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THE IMPACT OF MENTORING ON NEW TEACHER SELF-EFFICACY

A dissertation submitted in partial fulfillment  
of the requirements for the degree of

DOCTOR OF EDUCATION

to the faculty of the

DEPARTMENT OF ADMINISTRATIVE AND INSTRUCTIONAL LEADERSHIP

of

THE SCHOOL OF EDUCATION

at

ST. JOHN'S UNIVERSITY

New York

by

John Craig

Date Submitted 03/05/2021

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John Craig

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Dr. Barbara Cozza

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## ABSTRACT

### THE IMPACT OF MENTORING ON NEW TEACHER SELF-EFFICACY

John Craig

The purpose of this quantitative study is to investigate the impact of mentoring on new teachers' self-efficacy. In addition, this study investigated the effects of other independent variables such as mentor gender, content area, years of experience, and training on new teacher self-efficacy. Self-efficacy was measured using the Teacher Sense of Efficacy Scale (TSES), developed by Tschannen-Moran and Hoy (2001). Teachers mentored in twenty-three school districts were asked to complete this survey and the demographic information upon completion of the mentoring experience. The results of t-tests, a one-way between-subjects ANOVAs, and a multiple regression were analyzed to determine if there were any significant differences in teachers' self-efficacy perceptions based on their mentor's gender, content area, years of experience, and training. The results showed statistically significant differences in self-efficacy between new teachers with mentors who had the same content area compared to those who did not. There were no statistically significant differences in average self-efficacy found among groups based on mentor gender, years of experience, and training. Finally, while the overall regression model was significant, the results indicated that none of the individual variables were significant predictors of new teacher self-efficacy.

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*“It doesn’t matter how slowly you go, so long as you do not stop.”*

~Confucius

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To my children, Dylan and Connor, you both inspire me to work hard, stay young and have fun. I hope you both endeavor to become lifelong learners and pursue your passions as you mature into young men.

Last, but surely not least, to my wife and best friend, Tara, who has always encouraged me to pursue my professional and personal goals. I greatly appreciate the sacrifices you made while I attended school as you balanced your own hectic work schedule while caring for the boys. You are the best!

*“There is a road, no simple highway, between the dawn and the dark of night”*

~Jerry Garcia and Robert Hunter

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## CHAPTER 1: INTRODUCTION

School districts created teacher induction programs to provide the support new teachers need in order to be competent in their field. A key to retaining highly qualified teachers in school districts is a comprehensive induction system. Effective teacher induction programs allow new teachers to transition smoothly and effectively into the teaching field and increase the probability of teachers remaining in education (National Association of State Boards of Education, 2012). A comprehensive induction system would include an orientation program, quality and structured mentoring, common planning time for teachers, intensive professional development, and support from school administration (Gujarati, 2012). Gless (2012) highlights the five essential components of an induction program: capable instructional mentors, effective principals, multiple support structures for beginning teachers, strong program leaders, and program evaluation. A key component of the induction program is the mentoring experience.

Mentoring is a best practice in supporting new teachers in their first years of teaching and providing proper support for this transition. School districts nationwide have made efforts to reevaluate teacher induction programs to prepare teachers for classroom effectiveness (Gless, 2012), including, as of 2007, mandating mentoring for novice teachers in 45 states (NCTQ, 2007). In New York State, holders of the initial and conditional teaching certificate must receive mentoring in their first year of teaching or the first year of school building leadership service in a public school district (New York State Education Department, 2015). Public school employers are responsible for reporting mentored experiences for the certificate holders they employ (New York State Education Department, 2015). The purpose of the mentoring requirement is to provide

beginning educators with support in order to gain skills and transition to their first professional experience under an initial certificate. The completion of a mentoring experience is one of the requirements individuals must meet in order to qualify for the professional certificate. To become a capable instructional mentor, proper professional development and preparation are required.

### **Purpose of the Study**

This study seeks to expand upon the understanding of the value of mentoring by examining the self-efficacy of new teachers that are mentored and the characteristics of the mentor that contribute to a successful mentor-mentee relationship. The purpose of this study is to assess the impact of the mentoring experience on new teacher self-efficacy as measured by mentor gender, content area, years of experience, and training. Gless (2012) explains that teacher induction programs affect teacher effectiveness, teacher retention, and teacher leadership. In addition, student achievement in this day of high-stakes testing and college admission is also crucial for school districts in New York State. Stakeholders of induction programs need to be informed of the mentor-mentee relationship components that work to build high self-efficacy.

The mentor-mentee relationship plays an integral role in district induction programs to help support new teachers and develop high self-efficacy. The variables that are examined in this study's exploration of mentoring are mentor gender, content area, years of experience, and training. Wood and Stanulis (2009) stated an evaluation of an induction program is critical because it identifies areas of improvement, keeps the program focus on beginning teachers' needs, and provides feedback on how well the program is functioning. A formative evaluation may support a more effective mentoring

experience for new teachers (Lodico, Spaulding & Voegtle, 2010). It may also lend insight into the need for formalized mentor training in working with new teachers.

### **Theoretical Framework**

Self-efficacy is a critical component of the social cognitive theory. For people to achieve their goals they must believe they can exercise control and influence of their lives and what they do (Bandura, 1997). People will have a stronger incentive if they believe control is possible (Bandura, 1997). Perceived self-efficacy regulates human functioning in several ways: cognitive, motivational, mood, and affect (Bandura, 1997). Self-efficacy can emerge through cognitive and motivational processes (Bandura, 1977). Bandura highlights four major components of an individual's self-efficacy: mastery experiences, vicarious experiences, physiological arousal, and verbal persuasion (Bandura, 1977).

For new teachers, belief in their own instructional efficacy will determine how they structure academic activities and learning experiences for their students (Bandura, 1997). Participating in a mentoring experience can lead to developing new teaching skills in classroom management and delivering classroom instruction. This can take place through direct conversation regarding instruction or by observing other teachers deliver instruction in the classroom. Learning through modeling is a key component of self-efficacy theory. Modeling heavily influences how people learn in everyday life (Bandura, 1997). Individuals gain vicarious experiences when watching someone else (Bandura, 1997). The impact of the mentor-mentee relationship is critical to creating these vicarious experiences through modeling. A properly trained mentor can model strong instruction and good student-teacher interactions. This can lead to a stronger sense of self-efficacy

for new teachers as they enter the classroom to practice their new craft. However, a new teacher observing a poor lesson with a mentor may lead to a sense of lower self-efficacy.

Efficacy beliefs will influence how people feel, think, motivate themselves, and behave (Bandura, 1993). The stronger the perceived self-efficacy by an individual, the higher the goals will be set for themselves (Bandura, 1993). Teachers who lack a strong sense of instructional self-efficacy display a weaker commitment to teaching and spend less time on rigorous academics (Bandura, 1993). Conversely, teachers with a stronger sense of self-efficacy will spend more time on academics and try new methods of instruction to motivate students.

### **Significance of the Study**

The Census Bureau indicates that PreK-12 teachers form one of the largest occupational groups in the nation (Ingersoll et al., 2018). A recent analysis by Ingersoll et al. (2018) states that the teaching force is getting even larger. As of 2016, the most common years of experience for a U.S. teacher was 0-3 years, down from five years in 2012 and 15 in 1988. Despite a decrease in student population, an increase in teacher hiring has been occurring since 2012. This is the result of school districts providing smaller class sizes and additional supports for English Language Learners (ELL) and special needs students (Ingersoll et al., 2018). The increase in teaching population requires support for new teachers to successfully transition to their new job and support students in the classroom. Several studies calculated that between 40 and 50 percent of new teachers will leave within the first five years of teaching (Ingersoll & Strong, 2011). To address this issue, policymakers have often focused on the problem of teacher recruitment. Many initiatives have been put in place such as career change programs,

alternative certification programs, and financial incentives. These were aimed at recruiting more teachers into the workforce. However, the solution must also include teacher retention. Strong induction programs and, more specifically, mentoring of new teachers can aid in retaining high-quality teachers.

This investigation of the mentor-mentee relationship can provide school districts with a better understanding of what mentor characteristics are needed in selecting mentors for new teachers. In addition, the exploration of the mentor-mentee relationship can provide districts with information regarding the need for more formalized mentor training. Lastly, examining the relationship between beginning teachers' self-efficacy and the mentoring experience can provide information to districts to improve retention rates of the increasing teacher workforce. The exploration of mentor characteristics of teacher self-efficacy can add to the growing body of research on this topic.

### **Research Questions**

The following research questions will guide this study:

Research Question 1. Do new teachers who worked with mentors with different training experience (0-5 hours, 5-10 hours, 15 or more hours) have different teaching self-efficacy?

