has been linked to resilience in the profession (Caprara et al., 2006; Chang & Engelhard, 2015; Guo et al., 2012; Holzberger et al., 2013; Klassen et al., 2011; Pajares, 2007; Pfitzner-Eden, 2016; Skaalvik & Skaalvik, 2016; Siwatu, 2011; Tournaki & Podell, 2005; Zee & Kooman, 2016). However, there is no research that examines how differences between monograde and multigrade classrooms impact special education teacher self-efficacy. Special education teacher perceptions of self-efficacy may differ

across classroom types when assessing performance of certain tasks, and these differences may assist in determining what classroom factors contribute to a special education teacher's ability to overcome classroom challenges, remain in the profession, and deliver effective instructional practice, student engagement, and classroom management (Bettini et al., 2015; Dev & Haynes, 2015; Linehan, 2013; Little, 2007; Vincent & Ley, 1999; Williams & Dikes, 2015). Improving teacher self-efficacy can contribute to addressing the high teacher turnover.

Purpose Statement

The purpose of this quantitative study was to examine the differences in monograde and multigrade special education teachers' sense of self-efficacy levels as measured by student engagement, instructional practice, and classroom management in an online special education teacher forum.

Overview of Theoretical Framework and Methodology

Theoretical framework. The theoretical framework that guided this research study was Albert Bandura's (1977) theory of self-efficacy. Bandura's (1977, 1994) self-efficacy theory explains how people remain resilience despite challenges. The self-efficacy theory is rooted in two frameworks: Rotter's (1966) social learning theory (SLT) and Bandura's (1977, 1986) social cognitive theory (SCT). Through SLT, Rotter (1966) suggested that behavior is linked to what an individual feels is within his or her ability to control, referred to as locus of control. Locus of control is either internal or external. The external locus of control denotes the degree to which individuals believe an event or situation is outside their control (Rotter, 1966). A person with a high external locus of control tends to believe their behavior is independent of an outcome. In contrast, the internal locus of control is the extent individuals think they can regulate an event, and the outcome depends on people's behaviors.

Bandura (1977) extended Rotter's SLT and believed learning is done within a social context. Within this social context, one way a person can learn behaviors is through direct experience or watching the experiences of others. Both favorable and unfavorable consequences of direct and observed experiences reinforce some behaviors and discourage others. These consequences provide them information on which behaviors will most likely result in success, and become the drivers for future behaviors (Bandura, 1977).

Through developing self-efficacy theory, Bandura (1973) sought to extend the idea of control to include both the outcome individuals believe they can influence and have the capacity to master a task or produce a desired explained outcome. Bandura (1977, 1986, 1994) explicated that the foundation of self-efficacy is rooted in mastery experience, vicarious experience, social persuasion, and emotional and physiological states (Figure 1).

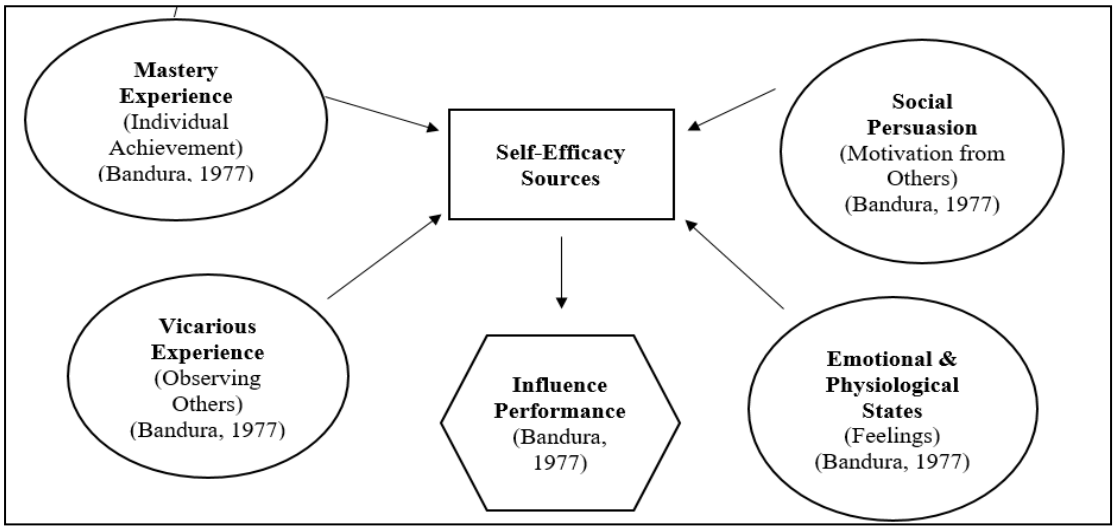

Figure 1: Sources of self-efficacy influence. Adapted from, "Self-Efficacy: Toward a Unifying Theory of Behavior Change," by A. Bandura, 1977, *Psychological Review*, *84*, 191-215. Copyright 2016 by American Psychological Association.

Mastery experiences refer to individual achievements in which the person alone accomplishes or "masters" a particular task (Bandura, 1977). Vicarious experiences help strengthen a person's self-efficacy through watching others successfully perform a task

(Bandura, 1977). Social persuasion helps strengthen self-efficacy through receiving encouragement from others (Bandura, 1977). Emotional and physiological states are influences in which people judge their ability to complete a task based on how they feel or what may be caused internally because of performing a task. Each of these self-efficacy sources can vary in terms of how they influence and contribute to a person's self-efficacy and ability to perform (Bandura, 1977). Whereas successful performance, experiences, and ability to accomplish a task can increase self-efficacy, poor performance, negative experiences, and inability to accomplish a task can decrease self-efficacy.

As research on teachers increased, the concept of self-efficacy was examined in the context of teacher self-efficacy. Bandura (1994) postulated that teachers' self-efficacy is the degree to which they feel they can "control" or influence a student's behavior and achievement. Tschannen-Moran et al. (1998) extrapolated that the constructs of the self-efficacy theory provide the foundation that shape the development of a teacher's self-efficacy belief. Tschannen-Moran et al. (1998) explained that once the various constructs of self-efficacy help shape a teacher's efficacy beliefs, the teacher develops a sense of self-efficacy that may result in setting ambitious goals, increasing effort, drive and determination, and having resilience to withstand any challenges or obstacles confronted in the learning environment. Figure 2 outlines the process of shaping beliefs known as the cycle of teacher efficacy (Tschannen-Moran et al., 1998).

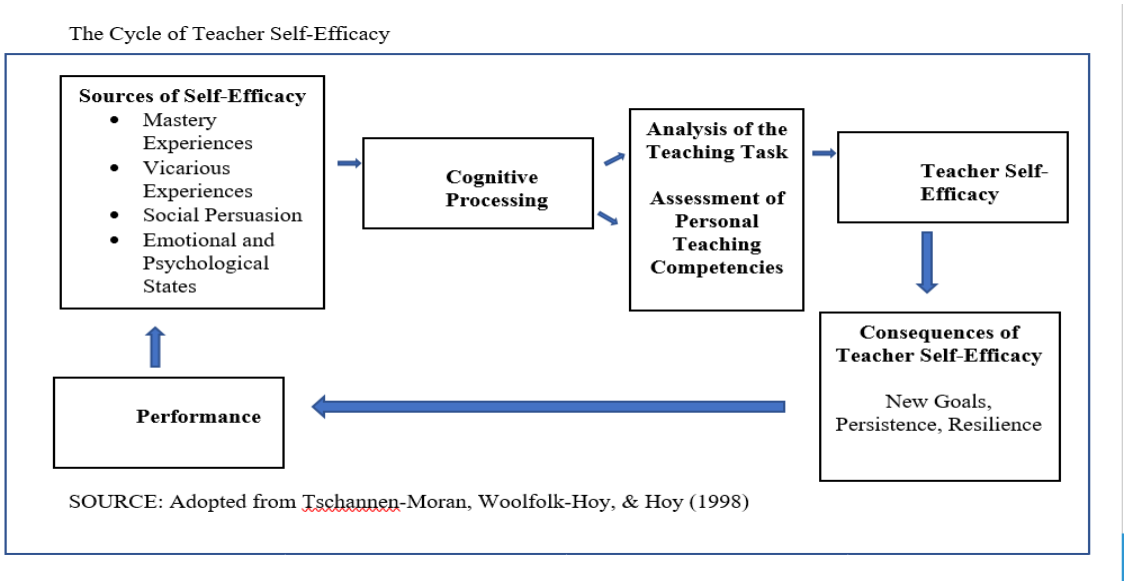

Figure 2. The cycle of teacher self-efficacy. Adapted from "Teacher Efficacy: Its Meaning and Measure," by M. Tschannen-Moran, A. Woolfolk-Hoy, and W. Hoy, 1998, *Review of Educational Research, 68*(2), p. 228. Copyright 1998 by Sage Publishing.

To explore the phenomenon of teacher self-efficacy, Tschannen-Moran and Hoy (2001) developed the Teacher Sense of Self-Efficacy Scale (TSES). The goal of the instrument is to assess teacher perceptions of teacher self-efficacy levels when engaging in various instructional components of the teaching environment. When studying the aspect of classroom management, Dicke et al. (2014) highlighted that diminished self-efficacy was associated with emotional exhaustion. Similarly, Zee and Kooman (2016) found that teachers with high sense self-efficacy were prone to view the implementation of new and innovative instructional practice as a high priority. Klassen et al. (2011) found that teachers who taught in K-5 grade levels exhibited high levels of self-efficacy when assessing classroom management and student engagement.

The resulting self-efficacy data from TSES surveys have been applied to research studies examining emotional and physiological changes that result from both low and high levels of self-efficacy. For example, low levels of classroom management self-efficacy has been associated

with teacher burnout, especially among special education teachers (Aloe, Amo, & Shanahan, 2014; Scott, 2017). In addition to the sub-factors of classroom management, student engagement, and instructional practice, studies have linked teacher self-efficacy to various aspects of the profession including persistence, enthusiasm, commitment, instruction, and student achievement (Mahmoee & Pirkamali, 2013; Tschannen-Moran & Hoy, 2001).

In this study, Bandura's self-efficacy theory (1977, 1994) is used to explain how special education teachers remain resilient despite classroom challenges. The resilience is contingent on the teacher's mastery and vicarious experience, social persuasion, and emotional and psychological states (Bandura, 1994; Tschannen-Moran et al., 1998). With studies such as Aloe et al. (2014) and Scott (2017) highlighting burnout (to include stress) as a major factor in special education teacher attrition, understanding a special education teacher's belief in his or her ability to perform when placed in various classrooms types may help identify what types of classroom environment support greater teacher retention. Examining how the instructional components of student engagement, instructional practice, and classroom management differ on monograde and multigrade special education teacher self-efficacy levels can lead to further understanding of the mastery and vicarious experience, social persuasion, and emotional and psychological states that have a positive or negative influence on the teachers' belief in their ability to perform certain tasks (i.e. self-efficacy; Bandura, 1977, 1994). A special education teacher's self-efficacy may be a deciding factor in how he or she engages students, manages a classroom, delivers effective instructional practice, and remains in the profession despite the challenges of teaching in various classroom types.

Overview of the methodology. The research study used a quantitative, correlational design to collect data from special education teachers in an online special education teacher

forum on Facebook who currently teach in monograde or multigrade classrooms. The quantitative design is a nonexperimental design used to identify relationships between variables (Creswell, 2014; Herr, 2007; Leedy & Ormrod, 2010). A correlational study examines how the "differences in one variable are related to differences in one or more other variables" (Leedy & Ormrod, 2010, p. 108). Using a quantitative approach to explore the research phenomena allows for greater generalization and study replicability because of the use of the scientific method and reliance on hypotheses testing (Daniel, 2016).

The purpose of this quantitative study was to examine the differences in teachers' sense of self-efficacy levels between monograde and multigrade special education teachers in student engagement, instructional practice, and classroom management in an online special education teacher forum. Specifically, levels of special education teachers' sense of self-efficacy were assessed across the constructs of student engagement, instructional practice, and classroom management between monograde and multigrade special education teachers. A cross-sectional survey was used to collect data from monograde and multigrade special education teachers at a specific point in time (Creswell, 2014).

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) data analysis software program. An unpaired, independent *t*-test was used to compare variable mean scores between two groups (Field, 2009; Leedy & Ormrod, 2010). In this research study the independent *t*-test was used to assess the relationship between the dependent variables (classroom management, instructional practice, and student engagement) and the independent variables (classroom types).

Research Question/Hypotheses

The following theory-based research question guided this quantitative, correlation study: How do the instructional aspects of student engagement, instructional practice, and classroom management differ on monograde and multigrade special education teacher self-efficacy levels?

***H_0*:** The instructional aspects do not differ on monograde and multigrade special education teacher self-efficacy levels.

***H_1*:** At least one instructional aspect differs on monograde and multigrade special education teacher self-efficacy levels.

Assumptions of the Study

There were two assumptions in this study. The study assumed that participants would be open, honest, and truthful when responding to survey questions (Roberts, 2010). Participants were provided detailed information about how the survey would be used. No identifiable information was included on the survey (Princeton University, 2017). To maintain confidentiality, at the end of the two-week survey period the researcher deleted all email addresses. Participants volunteered and could elect to discontinue participation at any point in the survey (Simon, 2011). Participants also responded directly to the survey and not to the researcher. Thus, the researcher could not link responses to any particular participant.

The second assumption concerned the understanding that the survey instrument utilized within the study would be reliable and valid. It was assumed the instrument measured what it was supposed to measure and that if the test was repeated with a different sample, the instrument would yield the same result (Kimberlin & Winterstein, 2008). The survey used in the study had been tested for reliability and validity across all constructs (Tschannen-Moran & Hoy, 2001). Zee and Kooman (2016) validated the tool when assessing teacher self-efficacy in developing

new instructional practice. Klassen et al. (2011) validated the tool in a study examining self-efficacy of K-5 teachers.

Delimitations and Limitations of the Study

Delimitations refer to factors in the research study that the researcher can control (Creswell, 2014). The delimitations highlight the populations and self-efficacy levels that were not examined in this study (Leedy & Ormrod, 2010). There were two delimitations in the current study. The study was delimited to participants from the online forum and not the entire population of special education teachers. The study was delimited to only monograde and multigrade special education teachers. While there is research on the self-efficacy levels of monograde and multigrade general education teachers, special education teacher self-efficacy has not been a focus of study in this regard (Bettini et al., 2015; Dev & Haynes, 2015; Georgia Department of Education, 2007; Gurgur & Uzuner, 2010; Hargreaves, 2001; Linehan, 2013; Little, 2007; Mariano & Kirby, 2009; Nugent, 2010; Proehl et al., 2013; Williams & Dikes, 2015; & UNESCO, 2015). Consequently, the results of this study may provide implications for future research on special education teachers who teach in monograde and multigrade classrooms. The results may not be generalizable to the entire population, but generalizable to the sample that meet the above criteria of being selected via Facebook.

In addition to delimitations, there were five limitations to this study. Limitations refer to factors and weaknesses in the study outside the researcher's control (Leedy & Ormrod, 2010). The first limitation concerns the fact that special education teachers could have taught in both classroom types; however, only one classroom type could be selected. To address this limitation, demographic questions were included so that teachers could indicate the classroom type in which

they had taught. However, there was no way to guarantee participants would select the classroom type reflecting their most recent experience.

The second limitation of this study involves the potential for researcher bias. The researcher in this study was also a special education teacher of the forum being examined However, the researcher made specific efforts to remain impartial and not influence respondents in any manner. The researcher did not participate in the survey, and the survey instrument and questions used were not developed by the researcher, which further reduces surveyor bias (Leedy & Ormrod, 2010). Additionally, Herr and Anderson (2005) explained a degree of subjectivity and bias in research is often expected and inevitable so long as the researcher examines and recognizes that bias and subjectivity exist.

The third limitation of this study concerns the lack of qualitative data collected that may otherwise provide a richer contextual description as to how classroom type influenced the manner in which participants responded to the self-efficacy survey (Creswell, 2014). Only the variables were explored to determine whether classroom type was associated with difference in self-efficacy levels. Another limitation of this study relates to how factors including school resources, support, and student demographics may have influenced participant responses. Issues such as lack of support, lack of resources, teacher burnout, lack of student achievement, lack of training, and low job satisfaction have all been attributed to levels of special education teacher self-efficacy (Aragon, 2016b; Berry et al., 2011; Billingsley, 2004; Brownell et al., 2005; Center on Personnel Studies in Special Education, 2004; McKinney et al., 2007; Miller et al., 1999; Sutherland et al., 2008). However, steps were taken to make sure the survey instrument selected was a general as possible and could apply to all monograde and multigrade special education teachers.

The nature of using a self-report instrument through a post on an online forum is another limitation of this study. Although posting on the forum ensured that participants could instantly receive and respond to surveys, some participants may not have internet access, may miss the post entirely, or may delete the post due to post overload (Colton & Covert, 2007). Nonresponse bias can also be a concern as respondents may elect to skip certain questions or not respond to the survey and result in a low response rate. Low response rates can negate the effects of random sampling (Colton & Covert, 2007). To address this issue, the survey was sent via a post on the forum, and participants were informed that the surveys was being posted with approval from the forum administrators. Information for contacting the university was also provided in case a potential participant wanted to call and verify that the legitimacy of the survey. To address nonresponse bias, respondents were sent reminders via a post on the forum.

Significance of the Study

Although there is some research on the self-efficacy of special education teachers, a dearth of studies exist exploring the differences in self-efficacy levels of teachers based on classroom type (Caprara et al., 2006; Chang & Engelhard, 2015; Guo et al., 2012; Holzberger et al., 2013; Pfitzner-Eden, 2016; Skaalvik & Skaalvik, 2016; Tournaki & Podell, 2005; Zee & Kooman, 2016). This study adds to the education literature by examining factors like classroom type that may contribute to teacher self-efficacy, which has been highlighted as an indicator of teacher resilience (Bandura, 1994; Tschannen & Woolfolk-Moran & Hoy, 2001). The study also offers implications for future research on the topic to include administering the survey to other samples of monograde and multigrade teachers. Through researching monograde and multigrade special education teachers, more information can be developed about the influence that teaching in these classroom types may have on a teacher's belief in his or her ability to effectively engage

students, manage a classroom, and employ sound instructional practice. A better understanding of how classroom type impacts special education teachers' sense of self-efficacy may offer additional insights into ways a teacher can be successful amid challenges such as lack of support and training (Bandura, 1994; Eberle, 2011; Lee et al., 2011; Protheroe, 2008; Skaalvik & Skaalvik, 2016; Tschannen-Moran & Hoy, 2001).

Moreover, special education teachers face specific difficulties when trying to provide instruction to their students (Bettini et al., 2015; Dev & Haynes, 2015; Georgia Department of Education, 2007; Gurgur & Uzuner, 2010; Hargreaves, 2001; Linehan, 2013; Little, 2007; Mariano & Kirby, 2009; Mulryan-Kyne, 2004; Nugent, 2010; Proehl et al., 2013; UNESCO, 2015; Vincent & Ley, 1999; Williams & Dikes, 2015). Exploring classroom type and teacher self-efficacy may add to the literature on what influences teacher turnover and attrition which is vital to addressing the special education teacher shortage (Cross, 2017; National Coalition on Personnel Shortages in Special Education and Related Services, 2018). The study can lead to exploration of other factors that may be associated with special education teacher self-efficacy and attrition such as burnout (Aloe et al., 2014; Scott, 2017). The study also adds to the broader knowledge base of what factors may influence teachers' sense of self-efficacy.

Identifying how self-efficacy in classroom management, instructional practice, and student engagement is affected by special education classroom types may also assist in identifying the classroom type and instructional areas where special education teachers could benefit from more training and support. Given varying types of special education classrooms in which teachers can be placed, future research may help determine why a specific classroom type results in altered self-efficacy if significant associations are discovered. Additional research can

also examine how the self-efficacy of teachers in monograde and multigrade classrooms influence overall student achievement.

In addition to identifying classroom types that support teacher effectiveness, focusing on the survey constructs may help identify gaps in special education teacher qualifications and highlight a need for additional training and education for prospective teachers entering the field. Colleges and universities may benefit from adapting curriculum to ensure teachers in training are equipped with the self-efficacy necessary to perform in the varying special education environments. The research may also lead to the development of in-service and staff development trainings to better equip special education teachers to deliver instruction across varying classroom types.

In terms of policy improvement and decision making, results from this research may assist administrators in determining how to best place special education teachers in classroom types to facilitate self-efficacy. The research may influence policies on special education teacher training, ensuring that incoming teachers have adequate mastery, vicarious experiences, and peer support that lead to emotional and psychological promoting increased self-efficacy and belief in the ability to teach all levels and types of special education students. Increased support and training may help address issues with teacher shortages and attrition amid the ever-growing number of special education students (Dewey et al., 2017; Higher Education Consortium for Special Education, 2014; McLeskey et al., 2004; National Center for Education Statistics, 2016; Samuels, 2015). The research may also influence policy on special education classroom groupings, as monograde inclusive, multigrade resources, and self-contained special education classrooms may benefit from a restructuring to teacher and student needs.