Research Question 2. Do new teachers who have the same content area as their mentor have different levels of self-efficacy than those who do not?

Research Question 3. Do new teachers who have the same gender as their mentor have different levels of self-efficacy than those who do not?

Research Question 4. Do new teachers who worked with mentors with more years of experience (5-10 years, 10-15 years, 15 or more years) have different levels of teaching self-efficacy?

Research Question 5. Do mentor characteristics jointly predict new teacher self-efficacy?

### **Design and Methods**

Self-efficacy was measured using the Teacher Sense of Efficacy Scale (TSES), developed by Tschannen-Moran and Hoy (2001). Teachers mentored in the school districts were asked to complete the survey and the demographic information upon completing the mentoring experience. A t-test, one-way analysis of variance (ANOVA), and a multiple regression were analyzed for significant differences in teachers' self-efficacy perceptions based on mentor gender, content area, grade level, years of experience, and training. The participants in this study consisted of 100 Nassau and Suffolk County novice classroom teachers new to the profession. For this study, new teachers were defined as having three or fewer years of experience in education. Nassau and Suffolk County are suburban areas located nearby a large metropolitan city in New York State. The ethnic and gender make-up of the teachers was determined upon completion of the survey. Each of the teachers in the study was mentored during their first year of employment in a Nassau and Suffolk County school district.

### **Definition of Terms**

*Self-efficacy*: One's belief in one's ability to succeed in specific situations (Bandura, 1971).

***Teacher Induction:*** A program that is focused on support, training, and retention of new teachers through a culture of professional growth (Wong, 2002).

***Mentoring:*** A central component of many induction programs for new teachers in which an experienced teacher is paired with a novice teacher focused on supporting the novice teacher's professional development (Achinstein & Athanases, 2006).

## CHAPTER 2: REVIEW OF RELATED RESEARCH

The literature review will examine Bandura's (1977) theory on self-efficacy derived from the social cognitive theory and how it relates to the mentor-mentee relationship. In addition, teacher efficacy will be explored as it relates to teacher retention and job satisfaction, teacher innovation, student achievement, student motivation. Also to be explored are the role of a mentor, mentor training, and mentor-mentee relationships related to new teacher self-efficacy.

In New York State, educators holding initial and conditional certificates must receive mentoring in their first year of teaching or school building leadership service in a public school district (New York State Education Department, 2015). The purpose of the mentoring requirement is to provide beginning educators in teaching or school building leadership service with support in order to gain skillfulness and more easily make the transition to their first professional experience under an Initial certificate. The satisfaction of a mentoring experience is one of the requirements individuals must meet in order to qualify for the Professional certificate. Because of the critical nature of mentoring components of teacher induction programs, this study's focus encompasses teacher mentoring, self-efficacy, and retention. As such, a review of the literature on effective mentoring programs and the link between the benefits of teacher self-efficacy and teacher retention provide the framework for this study.

### **Theoretical Framework**

Bandura (1971) highlights in his social learning theory new patterns of behavior can be obtained by observing the behavior of others or through direct experience. Self-efficacy is grounded in the theoretical framework of social cognitive theory, emphasizing



the evolution and exercise of human agency. According to Bandura (1997), the basic form of learning is through mastery experience, which is the most influential source of efficacy due to the authentic experience. Although behavior and learning can be shaped by direct experience and the likely consequences, they can also be shaped by observing others. People benefit from the observation of models, which is a vicarious experience and another effective tool for teachers to gain a sense of personal efficacy (Bandura, 1997). Observing others allows individuals to develop new modes of response by observing how the required activities should be performed without encountering costly mistakes (Bandura, 1977). Based on observation, people form beliefs about what they can do and they anticipate the consequences of their actions (Bandura, 1991).

Similarly, Bandura (1993) also suggests that people guide themselves by planning. They develop beliefs about what they can do and predict likely outcomes of their actions. In addition, he explains that individual's beliefs in their capabilities impact how much stress they experience in difficult situations and their level of motivation (Bandura, 1993). Teachers who lack a secure sense of instructional efficacy tend to demonstrate a weak commitment to teaching and spend less time on academic matters (Bandura, 1993). Teachers' beliefs in their own personal self-efficacy to motivate and promote learning affect the type of learning environment they create for students and the level of academic progress their students achieve (Bandura, 1977).

### **Teacher Efficacy**

Self-efficacy refers to individuals' beliefs about their capabilities to successfully carry out a particular course of action (Bandura, 1997). A teachers' sense of efficacy is "their belief in their ability to have a positive effect on student learning" (Ashton, 1985,

p. 142). The concept of teacher self-efficacy has been thoroughly researched and conceptualized in many ways (Tschannen-Moran, Hoy & Hoy, 1998). Research supports the claim that self-efficacy is an important influence on human achievement in many settings including education (Bandura, 1997).

One of the first studies to reveal the impact of teacher efficacy was by the Rand Corporation. Title III of the Elementary and Secondary Education Act funded this study to examine a Preferred Reading Program in the Los Angeles Unified School District (Armor et al., 1976). This study revealed specific factors that contributed to gains in student reading performance. One factor highlighted by the study was teacher sense of efficacy playing a role in student achievement (Armor et al., 1976). The RAND study served as a catalyst for additional research on the impact of teacher efficacy on student achievement.

Researchers have also found that teacher efficacy can influence teaching behaviors such as motivation (Ahmad, 2011) and student achievement and motivation (Tschannen-Moran & Hoy, 2001). In addition to these critical student attributes, self-efficacy has been shown to predict teachers' attitudes towards goals and aspirations (Muijs & Reynolds, 2002) and attitudes toward innovation and change (Fuchs et al., 1992; Guskey, 1988). In contrast, researchers have also found teachers with low self-efficacy experience burnout and higher levels of job-related stress (Betoret, 2006; Skaalvik & Skaalvik, 2007). Studies also suggest teachers with high self-efficacy and more coping resources reported less stress and job burnout (Betoret, 2006).

Bandura (1997) states that some workers at mid-to-late career stages may restructure or scale down overambitious goals due to waning self-efficacy, but this is not

universal. Researchers have noted, “little evidence exists about how teachers’ efficacy beliefs change or solidify across stages of a career” (Tschannen-Moran et al., 1998, p. 238). Overall, existing research suggests teacher efficacy impacts student achievement, motivation, and innovation. In addition, teacher efficacy can have an impact on teacher retention and job burnout. However, it is important to further explore how teacher efficacy is acquired for new teachers.

### ***Efficacy Scale***

Gibson and Dembo (1984) looked to further investigate the importance of teachers’ sense of efficacy and measure the construct. In seeking to apply Bandura’s (1997) conceptualization of self-efficacy, outcome expectancy would reflect the degree to which teachers believe the environment can be controlled (Gibson & Dembo, 1984). These self-efficacy beliefs would point out teachers’ judgment of their abilities to bring about positive student change (Gibson & Dembo, 1984). The study concluded that teacher efficacy is multidimensional, consisting of at least two dimensions. The two dimensions match Bandura’s two-component model of self-efficacy. These two components are the general outcome expectancy, belief that behavior will lead to desirable outcomes, and sense of efficacy, belief that one has the requisite skills to bring about the outcome (Gibson & Dembo, 1984). Gibson and Dembo (1984) developed an instrument to measure teacher efficacy and examined the relationship between teacher efficacy and observable teacher behaviors. The study utilized a 53-item pool administered to 90 teachers. The item pool was developed from teacher interviews and analysis of the current literature. The results of classroom observations related to academic focus and teacher feedback behaviors indicated differences between eight high- and low-efficacy

teachers. These differences included time spent in whole class and small group instruction, teacher use of criticism, and teacher persistence in adverse situations. (Gibson & Dembo, 1984). In addition, the data suggest that teacher efficacy may influence patterns of classroom behavior that contribute to student achievement gains (Gibson & Dembo, 1984).

Teachers' sense of efficacy has been related to various student outcomes such as student achievement (Armor et al., 1976). This led to studies seeking to capture the proper measurement for teacher efficacy (Gibson & Dembo, 1984, Guskey, 1987). There have been many problems with measures of teacher efficacy (Tschannen-Moran & Hoy, 2001). Tschannen-Moran and Hoy's (2001) study sought to explore issues related to the measurement of teacher efficacy and propose a new measure. The new measurement (TSES) consisted of both a 24 item and 12-item scale that expanded on Bandura's scale, but with an expanded list of teacher capabilities. These included items such as assessment, adjusting the lesson to individual student needs, dealing with learning difficulties, and motivating student engagement and interest. A 9-point scale was used for each item with anchors at 1 – nothing, 3- very little, 5- some influence, 7- quite a bit, and 9- a great deal. Sample items from the TSES included:

- How much can you do to motivate students who show low interest in schoolwork?
- How much can you assist parents in helping their children do well in school?
- How much can you gauge student comprehension of what you have taught?
- To what extent are you able to tailor your lessons to the academic level of your students?

The new measure was examined in three separate studies. The first study reduced the original 52 items to 32 and the second study the scale was further reduced to 18 items. The third study yielded an additional 18 items that were developed and tested. The resulting instrument had two forms, a long-form with 24 items and a short form with 12 items. The new measure was examined for factor structure, reliability, and validity and deemed appropriate for both preservice and in-service teacher populations (Tschannen-Moran & Hoy, 2001).

As part of their analysis, Tschannen-Moran and Hoy (2001) studied the RAND measure, which consisted of two items: general teaching efficacy (GTE) and personal teaching efficacy (PTE). The additional instruments reviewed were the responsibility for student achievement (RSA) developed by Guskey (1987), the Webb Scale, and Gibson and Dembo's (1984) teacher efficacy scale (TES). The new measure developed by Tschannen-Moran and Hoy (2001) was named the Teacher Sense of Efficacy Scale (TSES) and was examined in three separate studies. The results of studies indicated that the TSES could be considered reasonably valid and reliable and be a useful tool in exploring the construct of teacher efficacy.

The development of the TSES was a step forward in capturing the construct of teacher efficacy. This new measure of teacher efficacy has a unified and stable factor structure and assesses a broad range of capabilities that teachers acknowledge are important to good teaching (Tschannen-Moran & Hoy, 2001). In addition, this new scale correlated to the theoretical guidelines proposed by Bandura (1997), specifically in the focus of forward looking teacher capabilities (e.g., "How much can you do to motivate students who show low interest in school work") and not global ability (e.g., "I am a

good teacher”). As the research collectively suggests, the importance of capturing the construct of teacher efficacy is critical to understanding the components that may impact new teacher self-efficacy. This study utilized the Teacher Sense of Efficacy Scale to measure new teacher efficacy.

### ***Teacher Retention/Job Satisfaction***

There has been much research on the factors commonly associated with teacher retention involving teacher self-efficacy and burnout. Teachers reported working in a positive school environment (resources, administrative leadership, coaching and support from colleagues) with strong relationships with staff predicting fewer components of teacher burnout (Fernet et al., 2012). In addition, perceptions of school environment and support by leadership for teachers led to increased self-efficacy over time and decreased teacher burnout (Pas et al., 2012).

According to Schutz and Zembylas (2009), one explanation of high attrition rates for new teachers might be “related to the emotional nature of the teaching profession” (p. 3). The social working environment reflects the elements of the working environment that include interactions with colleagues and supervisors. The frequency of collaborative interactions with colleagues is positively related to self-efficacy when teachers may encounter difficulties in the work environment (Devos et al., 2012).

Hoy and Spero (2005) studied self-efficacy during the early years of teaching utilizing Gibson and Dembo’s (1984) Teacher Efficacy Scale and Bandura’s (1997) assessment of Instructional Efficacy. The study was a longitudinal investigation that assessed the efficacy of novice teachers at the start of their preparation program. The participants consisted of fifty-three prospective teachers in the Masters of Education

program. The results of the study concluded that efficacy rose during teacher preparation and student teaching but fell with actual experience as a teacher during the first year (Hoy & Spero, 2005). The participants in this study most likely received more support in student teaching than they actually did as first year teachers, yielding a lower sense of efficacy.

Additional work factors such as job stress can have an impact on self-efficacy and job satisfaction. Klassen & Chiu (2010) performed a study that revealed teachers with greater classroom stress had lower self-efficacy and lower job satisfaction. Conversely, teachers with greater classroom management self-efficacy or greater instructional self-efficacy had greater job satisfaction in the workplace (Klassen & Chiu, 2010).

Aldridge and Fraser (2016) conducted a study on school climate factors that contribute to teacher self-efficacy and teacher job satisfaction. The sample was taken from 29 high schools, four from the Western Australia area and the remainder in the Perth metropolitan area. A total of 781 teachers participated, 324 males and 427 females. The participants responded to two instruments to assess their perceptions of the school-level environment and another to assess their teaching self-efficacy and job satisfaction. The result indicated only three school climate factors, principal support ( $p < 0.001$ ), goal consensus ( $p < 0.001$ ), and affiliation ( $p < 0.001$ ), positively and directly influenced teacher self-efficacy. The study supported prior research that has revealed significant positive relationships between leadership style, support, and teachers' self-efficacy (Aldridge & Fraser, 2016).

Additional studies have examined contributing factors to teacher self-efficacy. Coladarici and Breton (1997) investigated the relationship between instructional supervision and teacher efficacy on special education resource room teachers. The study

consisted of 580 resource room teachers in the state of Maine. The study examined both teaching efficacy and personal teaching efficacy using the Gibson and Dembo Teacher Efficacy Scale. The study reviewed both formal observation and performance consultation and concluded it was the perceived utility of supervision, not the frequency that significantly related to a teacher's sense of efficacy (Coladarci & Breton, 1997).

Huang and Liu (2007) performed a study to analyze the relationship between teacher efficacy and orientations to seeking help. There were 218 participants in this study: 151 prospective teachers and 67 experienced teachers. The instruments utilized were the Japanese Teacher Efficacy Scale (JTES), Personal Teaching Efficacy scale (PTE), and the Orientations to Seeking Help Scale (OSHS). The results of correlation analyses indicated personal teaching efficacy and teacher self-esteem were significant ( $p < 0.001$ ), and a significant correlation ( $p < 0.005$ ) was found between teacher self-esteem and orientation to seeking help. The study results indicate that seeking help and receiving social support from peers leads to improvement in teacher efficacy (Huang & Liu, 2007).

Research suggests that school organizations have an impact on teachers and students. The impact on teachers can be on job satisfaction, efficacy, and retention. Strong social organizational support can relate to teacher efficacy and the amount of control teachers have over classroom conditions (Lee et al., 1991). School organizational support leads to both intrinsic information on performance inside the classroom and extrinsic information on sources outside the classroom such as recognition (Lee et al., 1991). Organizational socialization is the process by which new employees or participants acquire the requisite orientations to role and position (Hoy & Woolfolk, 1990). Teachers go through a series of phases of socialization into the profession and



early socialization occurs through teaching models (Woolfolk & Hoy, 1990). There are a number of factors that are relevant to enhance teacher efficacy, they include teacher education programs, beginning teacher socialization practices, school organization and parent teacher relations (Ashton et al., 1983).

Hoy and Woolfolk (1990) conducted a study of organizational socialization and support of new teachers that suggested personal teaching efficacy improved as student teachers practiced under the supervision of cooperating teachers. The study consisted of 191 students enrolled at Rutgers University. The teacher preparation program from which the subjects were drawn was a traditional sequence of student teaching. The variables of general teaching efficacy and personal teaching efficacy were measured using a version of the Teacher Efficacy Scale. The results of the study indicated student teachers' sense of personal efficacy increased significantly,  $t(57) = 5.74, p < .01$ . The study revealed that student teachers' confidence in their self-efficacy increased as a result of practice teaching experience (Hoy & Woolfolk, 1990).

Teacher self-efficacy beliefs are also a main determinant of job satisfaction (Caprara et al., 2003). School constituencies such as students and families, building principal, staff, and colleagues have an impact on teacher self-efficacy and teachers' view of the school leading to higher job satisfaction (Caprara et al., 2003). Teacher stress or job stressors can lead to job dissatisfaction (Betoret, 2009). If teachers do not possess proper coping mechanisms it can have an effect on several dimensions including psychological (job dissatisfaction), physiological (high blood pressure), and behavioral (absenteeism) problems (Betoret, 2009).

Betoret (2009) conducted a study consisting of 724 Spanish teachers from primary and secondary schools. The study examined the relationship between coping resources (self-efficacy and school resources) and occupational stressors and burnout dimensions. The teachers were administered questionnaires that consisted of five items from the school coping resources scale, ten items from the teacher perceived teaching self-efficacy scale, four items from teacher perceived self-efficacy in classroom management, and thirty-one items from the stressor multi-level context scale. The study findings revealed a positive perception of self-efficacy reduced the potential stressors for primary and secondary Spanish teachers. The aforementioned studies provide reasoning to consider the relationship of new teacher self-efficacy and new teachers' intention to stay in teaching.