Definition of Terms

Classroom context. This term is defined as the composition of the classroom to include the student body, classroom structures, and resources that make-up the classroom environment (Friendman & Kass, 2002; Palardy, 2015). The term encompasses "beliefs, goals, values, perceptions, behaviors, classroom management, social relationships, physical space, and social-emotional and evaluative climates that contribute to the participants' understanding of the classroom" (Turner & Meyer, 2000, p. 70).

Classroom management. This term refers to the ability of teachers and schools to create a positive, orderly, and organized learning environment in which student behavior is maintained, instruction can be delivered, and students are productive, engaged and remain on task (Emmer & Sabornie, 2014; Everston & Weinstein, 2006; Kratochwill, DeRoos, & Blair, 2017 ; Tschannen-Moran & Hoy, 2001)

Free Appropriate Public Education. This term is defined under Section 504 of *The Rehabilitation Act of 1973.* According to the U.S. Department of Education (2010), school districts are required to provide a "free and appropriate public education" to each person classified as having a disability who is in the specific district's jurisdiction regardless of the nature or severity of the person's condition.

General education teacher. This term is defined as the educator who serves students without disabilities (Georgia Department of Education, n.d.; Gurgur & Uzuner, 2010).

Highly qualified. This term is describes is a classification used to signify teachers who hold a specialized degree and are certified in a core content area (Georgia Department of Education, 2014; Essex, 2016; U.S. Department of Education, 2010).

Inclusive or co-taught classroom. This term describes classrooms that consist of both a general education and special education teacher who provide instruction to students with and without disabilities (Georgia Department of Education, n.d.; Gurgur & Uzuner, 2010).

Individualized education plan. This term is defined as a document that outlines individualized instruction plans and goals for academic and social development of students with special education needs.

Individuals with Disabilities Education Act. This term describes the federal act that guarantees services to children in the United States with disabilities and outlines how states and public agencies should provide intervention, special education, and other related services to these children (U.S. Department of Education, n.d.).

Instructional practice. This term is defined as the teaching methods and activities teachers employ when delivering instruction that facilitates student learning and develops children into healthy problem solvers and independent thinkers (Taimalu, Kikas, Hinn, & Niilo, 2010; Tschannen-Moran & Hoy, 2001).

Learning disabilities. This term is defined as a mix of disorders exhibited by significant difficulties in the attainment and the "use of listening, speaking, reading, writing, reasoning or mathematical abilities" (Hammill, Leigh, McNutt, & Larsen, 1981, p. 336).

Monograde classroom. This term is defined as the classroom type that is comprised of students of the same age and grade level (e.g., sixth grade students who are approximately the same age; University of London Institute of Education, n.d.).

Multigrade classroom. This term is defined as the classroom type that is comprised of students of various ages and grade levels (e.g., sixth-, seventh-, and eighth-grade students of various ages; University of London Institute of Education, n.d.).

Resource classroom. This term is defined as a special education-only classroom in which students with special education needs are removed for a part of the instructional day from the general education classroom to a class where they can receive individualized or small group instructional support. The instruction is delivered by special education teachers on curriculum content in which the students are deficient and is based on the student's individualized education program (IEP) (American Academy of Special Education Professionals, 2017; Georgia Department of Education, n.d.; Gurgur & Uzuner, 2010; Jones & Hensley, 2012).

Self-contained classroom. This term is defined as a special education-only classroom in which students are outside of the general education environment full time to receive instruction on multiple subjects and topic areas. The teacher is a special education teacher who provides support for the students' unique needs as indicated by their IEP (Georgia Department of Education, n.d.; Jones & Hensley, 2012).

Special education. This term is defined as the type of education that ensures specialized instruction is designed and provided for students with disabilities (Georgia Department of Education, 2014; U.S. Department of Defense Education Activity, n.d.; U.S. Office of Special Education Programs, 2017).

Special education teachers. This term is defined as a specific type of teacher who delivers content and instruction designed for students with disabilities (Bureau of Labor Statistics, 2015).

Student engagement. This term is defined as the levels of interest, attention, involvement, participation, and investment that students exhibit while in the learning environment (Shoulders & Krei, 2015; Tschannen-Moran & Hoy, 2001).

Students with special education needs. According to the State of Georgia, the term describes students with one of the 13 classifications of disabilities that requires unique, tailored instruction as specified under Individuals with Disabilities Education Act.

Teacher efficacy. This term is defined as a teacher's belief regarding his or her capacity to influence student achievement and motivation (Tschannen-Moran & Hoy, 2001).

Teacher Sense of Self-Efficacy Scale. This term describes the specific data collection instrument created to measure teachers' perceptions and judgments of their ability to elicit a desired outcome of student learning, achievement, and engagement, even in students who may be difficult to teach or who are unmotivated (Tschannen-Moran & Hoy, 2001).

The Rehabilitation Act of 1973. This term is defined as the Act that prohibits the discrimination of individuals with disabilities based on disability by a federal agency, within federal programming that receives federal funding, or in federal employment (U.S. Access Board, n.d.).

Definitions of Measures and Variables

Classroom type. The classroom types of monograde and multigrade were measured as the independent variables in this study.

Dependent variable. For the purposes of this study, the dependent variable of self-efficacy was measured by teacher self-assessment of classroom management, instructional practices, and student engagement. This dependent variable in this study was self-efficacy. This variable was measured as any changes in self-efficacy levels on the TSES survey constructs of classroom management, instructional practice, and student engagement.

Interval data. This type of data refers to a datum type measured on an integer scale in which each integer is equidistant from the next. The constructs of classroom management, instructional practice, and student engagement were interval data.

Organization of the Study

This study is organized into five chapters, references, and appendices. Chapter 1 presents a brief overview of special education in the United States. This discussion includes an examination of the role of the special education teacher and descriptions of the types of special education classrooms. The research question guiding this study focused on exploring the differences in special education teachers' sense of self-efficacy in classroom management, student engagement, and instructional practice when assessing special education classroom types. The chapter provided background on special education and the theoretical framework of self-efficacy. The problem statement and purpose statement were introduced and lead into a discussion of the research questions and study significance. Assumptions, delimitations, and limitations of the study are outlined, and definitions of terms, measures and variables are provided. The chapter concludes with an outline of the organization of the study and chapter summary.

Chapter 2 reviews the literature on the phenomenon of special education in the United States. Within this exploration special education classroom types, teacher attrition, and teacher self-efficacy are explored. The chapter begins with a discussion of the evolution of special education in the United States and the different environments in which students with special education needs can receive instruction. Literature on self-efficacy and teacher self-efficacy is introduced, as well as research on how the learning environment influences teacher self-efficacy in classroom management, student engagement, and instructional practice. The analysis of the

literature provides context for how monograde and multigrade classroom types may influence a special education teacher's sense of self-efficacy.

Chapter 3 serves to explain and justify the methodology and methods selected for this study relative to the research problem, purpose, and questions. An explanation of the research design to include its strengths and weaknesses will be discussed. The research site, description of the population, and a description of the sample are provided. Ethical issues and data sources are identified, and research protocols and data collection procedures are outlined. The researcher's positionality will also be explained along the research validly, threats, reliability, data analysis techniques, and limitations of the study.

Chapter 4 presents the results of the quantitative correlation study. A description of participants is provided along with a summary of how the data were prepared and analyzed. Specifically, results from the analysis of each survey construct are discussed and significant results are highlighted through narrative and data tables. A presentation and analysis of results is provided. A summary concludes the chapter.

Chapter 5 provides a summary of the study and includes a discussion of the major results, conclusions, and interpretation of the results. Implications of the study and recommendations for future research in the area of monograde and multigrade special education teachers and teacher self-efficacy are also discussed. The chapter concludes with a discussion on limitations and reflexivity and a chapter summary. The reference and appendices will conclude the study.

Chapter Summary

This study sought to examine how the instructional aspects of student engagement, instructional practice, and classroom management affect monograde and multigrade special education teacher self-efficacy levels. Over 400,000 special education teacher vacancies were

reported in 2016 and 49 states have substantial special education teacher shortages (National Center for Education Statistics, 2018; National Coalition on Personnel Shortages in Special Education and Related Services, 2018). Identifying the degree of influence factors like classroom type have in special education teacher turnover may help to better understand the problem (Bureau of Labor Statistics, 2018; National Coalition on Personnel Shortages in Special Education and Related Services, 2018). The challenges special education teacher face when trying to deliver instruction to special education students often contribute to teacher attrition (Bettini et al., 2015; Dev & Haynes, 2015; Georgia Department of Education, 2007; Gurgur & Uzuner, 2010; Hargreaves, 2001; Linehan, 2013; Little, 2007; Mariano & Kirby, 2009; Mulryan-Kyne, 2004; Nugent, 2010; Proehl et al., 2013; UNESCO, 2015; Vincent & Ley, 1999; Williams & Dikes, 2015). A teacher's ability to engage students while also maintaining effective instructional practice, classroom management, and student engagement is difficult when supporting students with varying academic and behavioral needs and learning abilities (Bettini et al., 2015; Sutherland et al., 2008). Another factor shown to influence a special education teacher's ability to deliver instruction is the type of classroom in which the instruction is delivered (Sutherland et al., 2008). The two general types of special education classroom teachers and environments are monograde and multigrade.

One factor that may impact a special education teacher's ability to remain resilient and be effective in multigrade and monograde classrooms is a teacher's sense of self-efficacy (Bandura, 1994; Eberle, 2011; Lee et al., 2011; Protheroe, 2008; Skaalvik & Skaalvik, 2010; Tschannen-Moran & Hoy, 2001). Bandura (1977) conceptualized self-efficacy theory as way to explain a person's motivation for engaging in a behavior. Bandura (1977) defined self-efficacy the outcome individuals believe they can influence and have the capacity to master a task or produce

a desired explained outcome. A teacher's belief in his or her abilities may dictate the type and quality of instruction they provide despite the inherent challenges (Bandura, 1994).

Studies have revealed an association between teacher self-efficacy and factors such as student achievement, teacher psychological well-being, and classroom and instructional quality (Caprara et al., 2006; Chang & Engelhard, 2015; Guo et al., 2012; Holzberger et al., 2013; Pfitzner-Eden, 2016; Skaalvik & Skaalvik, 2016; Tournaki & Podell, 2005; Zee & Kooman, 2016). Research has also explored associations between self-efficacy and school context and found that the context of a classroom environment, to include student composition and physical space, influenced teacher self-efficacy (Chang & Engelhard, 2015; Friendman & Kass, 2002; Klassen et al., 2011; Pajares, 2007; Palardy, 2015; Siwatu, 2011). However, research examining what aspects of the learning environment may influence special education teacher self-efficacy is limited. One aspect of the learning environment is the classroom type in which instruction is delivered. For the special education teacher, these classroom types include monograde and multigrade. With studies suggesting burnout as a major factor in special teacher attrition, understanding a special teacher's belief in his or her when ability when placed in various classrooms types may help explain what types of classroom environment support greater teacher retention (Aloe et al., 2014; Scott, 2017).

This quantitative research design consisted of a correlational study using the Teacher's Sense of Self-Efficacy Survey to evaluate the self-efficacy levels of monograde and multigrade special education teachers. Specifically, teachers were asked to assess to address their levels of self-efficacy in classroom management, instructional practice, and student engagement. An unpaired, independent *t*-test was used to identify any mean differences between the special education classroom types and special education teachers' sense of self-efficacy. The study

highlights that classroom type may influence special education teacher self-efficacy. A special education teacher's self-efficacy may likely impacts the manner in which he or she engages students, manages a classroom, delivers effective instructional practice, and continues to teach students with special needs despite the challenges.

Chapter 2: Review of the Literature

This chapter discusses the literature on the phenomenon of special education in the United States, special education classroom types, teacher attrition, and teachers' sense of self-efficacy. The chapter begins with a discussion of the evolution of special education in the United States. Included in this discussion are federal and state laws and policies governing the classification of students with special needs. The level and type of instruction and services, and special education teachers and their administrators must provide is also reviewed. The discussion extends to provide definitions and explanations of the special education classroom environment and the various types of special education classrooms. The challenges of these classroom environments that are associated with teacher turnover are also framed to highlight how this contemporary problem has influenced special education and the ability of school systems to provide services for students with special needs. The review of the self-efficacy theory framework outlines the theoretical basis for the research. A review of the history and major contributors to theory development are also explored. The section also reviews how self-efficacy theory is used to address the current research question: how do the instructional aspects of student engagement, instructional practice, and classroom management differ between monograde and multigrade special education teacher self-efficacy levels. The chapter concludes with a review of the data collection instrument and the instrument constructs of classroom management, student engagement, and instructional practice. The chapter details how the constructs are used in this study to assess special education teacher self-efficacy. The literature review highlights the evidence that suggest classroom type may influence the variations in special education teacher self-efficacy. A special education teacher's self-efficacy may determine the teacher's resilience and ability to engage students, manage a classroom, deliver

effective instructional practice, and continue to teach students with special needs despite the challenges of teaching varying classroom types.

Special Education

Providing services for individuals with disabilities was not always a priority in the United States (Pullen, 2016; Terman, 1917). However, as research on learning disabilities began to materialize, the need to support students with special needs became a priority (Pullen, 2016; Young & Courtad, 2016). By 1975, the United States shifted from providing no oversight and support of the education of services for those with special needs to mandating all aspects of special education (Essex, 2016; National Center for Education Statistics, 2016; Powell, 2016). While these mandates protect students with special needs and ensure they receive a quality education, they also place immense pressure on special education teachers and can lead to the problem of teacher turnover (National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Sutcher, Darling-Hammond, & Carver-Thomas, 2016). An understanding of the social and legal history of the profession is critical to assessing the factors that have contributed to special education teacher shortages.

Special education in the United States. In 2015, Over 6 million students, from the age of three to 21 were recipients of exceptional education services (National Center for Education Statistics, 2018). The United States has not always been a proponent of educating students with special needs, however. Prior to the 20th century, individuals with disabilities were ostracized, often incarcerated, segregated, or killed because they lacked the mental capacity of a person of intelligence (Spaulding & Pratt, 2015). Anyone with an intelligence quotient below 70 was considered a person with a “feeble mind,” incapable of being educated and leading a normal life (Terman, 1917). Not until the 1900s did researchers such as Grace Fernald, Samuel Orton, and

Marion Monroe start to examine individuals with reading deficiencies, which initiated research on learning disabilities (Pullen, 2016). Research continued into the 1950s when Samuel Kirk, known as the father of special education, began examining the benefits of remediation in improving reading ability of individuals with low IQ scores (Pullen, 2016; Young & Courtad, 2016).

By the end of the 1950's, the United States government noticed the inadequacies in educational opportunities for those individuals with special education needs. In 1958 Public Law 85-926 was authorized, which allocated $1 million a year in funding for colleges and universities to develop training programs to prepare teachers to provide instruction for students with mental retardation (Government Publishing Office, 2018; Lozano & Yildiz, 2015). However, it was not until 1962 that the term *learning disabilities* was used by Kirk to describe a person who was considered normal except for learning deficiencies (Pullen, 2016). By 1968, more than 30,000 special education teachers and related specialists were trained to teach students with mental retardation and learning disabilities (U.S. Department of Education, 2007). The additional training supplied teachers with the tools needed to deliver instruction to students with special needs.

In addition to teacher training, in 1969 Congress passed the first piece of federal legislation to require remedial education for children with learning disabilities called the Children with Specific Learning Disabilities Act (PL 91-230) (Etscheidt, 2013; Zumeta, Zirkel, & Danielson, 2014). The requirement for states to offer free and appropriate education (FAPE) to students ages three to 21 years and establish substitutive and procedural due process for those students with special needs was outlined in the Education for All Handicapped Children Act

(EAHCA) of 1975 (Essex, 2016; National Center for Education Statistics, 2016; Powell, 2016). As outlined by the Georgia Department of Education (2010):

> Categories for students with disabilities varied by state, but could include categories such as autism spectrum disorder, deaf-blindness, deafness, emotional and behavioral disturbance, hearing impairment, intellectual disability, multiple disability, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, or visual impairment and blindness. (para 1)

In 1990, EAHCA was changed to the Individuals with Disabilities Education Act (IDEA) to ensure that in addition to FAPE, students would be placed in the least restrictive environment (LRE) and when possible be included in general education classrooms (Grisham-Brown, Hemmeter, & Pretti-Frontczak, 2017; Lipkin & Okamoto, 2015). The IDEA also guaranteed students with special needs an assessment to better determine their educational needs, be placed on an individual educational program (IEP) based on those needs, and provided due process in the event the plan needed to be changed (Grisham-Brown et al., 2017; Lipkin & Okamoto, 2015). The Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) added additional provisions for students with special needs including mandated parent and teacher participation, procedural safeguards to protect children's information, transition services, and defined disciplinary practices based on the student's disability (Murdick, Gartin, & Fowler, 2013). The establishment of these laws continues to ensure that students with learning disabilities have access to the same quality of education as their non-disabled peers and that teachers and parents take an active role in the child's education (Murdick et al., 2013).

Special education classroom types. Prior to the EAHCA of 1975, most students were educated in the general education environment by a general education teacher because there were

no mechanisms in place mandating the identification of students with learning disabilities (Bakken, 2016). When it was determined a student required special education services, the students were placed in restrictive environments within the general education space, often isolated from their non-disabled peers and without additional supports (U.S. Department of Education, 2007). With the passage of EAHCA requiring students be educated in LREs, schools began developing segregated classroom environments for students with severe disabilities (Bakken, 2016; Lieberman, Cavanaugh, Haegele, Aiello, & Wilson, 2017). These segregated classrooms, also known as self-contained classrooms, are often considered the least restrictive for students with severe disabilities or students with special needs that have difficulty assimilating in to the general education environment. Students can receive instruction in a classroom that provides supports for their unique learning and socialization needs as indicated by their IEP (Cipriano, Barnes, Bertoli, Flynn, & Rivers, 2016; Jones & Hensley, 2012). Students in self-contained classrooms have limited interaction with the general student population (Bakken, 2016; Cipriano et al., 2016; Jones & Hensley, 2012). In addition to subject areas, content in self-contained classrooms can focus on life skills such as job training, cooking, and personal hygiene (Jones & Hensley, 2012; Kurth, Born, & Love, 2016). These types of skills aim to assist in students' independent living in adulthood.

Whereas self-contained classrooms are for students with more severe disabilities, resource classrooms are designated for students with less severe disabilities. Also known as lab or pull-out classes, resource classrooms are environments in which students with special education needs are removed from the general education classroom to a class where they can receive individualized or small group instruction (American Academy of Special Education Professionals, 2017; Cipriano et al., 2016; Jones & Hensley, 2012). Resource and self-contained

classrooms are generally multigrade and consist of students from multiple grade levels (Georgia Department of Education, n.d.; Grisham-Brown et al., 2017; Linehan, 2013; Ramrathan & Ngubane, 2013; University of London Institute of Education, n.d.). This instruction focuses on addressing various aspects of the curriculum in which the student may be deficient. Students can receive assistance with classwork, tests, homework, or other assignments to improve deficient skills (Jones & Hensley, 2012; Tremblay, 2013). The student's IEP determines placement of a student in a resource room and the types of supports he or she receives.

With the passage of IDEA in the 1990's, schools began creating inclusion co-taught classrooms. An inclusive environment is generally monograde and contains only students from one grade level of similar age. In the inclusion space, most students with special education needs are educated in the general education space and are not pulled to resource classroom environments for individual instruction. Instead they receive support in the classroom along with general education students (Florian & Spratt, 2013; Lewis, Wheeler, & Carter, 2017). The general and special education teachers provide collaborative instruction, which allows learning among students with and without learning disabilities to occur at the same time. Inclusion classrooms aim to integrate students with special education needs with general education students to provide better socialization and peer-to-peer learning as well as adherence to the LRE requirement

(Florian & Spratt, 2013; Lewis et al., 2017). Including students with special needs in the general education space has been found to increase achievement levels of students with special education needs through motivation from their more advanced, non-disabled peers in the classroom (Bakken, 2016; Florian & Spratt, 2013; Lewis et al., 2017). As with self-contained placement and instruction, the student's IEP guides the type of placement, instruction and support received in the inclusion space.

Each classroom type also has its own classroom context and student demographics, classroom structures, and resources that makeup the classroom environment (Friendman & Kass, 2002; Palardy, 2015). The classroom context consists of

> beliefs, goals, values, perceptions, behaviors, classroom management, social relationships, physical space, and social-emotional and evaluative climates thatcontribute to the participants' understanding of the classroom. (Turner & Meyer, 2000, p. 70)

The context of a classroom can influence teacher instruction as well as student achievement, behavior, engagement, and motivation (Burgermaster, Koroly, Contento, Koch, & Gray, 2017; Dotterer & Lowe, 2011; Sutherland et al., 2008; Turner & Meyer, 2000). Monograde and multigrade classroom environments reflect different classroom structures and goals in terms of the types of supports implemented to address the academic and social needs of students with disabilities (Linehan, 2013). Given the differences in each classroom type, it is important for the special education teacher to be adept at teaching in varying classroom environments and grade levels.