### ***Innovation***

Studies on teachers have shown that those teachers that are highly effective in having their students learn well typically have a strong sense of efficacy (Guskey, 1988). Bandura (1994) states that self-efficacy plays a major role in determining how challenges are approached. Accordingly, teacher efficacy shows promise as a useful indicator for school-wide innovations and improvements in the classroom for students (Ashton et al., 1983).

Guskey (1988) conducted a study designed to explore the relationships between highly effective teachers and their attitudes towards implementation of new instructional practices. The study included 120 elementary and secondary school teachers. The teachers were given a revised version of the Responsibility for Student Achievement (RSA) scale to measure teacher efficacy scale. In addition, the teachers were given a

questionnaire toward mastery learning instructional practices. The results indicated statistically significant relationships toward implementation of instructional innovation from those teachers with high levels of personal efficacy.

Tschannen-Moran and Johnson (2011) explored the antecedents of teacher self-efficacy beliefs for the implementation of new literacy instruction. The study consisted of 648 teachers from 20 elementary schools in Virginia, Kansas, and Arkansas. The measures utilized were the Teachers' Sense of Efficacy for Literacy instruction and the Teacher Sense of Efficacy Scale. The results of the study revealed the teacher ratings of the quality of their university preparation for literacy instruction ( $r=.23, p<.01$ ) and their professional development experiences ( $r=.21, p <.01$ ) were related to their self-efficacy beliefs regarding the implementation of a new literacy instruction.

Finally, a study conducted by Nie et al. (2013) examined the roles of teacher efficacy in implementing an innovative constructivist instruction model in Singapore. The study consisted of teachers from 40 primary schools in Singapore. The instruments utilized were adaptations of the Teacher Efficacy Beliefs Scale, Constructivist Instruction scale, and Didactic Instruction scale. The results revealed that teachers with a higher sense of efficacy would tend to adopt constructivist instruction more frequently than those with lower sense of efficacy. The collective studies suggest teacher self-efficacy can have an impact on student innovation. This study examined the components of mentoring that may impact new teacher self-efficacy.

### ***Student Achievement***

Teachers' sense of efficacy is often related to student achievement (Woolfolk & Hoy, 1990). Achievement and ability are often intertwined. Some people view ability as

an inherent intellectual aptitude and some view ability as an acquirable skill that can be increased by gaining knowledge (Bandura, 1993). For those who view ability as inherent, their perceived self-efficacy can decrease as they encounter problems. In contrast, those who believe ability is an acquirable skill will continue to set challenging goals and use strategies to fulfill their goals (Wood & Bandura, 1989). Therefore, perceived self-efficacy impacts a person's view of ability and achievement but extends to student achievement.

Ashton (1983) studied teacher efficacy at a middle school and junior high school. The study consisted of a questionnaire and sampled forty-nine teachers. The results revealed the middle school teachers had a stronger sense of efficacy based on multi-age grouping, team organization, and advisor-advisee relationships. In addition, the teachers' sense of efficacy was significantly related to student achievement as measured by Metropolitan Achievement Test scores.

Furthermore, Mojavezi and Tamiz (2012) investigated the influence of teacher self-efficacy on student achievement. The study participants consisted of two groups: the first group included eighty-nine high school senior teachers and the second group included one hundred and fifty students. The study utilized two instruments, the first was the Teacher Self-Efficacy questionnaire developed by Tschannen-Moran and Hoy (2001). Student achievement was measured by using scores on English examinations highly valued in Iran to get a good job. The results on a one-way ANOVA revealed a difference in groups was significant (.001), and the F value was significant (8.402). The results revealed the teacher group with higher self-efficacy also yielded higher student achievement results.

These results persist across academic disciplines. Midgley et al. (1989) examined the relationship between students' beliefs in mathematics and their teachers' sense of efficacy. The participants included 2,501 students and 141 teachers from twelve school districts located in middle-income communities in southeastern Michigan. A teacher questionnaire assessing a wide range of efficacy beliefs was given to the teachers. The students were grouped into high and low achievement categories based on the Michigan Educational Assessment Program (MEAP). Approximately seventy-five percent of the students fell into the "high" achieving category and twenty-five percent in the "low" achieving category. The results indicated teacher efficacy beliefs had a stronger impact on low-achieving math students' perceptions than high achieving math students.

Another study on student achievement conducted by Goddard et al. (2000) focused on the correlation between collective teacher efficacy and student achievement in math and reading. Utilizing a collective teacher efficacy instrument, data were collected from both teachers and students in forty-seven elementary schools. A total of 452 teachers completed the survey. The student achievement variables for math and reading were measured using the Metropolitan Achievement Test. The study revealed collective efficacy was a significant predictor of student achievement in both reading and mathematics. Furthermore, the study revealed one unit of increase in a school's collective efficacy score was associated with an increase of more than 40% of a standard deviation in student achievement. The collective studies suggest teacher self-efficacy can have an impact on student achievement. This study examined the components of mentoring that may impact new teacher self-efficacy.

### ***Student Motivation***

Motivation is the reason one has for acting or behaving in a particular way. Motivation is connected to efficacy, because as Bandura (1993) explains, “efficacy beliefs influence how people feel, think, motivate themselves, and behave” (p.118). Caprara et al. (2003) found that teachers’ self-efficacy had a strong influence on learning motivation. Carol Dweck (2015) proposes that a learners’ motivation to succeed may be in part due to their perceptions of their competency. She posits that if we can change student’s mindsets, teachers can increase student achievement. Human motivation is cognitively motivated. People exercise forethought and form beliefs about what they can do and anticipate outcomes of prospective actions (Bandura, 1993). Expectancy-value theory contends that motivation is controlled by the understanding that a behavior will lead to expected results and the value of those results (Bandura, 1993). Teacher expectancies and beliefs have been shown to influence student motivation through observable teacher behaviors and subtler forms of communication (Good, 1981).

In addition to studying the relationship between teacher efficacy and student achievement Mojavezi and Tamiz (2012) also looked at the connection to student motivation. The participants of the study consisted of two groups: the first group consisted of eighty-nine high school senior teachers and the second group consisted of one hundred and fifty students. The instruments utilized were the teacher self-efficacy questionnaire developed by Tschannen-Moran and Hoy (2001). Student motivation was measured using a questionnaire consisting of four parts to elicit information on students’ intrinsic and extrinsic motivation, students’ attitude toward learning English and students’ opinion about the teacher. Pearson product-moment correlation coefficients

were conducted between teacher self-efficacy and students' motivation. The results revealed there was a reasonably positive correlation between self-efficacy and students' motivation.

Another study on teachers' self-efficacy and student motivation conducted by Sabet et al. (2018) specifically looked at the relationship between EFL teachers' self-efficacy and student motivation. The participants of the study consisted of twenty-five EFL teachers teaching in different institutes and seventy-five EFL students learning English in those institutes. For data collection, the Teachers' Sense of Efficacy Scale (TSES) and a motivation questionnaire designed by Mojavezi and Tamiz (2012) were utilized. The study was conducted in the 2016-17 academic year and data was collected in October of 2017. The results indicated a large correlation between teachers' overall self-efficacy and their students' overall motivation ( $r=.591, p=.002<.05$ ). This study concluded highly efficacious teachers are more successful in motivating their students.

Studies on student motivation and self-efficacy among teachers and students in physical education have also been conducted. A study by Pan (2014) consisting of 105 high schools, 462 teachers, and 2,681 students looked at the relationship among teachers' self-efficacy and students learning motivation in physical education classes. The study utilized the Teachers' Self- Efficacy Scale for High School Physical Education Teachers designed by Pan and Learning Motivation Scale in Physical Education based on Bandura's conceptualization of self-efficacy in social cognitive theory. The results indicated that teachers' self-efficacy had an effect on student motivation (0.70). The findings showed teachers' self-efficacy can play a key role in influencing a students' motivation and learning processes. The collective studies suggest teacher self-efficacy

can have an impact on student motivation. This study examined the components of mentoring that may impact new teacher self-efficacy.

## **Mentoring**

The mentor is considered a wise guide invested in the personal development of the protégé. Mentors are people to be looked up to and have a close connection with the ones they are mentoring, the mentees (Lyne, 2013). Mentoring is a central component of many induction programs for new teachers in which a veteran teacher is paired with a novice teacher focused on supporting the novice teacher's professional development (Achinstein & Athanases, 2006). Mentoring at times is limited to socioemotional support, guidance, and technical suggestions rather than standards-based teaching and reflection on teaching practice (Wang & Odell, 2002).

Mentoring was mandated for novice teachers in 45 states as of 2007 (NCTQ, 2007). Many of these states varied in terms of implementation of the mentoring policy. Of the 45 states, 31 states required mentor training and 21 required some form of observation of the novice teacher's teaching (NCTQ, 2007). A study by Washburn-Moses (2010) indicated many states had an uneven implementation of mentoring policy. In some states, the policy was not adhered to consistently to support novice teachers.

Mentoring programs can also be critical for teacher retention. According to the National Commission on Teaching and America's Future, the average national cost to replace a teacher is more than \$8,000 (NCTAF, 2007). According to Hughes (2012), the yearly cost of recruiting, hiring, and training new teachers nationally in 2012 was 2.2 billion dollars in the United States. The cost of replacing teachers has serious implications on school budgets.



Brondyk and Searby (2013) sought to describe the field of mentoring in education and review the term “best practices” as it applies to mentoring new teachers. In education, mentoring can occur in multiple contexts and multiple levels (Brondyk & Searby, 2013). In primary and secondary schools, mentoring is used to induct, support, and retain new teachers. It is widely believed inadequate school performance is related to the inability to staff classrooms with qualified teachers. Inadequate school performance is not due to the inability to recruit new teachers but to a large extent the result of a revolving door of teachers (Smith & Ingersoll, 2004.) The programs to support new teachers can vary in terms of location, structure, purpose, and the role of mentor and mentee (Brondyk & Searby, 2013). Best practices in mentoring were identified to be effective in practice, empirically proven, and to achieve the stated purpose (Brondyk & Searby, 2013).

Womack-Wynne et al. (2011) surveyed 113 novice teachers to gain their perceptions of mentoring and the first year experience. The data collected revealed elementary teachers had a more positive perception of their overall experience than secondary teachers, but first year teachers did express concerns regarding availability of mentors for support (Womack-Wynne et al., 2011). The study revealed first year teachers did not get to spend as much time with mentors as they would like and meetings occurred after the first days of school. The participants did have the opportunity to be observed by mentors but did not have the chance to observe mentor teachers for best practice in the classroom (Womack-Wynne et al., 2011). However, participants did express a positive relationship between feelings of empowerment and job satisfaction. Crutcher and Naseem’s (2016) review of empirical research on effective practices for teacher

mentoring revealed the following emergent categories: critical reflection and feedback, modeling, collaboration, and knowledge about the needs of novice teachers. In addition, professional development of mentors is frequently mentioned in the teacher education literature as being a critical piece of effective practice in preparing mentors to support novice teachers (Crutcher & Naseem, 2016).

Mentoring also can be impactful for the retention of new teachers. Smith and Ingersoll (2004) conducted a study on the effects of induction mentoring on beginning teacher turnover. The sample was drawn from a cohort of new teachers from 1999-2000. The staff data source was the Schools and Staffing Survey (SASS) and the Teacher Follow-up Survey (TFS). The study revealed that new teachers who participated in combinations of mentoring and group induction activities were less likely to relocate to other schools or to leave the teaching profession at the end of their first year. The study also revealed that teachers who had mentors from the same subject field were less likely to move to other schools or leave the profession. In some critical areas, such as secondary science, retention of teachers is critical. America's 12<sup>th</sup> grade students continue to fail science achievement tests and many science classes are taught by teachers without a degree or certification (Pirkle, 2011). Mentoring these teachers can benefit both the novice and veteran teachers and help maintain highly qualified teachers in the content area of science (Pirkle, 2011). The collective studies suggest mentoring plays an important role in helping new teachers develop self-efficacy. This study examined the components of mentoring that may impact new teacher self-efficacy, including mentor training, benefits of mentoring on teacher efficacy, and mentor-mentee relationships.

## ***Mentor Training***

Teaching is complex work that requires support for new teachers. In the teaching profession, structured support is normally provided in the form of mentoring from a more experienced teacher (Grossman & Davis, 2012). Researchers agree that mentoring is more than a “buddy” type of support for novice teachers (Crutcher & Naseem, 2016). For mentors to be effective in supporting new teachers three features are needed: highly trained mentors, a focus on content, and allocated time for mentoring (Grossman & Davis, 2012). Grossman and Davis (2012) highlight that high quality mentors require training, should also focus on content, and need sufficient time to work with new teachers.

Research has identified that being an effective teacher does not necessarily mean you will be an effective mentor for a novice teacher (Ambrosetti, 2014; Womack-Wynne et al., 2011). Professional development and training for mentor teachers can better prepare teachers to serve as mentors for those teachers new to the field of education. Giebelhaus and Bowman’s (2002) study indicated that teachers who collaborate with mentor teachers that have been trained demonstrated better planning, more effective classroom instruction, and stronger reflection on practice than those teachers that received only an orientation. Other studies indicate that cognitive coaching emphasizes the development between mentor and teacher and the development of cognitive autonomy (Strong & Baron, 2004). Mentors that have learned to gather evidence from the beginning teacher’s practice served as a useful tool for beginning teachers for content development, classroom management, and motivating students (Stanulis & Ames, 2009).

These studies indicate there is a need and benefit for the training of mentor teachers who work with new teachers to the profession.

Ambrosetti (2014) studied the practices of mentor teachers after participating in a mentoring course intended to prepare them to mentor a pre-service teacher. A survey was used to gather data about the course and the learning the participants had achieved. The findings of the study revealed the participants had both changed understandings of mentoring and changed practices in mentoring (Ambrosetti, 2014). Many of the teachers trained were surprised to learn the wide range of roles the mentor fulfilled and how they could support new teachers (Ambrosetti, 2014). The application of knowledge from the mentoring course made many of the teachers make changes to their practice, especially in preparation and organization (Ambrosetti, 2014).

Additional studies sought to investigate and provide insight into the best practices associated with the development and support of new teachers. In addition to training a mentor, research suggests mentoring programs should implement an accountability system. Based on their study, Womack-Wynne et al. (2011) recommend mentor training should include: types of activities that constitute effective and appropriate interactions, communication skills, listening skills, encouragement of positive interactions between mentor and mentee, training in constructive feedback, and developing attitudes and dispositions conveyed by modeling (Womack-Wynne et al., 2011).

A study by Chizhik et al. (2018) developed a model of mentoring student teachers known as Shared Mentoring in Learning Environments (SMILE) to provide shared understandings for classroom teachers mentoring student teachers. The purpose of the program was to examine the attributes of the SMILE program that had an impact on

teacher efficacy. Aspects of the mentoring program as part of SMILE that student teachers identified as meaningful were collaborative feedback from field supervisors and mentor teacher and the participation in lesson study rotations. These joint study lesson activities eased concerns of student teachers and fortified beliefs of teaching efficacy (Chizhk et al., 2018).

Similarly, Crasborn et al. (2008) analyzed mentor teachers' supervisory skills in working with student teachers. The study was based on a pre- and post- test design with one group of mentor teachers. The 30 mentor teachers voluntarily participated in the SMART training program designed to focus on developing supervisory skills in facilitating reflection. All 60 of the mentor-student teacher dialogues were recorded. The results of the study indicated there was an increase in supervisory skills for promoting reflection with the mentor teachers. Also, mentor teachers gained additional skills in terms of supervision and reflective dialogue in working with student teachers (Crasborn et al., 2008).

Stanulis and Floden (2009) examined the impact of intensive mentoring as part of an induction program aimed at improving teacher quality. The method for the study included two groups: an experimental group, given intensive mentoring, and a comparison group, given only the regular district induction. The members of the treatment group consisted of 12 first- and second-year teachers from an urban school district. The teachers from both groups were evaluated using the AIMS tool. The survey instrument was given to both groups at the end of the academic year. The results indicated the intensive mentoring group had made gains in teacher effectiveness as measured by the Aims tool. Therefore, the intensive mentoring has a greater impact on

the experimental group than for the comparison group of teachers (Stanulis & Floden, 2009). Because these previous studies suggest the importance of mentor training overall, this study examined mentor training as a component of mentoring that can impact new teacher self-efficacy.

### ***Benefits of Mentoring on Teacher Efficacy***

Albert Bandura (1977) conceived the term “self-efficacy” to refer to a person’s belief in their competency to complete and be successful on a specific task. Tschannen et al. (1998) define teaching efficacy as the belief a teacher has “in his capability to organize and execute courses of action required to successfully accomplish a specific teacher task in a particular context” (p. 223). Accordingly, Van Zandt Allen (2013) examined the effects of supporting novice teachers during the induction years. The purpose of Phase I of the study was to examine whether the induction program that included mentoring impacted teacher efficacy. Phase I of the study included 96 participants that had participated in the Summer Curriculum Writing Institute as part of the induction process. The participants of the SCWI program indicated the week of working with mentors in the program positively influenced feelings of effectiveness with terms such as “recharged” and “more competent.” In addition, aspects of teacher efficacy were mentioned in answers to questions regarding curriculum writing and collaboration (Van Zandt Allen, 2013).