Teaching monograde and multigrade classes. Research on monograde and multigrade classroom teachers has highlighted some of the difficulties teachers face in both classroom types. With respect to inclusive classrooms (traditionally monograde), pre-service teachers found it difficult teaching general education students and students with special needs in the collaborative teaching environment (Shin, Lee, & McKenna, 2016). Even though they were only teaching one grade level, teachers cited concerns over lack of knowledge in the content area as a primary concern with regard to teaching students in the class irrespective of their abilities. Similarly, Williams and Dikes (2015) found that inclusion monograde special education teachers had difficulty developing instruction that caters to classroom settings with both students with and

without special needs. School administrators have also identified difficulty facilitating collaboration between general and special education teachers due to the teachers' differences in navigating the instructional practice, culture, and training to provide services to various types of students in the classroom (Nichols & Sheffield, 2014). Monograde inclusive teachers have also reported less available time to provide individual instruction and determine students' needs to develop comprehensive instructional plans (Dev & Haynes, 2015). The inclusive classroom additionally requires special education teachers to support the general education teachers and students, which can create tension as both teachers may have a different implementation strategy (Williams & Dikes, 2015).

Though research has cited difficulties in the monograde inclusive environment, multigrade teachers have also been shown to experience many obstacles trying to plan, design, implement, evaluate, and provide individual support to students with special needs (Bettini et al., 2015; Cipriano et al., 2016; Hargreaves, 2001; Little, 2007; Mariano & Kirby, 2009; Mulryan-Kyne, 2004; Nugent, 2010; Proehl et al., 2013; Nugent, 2010; UNESCO, 2015; Vincent & Ley, 1999). The inherent variety of students and grade levels within each classroom results in teachers having to create lessons and material that allow students to work on their own because the teachers could not provide individual, tailored, instruction for every student (Little, 2007). Research also indicates that many teachers prefer to teach monograde classrooms because multigrade classrooms are often experienced as more labor intensive. The increased demands of the multigrade classrooms result in the teacher's need to create several different lessons and assessments in each class period to cater to each student (Bettini et al., 2015; Cipriano et al., 2016; Little, 2007; Mulryan-Kyne, 2004).

In addition to requiring more work, research has also found that teachers believe students in multigrade classrooms receive a substandard education. This occurs because of substantial repetition that often leads to students becoming distracted and disruptive in class (Mulryan-Kyne, 2004). However, if provided with tailored instruction, adequate support, and accommodations as mandated by IDEA, and access to appropriate services, research suggests that 80-85% of students with special education needs could achieve the same standards as their general education peers (Thurlow, Quenemoen, & Lazarus, n.d.; Vincent & Ley, 1999). Yet special education teachers noted that multigrade classrooms reduced the time and attention given to address individual needs and student remediation (Strohl, Schmertzing, Schmertzing & Hsiao, 2014). The overarching results of the available research suggests multigrade classrooms may pose considerable hurdles for the special education teacher because of the need to balance providing exclusive, mandated instruction and meeting the curriculum-dictated learning objectives while maintaining a quality, structured, well-managed learning environment.

Research conducted on student achievement in multigrade classrooms varied in terms of classroom type and its influence on performance as there were some studies that showed both increases and decreases in performance (Mariano & Kirby, 2009). In addition, many of the studies were outdated and did not reflect the current educational environment in the United States in which many schools facing budget cuts implemented multigrade classrooms as a cost-savings mechanism. While increasing the number of multigrade classrooms saves money, it is also vit al to know how students in multigrade classrooms perform in relation to their peers in monograde classes (Mariano & Kirby, 2009). Prior literature reviews on student performance in multigrade versus monograde classrooms have concluded that much of the research doesnot

offer a clear rationale on whether classroom type affected student and teacher's performance (Linehan, 2013).

International studies have also identified specific teacher challenges in multigrade classrooms. Taole and Mncube (2012) explored the challenges of South African teachers placed in rural multigrade classes. They also took issue with the social inequities of students in rural areas and the government's lack of ensuring that students and teachers in rural areas receive the equal levels of support and attention as those in more affluent areas of the country. Their thematic analysis revealed challenges including teacher isolation, classroom management issues, and grade level combination. Moreover, teachers identified the Department of Education as focused on and cared more about monograde teachers and did not offer professional development opportunities for those multigrade classroom teachers, largely due to a lack of resources (Taole & Mncube, 2012). In this particular case, teachers were not equipped to provide students a quality education.

In addition to difficulties with regard to providing instruction, multigrade teachers are also required to evaluate and reflect on their own teaching performance in terms ofhow effective they were at reaching students at each grade level (Vincent & Ley, 1999). The assessment of performance is critical to determine one's mastery, one of the most authentic indicators to help build a person's self-efficacy (Mahmoee & Pirkamali, 2013). Administrators recognized some of these challenges and tried to ensure placement of more advanced students in multigrade classrooms or more skilled teachers with experience in teaching in multigrade environments (Mariano & Kirby, 2009). However, special education classes by definition have less advanced and often below grade level students in many subjects.

Older studies identified multigrade classrooms as a viable option for students with special education needs (Johnson, 1999; Miller, 1990; Veenman, 1995). For example, Johnson (1999) found that heterogeneous grouping in multigrade classrooms gave students control of their education as many times students tended to group themselves based on similar interest and skill levels. In the monograde space, students who performed at lower levels were often easily identified because teachers did not have time on a consistent basis to provide universal and inclusive instruction for all students regardless of their learning levels (Johnson, 1999). The multigrade environment allowed for multilevel instruction and cooperative groups where students could learn from one another. One limitation of Johnson's study concerns the fact that it was conducted in inclusive classrooms where students with special education needs were paired with general education students. Therefore, the groups were beneficial because lower level students were placed with students performing at or above the standard.

In a completely special education monograde or multigrade classroom, students have varying levels of disabilities that may increase the difficulty to form groups of similar interest and comprised of lower and advanced level students. Additionally, Johnson's research also mentioned that for the multigrade classroom to be effective, teachers must be equipped to service wider variance among students (Johnson, 1999). This variance in content, particularly when the content must also address unique disabilities, may prove to be a challenge for the special education teacher.

The impact of multigrade classrooms in general education environments has also been examined. Multigrade classrooms have been found to reduce student anxiety, promote academic progress, and social growth (Veenman, 1995). These improvements have been hypothesized to occur in part because teaching a variety of student types requires more individualized instruction.

Veenman (1995) also found evidence of positive emotional effects within multigrade classrooms that resulted from peer-to-peer learning and support. Studies have also observed no significant achievement differences compared with students in single-grade (monograde) classrooms (Miller, 1990; Veenman, 1995). This lack of notable difference was attributed to teachers who were not trained for the specific to the needs of a multigrade/multiage classroom and likely relied on the single-grade class system (Veenman, 1995).

Special placement of students into multigrade classrooms may also contribute to the lack of noted cognitive and non-cognitive achievement effects compared to monograde classrooms. Veeman's research did not consider selection bias of the groups studied and lower quality instruction that characterize the multigrade environment (Mason & Burns, 1996). Multigrade/multiage classroom learning environments were also hypothesized to negatively affect teacher motivation and student achievement because of the inherent challenges. Moreover, much of the research mentioned by Veeman to support his position was non-experimental. Principals also typically placed more advanced students in multigrade classrooms who can work more independently and better in groups. As a result, teachers spent less time creating varying levels of instruction to meet the abilities of the variety of students in the class (Carleton Board of Education, 1991; Gayfer, 1991; Mason & Burns, 1996).

This prior research offered varied opinions with respect to the effectiveness of the multigrade environment and often attributed student achievement to the teacher. Mason and Burns (1996) found that although teachers in multigrade/multiage classrooms were trained to deliver differentiated instruction to students, the demands of providing this differentiated instruction for multiple grade levels of students in one classroom setting was difficult.

Consequently, the teachers provided lower levels of instruction and were often less motivated to provide quality instruction because of difficulty catering to many student types.

Special education teacher attrition. In the United States, 49 states have documented special education teacher shortages (National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Sutcher et al., 2016). Of the schools the districts that retained teachers, many of the teachers did not renew their contracts (Hughes, Matt, & O'Reilly, 2015). Special education teachers have also been documented to leave the profession at a rate of 12.3%, compared to 7% of general education teachers; a significant number of special education teachers vacated positions within a year of being hired (Billingsley, 2004; Dewey et al., 2017; Griffin, Winn, Otis-Wilborn, & Kilgore, 2002; National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Riordan, 2013; Whitaker, 2001; Woods & Weasmer, 2004). Lack of support and appreciation for the job of a special education teacher were cited as some of the causes for special education teachers leaving their jobs (Brunsting, Sreckovic, & Lane, 2014; Conley & You, 2017; National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Riordan, 2013; Whitaker, 2001; Woods & Weasmer, 2004).

Burnout (to include stress) is another well-documented factor associated with teacher attrition (Aloe et al., 2014; Scott, 2017). Symptoms of burnout include "emotional exhaustion, depersonalization, and reduced personal accomplishment" (Espeland, 2006, p. 180). Inadequate support, paperwork burden, and the requirement to ensure students receive unique, specialized instruction also influenced the burnout rate of special education teachers (Aloe et al., 2014; Espeland, 2006). Brunsting et al. (2014) identified factors that contributed to teacher burnout such as increased paperwork, student behaviors, role overload, and unrealistic expectations (i.e.

what new teachers thought the classroom would be versus what it actual was). Lee et al. (2011) noted that long hours and enormous paperwork burdens were draining for the special education teacher and contributed to feelings of isolation, fear of being sued, and having to provide instruction for students who demand extra attention. Superintendent of Ponca City public schools in Oklahoma, David Pennington, stated that many teachers did found that completing paperwork and writing reports to comply with IDEA and IEP mandates was like a second job:

> It is not uncommon for a special ed teacher to tell me, 'I did not get a degree in special ed to do paperwork. I got a degree to help kids. . . . they feel like they are always under a microscope. (Lee et al., 2011, para. 12)

Theoretical Framework

A possible determining factor of teacher resilience in the special education environment is self-efficacy. Several research studies have shown a link between self-efficacy and special education teacher motivation, job satisfaction, and resilience (Aldridge & Fraser, 2016; Bandura, 1994; Eberle, 2011; Lee et al., 2011; Protheroe, 2008; Skaalvik & Skaalvik, 2016; Tschannen-Moran & Hoy, 2001; Wang, Hall, & Rahimi, 2015). Psychologist Albert Bandura developed the Self-Efficacy Theory (1986) as way to explain a person's motivation for engaging in abehavior.

Bandura is often associated with behaviorism. Pure behavior purports that people are not already born with intellect, and thus do not have free will; their environment determines how they will behave (Skinner, 1974). However, Bandura is not considered a traditional behaviorist because he attributed human behavior to more than simply rewards and punishments dictated by the environment. He also noted that humans can observe the responses of others and learn from those responses instead of responding in the same manner as observed (Bandura, 1971; Vancouver, Alicke, & Halper, 2017). Moreover, Bandura incorporated a

cognitive component into behavior. He believed humans have the capacity to think and process what is observed before responding in the same manner as observed or eliciting a new response. It is a person's thoughts that are manifested in a person's perceived self-efficacy or "the beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). Bandura explained that the higher a person's self-efficacy, the greater the probability the person will persevere through challenges to achieve a desired outcome.

The foundation of the self-efficacy theory is based on Rotter's (1966) SLT and Bandura's (1977, 1986) SCT. Through SLT, Rotter (1966) postulated that a person's outcomes are related to what he or she can and cannot control. People behave based on what they believe is in their locus of control. If a person believes something is outside of their control (i.e., external locus of control), the person will behave independent of what is external. Regardless of what a person does, he or she will be unable to change the outcome. However, when a person does have control over an outcome, he or she will engage in behaviors to achieve a desired outcome. The person responds based on the internal locus of control, believing that he or she can do something to garner a different outcome (Rotter, 1966). The level of perceived control determines the behavior motivation.

Bandura (1977) extended Rotter's SLT to state that learning is done within a social context. Within this social context, people can learn behaviors through direct experience or observing the experiences of others (Bandura, 1977). Favorable and unfavorable consequences serve as reinforcements of some behaviors and not others. With the informative function, the behavior observed provides information on which behaviors will most likely result in success. These behaviors act as the drivers for future behaviors (Bandura, 1977). In addition to providing

information, reinforcements can serve as motivation. Consequences of past behaviors will motivate individuals to anticipate what is needed to elicit a certain response (Bandura, 1977).

In addition to observation, individuals learn through modeling. Bandura (1977) asserted that with some tasks, trial and error may not be a realistic means of learning behavior. For example, driving a car, swimming, learning how to talk, and teaching a class may prove detrimental to an individual solely relying on the stimulus/response mechanisms. Therefore, people model behaviors they observe to ensure a response that will lead to optimal performance. Moreover, people learn behaviors before engaging in them. However, modeling can only be successful if the person observing the action pays attention to the process (Bandura, 1977).

Once a behavior is observed, learned, and demonstrated, a person must be able to regulate and maintain a certain response. Three regulatory processes Bandura (1971) proposed are stimulus control, reinforcement control, and cognitive control. With stimulus control, consequences are conveyed through certain stimuli. For example, some observed behaviors accompany stimuli that arouse anger and frustration. Some behaviors arouse happiness, and others arouse fear and anxiety. There are additional stimuli that serve as symbols to continue or stop an action such as a red light or a timer for a test.

Reinforcement control can include both external and internal reinforcements (Bandura, 1977). External reinforcement can include how teachers may treat those who behave a certain way. Receiving money or praise for a behavior may garner a certain response. People may internally self-regulate, which can also be an observed behavior (Bandura, 1977). For example, some students may not need to be prompted by a teacher to study or review their work if time permits. Cognitive control is based on the notion that not all actions can be predicted and may cause a person to behave in a certain manner without thinking. However, to fully understand the

consequences of a behavior, individuals must assess the relationship between the actions and the outcome (Bandura, 1977).

Within social learning theory, Bandura provided a more in-depth assessment of human behavior. However, the idea of information processing led Bandura to rename his theory the SCT (1986). His shift in theory represented a paradigm shift within the field of psychology, from input-output linear models of behavior to one that embraced the "human information processing capacities and biases that influence learning from experience, observation, and symbolic communication" (McAlister, Perry, & Parcel, 2008, p. 170). Essentially, a person's behavior is not only influenced by the observation of the behavior, but is also contingent upon personal, behavioral, and environmental influences as well as his or her self-efficacy (McAlister et al., 2008).

New concepts of SCT expanded SLT to include reciprocal determinism, self-efficacy, collective-efficacy, facilitation, and moral disengagement (Bandura, 1977). Self-efficacy concerns a person's or group's belief in their ability complete a task or reach a goal. The performance of a behavior is dictated by the person's belief that he or she can do it (Bandura, 1977). Through the introduction of self-efficacy, Bandura (1973) intermixed SCT and SLT to offer a more complete picture of behavior motivation and emphasized that assurance in one's abilities is necessary to successfully accomplish a task. However, the level of performance can be influenced by what a person can and cannot control, as well as personal experiences, responses to stimuli, and the overall environment in which the behavior will need to occur (Maddux, 2016). People with low self-efficacy are more likely to forgo a task if it becomes too difficult. In contrast, those with high self-efficacy are more likely to confront and attempt to master even a difficult task. The two varying beliefs deal with self-efficacy expectations versus

Outcome expectations Bandura (1977) struck a balance with these distinctions between a person's estimate of certain behaviors to yield a specific outcome and the belief he or she can engage in a behavior essential to yielding the outcome. The level of self-efficacy manifests itself through the estimated outcome.

Self-efficacy is linked to teaching effectiveness. Despite the challenges of special education environments, special education teacher retention should theoretically remain high if teachers demonstrated an increased sense of self-efficacy. With high self-efficacy, the teachers would believe all students would excel even with a disability. However, the teachers' self-efficacy would also depend on the influences of the environment (i.e., the monograde and multigrade classrooms), the level of perceived control over the environment, and the ability to perform what is necessary to succeed in the environment (Bandura, 1977).

Bandura (1986) developed four constructs of self-efficacy: mastery experience, vicarious experience, social persuasion, and emotional and physiological states (Figure 1). Mastery experiences refer to individual achievements in which the person alone accomplishes or "masters" a task (Bandura, 1986). Mahmoee and Pirkamali (2013) described mastery as the most authentic measure of a person's self-efficacy, as that person's previous success helps to build his or her self-efficacy. Peebles and Mendaglio (2014) found that preservice teachers experienced higher levels of self-efficacy once being placed in the inclusive environment. These teachers already mastered teaching in the environment as a preservice teacher.

Vicarious experiences help to strengthen a person's self-efficacy through watching others successfully perform a task (Bandura, 1986). The person can model the observed behavior to attain the same level of success when completing similar tasks. Social persuasion refers to encouragement or coaching by others, which can increase a person's belief in his or ability to succeed at whatever assignment is given (Mahmoee & Pirkamali, 2013; Schwarzer, 2014). Emotional and physiological states refer to how people feel after performing a task, which also influences one's judgment of their ability to complete a task. Mood, stress, tension,

anxiety, anger, and depression are some of the many emotional and physiological states a person can experience (Brown, 2009; Mahmoee & Pirkmali, 2013; Schwarzer, 2014). Each self- efficacy source can vary in terms of how it influences and contributes to individual self-efficacy and capacity to perform. As successful performance, experiences, and ability to accomplish a task can increase self-efficacy, poor performance, negative experiences, and an inability to accomplish a task can decrease self-efficacy (Schwarzer, 2014).

Although self-efficacy has been used to describe motivations for behavior, several scholars have also criticized Bandura's theory. Critics of self-efficacy have asserted that expected outcomes had loose influence on levels of self-efficacy; therefore, the critics questioned the validity ofthe theory (Brokovec, 1978; Eastman & Marziller, 1984; Kazdin, 1978; Kirsch, 1986; Williams, 2010). For one, Bandura's explanation of self-efficacy presented several ambiguities; some have argued that people do not control their behavior based on the influence of the environment because the environment is unpredictable (Powers, 1991). Thus, a behavior does not have to be initiated based on a stimulus, but rather on what people perceive might be a stimulus. Based on Powers' (1991) notion, a teacher's perception of teaching in a monograde or multigrade special education classroom could influence his or her level of self-efficacy, even if the teacher never previously taught in a special education classroom environment.

Eysenck & Eysenck (1968) believed personality to be the driving force behind a person's behavior. For example, an extroverted individual may display aggressive, hostile, anxious, and fearful behaviors; however, that individual's beliefs in his or her abilities would be dictated by those personality traits. When people believe they can attain a certain outcome, their individual traits would supersede any perceived ability. A special education teacher with strong traits of anxiety or fear may be responsible for the teacher's poor outcome rather than a stimulus in the environment.

Kirsch (1986) was also skeptical of self-efficacy and noted that research on "expectancy for success" was being conducted long before Bandura's 1977 theory. Kirsch (1986) stated that levels of self-efficacy are not what is perceived to be the outcome, but the outcome itself. Moreover, a special education teacher can believe in his or her ability to implement instructional practice to increase student achievement, but students may fail to perform. The unexpected outcome of low student performance would decrease the teacher's sense of self-efficacy (Kirsch, 1986). Self-efficacy levels cannot be truly ascertained until after the outcome. With Kirsch's assessment, a special education teacher can walk into a classroom with high self-esteem based on his or her perception of the ability to garner a successful outcome. However, if the outcome turns out vastly different than what was perceived, the low self-efficacy could result in a fear of the classroom environment (Kirsch, 1986).

While Bandura (1984) acknowledged his critics' concerns that an expected outcome can influence self-efficacy levels, he continued to maintain self-efficacy as a predictor of a person's motivation to act in order to achieve a certain outcome. Researchers like Biglan (1987) acknowledge certain environmental factors can influence outcomes beyond the control of the individual. Biglan (1987) asserted that despite this limitation, there is enough evidence to support self-efficacy as at least a contributing aspect in people's choice to engage in a behavior. In addition, Zee and Kooman (2016) found that much research on self-efficacy supports the theory as a viable explanation of human behavior and motivation. Self-efficacy theory provides

a clear rationale for how people respond in given a situation and their desire to produce a certain outcome. How they achieve that outcome appears to be contingent on their confidence in their abilities.

Teacher self-efficacy and special education. Despite its critiques, self-efficacy has been used as the foundation for the development of numerous theories and survey instruments. Rand researchers began exploring the concept of self-efficacy in teachers and created a two-question instrument to assess teacher beliefs in their ability to generate positive student outcomes despite challenges with the child and the learning environment (Armor et al., 1976; Berman & McLaughlin, 1977; Zee & Kooman, 2016). Tschannen-Moran & Hoy (2001) and expanded on the work of Rand by employing the theories of Bandura (1977) and Rotter (1966) in their Teacher Sense of Self-Efficacy of Scale. A teacher's self-efficacy refers to a teacher's confidence in his or her ability to create positive learning environments and promote student learning (Bandura, 1994; Skaalvik & Skaalvik, 2014, 2016; Tschannen-Moran & Hoy,2001). Creating a positive environment includes promoting learning in difficult contexts and with students who lack motivation (Bandura, 1977). Teachers' sense of self-efficacy is directly associated with the amount effort exerted in teaching, their desired goals, level of planning and organization, and their persistence and resilience (Sezgin & Erdogan, 2015; Somech & Drach-Zahavy, 2000; Tschannen-Moran & Hoy, 2001).