A study by Chizhik et al. (2018) investigated the comparison of teaching efficacy on student teachers who matriculated through Shared Mentoring in Learning Environments and those who matriculated through a traditional approach to mentoring. The study consisted of 58 student teachers and 29 classroom teachers. The method of

collection consisted of the teaching efficacy questionnaire for student teachers and the SMILE questionnaire for classroom teachers. In addition, the study incorporated a qualitative component of focus group interviews. The study results indicated the students who participated in the SMILE program of mentoring had a positive effect on student teachers' beliefs about teacher efficacy (Chizhik et al., 2018).

An additional study by Lyne (2013) explored a mentoring program in Malaysia. The participants consisted of twenty-one teachers that were part of a mentor program. The method used was a pre/post-test design with the participants completing a Likert scale survey named the Lyne Mentor Scale. The results of the study showed some improvement in both teacher self-efficacy and achievement of the mentees in the program. In addition, the study revealed the mentees acquired new skills during while working with their assigned mentor to apply in the classroom (Lyne, 2013). As these studies have shown mentoring to benefit teachers' self-efficacy, this study further examined the impact of mentoring on the self-efficacy of new teachers in particular.

### ***Mentor-Mentee Relationships***

Mentor-mentee relationships are critical to new teacher success. Supporting new teachers' simple adjustments such as sharing their experiences with one another may realign formal teacher education (Feiman-Nemser, 2012). Feiman-Nemser (2012) recommends "educative mentoring" which has two dimensions: emotional support to facilitate a comfortable relationship and an environment consisting of professional support based on a principled understanding of how teachers learn. The functions of a successful mentor identified by Schmidt and Wolfe (2009) are role model, consultant/advisor, and sponsor. These three roles allow mentors to model professional

behavior, act as a trusted consultant, and encourage mentees to develop connections (Schmidt & Wolfe, 2009). All of these considerations should be considered when selecting a mentor to work with a new teacher.

In selecting a mentor to support a new teacher many criteria should be considered by school districts and school leaders. A primary concern is few models exist that provide consistency and focus for the development of mentoring programs in schools (Geibelhaus & Bowman, 2002). Huffman and Leak's (1986) study findings revealed that having a mentor who teaches the same grade level or subject matter for new teachers was highly desirable. Also, providing proper time for formal and informal conferencing, planning, and conversation is a primary factor in addressing the needs of beginning teachers (Huffman & Leak, 1986).

Rippon and Martin (2006) further investigated the personal qualities of a mentor that were crucial for an effective mentoring relationship. Their mixed method study consisted of 271 participants and their perspectives on the support they received during their induction placement. The respondents in the study valued the personal traits (approachability, empathy) of the mentor above professional traits (length of service, teaching credibility) in a mentoring relationship. In addition, the participants liked to be treated in an "equitable manner" from their mentor. The results indicated school administrators should give careful consideration to the selection of mentors in working with and supporting new probationary teachers.

Lofstom and Eisenschmidt (2009) studied novice teacher's perspectives on mentoring. The goal of the study was to gain perspectives on relationships with mentors during the first year of teaching. This qualitative study utilized semi-structured interviews



with sixteen volunteer novice teachers. Interviews took place in April of the new teachers first year of teaching. The study revealed that mentor preparation needs focused efforts on developing reflection skills and knowledge of teacher's professional development based on new teacher feedback. Also, to encourage effective mentoring practices with new teachers' perspectives, mentors need to develop a holistic view of mentoring that facilitates reflection (Lofstrom & Eisenschmidt, 2009). As the research collectively suggests, mentor-mentee relationships are a critical component of mentoring. For this study, mentor-mentee relationships were examined as components of the impact of mentoring on new teacher self-efficacy.

### **Chapter Summary**

Findings of research and professional literature consistently recommend that school districts put in place high quality mentoring programs as part of their induction process to support new teachers (Ingersoll & Strong, 2011). The research recommends induction programs to support new teachers (Gless, 2012). Research suggests mentoring can increase teacher self-efficacy (Chizhk et al., 2018). According to Bandura (1993) teachers' beliefs in their own personal efficacy to motivate and promote learning affect the learning environment for students. Research indicates teachers with high self-efficacy are more likely to motivate students and increase student achievement (Armor et al., 1976). In addition, teachers with high self-efficacy are more likely to be innovative in the classroom and have higher job satisfaction, which leads to higher teacher retention (Smith & Ingersoll, 2004). Research suggests high teacher self-efficacy can be achieved by supporting new teachers with mentoring (Lynne, 2013). This support includes training mentors to support classroom instruction, time for mentors and mentees to meet and

collaborate, and a match of mentors with mentees by content areas (Huffman & Leak, 1986). Many of these findings suggest teacher efficacy can increase student achievement and teacher retention, yet not all have explored the specific mentor characteristics that can impact teacher efficacy for new teachers. The current study aimed to fill this gap by considering many of these elements of mentoring in an evaluation of the impact of mentoring on new teacher self-efficacy.

## CHAPTER 3: METHODOLOGY

This quantitative study used a survey design to evaluate the impact of mentoring on new teacher efficacy. For the purposes of this study, new teachers are defined as teachers in the first three years of teaching at a school district. A combination of quantitative methods including t-tests, ANOVAs, and regression analyses were then used to analyze survey results and investigate the power of mentor gender, content area, experience, and training in predicting a new teacher's self-efficacy after receiving mentoring. This chapter describes the details of the survey and methods used.

### Hypotheses and Research Questions

The following research questions and hypotheses guided this research study:

1. Do new teachers who worked with mentors with different training experience (0-5 hours, 5-10 hours, 15 or more hours) have different teaching self-efficacy?
  - a.  $H_0$ : There will be no variation in the mean teacher self-efficacy among teachers who had mentors with varying degrees of training (0-5 hours, 5-10 hours, 15 or more hours).
  - b.  $H_1$ : There will be significant variation in the mean teacher self-efficacy among teachers who had mentors with varying degrees of training (0-5 hours, 5-10 hours, 15 or more hours).
2. Do new teachers who have the same content area as their mentor have different levels of self-efficacy than those who do not?
  - a.  $H_0$ : There will be no difference in the mean teacher self-efficacy between those who have and do not have the same content area as their mentor.

- b.  $H_1$ : There will be a difference in the mean teacher self-efficacy between those who have and do not have the same content area as their mentor.
3. Do new teachers who have the same gender as their mentor have different levels of self-efficacy than those who do not?
  - a.  $H_0$ : There will be no difference in mean teacher self-efficacy between those who have and do not have the same gender as their mentor.
  - b.  $H_1$ : There will be a difference in mean teacher self-efficacy between those who have and do not have the same gender as their mentor.
4. Do new teachers who worked with mentors with more years of experience (5-10 years, 10-15 years, 15 or more years) have different levels of teaching self-efficacy?
  - a.  $H_0$ : There will be no variation in the mean teacher self-efficacy among those who have mentors with different years of experience (5-10 years, 10-15 years, and 15 or more years).
  - b.  $H_1$ : There will be significant variation in the mean teacher self-efficacy among those who have mentors with different years of experience (5-10 years, 10-15 years, and 15 or more years).
5. Do mentor characteristics jointly predict new teacher self-efficacy?
  - a.  $H_0$ : The model will not significantly predict new teacher self-efficacy,  $R^2 = 0$ .
  - b.  $H_1$ : The model will significantly predict new teacher self-efficacy,  $R^2 > 0$ .

## **Research Design**

In this study, the researcher used a cross-sectional survey design with the data collected at one point in time and made inferences from the data collected using a series of t-tests, ANOVAs, and a multiple regression. Survey designs generally provide a quantitative description of trends, attitudes, and opinions of a population, or tests for associations among variables of a population (Creswell, 2009). As such, it was appropriate for use in this research. For all statistical tests using the survey data, the significance level was set to .05. The results were examined for both statistical and practical significance to make meaningful inferences regarding the feelings of the new teachers.

## **Instrumentation and Materials**

The survey was presented to participants using a link to the web-based platform Survey Monkey. The survey itself was broken out into two sections. The first section contained the participant demographic information and the demographic information of the mentor. The second section contained twelve questions from the Teacher Sense of Self-Efficacy (TSES) short form instrument (See Appendix C) developed by Tschannen-Moran and Hoy (2001).

## ***Demographic Questionnaire***

The demographic questionnaire collected data on mentor gender, mentor content area, mentor years of experience, and mentor training. The researcher listed mentor gender as a binary variable of male or female. The mentor content area was also listed as a binary variable, as yes or no to the mentor having the same content area as the mentee. The mentor years of experience was listed as 5-10, 10-15, and 15 or more in the

demographic section of the survey. The mentor training was listed as 0-5, 5-10, and 15 or more hours of training.

### ***Teachers Sense of Efficacy Scale***

The Teacher Sense of Efficacy Scale (TSES), developed by Tschannen-Moran and Hoy (2001) was administered to the teacher participants. Permission to use the TSES was provided from the researcher's website (See Appendix D). This 12-item survey used a 9-point response scale with anchors at 1 (nothing), 3 (very little), 5 (some influence), 7 (quite a bit), and 9 (a great deal). This survey examined the level of efficacy to determine a correlation between the perceived benefits of being mentored and the beginning teacher's sense of self-efficacy for teaching. The Tschannen-Moran and Hoy (2001) Teacher Sense of Efficacy Scale measures three teaching areas: instructional strategies, classroom management, and student engagement of teachers. Sample items included, "To what extent can you use a variety of assessment strategies; How much can you do to control disruptive behavior in the classroom; and How much can you do to get students to believe they can do well in schoolwork?" (Tschannen-Moran and Hoy, 2001, p. 800). The data provided by Survey Monkey for the present study showed that it took the average respondent three minutes to complete the survey in its entirety.

### ***Instrument Reliability and Validity***

Reliability refers to an instrument's ability to consistently produce the same score after repeated testing. To determine internal consistency of a survey, the reliability coefficient will have a value from zero to +1.00. The closer the reliability coefficient is to +1.00, the more reliable the surveys are considered. The reliability and

validity Tschannen-Moran and Hoy's TSES (2001) has been established through the testing of the instrument in three separate studies.

### **Procedures for Data Collection**

The Institutional Review Board (IRB) of St. John's University gave approval on February 25, 2020 (See Appendix A). In order to access new teachers in New York State the researcher used professional networks to solicit personnel administrators in Long Island school districts to participate in the study. The survey was first shared through the New York State Association of School Personnel Administrators (NYSASPA) Listserv. This yielded no responses. Next, in attempt to gather responses the researcher reached out to twenty-five school districts in Nassau and Suffolk County with follow up emails and phone calls to the personnel administrator to garner participation in the survey. Therefore, the participants were not randomly selected but rather invited to participate resulting in convenience sampling. Each district that participated was given a separate web link created in Survey Monkey. The researcher sent invitation emails with the survey link to Survey Monkey on or about May 1, 2020. The surveys were administered and accessible in a single stage from May 1, 2020 through June 15, 2020. All school districts in New York State were working remotely due to the Covid-19 outbreak. This may have had an impact on those personnel administrators and new teachers who did not respond to the survey request. The email also contained the introductory letter and consent information (See Appendix B), which informed participants that answers would be kept confidential and that participation was voluntary. At the end of the data collection period, the researcher exported the data to IBM's Statistical package for the Social Sciences (SPSS).

## Participants and Sample

The final sample included 103 new teachers in Nassau and Suffolk County, New York; however, two did not fully answer every survey question and were removed from the sample. In addition, the data contained one outlier that was removed from the participant sample. Therefore, after cleaning the data, the analytical sample consisted of 100 respondents. Descriptive statistics are presented in Table 1.

**Table 1**

*TSES Descriptives for Total Sample*

Characteristic	N	Mean	Std. Deviation
Mentor Gender			
Male	23	7.81	.751
Female	77	7.61	.778
Content Area of Mentor			
Content Area the Same	69	7.76	.721
Content Are Different	31	7.42	.842
Years of Experience of Mentor			
5-10	8	7.52	1.24
10-15	34	7.46	.745
15 or more	58	7.79	.695
Mentor Hours of Training			
0-5	8	7.19	.995
5-10	27	7.91	.627
15 or more	65	7.61	.774

*Note.* The total sample included 100 participants.

The study included 23% male ( $n=23$ ) and 77% female ( $n=77$ ) participants. The survey indicated 68% of mentors had the same content area as the mentee ( $n=69$ ) and 31% of mentors had a different content area as the mentee ( $n=31$ ). The mentor years of



experience varied: 8% had 5-10 years of experience ( $n=8$ ), 34% had 10-15 years of experience ( $n=34$ ), and 58% had 15 years or more of experience ( $n=58$ ).

## **Data Analysis**

### ***Research Question 1***

The study's first research question examined the difference in self-efficacy for new teachers based on mentor training. To assess if new teachers' self-efficacy was, on average, different among the teachers who had mentors with three levels of training hours, the researcher conducted a one-way between-subjects ANOVA. For this question, new teacher self-efficacy was the dependent variable and mentor-training hours (0-5 hours, 5-10 hours and 15 or more hours) was the independent variables. The researcher assessed the distribution of TSES scores among the mentor hours of training groups using the Shapiro-Wilk's test. TSES scores were normally distributed in the 5-10 hours groups ( $p = .684$ ), but not in the 0-5 hours group ( $p = .036$ ) or the 15 or more hours group ( $p = .048$ ). These deviations from normality, however, were found to be minimal in visual inspection of histograms. Levene's test of homogeneity of variance was non-significant,  $p = .498$ , suggesting that assumption was met.

### ***Research Question 2***

The study's second research question examined the differences in the average new teacher self-efficacy between teachers who had a mentor in the same or different content area certification as the mentee. The researcher accomplished this by comparing the group means using an independent samples t-test to determine if there were differences in new teacher self-efficacy. For this question, new teacher self-efficacy was the dependent variable and an indicator that the mentor had the same or different content

area as the mentee was the independent variable. The researcher assessed the distribution of mentor content area scores using the Shapiro-Wilk's test. TSES scores were normally distributed in the different content area group ( $p = .277$ ), but not in the same content area group ( $p = .011$ ). Visual inspection of the latter showed the deviation from normality to be a little bimodal with a left (negative) skew. Levene's test of equality of variance show that the equal variances assumption was met,  $p = .574$ .

### ***Research Question 3***

Research question three examined the differences in average new teacher self-efficacy based on the mentor teacher's gender. The researcher accomplished this by comparing the group means using an independent samples t-test to determine if there were differences in self-efficacy. The dependent variable for this question was new teacher self-efficacy and mentor gender, male or female, was used as the independent variable. Shapiro-Wilk tests of normality show the distribution of TSES scores among teachers with male mentors to be normal,  $p = .387$ . However, TSES scores among teachers with female mentors were not normally distributed,  $p = .024$ . Again, visual inspection of the female mentor group showed the deviation to be slightly skewed to the left indicating a minor violation to normality. There was homogeneity of variance assumed was met per Levene's test,  $p = .904$ .

### ***Research Question 4***

The fourth research question examined the difference in average new teacher self-efficacy among groups defined by the mentor's years of experience. To assess if the new teacher self-efficacy were different based on the three levels of experience the researcher conducted a one-way between-subjects ANOVA. For this question, new teacher self-

efficacy was the dependent variable and mentor years of experience (5-10 years, 10-15 years and 15 or more years of experience) was the independent variables. The researcher assessed the distribution of mentor years of experience scores using the Shapiro-Wilk's test. TSES scores were normally distributed in the 5-10 years group ( $p = .352$ ) and 10-15 years group ( $p = .296$ ), but not in the 15 or more years group ( $p = .036$ ). Visual inspection of histograms showed the distributions for the 15 or more group to be a bit bimodal reinforcing the unmet assumption. There was homogeneity of variance as assessed by Levene's test,  $p = .103$ .

### ***Research Question 5***

The final research question examined the collective predictive power of mentor gender, mentor content area, mentor years of experience, and mentor training on new teacher self-efficacy. The researcher assessed this question through estimating a multiple regression analysis including all variables. The researcher conducted preliminary analyses to ensure there were no violations of the assumptions of normality, linearity, multicollinearity and homoscedasticity. Scatterplots show the assumption of linearity has been met, analysis of collinearity show this assumption has been met with VIF well below 10, and the plot for standardized residuals vs. standardized predicted values shows no obvious signs of funneling suggesting the assumption of homoscedasticity has been met. For this question, new teacher self-efficacy was the dependent variable or outcome variable and the independent variables or predictor variables were mentor training hours, mentor content area, mentor gender, and mentor years of experience. The regression equation for the variables is  $TSES_t = \beta_0 + \beta_1(\text{Female}_t) + \beta_2(\text{SameContent}) + \beta_3(\text{Yr5to10}_t) + \beta_4(\text{Yr10to15}_t) + \beta_5(\text{HoursTrained0to5}_t) + \beta_6(\text{HoursTrained5to10}_t) + e_t$ .