Teacher self-efficacy is based on the two foundational principles of teaching efficacy and personal efficacy (Gibson & Dembo, 1984; Shaukat & Iqbal, 2012). Hoy and Spero (2005) defined a teacher's personal efficacy as confidence in his or her abilities. Personal teacher efficacy is correlated with attitudes about classroom management and belief that each student is capable of learning. Ruppar, Neeper, and Dalsen's (2016) research on special education teachers

found that while teachers generally felt prepared to manage educational programs, they believe they were equipped to support students' educational needs. Ruppar et al. (2016) explained this discrepancy as related to the often slow progression of students with special needs. Special education teachers must personally affirm they have the wherewithal and be prepared to employ effective instructional practice. In the absence of self-efficacy, a teacher may be unable to do what is necessary to support students' needs. The incremental academic success of students is a large factor that can impact teacher self-efficacy. Moreover, the conviction that all students can learn and are teachable reflects the outcome expectations that influence how a teacher behaves and the level of effort he or she will exert to produce successful student outcomes.

Many studies highlight the challenges special education teachers face in the special education environment while trying to deliver instruction and generate positive student outcomes (Bakken, 2016; Brown, 2009; Brunsting et al., 2014; Eberle, 2011). Skaalvik and Skaalvik, (2016) identified time pressure, emotional stress, lack of support from administration, and low student motivation as related to lower teacher self-efficacy and a higher motivation to quit the job. Studies also revealed correlations between burnout and decreased self-efficacy. Burnout factors include emotional exhaustion, lack of personal accomplishment, depersonalization, role conflict, and cognitive demand (Martin, 2010). Difficulties with the instructional aspects of the special education classroom such as classroom management, student engagement, instructional practices, and teaching in varying classroom types are also associated with low student achievement, perceived lack of support, and burnout (Aloe et al., 2014; Aragon, 2016a; Busch, 2001; Georgia Department of Education, n.d.; Gurgur & Uzuner, 2010; Hargreaves, 2001; Little, 2007; Mariano & Kirby, 2009; Martin, 2010; Mulryan-Kyne, 2004; National Assessment of Education Progress, 2015; National Center to Inform Policy and Practice in Special Education

Professional Development, 2010; Nugent, 2010; Proehl et al., 2013; Scott, 2017; Sheradin, 2006; UNESCO, 2015). With respect to the sources of self-efficacy, a special education teacher with mastery experiences is more likely to possess confidence and be able to conceptualize failure as a catalyst for success (Bandura, 1986). Preservice inclusion special education teachers with prior experience in teaching special needs students have been shown to exhibit higher self-efficacy than those without this experience (Peebles & Mendaglio, 2014). The experience equipped the educators with the tools needed to excel in the learning environment.

Vicarious experiences are effective when the person being observed can engage in actions that produce positive learning and classroom outcomes. The effective replication of observed actions rests in the teacher's ability to internalize, assess, reflect, and reproduce what is seen (Bandura, 1986). Similarly, a special education teacher who observes someone experience an unsuccessful outcome may have diminished self-efficacy and believe he or she may also fail.

Social persuasion and encouragement may also increase a special education teacher's sense of efficacy. However, it is important the persuasion be realistic to increase the teachers' sense of their own ability (Brown, 2009). In one study, special education teachers reported lower excitement about teaching when they experienced a significant discrepancy between what they were told to expect versus the actual reality of the classroom (Lee et al., 2011). Unrealistic ideas about the classroom environment may lead to increased attrition (Billingsley, 2004; Griffin et al., 2002; Whitaker, 2001; Woods & Weasmer, 2004). These unmet expectations may also reduce special education teachers' confidence in their ability to handle similar responsibilities if placed in a different environment. Studies indicate that special education teachers can experience emotional and physiological states including stress and exhaustion (Dicke et al., 2014; Billingsley, Pyecha, Smith-Davis, Murray, & Hendricks, 1995; Brunsting et al., 2014;

Espeland, 2006; Green, 2011; Martin, 2010; Sheradin, 2006). Each of these sources of self-efficacy can positively and negatively affect performance outcomes.

Teacher Sense of Self-Efficacy Scale

Although the components of self-efficacy can assist in identifying motivations for teacher behavior, teacher self-efficacy may vary based on the task a teacher is given or a situation in which a teacher is placed (Zee & Kooman, 2016). In creation of the Teacher Sense of Self-Efficacy Scale, Tschannen-Moran and Hoy (2001) defined three classroom tasks in which teacher self-efficacy beliefs can vary: classroom management, student engagement, and instructional practice. Self-efficacy beliefs in classroom management, student engagement, and instructional practice may differ for teachers when considering differences in their required tasks, the specific students, and the class circumstances (Zee & Kooman, 2016). Hagenauer, Hascher, and Volet (2015) discussed the need to investigate how specific classroom experiences and contexts influence self-efficacy beliefs and to understand self-efficacy beliefs in terms of the subject matter being taught. The way a teacher understands his or her abilities related to classroom management, student engagement, and instructional practice may define his or her level of self-efficacy.

Classroom management. Classroom management refers to the ability of teachers and schools to create a positive, orderly, and organized learning environment in which student behavior is maintained, instruction can be delivered, and students are productive, engaged and remain on task (Emmer & Sabornie, 2014; Everston & Weinstein, 2006; Kratochwill et al., 2017). Research has shown that effective classroom management is a precursor for effective teaching, and an educator with increased self-efficacy levels can more effectively engage in classroom management (Bandura, 1997; Shoulders & Krei, 2015; Tschannen-Moran & Wollfok-

Hoy, 2001; Woolfolk & Hoy, 1990). Successful teachers typically engage in strategies for classroom management that beget quality instruction, recurrent monitoring of student progress, differentiated instruction that addresses all learning styles and levels, and active student engagement (Freeman, Simonsen, Briere, & MacSuga-Gage, 2014). Successful teachers also effectively manage student behavior. Yet, many teachers receive poor classroom management training prior to entering the special education classroom environment (Begeny & Marten, 2006; Chesley & Jordan, 2012). Without proper classroom management training, teachers were unable to control classroom behavior while providing instruction (Freeman et al., 2014; Stronge, Ward, & Grant, 2011). Teachers can spend as much as 80% of their instructional time addressing behavior issues due to improper classroom management (Simonsen, Britton, & Young, 2010). Trying to manage disruptive students impedes a teacher's ability to deliver instruction (Sutherland et al., 2008). A study by Vannest and Hagan-Burke (2010) on use of time found that in self-contained classrooms with students with emotional behavior disorder, special education teachers only spent an average of 32.3% of the day on instruction. Much of classroom time was spent with classroom management and student engagement issues. Dicke et al., 2014, highlighted that in the area of classroom management, diminished self-efficacy has also been associated with emotional exhaustion. Studies also indicated that low levels of classroom management self-efficacy led to teacher burnout, particularly among special education teachers (Aloe et al., 2014; Scott, 2017). Consequently, if special education teachers feel ill equipped to handle classroom management issues, they may be unable to effectively delivery of instruction and encourage positive behavior and learning.

Student engagement. Student engagement refers to the level of interest, attention, involvement, participation, and investment students exhibit in the learning environment

(Shoulders & Krei, 2015; Tschannen-Moran & Hoy, 2001). Studies have documented behavior problems in all classrooms, but especially in special education, often relate to disengaged and off-task students who are more likely to engage in disruptive behaviors (Flower, McKenna, Muething, Bryant & Bryant, 2014; Scott, 2017). Students need to be engaged in a variety of activities that allow them to participate in the learning environment and develop enthusiasm and a belief they can achieve academic success (Shoulders & Krei, 2015). Active student engagement in the learning environment is contingent upon teacher efficacy and can assist in mitigating disruptive behavior (Flower et al., 2014; Scott, 2017; Shoulders & Krei, 2015).

In one example, students with special needs acted out in class because they were frustrated with their learning deficiencies and fearful that they may be judged, fail, or embarrassed by teachers or peers (Weiser, 2014). Students' extrinsic (external) and intrinsic (internal) motivations have been attributed to their classroom behavior. Motivations were associated with increased involvement and achievement among students with special education needs (Weiser, 2014). Sources of student extrinsic motivation included parent and teacher support (Busch, 2001; Goldman & Burke, 2017; Shaukat & Iqbal, 2012).

Teachers' ability to engage students is also more difficult in classes where students were of mixed ability and grade level (Dixon, Yssel, McConnell, & Hardin, 2014). A mixed classroom in terms of student learning levels requires that teachers differentiate instruction to engage the learner, and many teachers lack the self-efficacy to produce these types of activities (Dixon et al., 2014). Lack of time, feelings of being overwhelm, and fear of failure prevented development of instruction that would have promoted active student engagement (Dixon et al., 2014). Teachers who encounter stress and emotional exhaustion struggle engaging students as a result of low levels of self-efficacy (Skaalvik & Skaalvik, 2014, 2016). In contrast, educators

with high levels of self-efficacy used praise, provided individual attention to each student, and could monitor student learner. This active engagement promoted higher student achievement (Schunk & DiBenedetto, 2016).

Levels of student engagement in the classroom have also been found to predict graduation and dropout rates among students with learning disabilities and emotional or behavioral disorders (Cortiella, 2014; Grindal & Schifter, 2016; Knight, 2017; Reschly & Christenson, 2006; Stirgus, 2015). Consequently, if a special education teacher is unable to properly engage students and provide necessary educational supports, the student may be prone to underperform and possibly drop out of school.

Instructional practice. In addition to classroom management and student engagement, teachers must employ effective instructional practice. Instructional practices refer to the actual teaching methods and activities teachers employ when delivering instruction to facilitate student learning and encourage problem solving and independent thought (Taimalu et al., 2010; Tschannen-Moran & Hoy, 2001). Teachers' sense of self-efficacy beliefs has been linked to the ability to implement innovative instructional practices (Holzberger et al., 2013). Künsting, Neuber, and Lipowsky (2016) found self-efficacy to be an indicator of a teacher's ability to deliver quality instruction, as many teachers with higher levels of self-efficacy are more likely to master and implement various instructional practices in their classroom. Teachers with high self-efficacy are also more creative in their approach to instruction and have confidence in their teaching ability (Shoulders & Krei, 2015). In addition to creating specific lessons to cater to each student in separate class periods, special education teachers must also write several different assessments to test student achievement, which are often labor intensive and overwhelming

(Little, 2007; Mulryan-Kyne, 2004). Negative psychological states resulting from these requirements may contribute to low self-efficacy.

Feelings of frustration can hinder the development of confidence necessary for managing student caseload and identifying instructional practices to address a variety of disabilities and learning needs (Busch, 2001; National Center to Inform Policy and Practice in Special Education Professional Development, 2010). Addressing diverse student disabilities and learning needs are directly related to teachers' self-efficacy beliefs in their ability to differentiate instruction (Dixon et al., 2014). Many teachers group students by ability level to more easily identify and focus attention on students with major learning deficiencies (Park & Datnow, 2017). Trying to develop instruction, keep students on task, and manage behavior issues may prevent teachers from providing individualized instruction and engaging in effective instructional practice for all students (not only those in specific groups). A survey of special education teachers found that many struggled with developing multi-tiered instruction to address student needs because of lack of training and support in the classroom, both of which are factors that have been linked to decreased teacher self-efficacy (Skaalvik & Skaalvik, 2016; Werts, Carpenter, & Fewell, 2014). Of special education teachers who contemplate leaving the profession, 57 % in the study cited the number of students and varying disabilities within their caseload as contributing factors (Kaff, 2004). This study suggests that increased teacher support to manage caseloads would encourage more special education teachers to remain in the profession.

Classroom context refers to the "beliefs, goals, values, perceptions, behaviors, classroom management, social relationships, physical space, and social-emotional, and evaluative climates that contribute to the participants' understanding of the classroom" (Turner & Meyer, 2000, p. 70). Each classroom type has its own context, student demographics, classroom structures, and

resources that makeup the classroom environment (Friendman & Kass, 2002; Palardy, 2015). Classroom context is more impacted by the relationships, attitudes, and behaviors that can differ across classrooms than specific teaching method (Burgermaster et al., 2017; Palardy, 2015). Issues with student motivation, disturbances, and hostile behavior can overshadow a teacher's efforts to offer quality instruction, particularly in a classroom context comprised of numerous students with unique education and behavioral needs (Sutherland et al., 2008). Classroom context has been highlighted to influence instruction, student achievement, behavior, engagement, and motivation (Burgermaster et al., 2017; Dotterer & Lowe, 2011; Sutherland et al., 2008; Tschannen-Moran & Woolfolk Hoy, 2001; Turner & Meyer, 2000). Inclusive monograde, resource, and self-contained multigrade environments reflect different classroom structures and goals in terms of the types of activities implemented to provide proper academic and social supports for students with disabilities.

Chapter Summary

Prior to the 19th century, students with disabilities were objectified and not guaranteed any specific educational benefits. Special education laws in the United States created provisions and standards for students with disabilities (Essex, 2016; Etscheidt, 2013; Powell, 2016; Pullen, 2016; National Center for Education Statistics, 2016; U.S. Department of Education, 2007; Zumeta et al., 2014). These laws dictated the type, quality, and level of instruction special education teachers must provide students, regardless of the student's disability and learning deficiencies (Cipriano et al., 2016; Dev & Haynes, 2015; Emmer & Sabornie, 2014; Grisham- Brown et al., 2017; Shoulders & Krei, 2015; U.S. Department of Education, 2007). In an effort to group students based on abilities, different special education classroom types were created.

Monograde classrooms are comprised of students in one grade level, whereas multigrade classrooms consist of students from many grade levels (Georgia Department of Education, n.d.; Linehan, 2013; Ramrathan & Ngubane, 2013; University of London Institute of Education, n.d.). Learning and ability levels may vary from student to student in both classroom types.

Research has demonstrated the student composition within classrooms, as well as the special education instructional requirements, as contributing reasons for why many special education teachers leave the profession (Brunsting et al., 2014; Espeland, 2006; Lee et al., 2011). A lack of administrative support, low student success, burnout, and stress were cited as contributing factors that influence a special education teacher's job satisfaction (Brunsting et al., 2014; Conley & You, 2017; National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Riordan, 2013; Whitaker, 2001; Woods & Weasmer, 2004).

A special education teacher's level of self-efficacy may be a predictor of his or her ability to remain in the profession despite these challenges (Bandura, 1994; Skaalvik & Skaalvik, 2014, 2016). The Teacher's Sense of Self-Efficacy scale was developed by Tschannen-Moran and Hoy (2001) to measure teacher self-efficacy beliefs in classroom management, student engagement, and instructional practice, identified as central components to creating a quality learning environment. The literature has ample research examining relationships between teacher self-efficacy and variables including student achievement, teacher psychological well-being, and classroom and instructional quality. However, limited research exists that has examined how classroom context influenced teacher self-efficacy (Chang & Engelhard, 2015; Caprara et al., 2006; Guo et al., 2012; Holzberger et al., 2013; Pfitzner-Eden, 2016; Palardy, 2015; Skaalvik & Skaalvik, 2016; Tournaki & Podell, 2005; Zee & Kooman, 2016).

Classroom context defines the learning environment and is comprised of "beliefs, goals, values, perceptions, behaviors, classroom management, social relationships, physical space, and social-emotional and evaluative climates that contribute to the participants' understanding of the classroom" (Turner & Meyer, 2000, p. 70).

Studies exploring the relationships between self-efficacy and school context have shown that the type of school in which a teacher serves can influence self-efficacy beliefs (Chang & Engelhard, 2015; Klassen et al., 2011; Pajares, 2007; Siwatu, 2011). It is therefore reasonable to believe the same may be true with respect to the type of classroom the teacher serves. With over 49 states and 6.7 million special needs students in need of special education teachers, identifying factors that influence teacher self-efficacy is critical to further comprehend and mitigate the problem of special education teacher attrition (National Center for Education Statistics, 2018; National Coalition on Personnel Shortages in Special Education and Related Services, 2018). The research in this study examined relationships between monograde and multigrade classroom type and special education teacher's sense of self-efficacy. Monograde and multigrade special education teachers are confronted with different classroom contexts, which may distinctly influence their level of self-efficacy.

Chapter 3: Procedures and Methods

The purpose of this quantitative study was to examine the differences in teachers' sense of self-efficacy levels between monograde and multigrade special education teachers in student engagement, instructional practice, and classroom management in an online special education teacher forum. The researcher used a quantitative correlational research design and the Teacher's Sense of Self-Efficacy Scale to evaluate the self-efficacy levels of monograde and multigrade special education teachers to determine whether the classroom type in which special education teachers deliver instruction influenced their self-efficacy beliefs with respect to classroom management, instructional practice, and student engagement.

This chapter explains and justifies the methodology selected for this study relative to the research problem, purpose, and questions. An explanation of the research design includes strengths and limitations. The research site, description of the population, and a description of the sample are provided. Ethical issues and data sources are identified. Research protocols and data collection procedures are outlined. Additionally, the researcher's positionality and information regarding the research validly, threats, reliability, and data analysis techniques are discussed.

Research Design

This study used a quantitative, correlational design to collect data from special education teachers, who currently teach in monograde or multigrade classrooms, in an online special education teacher forum. Quantitative research is used to identify relationships among variables to assist in explaining a phenomenon and develop generalizations about a population

(Creswell, 2014; Herr, 2007; Leedy & Ormrod, 2010). In this research study, the quantitative design assists in examining whether differences exist in teachers' sense of self-efficacy levels between monograde and multigrade special education teachers with respect to student engagement, instructional practice, and classroom management.

All quantitative research designs align with the positivist and post-positivist paradigm. Positivists and post-positivists believe there is an actual reality characterized by stability and observability and can be objectively measured (Dash, 2005). Positivism can be traced to August Comte, a French philosopher who believed observation and reason as the primary tools to understand human behavior. In other words, "true knowledge is based on experience of senses and can be obtained by observation and experiment" (Dash, 2005, para. 1). The ontology of positivism includes naïve realism, which posits that although a reality does exist, it is not "apprehendable." The epistemology focuses on objectivism and seeks to understand phenomena absent of the researcher's influence (Guba & Lincoln, 1994). For the positivist, "knowledge gained through study has been labeled scientific and includes the establishments of laws . . . there are no fundamental methodological differences between natural and social sciences" (Merriam, 2009, p. 8). According to Creswell (2014), "Quantitative researchers have assumptions about testing theories deductively, building in protections against bias, controlling for alternative explanations, and being able to generalize and replicate results" (p. 4). Truth is based on an existing theory that can be assessed through scientific exploration (Creswell, 2014).

Post-positivists believe that there is no absolute truth and that all knowledge is relative. They attempt to predict, control, or generalize research through testing a theory using an experimental or quasi-experimental design. A post-positivist aims to discover what factors may cause and influence an outcome. Post-positivists also look for "empirical observation and measurement through data, evidence, and rational consideration, as well as theory verification" (Creswell, 2014, p. 7). A post-positivist framework is consistent with critical realism in that

there is assumed to be an existent reality that can only be imperfectly measured because of flawed human intellect or perceptual limitations. The epistemology is considered a modified objectivism because a critical assessment of the results is necessary to determine whether the results mirror current or preexisting knowledge (Creswell, 2014; Guba & Lincoln, 1994). In spite of the limitations noted, quantitative researchers attempt to select methods that allow them to measure variables in the most objective manner possible (Leedy & Ormrod, 2010). Investigating a phenomenon through quantification allows a research to verify or falsify a theory based on an analysis of the research data. The strength of the positivist and post-positivist worldviews lies in their structure. Positivists and post-positivists seek to minimize human error by acknowledging rules, and scientific guidelines must be followed to obtain the truth (Guba & Lincoln, 1994). The scientific method and statistical analyses fall within this paradigm as a way to assess truth.

Some critics of positivism argue that there is no actual way for the researcher to remain objective in the research (Guba & Lincoln, 1994). Although a post-positivist approach accounts for modified objectivism, it does not account for the perceptual filter associated with human experiences of emotions, cognitive bias, sociopolitical and historical context, and worldview of the research that result in a lack of capacity to be truly objective. Another limitation of positivism concerns the assertion that everything can be explained through mathematical exploration. This lateral way of processing reality does not account for some realities that cannot be explained such as basic human existence (Guba & Lincoln, 1994). Despite these valid critiques, positivism, built on quantitative exploration, is generally viewed as more reliable for answering questions that rely on concrete explanations than qualitative methodologies. The quantitative data produce concrete information that can be used to make assumptions about a

phenomenon. This study used quantitative analysis to objectively measure special education teachers' sense of self-efficacy levels between monograde and multigrade teachers.

Prior to the 1980s, quantitative research was the dominant form of scientific exploration and was thought to provide a "hard," clear explanation of relationships between variables. In other words, a researcher could verify or falsify a hypothesis and test theory (Creswell, 2014; Guba & Lincoln, 1994). The strength of a quantitative research design is that it offers greater precision in hypotheses testing because data are descriptive in nature and objective based on data resulting from statistical calculations (Rubin & Babbie, 2017). Using a quantitative approach to explore the research phenomena allows for greater generalization and study replicability because of the use of the scientific method and reliance on hypotheses testing (Daniel, 2016). In summary, "The quantitative method minimizes bias, maximizes objectivity, and statistically controls for alternative explanation" (Rubin & Babbie, 2017, p. 72). Quantitative designs help answer how much and to what extent self-efficacy levels differ among special education teachers. However, this type of research cannot determine how the classroom type has influenced the self-efficacy level and why any notable variations exist (Rubin & Babbie, 2017).

A correlational design allows the study to assess the magnitude of the relationship between variables and the extent to which one variable contributes to differences in another (Leedy & Ormrod, 2010). The current study uses the correlational design to measure the extent to which classroom type influences special education teacher self-efficacy levels with respect to classroom management, student engagement, and instructional practice. A limitation of correlation is that it is not possible to attribute causality (Rubin & Babbie, 2017). A critical examination of the results is also important as the absence of a correlation does not necessarily specify a lack of relationship between variables. It is also possible the relationship could be non-linear (Rubin & Babbie, 2017). The current study did not seek to establish whether classroom type causes differences in self-efficacy levels, but rather to measure any relationships between special education teacher self-efficacy and monograde and multigrade classrooms to assess

whether classroom type can influence perceptions of teacher self-efficacy with respect to classroom management, student engagement, and instructional practice.

Quantitative method. The quantitative research method is used to test theory by exploring relationships between variables (Creswell, 2014). Theory is used as the basis for the research study and development of the research hypothesis to explain the behaviors of the research population. Quantitative research is deductive in nature. The researcher starts with a broad, generalized statement (i.e., a hypothesis or if-then statement) and then conducts an experiment to test the hypothesis (Creswell, 2014). The current study focused on the application of the theory of self-efficacy to develop a research hypothesis connected to special education teacher self-efficacy beliefs.

Researchers either use research questions or hypotheses in quantitative exploration to establish or predict some type of negative or positive relationship between dependent and independent variables (Creswell, 2014). These research questions and hypotheses can be tested using experimental and non-experimental quantitative research designs. In experimental designs, a treatment is applied to the subject(s) to establish some type of cause and effect relationship. In non-experimental designs, the researcher examines either a cause that previously occurred or a relationships between two or more variables (Creswell, 2014).

A non-experimental correlational design was used for the current study. A correlational design explores relationships between variables in terms of how the “differences in one variable are related to differences in one or more other variables” (Leedy & Ormrod, 2010, p. 108). The purpose of this quantitative study was to examine the differences in teachers’ sense of self-efficacy levels between monograde and multigrade special education teachers with respect to student engagement, instructional practice, and classroom management in an online special education forum.

Site Selection

Participants for the study were limited to teachers who, at the time of the research, were members of an online forum exclusively for special education teachers. There was no physical location where the research was conducted. The special education forum is located on Facebook and consists of 3,390 members. Facebook, created in 2004, is an online social media platform which allows users from around the world to connect. Facebook currently has 2.2 billion users (Disparte, 2018). Approximately 68% of adults in the United States use Facebook, 74% of which are women and 62% are men. When compared to other social media platforms, the racial demographics for Facebook users have been measured to be 67% White, 70% Black, and 73% Hispanic (Smith & Anderson, 2018). Most users range in age from 18-20 years old, earn between $30,000 and $75,000, have a college degree, and live in urban areas (Smith & Anderson, 2018).

The forum for special education teachers was created in 2015. Members can access the forum via smart phone, computer, or tablet. The location they access the forum from must have internet or some type of data connection with their mobile device. The forum is a closed group, which means that participants must prove they are a special education teacher before they are allowed to join. Perspective members must send a request to the site administrator and include their name, school email address, grade level taught, special education teacher specialization, and the county and school in which they are employed. The forum administrator then researches the participant and if qualified, allows them access to the site.

To garner participants from the online forum, the research investigator was validated as a special education teacher by the forum administrator. The forum administrator required the research investigator to submit the UWF IRB information. The researcher also provided a link to the survey. Once the information was reviewed and approved by the forum administrator, the researcher was granted access to the forum and distributed the survey.

Population

The study focused on a sample of special education teachers who were members of an online forum exclusively for special education teachers. To become a member of the forum, teachers were required to demonstrate credentials as current or former special education teachers. Potential forum members responded to a series of questions in which they reported what school district they worked in, grade level and type of special education they taught, as well as discussed any major problems they saw in special education. It can take up to three days for a member to be verified for acceptance or rejection of membership to the group. It is a closed group forum in which only those admitted to the group/forum can view, post, and comment on the group page.

Sample

To participate in the study, participants were required to be a special education teacher, a member of the special education teacher forum, and a previous or current teacher in a monograde or a multigrade special education classroom. Participants also had to be 18 years old, have at least a bachelor's degree, and have at least one year of teaching experience. The sample consisted of 45 special education teachers who met this criteria. Specific locations of each participant were unknown because the physical locations of forum members are not listed on the site. The survey also did not require participants to provide location information. Using Krejcie and Morgan's (1970) sample size table and sample calculation, a desired sample of 50 special education teachers required a sample size of at least 44 to generate a 95% confidence interval. A 95% confidence interval indicates that a population falls within the normal curve and provides an adequate representation of the population under investigation (Field, 2009). Of the 50 participants in the study, 45 participant responses did not contain any missing data.

Sampling Method

Due to time constraints and the inability to physically recruit an appropriate and adequate sample, a convenience (i.e., form of non-probability method) sampling method was used to garner participants. A non-probability method is used when researchers are unable to randomly sample the entire population (Rubin & Babbie, 2017). The convenience sampling technique in this research was used to solicit participants accessible to the researcher (Rubin & Babbie, 2017). The convenience sample consisted of 45 special education teachers who either teach or have taught in monograde or multigrade special education classrooms. Forum members who elected to participate in the study had to teach special education, be an approved member of the forum, and have experience teaching in special education monograde or multigrade environments. Participants also had to be at least 18 years of age, had attained at least a bachelor's degree, and had at least one year of classroom teaching experience.

The physical location of the forum members was not listed on the sites, and survey participants were not required to disclose location information. The Krejcie and Morgan's (1970) sample size table was used to determine the sample size for the overall population. A 95% confidence interval indicates that a population falls within the normal curve and is normally distributed (Field, 2009). The online special education forum was a viable source to recruit participants who were previously verified special education teachers. The survey was used to ensure all those who completed the survey were experienced in teaching in monograde or multigrade special education classrooms. Limitations of this sampling method are that the entire population was not sampled, and participants were not randomly selected. Thus, the generalizability of the research may be limited (Rubin & Babbie, 2017).

A post was written on the page detailing the purpose of the study and provided instructions to access and use the survey instrument. Participants were selected from those

forum users who clicked the link, expressed interest, and identified as having experience teaching in monograde or multigrade special education classrooms. Only 45 of the 50 participants submitted responses with no missing data.

Ethical Issues

Ethical issues of concern in this study included respect for persons, beneficence and justice, informed consent, an assessment of risk and benefits, and the participant selection (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978). The researcher provided all potential research participants with an introduction and letter of informed consent. To be granted access to the survey, participants were required to review and agree to a statement of consent (Appendix A). Participants were informed that by clicking the survey link they consented to participate in the study.

The introduction and informed consent letter consisted of a statement of procedure which outlined the purpose and reasons for the specific research study. An outline of the study procedure was also included and identified the number of survey questions and potential length of time required to complete the study (Appendix A). The letter disclosed any potential risks and benefits of the study and provided contact information of the researcher and the University of West Florida Institutional Review Board (IRB) office. Participants were required to agree they understood the following information:

1. By selecting a survey link, I am consenting to participate in this survey.
2. I will be asked to disclose certain information about my self-efficacy beliefs related to special education classroom types and classroom management, student engagement, and instructional practice.
3. Participating in this survey research is not mandatory.
4. I may discontinue participation in this study at any time without penalty.
5. Withdrawing from the study will not affect my relationship with the researcher if any relationship exists.
6. My responses to the survey will be anonymous.
7. Responses I provide will be kept confidential except in cases in which the researcher

> is legally obligated to report specific incidents. These incidents include, but may not be limited to, incidents of abuse and suicide risk (Appendix A).

Agreeing to the above statements addressed respect for persons and explained the voluntary nature of the participation. All participants were treated equally; no participant was pressured to complete the survey. All processes and procedures used to collect data and information from participants were approved earlier in the research. Because the researcher was a member of the forum under investigation, the positionality of the research was also considered. To maintain objectivity, participants responded directly to the link listed in the post rather than directly to the researcher. The researcher did not discuss the research with prospective survey participants and used the forum post to explain the research purpose, data collection methods, data reporting, and how participant confidentiality would be maintained.

The researcher completed the training course recommended by the University of West IRB (Appendix B). The researcher also obtained IRB approval from the University to conduct the research study and collect data from participants (Appendix C). Permission to use, adapt, and reprint the TSES was granted on June 30, 2018 (Appendix D).

Data Sources

The data source for the study was an online self-report survey. As explained by Creswell (2014), “Survey research provides a quantitative or numeric description of trends, attitudes or opinions of a population by studying a sample of that population” (p. 13). Advantages of using an online survey include the instantaneous distribution and submission of survey questionnaires and responses (Colton & Covert, 2007). Online surveys also limit the amount of contact the researcher had with participants.

Disadvantages of using an online survey include that some participants may not have limited access to the internet or may inadvertently delete the post (Colton & Covert, 2007). Nonresponse bias can also be a limitation, as respondents may elect to skip certain questions or may not respond to the survey via the post resulting in a low response rate. Participants who do

respond may provide socially desirable answers in an effort to be viewed favorably by the researcher (Colton & Covert, 2007). To address these issues, the survey was attached to a post on the forum and was not sent to each individual forum member. Information with administrative contacts from the researcher's home institution was also provided should a potential participant want to verify the survey legitimacy. Respondents were sent reminders via posts on the forum page to address nonresponse bias.

Research Protocols/Instrumentation

Survey research yields a quantitative explanation of the attitudes and opinions of the sample population (Creswell, 2014). To collect data on special education teachers' sense of self-efficacy levels in the subscales of classroom type, instructional practice, classroom management, and student engagement, a preexisting survey questionnaire was used. The survey used in the current study was a self-report instrument adapted to distribute via a social media post in a similar manner to email distribution. According to Colton and Covert (2007), email surveys "provide almost instantaneous dissemination of the instrument and people may be more likely to read and complete the information they receive via email" (p. 326). The survey was replicated using Qualtrics,® an online research and survey distribution application.

The survey contained 39 questions. Eight questions addressed classroom type, eight questions addressed instructional practice, eight questions addressed student engagement, and four questions addressed participation in the survey and the consent to participate. In addition, 10 demographic questions were also included to document participants' age, degree type, length of teaching service, gender, in addition to the classroom type, subject, and grade level taught. Detailed instructions in the introductory post sent to participants included the link to the survey. It was anticipated that it would take approximately 30 minutes to complete the data collection instrument.

Instrumentation. To assess monograde and multigrade special education teachers' self-efficacy levels, Tschannen-Moran and Hoy's (2001) Teacher Sense of Self-Efficacy Scale

(TSES) survey was used (Appendix E). The TSES measures self-efficacy on a 9-point Likert scale and asks respondents to rate questions about *how much can they do*. Scores range from 1-9, with 1 being *I can do nothing* and nine being *I can do* a *great deal* (Tschannen-Moran & Hoy, 2001). Likert scales were developed to quantify participants' psychological attitudes (Bertram, 2014). Researchers advocate for the use of 7 and 9-point Likert scales because they add additional granularity and offer better reliability when analyzing responses (Bertram, 2014; Finstad, 2010). The TSES consists of a 12-item short form and a 24-item long form. The 24-item instrument was used to measure teacher self-efficacy on a 9-point Likert Scale. The -TSES's 24-item instrument measures teacher beliefs in three correlated areas: efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management. Each of the areas includes eight subscale groupings (Table 1).

Table 1

Teacher Sense of Self-efficacy Subscale Groupings

Subscale	Item Number
Efficacy in Student Engagement	Items: 1, 2, 4, 6, 9, 12, 14, 22
Efficacy in Instructional Practice	Items: 7, 10, 11, 17, 18, 20, 23, 24
Efficacy in Classroom Management	Items: 3, 5, 8, 13, 15, 16, 19, 21

Note. Subscale scores for TSES efficacy measures.

Research suggests teachers who teach in multigrade classes may experience decreased self-efficacy as well as issues with classroom management, instructional strategies, and student engagement (Aloe et al., 2014; Bandura, 1994, 1997; Eberle, 2011; Lee et al., 2011; Protheroe, 2008; Scott, 2017; Skaalvik & Skaalvik, 2016; Tschannen-Moran & Hoy, 2001). The TSES assisted in determining whether relationships existed between classroom type and teachers' sense of self-efficacy in instrument subscales related to special education teachers and monograde and multigrade classrooms. Permission to use and adapt the instrument was received on June 30, 2018 (Appendix E).

Reliability and validity. The TSES was assessed in terms of its correlation with other established measures including the Gibson and Dembo's (1984) Teacher Efficacy Scale, and

Armor et al.'s (1976) Teacher Characteristics and Student Learning. The two Armor et al. (1976) research items yielded positive relationships with the TSES long form (r = .18 and .53, p = .01). The TSES also yielded positive correlations with Gibson and Dembo's (1984) personal teaching self-efficacy measure (r = .64; p = .01) and general self-efficacy measure (r = .16; p = .01; Tschannen-Moran & Hoy, 2001).

Data Collection Procedures

Data for this study were collected in September 2018 of the 2018-2019 school year. Data were collected in September because teachers were on summer break in the previous months. In addition, the summer was used to obtain University IRB approval and permission from the forum administrators to conduct the study. The forum administrator reviewed the IRB approval before allowing access to potential study participants. The University required completion of a seven page application and training on protection of human subjects.

Once permission was received, data were collected over a three-week period. In the first week, the special education teachers on the forum could view a forum post that contained information about the survey and a request for their participation. The post contained an introduction providing information about the research and why participants were being recruited. Information about the consent process, confidentiality, and link to the survey was also provided (Appendix D). Participants were informed that they were consenting to serve as participants in the study once they clicked the survey link. The second and third weeks were used to allow participants to return the survey. A reminder post was sent on Friday of the second week and Thursday of the third week. Teachers had two weeks from the time the survey was received to return the survey.

To assure confidentiality, the researcher distributed the survey to potential participants by posting the recruitment invitation and survey link on the forum and not to each individual forum member. The participants responded directly to the survey and not to the researcher. In

addition, no identifiable information was included on the survey. The timeline for distribution was as follows:

- September 4, 2018, 9:00 a.m.: Survey Distributed
- September 14, 2018, 9:00 a.m.: Reminder post sent out regarding survey
- September 21, 2018, 9:00 a.m.: Reminder post sent out regarding survey
- September 25, 2018, 11:59 p.m.: Final survey responses collected

Survey data were collected using Qualtrics®, an online survey tool researchers use to create and distribute surveys (California State University, 2015). The program generates a survey link that can be sent to participants. Participant data are then captured in the Qualtrics® system for data analysis.

Researcher Positionality

The researcher of the current study is a special education teacher with experience teaching in both monograde and multigrade special education classrooms. With 10 years in the field, the researcher experienced challenges trying to deliver instruction in the special education multigrade classroom and at times considered leaving the profession. The researcher's experiences influenced the selection of the research topic and problem under investigation.

Given that the researcher was a member of the forum in which the research was conducted, positionality of the researcher was considered. The researcher has no professional relationship with the forum and joined the forum specifically to connect with other special education teachers and discuss topics in special education. The format of quantitative research using a self-administered survey instrument distributed through the online forum post helped to ensure the researcher did not have contact with participants or influence participant responses. The use of a preexisting survey measure further assisted with eliminating researcher bias because the researcher did not create the survey instrument (Colton & Covert, 2007).

Research Validity

Validity is concerned with demonstrating that an instrument or test interpretation mirrors the intent of its use (Colton & Covert, 2007; Creswell, 2012). Research validity is essential to establish credibility and ensure the study and data collection instrument yield accurate information. Construct, criterion-referenced, and content validity are three types of validity that can be assessed (Colton & Covert, 2007; Creswell, 2012). Threats to validity can be internal and external. Internal validity refers to the extent to which the researcher can justify causation (Leedy & Ormrod, 2010). External validity refers to the extent to which the study results can be generalized to other populations (Johnson & Christensen, 2004). In this study, threats to internal validity included history and sample augmentation bias. Population validity was a primary threat to external validity.

History. History refers to events that occurred prior to the study that can affect how participants respond (Onwuegbuzie, 2000). History was a threat to the current study's internal validity because participants responded to questions about previous experiences with monograde and multigrade classrooms. Previous experiences in these classroom types could factor into how a person chose to respond, or if the person responded at all (Onwuegbuzie, 2000). However, the study aimed to specifically examine self-efficacy levels of special education teachers who taught or are currently teaching in monograde or multigrade classrooms. Though a general education teacher may have previously taught special education, distributing the survey only to those with sole experience teaching special education may have limited the influence history had on participant responses.

Sample augmentation bias. Sample augmentation bias occurs when participants leave or join the group prior to the distribution of the survey for which a sample size was previously

established (Onwuegbuzie, 2000). A change in sample size could increase or diminish the effect size of the results (Onwuegbuzie, 2000). Teachers could leave the forum at any time, which could have impacted the number of prospective participants who saw the survey request. To mitigate this validity threat, at least 50 teachers participated in the study. Using Krejcie and Morgan's (1970) sample size table and sample calculation, a desired sample of 50 special education teachers required a sample size of at least 44 to generate a 95% confidence interval.

Population validity. Population validity refers to the extent to which the research results can be generalized to other groups or populations (Creswell, 2012; Onwuegbuzie, 2000). There was no way to fully guarantee a sample is representative of the target population (Onwuegbuzie, 2000), as every monograde and multigrade special education teacher would have had to be available. To mitigate this threat and maximize population validity, the survey was opened to all special education teachers on the forum who taught or were currently teaching monograde or multigrade special education classrooms.

Data Analysis Techniques

Analyzing the data in quantitative research is necessary to determine relationships among variables. The current study used inferential statistics to determine significant differences between two or more groups and identify if those differences could be associated with the larger population under investigation (Leedy & Ormrod, 2010). The statistical program SPSS was used to analyze survey responses. The researcher assigned each participant with an ID number, made sure all variables had appropriate labels, and checked the frequencies to assess missing data.

Listwise deletion (i.e., complete case analysis) was used to clean the data set and remove any participant who failed to answer all questions in the survey (Humphries, n.d.). Although listwise deletion may reduce statistical power, the method is simple and comparable across analyses (Humphries, n.d.).

An unpaired, independent *t*-test was used to identify the influence of classroom types on teachers' sense of self-efficacy. An independent *t*-test is a parametric statistic used to determine relationships and statistical significance between group mean scores (Lund Research, 2013). In using a parametric statistic, it is assumed that data fall on an interval or ratio scale and within a normal distribution (Leedy & Ormrod, 2010). The unpaired, independent *t*-test requires the groups being compared be unrelated and only members of one group (Lund Research, 2013). In the current study, classroom types served as the independent variables and instructional practice, classroom management, and student engagement served as the dependent variables.
The resulting values from the unpaired, independent *t*-test were analyzed, and any significant differences were noted.

The following critical assumptions were met to use the unpaired, independent *t*-test:

1. Assumption #1: The dependent variables of student engagement, instructional practice, and classroom management were measured on a continuous scale (i.e., interval or ratio level).
2. Assumption #2: The independent variable consists of two categorical, independent groups of multigrade and monograde teachers.
3. Assumption #3: There was independence of observation, as each participant could only belong to one group. Visual inspection was used to assess groups.
4. Assumption #4: There were no significant outliers as indicated by visual inspection of boxplots. No values were greater than 1.5 box lengths.

5. Assumption #5: The dependent variables of student engagement, classroom management, and instructional practice were normally distributed for each independent variable group as indicated by a histogram of the dependent variable for each independent variable. The researcher performed a Shapiro Wilks of normality test to check for this assumption.
6. Assumption #6: Homogeneity of variances was indicated by the Levene's test.

Assumptions 1, 2 and 3 were met based on the analysis of the variables used in the study. Assumptions 3, 4, and 5 were tested using SPSS. Ross-Hill (2009) used unpaired, independent sample *t*-tests to determine whether statistical significance existed between the variables of elementary and regular education teachers and their attitudes toward inclusion practices. To assess Gibson and Dembo's (1984) measures of personal teaching efficacy (PTE) and general teaching efficacy (GTE) for staff who did and did not participate in staff development workshops, Ledford (2011) used unpaired, independent *t*-tests. Both studies focus on some aspect of teacher attitudes. Descriptive statistics were used to assess and analyze demographic data in terms of standard deviations, percentages, means, and frequencies.

Chapter Summary

This chapter reviewed the quantitative, correlational design used to examine data from special education teachers in an online special education forum who currently teach or have taught in monograde or multigrade classrooms. The quantitative design allows for the exploration of the influence of classroom type on special education teacher self-efficacy. An online forum was used to garner study participants and distribute the TSES survey and informed consent information. The site selection, sample, data sources, instrumentation, data collection, and data analysis techniques reviewed the processes used to address the research question in

relation to the theory of self-efficacy. The methodology used to collect data from special education teachers was used to examine the differences in sense of self-efficacy levels between monograde and multigrade special education teachers with respect to student engagement, instructional practice, and classroom management.

When compared to general education teachers, twice as many special education teachers leave the teaching profession (National Coalition on Personnel Shortages in Special Education and Related Services, 2018). Additionally, special education teachers have resigned from the profession although there was a continuing rise in the number of students in need of special education services in 2015-2016 (National Center for Education Statistics, 2018). A quantitative approach allows for greater generalization and study replicability, which is important given nearly all 50 states in the United States reporting special education teacher shortages. The ability to replicate the study can provide opportunities to go beyond the convenience sample used in this research study and survey a larger sample of special education teachers to determine what influences teacher self-efficacy and a special education teacher's desire to remain in the profession despite challenges.

Chapter 4: Data Analysis and Results

This quantitative study examined the differences in teachers' sense of self-efficacy levels between monograde and multigrade special education teachers with respect to student engagement, instructional practice, and classroom management in an online special education teacher forum. Framed on Bandura's self-efficacy theory (1977), the study's objective was to address the following research question: How do the instructional aspects of student engagement, instructional practice, and classroom management differ on monograde and multigrade special education teacher self-efficacy levels? The research question led to the development of the following hypotheses:

> ***H_0*:** The instructional aspects do not differ on monograde and multigrade special education teacher self-efficacy levels.
>
> ***H_1*:** At least one instructional aspect differs on monograde and multigrade special education teacher self-efficacy levels.

Inferential statistics were employed to identify any differences between monograde and multigrade special education teacher self-efficacy levels, and if those differences could be associated with the larger population under investigation (Leedy & Ormrod, 2010). SPSS was used to analyze survey responses. An unpaired, independent *t*-test was used to explore the influence of classroom types on a teachers' sense of self-efficacy. An independent *t*-test, also known as a student's *t*-test, is a parametric statistic used to determine relationships and statistical significance between group mean scores (Lund Research, 2013).

This chapter presents and explains the results of the data analysis according to the survey and theoretical construct. Additionally, the chapter consists of a discussion of the description of participants and data preparation. The explanation also includes a presentation of the results in relation to the constructs of student engagement, instructional practice, classroom management, and the self-efficacy theory. The chapter ends with a summary of the main issues and foreshadows the final chapter.

Description of Participants

The sample consisted of 45 special education teachers who either teach or have taught in monograde or multigrade special education classrooms. Of the 3390 special education teachers who were sent the survey, 50 teachers submitted surveys. In short, the response rate was 1.5%. Of the 50 survey respondents, 45 respondents completed the survey. In short, the completion rate was 1.3% (Table 2). To participate in the study, participants had to be a special education teacher, a member of the special education teacher forum, and have taught or currently teach in monograde or multigrade special education classrooms.

Demographic data collected from participants included age, gender, number of years teaching special education, education level, grade level, classroom type recently served, and subject area taught. All participants were over the age of 18. Of the respondents, 76% were female, 33% had one to five years of special education teaching experience, and 49% had at least a master's degree. Forty-seven percent of respondents taught middle school, of which English/language arts (33%) and math (29%) were the most frequent subjects. Fifty-one percent of participants reported teaching in multigrade special education classrooms, and 49% taught in monograde classrooms. Sixty-two percent of respondents identified multigrade classrooms to be the most challenging to teach. Tables 2 and 3 provide information relative to demographic and study criteria area reported by the participants.

Table 2

Age, Gender, Number of Years Teaching, and Educational Level of Participants

Demographic	*f*	%
Age		
> 18	45	100.0
Gender		
Female	34	75.6
Male	11	24.4
Number of Years Teaching Special Education		
1-5	15	33.3
6-10	10	22.2
11-15	12	26.7
16-20	4	8.9
≥ 21	4	8.9
Education Level		
Bachelors	13	28.9
Masters	22	48.9
Specialist	7	15.6
Doctorate	3	6.7
Grade Level by School Level		
Elementary	15	33.3
Middle	21	46.7
High	9	20.0
Classroom Type		
Monograde	17	48.9
Multigrade	28	51.1
Subject Area Taught		
English/Language Arts	15	33.3
Math	13	28.9
Science	3	6.7
Social Studies/History	4	8.9
Reading	1	2.2
Other	9	20.0

Note. $N = 45$.

Table 3

Classroom Type Most Difficult to Teach

Demographic Category	*f*	%
Classroom Type		
Monograde	17	37.8
Multigrade	28	62.2

Note. $N = 45$.

Data Preparation

Data for this study were collected in September 2018 of the 2018-2019 school year. Qualtrics was used to collect survey responses. Quantitative research requires data analysis to assess relationships between variables. The assumptions of the study included that dependent variables were measured on an interval or ratio level and the independent variables consisted of two categorical ,independent groups. Additional assumptions included that through visual inspection, there was independence of observation, and the resulting boxplots indicated no significant outliers. Other assumptions included that the dependent variables were normally distributed as indicated by the Shapiro Wilks test of normality, and the Levene's test confirmed homogeneity of variance.

The researcher determined that none of the assumptions were violated and subsequently performed data analysis. This quantitative research study used inferential statistics that allowed the researcher to examine if there were differences between two or more groups and whether those differences could be associated with the larger population under investigation (Leedy & Ormrod, 2010). The statistical program SPSS was used to analyze survey responses. Using SPSS, data were coded based the survey constructs of student engagement, classroom management, and instructional practice. Missing data were identified. Listwise deletion (i.e., complete case analysis) was used to clean the data set and remove any participant responses that

contained a missing value (Humphries, n.d.). An unpaired, independent *t*-test was used to explore the influence of classroom types on a teachers' sense of self-efficacy. In this study, classroom types served as the independent variables and instructional practice, student engagement, and classroom management served as the dependent variables. The resulting values from the unpaired, independent *t*-tests were analyzed and any significant differences were highlighted.

Ross-Hill (2009) used unpaired, independent sample *t*-tests to determine if statistical significance existed among the variables of elementary and regular education teachers and their attitudes toward inclusion practices. To assess Gibson and Dembo's (1984) measures of PTE and GTE for staff who did and did not participate in staff development workshops, Ledford (2011) used unpaired, independent *t*-tests. Both studies focus on some aspect of teacher attitudes. Descriptive statistics were used to assess and analyze demographic data in terms of standard deviations, percentages, means, and frequencies. A total of 50 teachers responded to the survey request in the four weeks it was posted on the forum, and 45 survey results were valid.

Presentation and Analysis of Results

The research questions posed in this study aimed to determine how the instructional aspects of student engagement, instructional practice, and classroom management differ with respect to monograde and multigrade special education teacher self-efficacy levels. Statistical tests were conducted to ensure the TSES's reliability and validity.

Reliability and validity. The researcher conducted statistical tests to ensure the TSES's reliability and validity. For each of the correlated areas, internal consistency tests for reliability

were conducted and yielded the following results (Table 4). Based on the Cronbach's Alpha levels (α), the high levels of internal consistency (.87-.94) indicated an acceptable reliability without redundancy.

Table 4

Internal Consistency Test for Reliability

Subscale	*M*	*SD*	α
TSE	7.1	.94	.94
Efficacy in Student Engagement	7.3	1.1	.87
Efficacy in Instructional Practice	7.3	1.1	.91
Efficacy in Classroom Management	6.7	1.1	.90

Student engagement. A total of eight survey questions focused on student engagement. The researcher conducted an independent samples *t-test* to determine any statistically significant mean score difference between the participants' self-efficacy levels (i.e., Group 1 = multigrade; Group 2 = monograde) relative to student engagement. Group 1 consisted of 23 participants and Group 2 consisted of 22 participants. The dependent variable of student engagement was normally distributed ($p > .05$) for the independent variables of multigrade and monograde classrooms, as indicated by a histogram of the dependent variable.

On average, multigrade special education teachers experienced slightly lower levels of self-efficacy than monograde teachers when responding to student engagement questions. Multigrade teachers ($M = 3.87$; $SD = .869$) experienced lower levels of self-efficacy than monograde teachers ($M = 4.18$; $SD = .853$) when assessing how much they could do to help students think critically (Table 5). This difference was not significant $t(43) = -1.22$, $p = .231$, $p > .05$. Multigrade teachers ($M = 3.74$; $SD = .810$) also experienced lower levels of self-efficacy than monograde teachers ($M = 4.00$; $SD = .926$) when determining how much they could do to motivate students who showed low interest in school work (Table 5), though there was no significant difference in self-efficacy levels $t(43) = -1.01$, $p = .319$, $p > .05$. Multigrade teachers

(*M* = 4.09; *SD* = .900) had lower levels of self-efficacy than monograde teachers (*M* = 4.27; *SD* = .703) when asked how much they could get students to believe they (the student) can do well in school work (Table 5). This difference was also not significant *t*(43) = .769, *p* = .446, *p* > .05**.**

Lower self-efficacy levels were also found among multigrade teachers (*M* = 3.87; *SD* = .920) versus than monograde teachers (*M* = 3.95; *SD* = .786) when asked about their belief in their ability to help their students value learning (Table 5), though the difference was not significant *t*(43) = -.333, *p* = .741, *p* > .05. Lower self-efficacy was also found among multigrade teachers (*M* = 3.91; *SD* = .733) versus monograde teachers (*M* = 4.00; *SD* = .756) when asked how much they could do to foster student creativity (Table 5), but this difference was not significant *t*(43) = -.392, *p* = .697, p > .05. Multigrade teachers (*M* = 3.73; *SD* = .864) had lower self-efficacy than monograde teachers (*M* = 3.86; *SD* = .834) when assessing how much they can do to improve understanding of a student who was failing (Table 5), which was not a significant difference *t*(43) = -.492, *p* = .626, *p* > .05. Multigrade teachers (*M* = 3.52; *SD* = 1.04) also differed from monograde teachers in (*M* = 3.77; *SD* = .973) their level of confidence assisting families to help children do well in school (Table 5), though this difference was not significant *t*(43) = -.836, *p* = .408, *p* > .05. In summary, the researcher failed to reject the null hypothesis in seven of the eight questions regarding student engagement.

Multigrade special education teachers (*M* = 3.60; *SD* = .839) exhibited lower levels of self-efficacy then monograde (*M* = 4.14; *SD* = .774) teachers when assessing how much they can do to get through to the most difficult students (Table 5). This was a significant difference *t*(43) = -2.19, *p* = .034, *p* < .05 and indicates a rejection of the null hypothesis. In this example, at

least one question that provides sufficient evidence to support the claim that at least one instructional aspect differs on monograde and multigrade special education teacher self-efficacy levels relative to student engagement.

Table 5

Student Engagement and Multigrade and Monograde Special Education Teacher Self-Efficacy

Student Engagement and Classroom Type	*n*	*M*	*SD*	*t*	*p*
How much can you do to help your students think critically?					
Multigrade	23	3.87	.869	-1.22	.231
Monograde	22	4.12	.853		
How much can you do to motivate students who show low interest in school work?					
Multigrade	23	3.74	.810	-1.01	.319
Monograde	22	4.00	.926		
How much can you do to get students to believe they can do well in school work?					
Multigrade	23	4.09	.900	-.769	.446
Monograde	22	4.27	.703		
How much can you foster student creativity?					
Multigrade	23	3.91	.733	-.391	.697
Monograde	22	4.00	.756		
How much can you do to improve the understanding of a student who is failing?					
Multigrade	23	3.73	.864	-.492	.626
Monograde	22	3.86	.834		
How much can you assist families in helping their children do well in school?					
Multigrade	23	3.52	1.04	-.836	.408
Monograde	22	3.77	.973		
How much can you do to get through to the most difficult students?					
Multigrade	23	3.60	.839	-2.19	.034*
Monograde	22	4.14	.774		

Note. $N = 45$. * $p < .05$.

The *t*-test revealed significant differences relative only to student engagement. The mean scores in monograde and multigrade special education teacher self-efficacy levels differed when special education teachers assessed how much they could do to get through to the most difficult students. Bandura (1994) highlighted that teachers' self-efficacy refers to the degree they

believe they can "control" or influence a student's behavior and achievement. The lower self-efficacy mean score indicates that among the sample of special education teachers, multigrade special education teachers might believe they lack the ability to influence a difficult student. The lower level of self-efficacy among multigrade teachers aligns with the research of Dixon et al. (2014) that found that a teacher's ability to engage students was difficult in classes comprised of students with mixed ability and grade level. Lack of time, feelings of being overwhelm, and fear of failure prevented development of instruction that promoted active student engagement (Dixon et al., 2014). The statistically significant result also aligns with Skaalvik & Skaalvik's (2014, 2016) studies suggested teachers who experience stress and emotional exhaustion have difficulty engaging students due to low levels of self-efficacy.

Instructional practice. A total of eight survey questions focused on student instructional practice. An independent samples *t*-test was conducted to identify any statistically significant mean score difference between the participants' self-efficacy levels (i.e., Group 1 = multigrade; Group 2 = monograde) relative to instructional practice. Group 1 consisted of 23 participants and Group 2 consisted of 22 participants. The dependent variable of instructional practice was normally distributed ($p > .05$) for the independent variables of multigrade and monograde classroom as indicated by a histogram of the dependent variable.

In four of the eight questions under instructional practice, multigrade special education teachers exhibited lower levels of self-efficacy than monograde teachers. Specifically, multigrade teachers ($M = 4.30$; $SD = .822$) reported slightly lower levels of self-efficacy than monograde teachers ($M = 4.32$; $SD = .780$) with regard to how well they could respond to difficult questions from students (Table 6). This difference was not significant $t(43) = -0.58$, $p = .954$, $p > .05$. Multigrade teachers ($M = 4.22$; $SD = .736$) also reported lower levels of self-

efficacy than monograde teachers (*M* = 4.45; *SD* = .510) when determining their ability to assess how much they can gauge student comprehension of material (Table 6). This difference in self-efficacy levels was also not significant *t*(43) = -1.25, p = .218, *p* > .05. Multigrade teachers (*M* = 4.00; *SD* = .739) had lower levels of self-efficacy than monograde teachers *(M* = 4.32; *SD* = .646) when asked about the extent to which they could craft good questions for students (Table 6). This difference was also not significant *t*(43) = -1.54, *p* = .132, *p* > .05. Lower self-efficacy levels were exhibited among multigrade teachers (*M* = 4.09*; SD* = .949) versus monograde teachers (*M* = 4.27*; SD* = .550) when asked how well they could provide appropriate challenges for very capable students (Table 7), though the difference was not significant *t*(35.5) = -.807, *p* = .425, *p* > .05. Slightly lower self-efficacy levels were exhibited among multigrade teachers (*M* = 4.22; *SD* = .795) versus monograde teachers (*M* = 4.23; *SD* = .813) when asked how well they could implement alternative strategies in their classroom (Table 6). The difference was not significant *t*(43) = -.041, *p* = .967, *p* < .05

In three of the eight questions, multigrade teachers exhibited higher levels of self-efficacy than monograde teachers. Multigrade teachers (*M* = 4.40; *SD* = .891) reported higher self-efficacy levels than monograde teachers (*M* = 4.27; *SD* = .631) when assessing how much they could do to adjust lessons to the proper level for individual students (Table 6). However, this difference was not significant *t*(43) = .513, *p* = .611, *p* > .05. Multigrade teachers (*M* = 4.30; *SD* = .765) also differed from monograde teachers in (*M* = 4.05; *SD* = .844) their ability to use a variety of assessment strategies (Table 6). This difference, however, was not significant *t*(43) = 1.08, *p* = .287, *p* > .05. The last question in which multigrade teachers (*M* = 4.39; *SD* = .782) reported slightly higher levels of self-efficacy than monograde teachers (*M* = 4.32; *SD* = .646) concerned their belief in their ability to provide alternative explanations or examples when

students are confused (Table 6). This difference was also not significant $t(43) = .341$, $p = .735$, $p > .05$. In all eight questions regarding instructional practice, there was no sufficient evidence to support the claim that at least one instructional aspect differs on monograde and multigrade special education teacher self-efficacy levels relative to instructional practice. Thus, the researcher failed to reject the null hypothesis.

Table 6

Instructional Practice and Multigrade and Monograde Special Education Teacher Self-Efficacy

Instructional Practice and Classroom Type	*n*	*M*	*SD*	*t*	*p*
How well can you respond to difficult questions from your students?					
Multigrade	23	4.30	.822	-.058	.954
Monograde	22	4.31	.780		
How much can you gauge student comprehension of what you have taught?					
Multigrade	23	4.22	.736	-1.25	.218
Monograde	22	4.45	.510		
To what extent can you craft good questions for your students?					
Multigrade	23	4.00	.739	-1.54	.132
Monograde	22	4.32	.646		
How much can you do to adjust your lessons to the proper level for individual students?					
Multigrade	23	4.40	.891	.513	.611
Monograde	22	4.05	.631		
How much can you use a variety of assessment strategies?					
Multigrade	23	4.30	.765	1.08	.287
Monograde	22	4.05	.844		
To what extent can you provide an alternative explanation or example when students are confused?					
Multigrade	23	4.39	.782	.341	.735
Monograde	22	4.32	.646		
How well can you implement alternative strategies in your classroom?					
Multigrade	23	3.52	.795	-.041	.967
Monograde	22	3.77	.813		

Table 6

Instructional Practice and Multigrade and Monograde Special Education Teacher Self-Efficacy

(continued)

Instructional Practice and Classroom Type	*n*	*M*	*SD*	*t*	*p*
How well can you provide appropriate challenges for very capable students?					
Multigrade	23	4.09	.949	-.807	.425
Monograde	22	4.27	.550		

Note. $N = 45$. * $p < .05$.

No statistically significant mean score differences between the self-efficacy levels of multigrade and monograde special education teachers were found in all eight questions about instructional practice. In three of the eight questions on instructional practice, multigrade grade teachers experienced higher levels of self-efficacy than monograde teachers, although the results were not statistically significant and may consequently be due to chance or sampling error (Rubin & Babbie, 2017).

Researchers such as Little (2007) and Mulryan-Kyne (2004) found that varying instructional practice to cater to each student in a class period was very labor intensive and can lead to frustration and being overwhelm for special education teachers. In relation to self-efficacy theory, these psychological states may contribute to low self-efficacy (Bandura, 1997; Tschannen-Moran & Wollfok-Hoy, 2001). However, based on the data analysis in this study, the differences in mean scores relative to instructional practice may be unique to this sample and cannot be generalized to the special education teacher population. In the instances where multigrade teachers experience higher levels of self-efficacy in instructional practice than monograde teachers, more analysis is needed to determine significance.

Classroom management. The last survey construct to assess self-efficacy was classroom management. An independent samples *t*-test was conducted to identify any

statistically significant mean score differences between the participants' self-efficacy levels (i.e., Group 1 = multigrade; Group 2 = monograde) relative to classroom management. Group 1 consisted of 23 participants and Group 2 consisted of 22 participants. The dependent variable of classroom management was normally distributed ($p > .05$) for the independent variables of multigrade and monograde classroom as indicated by a histogram of the dependent variable.

In three of the eight questions on classroom management, multigrade teachers exhibited higher levels of self-efficacy than monograde teachers. Multigrade teachers ($M = 4.43$; $SD = .788$) reported higher self-efficacy levels than monograde teachers ($M = 4.23$; $SD = .922$) in their assessment of how much they could do to control disruptive behavior in the classroom (Table 7). However, this difference was not significant $t(43) = .831$, $p = .421$, $p > .05$. Multigrade teachers ($M = 4.13$; $SD = .757$) also differed from monograde teachers ($M = 4.00$; $SD = .817$) in their perceived ability to calm a disruptive and noisy student (Table 7), though it was not a significant difference $t(43) = .556$, $p = .581$, $p > .05$. The last question in which multigrade teachers ($M = 4.13$; $SD = .815$) reported slightly higher levels of self-efficacy than monograde teachers ($M = 4.09$; $SD = .811$) concerned their belief in their ability to keep a few problem students from ruining an entire lesson (Table 7). This difference was also not significant $t(43) = .163$, $p = .871$, $p > .05$.

In four of the eight questions under classroom management, multigrade special education teachers exhibited lower levels of self-efficacy than monograde teachers. Multigrade teachers ($M = 4.39$; $SD = .891$) experienced slightly lower levels of self-efficacy than monograde teachers ($M = 4.64$; $SD = .658$) when they assessed the extent to which they can make their expectations clear about student behavior (Table 7). This difference was not significant $t(43) = -1.05$, $p = .302$, $p > .05$. Multigrade teachers ($M = 4.30$; $SD = .876$) also experienced lower levels of self-

efficacy than monograde teachers (M = 4.50; SD = .598) when they assessed how well they could establish routines to keep activities running smoothly (Table 7), although this was not a significant difference $t(43) = -.871$, $p = .388$, $p > .05$. Multigrade teachers (M = 4.22; SD = .902) had lower levels of self-efficacy than monograde teachers (M = 4.32; SD = .646) when asked how much they could do to get children to follow classroom rules (Table 7). This difference was also not significant $t(43) = -.429$, $p = .670$, $p > .05$. Multigrade teachers (M = 4.35; SD = .775) reported lower self-efficacy levels than monograde teachers (M = 4.50; SD = .740) when asked how well they could establish a classroom management system with each group of students (Table 7). However, there was no significant difference $t(43) = -.673$, $p = .505$, $p > .05$. Lower self-efficacy levels were measured among multigrade teachers (M = 4.13; SD = .815) versus monograde teachers (M = 4.14; SD = .640) when asked how well they could respond to a defiant student (Table 7). This difference was not significant $t(39.3) = -.025$, $p = .980$, $p < .05$. Overall, no significant difference was found for all eight questions regarding classroom management, and there is not sufficient evidence to support the claim that at least one instructional aspect differs between monograde and multigrade special education teacher self-efficacy levels relative to classroom management. Thus, the researcher failed to reject the null hypothesis.

Table 7

Classroom Management and Multigrade and Monograde Special Education Teacher Self-Efficacy

Student Engagement and Classroom Type	*n*	*M*	*SD*	*t*	*p*
How much can you do to control disruptive behavior in the classroom?					
Multigrade	23	4.30	.788	.813	.421
Monograde	22	4.31	.922		

Table 7

Classroom Management and Multigrade and Monograde Special Education Teacher Self-Efficacy (continued)

Student Engagement and Classroom Type	*n*	*M*	*SD*	*t*	*p*
To what extent can you make your expectations clear about student behavior?					
Multigrade	23	4.22	.891	-1.05	.302
Monograde	22	4.45	.658		
How well can you establish routines to keep activities running smoothly?					
Multigrade	23	4.00	.876	-.871	.388
Monograde	22	4.32	.598		
How much can you do to get children to follow classroom rules?					
Multigrade	23	4.40	.902	-.429	.670
Monograde	22	4.27	.646		
How much can you do to calm a student who is disruptive or noisy?					
Multigrade	23	4.30	.757	.556	.581
Monograde	22	4.05	.817		
How well can you establish a classroom management system with each group of students?					
Multigrade	23	4.39	.775	-.674	.505
Monograde	22	4.32	.740		
How well can you keep a few problem students from ruining an entire lesson?					
Multigrade	23	3.52	.815	.163	.871
Monograde	22	3.77	.811		
How well can you respond to defiant students?					
Multigrade	23	4.09	.920	-.025	.980
Monograde	22	4.27	.640		

Note. $N = 45$. *$p < .05$ level

The eight questions on classroom management yielded no statistically significant mean score differences between the self-efficacy levels of multigrade and monograde special education teachers. In three of the eight questions on classroom management, multigrade grade teachers were found to have higher self-efficacy levels than monograde teachers, but because the

differences were not significant, the varying self-efficacy levels may be due to chance or a sampling error (Rubin & Babbie, 2017).

Studies conducted by both Aloe et al. (2014) and Scott (2017) found that low levels of classroom management self-efficacy led to teacher burnout, especially among special education teachers (Aloe et al., 2014; Scott, 2017). Burnout has been linked to special education teacher turnover (Brunsting et al., 2014; Kaff, 2004). However, based on the data analysis in this study, the differences in self-efficacy relative to classroom management mean scores may be unique to this sample and not generalizable to the general population of special education teachers. In the instances where multigrade teachers experience higher levels of self-efficacy than monograde teachers in classroom management, more analysis is needed to determine significance.

Unexpected Data

Previous research on special education teachers indicated multigrade teachers experiencing lower levels of self-efficacy than monograde teachers in areas such as classroom management (Dixon et al., 2014). However, there were instances in this study in which the mean scores for multigrade teachers were higher than monograde teachers in terms of controlling behavior (*M = 4.43)* and keeping problem students from ruining the class (*M = 4.13*). Although these scores did not yield any significant relationships, the differences may be attributed to the experiences of the convenience sample of special education teachers and not the larger population of special education teachers (Rubin & Babbie, 2017. Additionally, the variable of student engagement was a stronger predictor of monograde and multigrade special education teacher self-efficacy in the current study and in previous studies (Dicke et al., 2014; Dixon et al., 2014; Zee & Kooman, 2016).

Chapter Summary

This chapter reviewed the descriptive data on monograde and multigrade special education teachers regarding age, gender, number of years teaching, education level, classroom type, and subject taught. Participants also provided data on which classroom type they believed was most difficult to teach. The research questions and hypothesis were examined, and data were analyzed to determine whether relationships existed between classroom type and special education teachers' levels of self-efficacy with respect to student engagement, instructional practice, and classroom management. Only one significant difference was found between the self-efficacy levels of monograde and multigrade teachers. Specifically, in the area of student engagement, multigrade grade teachers exhibited lower levels of self-efficacy than monograde teachers when assessing how well they could get through to the most difficult student.

This finding aligned with the literature regarding lower teacher self-efficacy among teachers in multigrade classrooms (Skaalvik & Skaalvik, 2014, 2016). Except for the one question in student engagement, all of the other 23 questions encompassing classroom management, student engagement, and instructional practice yielded no statistically significant mean score difference between monograde and multigrade special education teacher self-efficacy levels. Chapter 5 discusses the interpretation of the results, implications for the study, and recommendations for future research.

Chapter 5: Summary, Conclusions, Implications, and Suggestions for Future Research

This chapter provides a summary of the study and includes a discussion of the data analysis and conclusions of results. An interpretation based on the results, theoretical framework, and related literature is discussed. Implications of the study and recommendations for future research with respect to monograde and multigrade special education and teacher self-efficacy are also offered. The chapter concludes with a discussion of limitations and reflexivity and a summation of the research study.

Summary and Major Results

The attrition rate for special education teacher employment doubles the attrition rate of general education teachers (National Coalition on Personnel Shortages in Special Education and Related Services, 2018). Almost all 50 states in the United States currently have special education teacher shortages (Cross, 2017; Dewey et al., 2017; Higher Education Consortium for Special Education, 2014; McLeskey et al., 2004; National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Samuels, 2015). The demand for special education teachers is high with “over 6.7 million students between ages 3 and 21 receiving special education services” (National Center for Education Statistics, 2018, para 2). Clarity on contributing factors to special education teacher turnover is important to identify ways of mitigating the problem.

Research suggests specific challenges inherent to teaching special education result in greater demands and difficulty. These challenges include lack of support, increased stress, and increased demands to meet special education mandates. Further, these challenges are present while teachers try to engage students, deliver effective instructional practice, and manage the classroom (Bettini et al., 2015; Dev & Haynes, 2015; Georgia Department of Education, 2007;

Gurgur & Uzuner, 2010; Hargreaves, 2001; Linehan, 2013; Little, 2007; Mariano & Kirby, 2009; Mulryan-Kyne, 2004; Nugent, 2010; Proehl et al., 2013; UNESCO, 2015; Vincent & Ley, 1999; Williams & Dikes, 2015). The classroom type in which a special education teacher delivers instruction has been identified as a contributing factor to an individual's capacity to maintain a quality learning environment (Sutherland et al., 2008). Two types of classrooms special education teachers can deliver instruction include monograde and multigrade classrooms. Monograde classrooms contain only students from one grade level of similar age, whereas multigrade classrooms refer to special education only classrooms that consist of students from multiple grade levels (Georgia Department of Education, n.d.; Grisham-Brown et al., 2017; Linehan, 2013; Ramrathan & Ngubane, 2013; University of London Institute of Education, n.d.). Given the differences in each classroom type, special education teachers must adapt to the demands of varying classroom environments and student grade levels.

One gauge of a resilience in the special education environment is his or her level of self-efficacy. Psychologist Albert Bandura (1986) developed the self-efficacy theory as a way to explain a person's motivation for engaging in a behavior. Teacher self-efficacy refers to one's confidence in his or her ability to create a positive learning environment, promote student learning, and remain in the profession (Bandura, 1994; Skaalvik & Skaalvik, 2014, 2016; Tschannen-Moran & Hoy, 2001). Several research studies have documented an association between self-efficacy and special education teacher motivation, job satisfaction, and resilience (Aldridge & Fraser, 2016; Bandura, 1994; Eberle, 2011; Lee et al., 2011; Protheroe, 2008; Skaalvik & Skaalvik, 2016; Tschannen-Moran & Hoy, 2001; Wang et al., 2015).

The current quantitative study sought to test Bandura's theory of self-efficacy (1977, 1986) through identifying the differences in self-efficacy levels between monograde and

multigrade special education teachers with respect to student engagement, instructional practice, and classroom management. A quantitative, correlational design was used to collect data from special education teachers in an online special education teacher forum who currently teach or previously taught in monograde or multigrade classrooms. A quantitative methodology was selected for this study in an effort to help identify any association of self-efficacy to classroom management, instructional practice, and student engagement. The quantitative methodology allows for greater ability to generalize results to the larger population of special education teachers (Creswell, 2014; Herr, 2007; Leedy & Ormrod, 2010). In the current study, the quantitative design examined whether teacher placement in monograde or multigrade classrooms results in differences in teachers' sense of self-efficacy levels with respect to student engagement, instructional practice, and classroom management.

A sample of 50 special education teachers who were members of an online special education forum were solicited to participate in the study. These teachers had experience in teaching in monograde or multigrade special education classrooms. Of the 50 distributed surveys, 45 special education teachers returned valid surveys that were ultimately used in the study. To assess monograde and multigrade special education teachers' sense of self-efficacy with regard to student engagement, instructional practice, and classroom management, Tschannen-Moran and Hoy's TSES (2001) was used (Appendix E). The TSES's 24-item instrument measures teacher beliefs in three correlated areas: efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management. The researcher conducted an independent samples *t*-test. The *t*-test was used to identify any statistically significant mean score differences between the participants' self-efficacy levels (i.e., Group 1 =

multigrade; Group 2 = monograde) relative to student engagement, instructional practice, and classroom management. Group 1 consisted of 23 participants and Group 2 consisted of 22 participants.

The following overarching research question framed this quantitative, correlational study: How do the instructional aspects of student engagement, instructional practice, and classroom management differ on monograde and multigrade special education teacher self-efficacy levels? The following hypotheses were used as the foundation to answer to the research question:

***H_0*:** The instructional aspects do not differ on monograde and multigrade special education teacher self-efficacy levels.

***H_1*:** At least one instructional aspect differs on monograde and multigrade special education teacher self-efficacy levels.

Student engagement was the only variable which provided sufficient evidence to support the claim that at least one instructional aspect differs on monograde and multigrade special education teacher self-efficacy levels. In the areas of instructional practice and classroom management, no questions provided sufficient evidence to support the claim that at least one instructional aspect differs on monograde and multigrade special education teacher self-efficacy levels. In summary the researcher failed to reject the null hypothesis in 23 out of 24 questions.

Conclusions

Bandura's self-efficacy theory is a framework used by researchers to serve as an indicator of special education teacher resiliency and ability to remain in the profession despite issues, challenges and obstacles (Aldridge & Fraser, 2016; Bandura, 1994; Eberle, 2011; Lee et al., 2011; Protheroe, 2008; Skaalvik & Skaalvik, 2016; Tschannen-Moran & Hoy, 2001; Wang et al., 2015). Research suggests that both monograde and multigrade special education teachers face difficulty trying to engage students, manage a classroom, and execute effective instructional

practice (Dev & Haynes, 2015; Little, 2007; Mulryan-Kyne, 2004; Nugent, 2010; Shin et al., 2016; Williams & Dikes, 2015). However, multigrade special education teachers must generally overcome greater obstacles to ensure students receive a quality education consistent with the general education student (Bettini et al., 2015; Cipriano et al., 2016; Little, 2007; Mariano & Kirby, 2009; Mulryan-Kyne, 2004). The challenges special education teachers experience, to include stress, lack of support, and difficulty differentiating instruction, have been identified as causes of special education teacher attrition. (Brunsting et al., 2014; Dewey et al., 2017; Espeland, 2006; Griffin et al., 2002; Lee et al., 2011; National Coalition on Personnel Shortages in Special Education and Related Services, 2018).

The current literature base has limited research about special education teacher self-efficacy and its association with teachers' beliefs in their classroom management, student engagement, and instructional practice abilities. The current study aims to add to the need for understanding the differences in teachers' sense of self-efficacy levels between monograde and multigrade special education teachers relative to student engagement, instructional practice, and classroom management (Cipriano, et al., 2016; Mulryan-Kyne, 2004; Tschannen-Moran & Hoy, 2001).

The data analysis revealed one question with statistically significant differences among monograde and multigrade teachers' self-efficacy levels. This difference occurred within the realm of student engagement, and suggests that multigrade teachers experienced lower teacher self-efficacy levels than monograde teachers when assessing their ability to reach the most difficult students. Lower self-efficacy in student engagement is consistent with research documenting the association between lower self-efficacy in student engagement and teachers who experience emotional exhaustion when having to differentiate instruction for a variety of

grade and learning levels (Dixon et al., 2014; Skaalvik & Skaalvik, 2014, 2016). Maintaining student engagement in the learning environment is contingent on teacher efficacy (Flower et al., 2014; Scott, 2017; Shoulders & Krei, 2015). Thus, this finding of lower self-efficacy among multigrade special education teachers with respect to student engagement is supported by literature. (Cipriano, et al., 2016; Mulryan-Kyne, 2004; Skaalvik & Skaalvik, 2014, 2016; Tschannen-Moran & Hoy, 2001).

Despite the significant difference found with regard to multigrade teachers' ability to get through to the most difficult students, the remaining seven questions on student engagement found no significant difference in monograde and multigrade special education teacher self-efficacy. Moreover, neither the eight questions related to instructional practice nor the eight questions related to classroom management identified any significant differences between groups. The lack of significant results suggests that while multigrade and monograde teachers may experience varying levels of self-efficacy related to the aforementioned instructional aspects of the learning environment, these differences cannot be ruled out on the basis of chance or sampling error. Moreover, while student engagement, classroom management, and instructional practice may influence on teacher self-efficacy, other factors may be associated with special education teacher self-efficacy, attrition, and retention.

Interpretation of Results

Unpaired, independent *t*-tests were conducted to examine how classroom types may influence teachers' self-efficacy levels when assessing their student engagement, instructional practice, and classroom management. In the current study, classroom types served as the independent variables and student engagement, classroom management, and instructional

practice served as the dependent variables. Descriptive statistics were used to assess and analyze demographic data in terms of standard deviations, percentages, means, and frequencies.

In the area of student engagement, only one significance difference was found between the self-efficacy levels between multigrade and monograde special education teachers. Research has demonstrated that a teacher's ability to engage students was difficult in classes where students were of mixed ability and grade level (Dixon et al., 2014). Studies highlight discipline issues in special education classes tend to be caused by students who are disengaged and off task, which is associated with increased disruptive behaviors (Flower et al., 2014). Although multigrade teachers were measured to have lower levels of self-efficacy than monograde teachers in all questions on self-efficacy, except for the one, these differences were not significant enough to establish a relationship between classroom type and special education teacher self-efficacy related to student engagement. The researcher therefore rejected the null hypotheses for seven out of the eight questions related to student engagement. Special education multigrade teachers were found to experience statistically significant lower self-efficacy levels when determining their ability to get through to the most difficult students.

The domain of instructional practice did not yield any significant relationships. This lack of significance contrasts with research from Shoulders & Krei (2015), who found that teachers with high self-efficacy were more creative in their approach to instruction because of increased confidence in their teaching ability. Having to differentiate instruction in the special education classroom for multiple students was found to be very labor intensive and overwhelming (Little, 2007; Mulryan-Kyne, 2004). However, the results of the current study do not suggest any significant differences in self-efficacy levels when teaching multiple grade levels of students. Dixon et al. (2014) explained that a classroom of mixed student learning levels obligates teachers

to differentiate instruction to engage learners, and many teachers lack the self-efficacy to develop distinct activities to meet the needs of the diverse students. However, there were instances in which multigrade teachers did experience higher levels of self-efficacy in classroom management than monograde special education teachers. The results of the current study's varying special education teacher self-efficacy levels across the classroom types did not support any of the larger results within the literature.

Among the other aspects of instructional practice, there were no significant differences identified between the self-efficacy levels of monograde and multigrade teachers. However, there were instances in which multigrade special education teachers exhibited slightly higher levels of self-efficacy with regard to instructional practice than the monograde teachers. These differences can be seen when teachers assessed how well they could adjust lessons to the proper level for students, how well they could use a variety of assessment strategies, and how well they could provide alternative explanations or examples when students are confused. The literature suggests that special education multigrade classes require teachers to develop varying assessments, which can be labor intensive and frustrating (Little, 2007; Mulryan-Kyne, 2004). A larger observed difference may have led to the conclusion that these challenges are not associated with lower teacher self-efficacy levels as more teachers could have provided varied insight on their mastery experiences in the multigrade classroom. Nonetheless, no relationship could be established in the current study due to lack of significant differences between groups.

As with the domain of instructional practice, classroom management did not yield any significant relationships with regards to managing defiant students. Improper classroom management can result in as much as 80% of instructional time being spent on behavior management (Simonsen et al., 2010). The constant disruption in the classroom environment can

lead to low levels of classroom management self-efficacy and contribute to teacher burnout, particularly among special education teachers (Aloe et al., 2014; Scott, 2017). The lack of significance in the relationship between classroom type and self-efficacy with respect to managing a defiant student suggests there may be another factor, such as burnout, that contributes to lower self-efficacy among multigrade special education teachers.

With other questions related to discipline and controlling disruptive students, multigrade teachers exhibited slightly higher levels of self-efficacy than monograde teachers. This contrasts with available research results that in self-contained classrooms comprised of students with emotional and behavior disorders, special education teachers spent an average of only 32.3% of the day on instruction (Vannest & Hagan-Burke, 2010). The focus on behavior management contributed to low-self-efficacy with respect to teachers' belief in their ability to manage the classroom (Dicke et al., 2014). Because these differences were not significant in the current study, no relationships were identified between the classroom type and special education teacher self-efficacy levels with respect to instructional practice.

Twenty-three of the 24 questions revealed no significant relationships between variables. Yet one significant relationship indicated that at least one instructional aspect differed between monograde and multigrade special education teacher self-efficacy levels. This one finding suggests the presence of factors within the special education classroom environment that influence multigrade special education teacher self-efficacy levels in a distinct manner from monograde teachers.

Bandura (1977, 1986, 1994) explained self-efficacy as constructed from four main sources: mastery experience, vicarious experience, social persuasion, and emotional and physiological states. Although the data analysis was expected to yield more significant

relationships between classroom type and the instructional aspects of special education, further exploration into why multigrade special education teachers doubted their student engagement abilities may clarify which source of self-efficacy most influences teachers' responses. Clarity of which self-efficacy sources contributed to lower self-efficacy with respect to student engagement may lead to a refinement of questions related to classroom management and instructional practice with the aim of identifying more significant relationships between variables.

Implications

While there are millions of students in need of special education services, the turnover rate of special education teachers is high (National Center for Education Statistics, 2018; National Coalition on Personnel Shortages in Special Education and Related Services, 2018). Self- efficacy has been found to be a factor in teacher resilience in the classroom (Tschannen-Moran & Hoy, 2001). The goal of the research study was to assess if monograde and multigrade special education teachers' self-efficacy levels differ in the areas of classroom management, instructional practice and student engagement. The findings from this study can have implications in the field of special education relative to the literature, policies, practices, and unexpected outcomes related to self-efficacy and special education teacher resilience.

Literature. One significant difference was identified in the self-efficacy levels of multigrade and monograde teachers with respect to student engagement, instructional practice, and classroom management. Due to this identified difference, the study provides a better understanding of how the classroom type influences special education teachers' sense of self-efficacy levels and offers insights into areas of special education (Dev & Haynes, 2015). Given the lack of significant differences across the constructs of classroom management and

instructional practice, more information can be developed about the influence that teaching in monograde and multigrade classroom types may have on special education teachers' beliefs in their abilities to effectively engage students, manage a classroom, and employ sound instructional practices. In assessing the study in its totality, the research adds to the broader knowledge base on what factors might influence special education teachers' sense of self-efficacy levels. The study also adds to the literature on what factors might influence teacher attrition which is vital to addressing the special education teacher shortage (Dev & Haynes, 2015, National Coalition of Special Education Personnel Shortages and Related Services).

Practice/education and training. Research has found that new special education teachers do not always receive adequate training prior to working in a special education classroom (Begeny & Marten, 2006; Chesley & Jordan, 2012). Inadequate classroom management training contributed to difficulty with classroom management relative to providing adequate instruction (Freeman et al., 2014; Stronge et al., 2011). This study may assist in identifying the classroom types and instructional areas where special education teachers could benefit from more training and support.

Some of the lack in teacher training may be a result of the training the teachers received while in college. Begeny and Marten (2006) found that effective pre-service training assisted in increasing teacher self-efficacy. The self-report efficacy data from special education teachers may help teacher training program developers with identifying gaps in special education teacher qualifications. Further, this study's results assist with highlighting a need for additional training and education for prospective teachers entering the field.

Studies have highlighted that many administrators recognize some of the challenges of teaching multigrade special education classrooms. Attempted solutions have included an effort

to place more advanced students in multigrade classrooms that encourage more peer-to-peer learning between low performing students and place more experienced teachers in multigrade environments (Mariano & Kirby, 2009). Results from this study may assist administrators in determining why a specific classroom type results in altered self-efficacy when significant associations are discovered.

Policy. The lower levels of multigrade special education teacher self-efficacy in instructional practice and classroom management suggest a need for educational policy focused on providing special education teacher training with specific focus on instructional delivery and discipline. Peebles and Mendaglio (2014) demonstrated that experienced preservice inclusion special education teachers had higher self-efficacy levels than those teachers without experience. This study can influence policies on special education teacher training, ensuring that incoming teachers have adequate mastery, vicarious experiences, and peer support that lead to emotional and psychological support to increase self-efficacy and belief in the ability to teach all levels and types of special education students.

Nichols and Sheffield (2014) found that administrators had difficulty facilitating collaboration between general and special education teachers. The administrators' difficulties resulted from differences in teacher instructional practice, culture, and training that provides services to the various types of students in the classroom. Results from this study may assist administrators in selecting in-service and staff development trainings that provide both special and general education teachers with the abilities to collaborate on curriculum development and better equip special education teachers to deliver instruction across varying classroom types.

A third policy implication relates to special education student groups. The literature differs from the current research results in terms of the influence of classroom type on special

education teacher self-efficacy (Dixon et al., 2014; Freeman et al., 2014; Mason & Burns, 1996). However, in this study the variations in self-efficacy levels across classroom type, particularly in the areas of instructional practice and classroom management, highlight a need for policymakers to further explore student groupings and special education classroom size. This analysis may assist administrators and policymakers with determining how to best place special education teachers in classroom types to facilitate increased self-efficacy.

Unexpected Outcomes

While the research hypothesized that multigrade teachers would exhibit lower levels of self-efficacy than monograde teachers, only one variable, student engagement, yielded results that supported this hypothesis. This unexpected outcome could be due to the fact that sample participants were members of an online forum. Selecting a sample from the larger population of special education teachers, such as a school system, may have produced results to support the hypothesis. In addition, the survey instrument was administered via an online forum in which more recent posts are featured at the top of the discussion forum. Thus, given the response rate of only 1.3%, future use of a forum may warrant daily posts to ensure the request for participant's remains at the top of the discussion forum.

Suggestions for Future Research

Results from this study suggest that special education classroom type has little influence on multigrade and monograde teacher self-efficacy levels with respect to student engagement, instructional practice, and classroom management. However, existing research supports the current hypothesis that classroom type can influence levels of teacher self-efficacy (Bettini et al., 2015; Cipriano et al., 2016; Dev & Haynes, 2015; Hargreaves, 2001; Little, 2007; Mariano & Kirby, 2009; Mulryan-Kyne, 2004; Nugent, 2010; Proehl et al., 2013; Nugent, 2010; Vincent &

Ley, 1999; UNESCO, 2015). The use of a convenience sample of special education teachers selected to participate in this study limited the study's generalizability. As such, future research can examine a larger, randomly selected sample of monograde and multigrade special education teachers. A larger random sample of the target population may provide a more representative sample of the monograde and multigrade special education population and yield additional data to more clearly confirm or refute the existing research results on the associations between classroom type and teacher self-efficacy (Rubin & Babbie, 2017).

Data from the current research study yielded only one significant result that could be further studied to help explain factors that could influence special education teacher self-efficacy and turnover. Special education teacher turnover is a major issue (Cross, 2017; National Center for Education Statistics, 2018; National Coalition on Personnel Shortages in Special Education and Related Services, 2018). Therefore, future research can help to explore whether other variables in the special education environment such as lack of support and teacher training influence teacher self-efficacy and resilience (Brunsting et al., 2014; Conley & You, 2017; Freeman et al., 2014; National Coalition on Personnel Shortages in Special Education and Related Services, 2018; Riordan, 2013; Whitaker, 2001; Woods & Weasmer, 2004).

The area of student engagement contained a significant difference in the current study. Future research can help to explain, as well as affirm or refute why multigrade special education teachers experienced lower levels of self-efficacy compared to monograde teachers when assessing their ability to get through to the most difficult student. A mixed methods research design using qualitative exploration and quantitative results could provide a more complete explanation as to why multigrade teachers believe they do not possess the ability to get through to the most difficult special education students (Creswell, 2014). As previously mentioned,

qualitative research could also help identify which source of self-efficacy has the greatest influence on multigrade teacher self-efficacy with respect to student engagement.

Although significance was not found in the areas of instructional practice and study engagement, additional research insights from a mixed methods research design may still support the theoretical framework and research hypothesis. Future research could offer more detail from the target population as to reasons for the varying levels in monograde and multigrade special education teacher self-efficacy with respect to instructional practice and classroom management. Both of these areas have previously been found to influence special education teacher self-efficacy (Dicke et al., 2014; Dev & Haynes, 2015; Dixon et al., 2014; Skaalvik & Skaalvik, 2014, 2016).

Limitations and Reflexivity

There are several limitations of the current study. One limitation concerns the small sample size. The convenience sampling method is another limitation. While the convenience sample provided the immediate access to the study population necessary to meet the research timeline, the lack of randomization among participants makes it difficult to generalize research results to the larger population (Rubin & Babbie, 2017). Larger and more representative samples may have yielded results that more closely mirrored the larger population of monograde and multigrade teachers. A larger sample would also have reduced the probability of an error occurring during data analysis. These generalizations could be used to establish clearer relationships among the research variables to help explain the self-efficacy differences of the larger population of special education teachers.

The researcher did not check to determine if data were missing randomly. Thus, data the researcher might have removed that should have been assessed in the study. To check for missing data randomization of data, future analysis could include the use of Little's MCAR test.

Pilot tests serve as feasibility studies to test the entire research methodology (Ruel, Wagner, & Gillespie, 2015). The current study used added demographic questions to an existing self-efficacy survey instrument, which was not included in a pilot study. The lack of a pilot test for the modified survey may reflect an additional limitation. A pilot test may have assisted in identifying possible flaws with the convenience sample as well as the administration of the survey in an online forum. The pilot test would also have ensured the reliability and validity of the demographic questions. In addition, a pilot test may have identified benefits of using additional research sites like a public school to obtain a more random and representative sample of the monograde and multigrade special education teacher population (Ruel et al., 2015).

Another limitation of the current study concerns the lack of determinability of whether variables such as subject and grade level taught influence the manner in which special education teachers responded to questions. For example, multigrade special education math teachers may experience more difficulty differentiating instruction and controlling for discipline than multigrade special education English teachers as math is a high needs, critical area in which, in the researcher's experience, special education teachers face more pressure to ensure students excel. More exploration would be helpful to determine whether other variables related to the special education learning environment influence how teachers assess their self-efficacy across student engagement, instructional practice, and classroom management

Additional limitations of this study include the small sample size. The study would have benefited from a larger, more representative sample. A pilot study may also have shed more

insight as it may have highlighted additional instructional areas where special education teachers experience varying levels of self-efficacy. The time constraints necessary to complete the research study were also a limitation. Additional time and resources could have allowed for a more rigid and thorough study such as using a mixed methodology or a true experimental study to assess whether, how, and why classroom type influences variations in monograde and multigrade teacher self-efficacy.

As a result of conducting this research, the researcher learned that special education teachers face unique challenges in the classroom irrespective of classroom type. Moreover, these challenges can be magnified by the special education classroom type in which the instruction is delivered. The manner in which a special education teacher performs in the midst of these challenges is contingent on the teacher's self-efficacy, or belief in his or her ability to overcome obstacles to deliver quality instruction. While the researcher expected to see results that would indicate multigrade teachers faced more challenges than monograde teachers in the areas of student engagement, classroom management, and instructional practice, only one question in student engagement yielded a significant result. The lack of significance suggests a need for more exploration to determine why special education teachers leave the profession, as the reasons may be beyond the current literature. The lack of significance may also highlight that there may not be as many differences between self-efficacy and classroom type as hypothesized.

In undertaking the study, the researcher learned that while correlational research assisted in establishing relationships among variables, the inability to establish causation created difficulty in understanding why special education teacher turnover is so high. The study also had a narrow scope that only focused on classroom factors that may influence special education teacher self-efficacy levels. However, to better determine all factors that my influence special

education teacher self-efficacy levels, a holistic and likely multidisciplinary focus with respect to education, politics, policy, resources, socioeconomic, and district factors may be needed to provide a more comprehensive assessment of what factors in education contribute to special teacher turnover, teacher training, classroom type, and self-efficacy. Given that the researcher has experience teaching both monograde and multigrade special education classrooms, it is important to consider whether the researcher's classroom experiences are unique or if more teachers identify similar issues with self-efficacy and teaching multiple grade levels of students.

Through completing the dissertation, the researcher learned the importance of revision and the uses of APA formatting. The researcher also gained a greater appreciation for the research process, as the task of completing a dissertation was daunting and required close attention to detail, patience, and perseverance. The process of revisions enhanced the researchers writing and reading ability. It also made the researcher more aware of various factors that can influence research outcomes. The researcher now understands that the there are times the outcomes in research may differ what was previously hypothesized. However, the goal of undertaking scholarly research is not to be proven right, but to gained insights that can eventually enhance the lives of the study population, as well as increase the knowledge base of the individual undertaking the research.

Chapter Summary

This chapter provided a discussion and summary of results from the data analysis of monograde and multigrade teacher self-efficacy with respect to student engagement, instructional practice, and classroom management. The major result and results from the data analysis indicated one significant relationship in the area of student engagement. In this domain,

multigrade special education teachers exhibited lower levels of self-efficacy than monograde special education teachers when assessing their ability to get through to the most difficult students.

The discussion highlighted how the results of the current study differed from the literature in terms of the influence of the special education classroom environment on special education teacher self-efficacy. Implications of the study in the areas of theory development, research, practice/education and training, and policy provided a basis for recommendations for future research in the area of monograde and multigrade special education teachers and teacher self-efficacy. Recommendations included additional training for special education teachers and school administrators, changes to special education classroom models, and further exploration of other variables that may influence special education teacher self-efficacy and teacher turnover. Examining special education teacher responses through other research methodologies may provide more in-depth explanations as to what sources of self-efficacy influence the way in which special education teachers feel about their desire to remain in the profession, engage students, implement effective instructional practice, and manage a classroom. The chapter concluded with a discussion on limitations and reflexivity. A more representative sample, pilot testing, and exploration of other variables may have influenced how teachers responded to self-efficacy questions, the number of significant relationships found, and the ability to generalize those results across the population of monograde and multigrade special education teachers.

The current study sought to determine if the variables of classroom type influenced differences in the self-efficacy levels of monograde and multigrade special education teachers. Self-efficacy theory served the basis for the methodology and research design to examine monograde and multigrade special education teacher self-efficacy in the areas of student engagement, classroom management, and instructional practice. Data analysis yielded one

significant relationship in which multigrade teacher's experienced lower levels of self-efficacy than monograde teachers in the area of student engagement.

While the research methodology and design provided an appropriate way to address the research questions, the lack of significance differed from the established literature's suggestion that there would have been more relationships between classroom type and special education teacher self-efficacy. High levels of special education turnover suggests the existence of factors within the special education teacher environment that impact a special education teacher's decision to leave the profession. Identifying those factors would be helpful to clarifying and mitigating the problem and developing strategies to retain and inspire special education teachers.

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Appendices

Appendix A: Introduction and Informed Consent

Title of Research: Monograde and Multigrade Special Education Teachers' Sense of Self-Efficacy Beliefs

PRINCIPAL INVESTIGATOR
Name: Felix A. Tutt
Department: University of West Florida Department of Teacher Education and Educational Leaderships
Address: 11000 University Parkway, Pensacola, FL 3251
Phone: 912-308-1740
Email: fat3@students.uwf.edu

I. Federal and university regulations require us to obtain signed consent for participation in research involving human participants. After reading the statements in section II through IV below, please indicate your consent via questions as indicated in the survey.

II. **Statement of Procedure:** Thank you for your interest in this research project being Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please read the following information carefully. Please ask the researcher if there is anything that is not clear or if you need more information. The purpose of this research study is to determine if relationships exist between monograde and multigrade special education classrooms and special education teachers' sense of self-efficacy in classroom management, student engagement, and instructional practice. For the purposes of this research, **monograde classrooms** include inclusive or co-taught environments. **Multigrade classrooms** include resource and self-contained environments. relationships exist between classroom types and a teachers' sense self-efficacy of special education teachers who teach or have taught in the inclusive, resource or self-contained special education classroom.

III. Prior to continuing with this study, please review and ensure you agree tofollowing statements:

I understand that:

8. By selecting a survey link, I am consenting to participate in this survey.

9. I will be asked to disclose certain information about my self-efficacy beliefs related to special education classroom types and classroom management, student engagement, and instructional practice.

10. Participating in this survey research is not mandatory.

11. I may discontinue participation in this study at any time without penalty.

12. Withdrawing from the study will not affect my relationship with the researcher if any relationship exists.

13. My responses to the survey will be anonymous.
14. Response I provide will be kept confidential except in cases where the researcher is legally obligated to report specific incidents. These incidents include, but may not be limited to, incidents of abuse and suicide risk.

IV. Potential Risk of the Study

There is a risk that you could be identified as a participant in the survey if contact the principal investigator via direct message or indicate on the forum that you have taken this survey.

However, the principal investigator will be unable to link you with your responses and you will respond to survey questions via the online survey platform.

V. Potential Benefit of the Study

1. Information from this study may provide a better understanding on how thetype of classroom in which a special education teacher is placed may influence his or her self-efficacy related to student engagement, instructional practice, and classroom management.
2. The research shed light on some of the factors that may contribute to special education teacher shortages and a special education teacher's decision to leave the field.

VI. Study Procedure

As a participant, you are being asked to complete a 39 question electronic survey comprised of questions tailored to examine your sense of self-efficacy when assessing student engagement, instructional practice, and classroom management.

The survey should take no longer than 30 minutes. You will have two weeks to complete the survey.

If you wish to participate in this study, please click the link to the survey that best corresponds with your experience in teaching in teaching special education.

Any information you provide to us will be kept in strict confidence. If you have any questions or concerns regarding this project, please contact the principal investigator Felix A. Tutt. If you have questions regarding your rights as a research participant, or if problems arise which you do not feel you can discuss with the Primary Investigator, please contact the University of West Florida Institutional Review Board at irb@uwf.edu or at 850-474-2609.

VII. **Statement of Consent:** I certify that I have read and fully understand the Statement of Procedure given above and agree to participate research project described therein. Permission is given voluntarily and without coercion or undue influence. It is understood that I may discontinue participation at any time without penalty or loss of any benefits to which I may otherwise be entitled. I understand that by click or selecting a survey link, I am consenting to participate in this research study.

Appendix B: Human Subjects Training

CITI PROGRAM

Completion Date 28-Jun-2016
Expiration Date 28-Jun-2019
Record ID 20055298

This is to certify that:

Felix Tutt

Has completed the following CITI Program course:

Social & Behavioral Research - Basic/Refresher (Curriculum Group)
Social & Behavioral Research - Basic/Refresher (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

University of West Florida

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wd7259d55-3a8e-4081-b8e3-5db99bfbde17-20055298

Appendix C: IRB Approval

University of West Florida

Research and Sponsored Programs
11000 University Parkway, Bldg. 11
Pensacola, FL 32514-5750

Mr. Felix Tutt

August 29, 2018

Dear Mr. Tutt:

The Institutional Review Board (IRB) for Human Research Participants Protection has completed its review of your proposal number IRB 2019-002 titled, "Monograde and Multigrade Special Education Teachers' Sense of Self-Efficacy Beliefs," as it relates to the protection of human participants used in research, and granted approval for you to proceed with your study on 08-28-2018. As a research investigator, please be aware of the following:

* You will immediately report to the IRB any injuries or other unanticipated problems involving risks to human participants.
* You acknowledge and accept your responsibility for protecting the rights and welfare of human research participants and for complying with all parts of 45 CFR Part 46, the UWF IRB Policy and Procedures, and the decisions of the IRB. You may view these documents on the Research and Sponsored Programs web page at http://research.uwf.edu. You acknowledge completion of the IRB ethical training requirements for researchers as attested in the IRB application.
* You will ensure that legally effective informed consent is obtained and documented. If written consent is required, the consent form must be signed by the participant or the participant's legally authorized representative. A copy is to be given to the person signing the form and a copy kept for your file.
* You will promptly report any proposed changes in previously approved human participant research activities to Research and Sponsored Programs. The proposed changes will not be initiated without IRB review and approval, except where necessary to eliminate apparent immediate hazards to the participants.
* **You are responsible for reporting progress of approved research to Research and Sponsored Programs at the end of the project period 08-29-2019. If the data phase of your project continues beyond the approved end date, you must receive an extension approval from the IRB.**
* If using electronic communication for your study, you will first obtain approval from the authority listed on the following web page: https://uwf.edu/offices/institutional-communications/resources/broadcast-distribution-standards/.

Good luck in your research endeavors. If you have any questions or need assistance, please contact Research and Sponsored Programs at 850-474-2824 or 850-474-2609 or irb@uwf.edu.

Sincerely,

Dr. Mark Roltsch, Assistant Vice President for Research and Director of the Office of Research and Sponsored Programs

Dr. Ludmila Cosio-Lima, Chair, IRB for Human Research Participant Protection

Appendix D: Permission to Use Survey Instrument

COLLEGE OF EDUCATION AND HUMAN ECOLOGY

ANITA WOOLFOLK HOY, PH.D.

PROFESSOR
PSYCHOLOGICAL STUDIES IN EDUCATION

Dear Mr. Tutt:

You have my permission to use, adapt and reprint the *Teachers' Sense of Efficacy Scale* in your research. A copy the scoring instructions can be found at:

http://u.osu.edu/hoy.17/research/instruments/

Best wishes in your work,

Anita Woolfolk Hoy

Anita Woolfolk Hoy, Ph.D.
Professor Emeritus

Appendix E: Teachers' Sense of Efficacy Scale Survey

Teachers' Sense of Efficacy Scale[1] (long form)

Teacher Beliefs Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.	How much can you do? Nothing	Very Little	Some Influence	Quite A Bit	A Great Deal
1. How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
2. How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
3. How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
4. How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
5. To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
6. How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
7. How well can you respond to difficult questions from your students?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
8. How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
9. How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
10. How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
11. To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
12. How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
13. How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
14. How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
15. How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
16. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
17. How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
18. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
19. How well can you keep a few problem students form ruining an entire lesson?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
20. To what extent can you provide an alternative explanation or example of when students are confused?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)
21. How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5) (6) (7) (8) (9)

22. How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23. How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24. How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

25. Have you read the email regarding the purpose of the study?

O Yes

O No

26. Do you understand the email regarding the purpose of the survey?

O Yes

O No

27. Do you understand that participation in this survey is voluntary and that you are free to withdraw at any time from the survey, without giving a reason and without cost?

O Yes

O No

28. Do you voluntarily agree to take part in this study and allow the research investigator to use your responses as a part of the study?

O Yes

O No

29. What is your gender?

O Male

O Female

30. How many years have you been teaching special education?

O 1-5

O 6-10

O 11-15

O 16-20

O 21 or more

31. In which grade level have you most recently serve as a monograde or multigrade teacher?

O Pre-K

O Elementary

O Middle School

O High School

32. In which subject/content area did you most recently serve as a monograde or multigrade teacher?

O English/Language Arts

O Math
O Science
O Social Studies
O Reading
O Physical Education
O Other_____(please specify)

33. In what special education classroom type do you currently teach or have taught? (see definition below)
O Self-contained
O Resource
O Inclusive
O I have taught in more than one of these classroom types

34. Which of the classroom types did you find the most challenging to teach?
O Self-contained
O Resource
O Inclusive

35. How many years have you been teaching special education?
O 1-5
O 6-10
O 11-15
O 16-20
O 21 or more

36. In which grade level have you most recently serve as a monograde or multigrade teacher?
O Pre-K
O Elementary
O Middle School
O High School

37. In which subject/content area did you most recently serve as a monograde or multigrade teacher?
O English/Language Arts
O Math
O Science
O Social Studies
O Reading
O Physical Education
O Other_____(please specify)

38. What is your highest education level?
O Bachelors

O Masters
O Doctorate

39. Are you over the age of 18?
O Yes
O No

Definitions of Each Classroom Type

Inclusive/co-taught classroom: Classroom where both the general education and special education teacher provide instruction to disabled and non-disabled students (Georgia Department of Education, n.d.; Gurgur and Uzuner, 2010).

Resource classrooms: Special education-only classrooms in which students with special education needs are removed from the general education classroom to a class where they can receive individualized or small group instructional support. The instruction is delivered by special education teachers on curriculum content in which the students are deficient and is based on the student's IEP (American Academy of Special Education Professionals, 2017; Georgia Department of Education, n.d.; Geber, 1996; Gurgur and Uzuner, 2010; Jones & Hensley, 2012).

Self-contained classrooms: Special education-only classrooms in which are isolated from the general education environment and can receive instruction on multiple subjects and topic areas, from a special education teacher, in a classroom that provides supports for their unique needs as indicated by their IEP (Georgia Department of Education, n.d.; Jones & Hensley, 2012).