## **Ethics**

The researcher closely adhered to the procedures outlined in the St. John's University IRB manual. To ensure that this study was ethical, the researcher provided potential participants with information needed to make an informed decision regarding survey completion. This included an introduction to the purpose of the study, relevant background information, procedures followed, potential risks to candidates, methods for maintaining confidentiality, anonymity, and obtaining informed consent, and contact information for any questions or concerns. Finally, all data was anonymous and the researcher did not collect any personal identifying information.

## CHAPTER 4: RESULTS

The purpose of this research was to assess the impact of the mentoring experience on new teacher self-efficacy. The results by research questions are outlined below.

### Research Question 1

A one-way between-subjects ANOVA was conducted to compare the effect of mentor teachers' training on new teacher self-efficacy perceptions based on 0-5 hours of training, 5-10 hours of training and 15 or more hours of training. Using a significant threshold of  $\alpha = .05$ , there were no differences in the average new teacher self-efficacy perceptions among the three groups,  $F(2, 97) = 3.07$ ,  $p = 0.051$  (Table 2). Therefore, the study technically failed to reject the null hypothesis for research question 1. That said, the  $p$ -value of .051 can be considered marginally significant and suggests that with a larger sample differences may appear between the groups. Table 3 shows the means by group and it suggests that the mean scores for teachers whose mentors had zero to 5 hours of training ( $M = 7.19$ ) may, in fact, have lower self-efficacy than those of teachers who had the more highly trained mentors, with 5-10 hours ( $M = 7.91$ ) or 15 or more hours ( $M = 7.61$ ) or training.

**Table 2**

*ANOVA – TSES and Mentor Hours Trained*

	Sum of Squares	df	Means Square	F	Sig.
Between Groups	3.524	2	1.762	3.076	.051
Within Groups	55.565	97	.573		
Total	73.606	99			

**Table 3***TSES and Hours Trained Descriptive Statistics for Total Sample*

	N	Mean	Std. Deviation
0-5 hours trained	8	7.19	.99
5-10 hours trained	27	7.91	.63
15 + hours trained	65	7.61	.77

**Research Question 2**

An independent samples *t*-test was conducted to compare new teacher self-efficacy perceptions based upon whether or not the mentor taught the same content area as the mentee. There was a significant difference in the scores for new teacher self-efficacy between the new teachers who had mentors in the same content area ( $M=7.77$ ,  $SD = 0.72$ ) and those with different-content-area mentors ( $M=7.43$ ,  $SD = .0.84$ ),  $t(98) = 2.07$ ,  $p = 0.04$ . Teachers with mentors in the same content area had higher average self-efficacy than those who did not. Therefore, the null hypothesis for research question 2 was rejected.

**Research Question 3**

An independent samples *t*-test was conducted to compare new teacher self-efficacy perceptions based upon whether the mentor gender was male or female. There was no significant difference in the new teacher self-efficacy scores those with male mentors ( $M = 7.81$ ,  $SD = 0.75$ ) and those with female mentors ( $M = 7.61$ ,  $SD = 0.78$ ),  $t(98) = -1.05$ ,  $p = 0.294$ . Consequently, the study failed to reject the null hypothesis for research question 3.

#### Research Question 4

A one-way between-subjects ANOVA was conducted to compare the average self-efficacy of teachers who had mentor with varying years of experience (5-10 years of experience, 10-15 years of experience and 15 or years of experience). New teacher self-efficacy perceptions did not vary with mentor year of experience,  $F(97,2) = 2.17$ ,  $p = .119$  (Table 4). Therefore, the study failed to reject the null hypothesis for research question 4.

**Table 4**

*ANOVA – TSES and Mentor Years' Experience*

	Sum of Squares	df	Means Square	F	Sig.
Between Groups	2.533	2	1.27	2.172	.119
Within Groups	56.555	97	.583		
Total	59.089	99			

#### Research Question 5

A multiple regression was estimated to predict beginning teacher self-efficacy based on the independent variables. The predictors included mentor gender, mentor content area, mentor years of experience, and mentor training. The overall model was significant,  $F(6,93) = 2.22$ ,  $p = .033$ . However, the results indicated that no variable alone was a significant predictor of new teacher self-efficacy (see Table 5). This may be related to the small sample size.

**Table 5**

*Multiple Regression Analyses of Gender, Mentor Content Area, Mentor Years of Experience, and Mentor Training on Beginning Teacher Self-Efficacy*

	Coefficient	SE	<i>t</i>	<i>p</i>
Constant	7.78	.288	26.96	0.00
Gender/Male	.129	.181	-.711	.479
Mentor Content/Different	-.178	.169	-1.047	.298
Mentor Years' Experience/15 plus	-.019	.283	-.068	.946
Mentor Years' Experience/10 to 15	-.372	.303	-1.230	.222
Mentor Training/0 to 5	-.426	.296	-1.438	.154
Mentor Training/5 to 10	.301	.175	1.718	.089

### Summary

In conclusion, the results of the present study did demonstrate that average new teacher self-efficacy was higher when the new teacher shared the same content area as their mentor. It also provided some suggestive evidence that average new teacher self-efficacy was higher among teachers with more highly trained mentors. Although the other variables did not yield statistically significant findings, the practical findings of the data collected do have significance. This is further discussed in the next chapter.



## CHAPTER 5: DISCUSSION

This chapter discusses connections between the present study's quantitative data and prior research findings and implications on future research and practice. In summary the present study found statistical significance for higher new teacher self-efficacy when the mentor's content area was the same as the mentee's. The study also provided some suggestive evidence that average teacher self-efficacy was higher among teachers with more highly trained mentors. Although the other analyses not yield statistically significant findings, the practical findings of the data collected do have significance.

### **Interpretation of Results for Research Question 1**

The researcher analyzed the difference among group means to assess the self-efficacy of beginning teachers based on the number of hours the mentor was trained. The ANOVA revealed no statistical significance. However, there was some suggestive evidence,  $p$ -value of .051, that average teacher self-efficacy was higher among teachers with more highly trained mentors. This is consistent with the findings of Chizhik et al. (2018) and Lyne (2013) whose studies indicated trained mentors did have an effect on teacher efficacy.

### **Interpretation of Results for Research Question 2**

The researcher found that there was significant difference in self-efficacy for those new teachers who had the same content area as their mentor compared to those who did not. This is consistent with Huffman and Leak (1986) and Smith and Ingersoll (2004). New teachers in the study who shared the same content area as their mentor yielded a higher sense of efficacy than those new teachers who did not. This reinforces the need for administration to pay careful attention to mentor match when seeking to support new

teachers. Huffman and Leak's (1986) findings revealed having a mentor who teaches the same subject matter is highly desirable. In addition, this supports Feiman-Nemser's (2012) recommendation for "educative mentoring" which calls for professional support based on principled understanding of how teachers learn.

### **Interpretation of Results for Research Question 3**

For the third question, the researcher conducted a comparison of group means in order to assess the differences in the level of self-efficacy for beginning teachers based on the gender of the mentor teacher. This test revealed no statistical significance.

### **Interpretation of Results for Research Question 4**

The researcher did not find any differences in teachers' self-efficacy among the groups based on years of experience of the mentor teacher. This is consistent with findings from Rippon and Martin (2006). This study revealed the personal traits of the mentor such as approachability and empathy were valued more than professional traits such as years of service and teaching credibility. This highlights the value of the mentor-mentee relationship to be considered when schools are selecting mentors for new teachers to develop high efficacy.

### **Interpretation of Results for Research Question 5**

The final research question examined which of the mentor characteristics were most predictive of new teacher self-efficacy. While the overall model for the multiple regression was significant,  $p < .033$ , no one specific characteristic was significantly predictive of new teacher self-efficacy (holding all others constant). It is important not to over interpret this result, as the sample size was small and the selection of participants

into the study limited the variation in some of the independent variables (for example, few teachers had mentors with little to no experience).

### **Relationship Between Results and Prior Research**

Bandura (1997) highlights the sources of self-efficacy beliefs as mastery experiences, vicarious experiences, social persuasion, and physiological or emotional arousal. The instrument used for this study, TSES developed by Tschannen-Moran & Hoy (2001), incorporated the theoretical guidelines proposed by Bandura (1997) specifically to focus in on teacher capabilities and teacher efficacy. The overall efficacy was  $M=7.66$  on a 9-point likert scale suggests the participants believed they had “quite a bit” of influence on student engagement, instructional strategies, and classroom management. In addition, there was a statistical significance for those new teachers that shared the same content area as their mentor and it was suggestive that average teacher self-efficacy was higher among teachers with more highly trained mentors. As noted by Grossman and Davis (2012) effective mentors need three key features: training, focus on content and allocated time to work with mentee. Mentors with these key features can offer new teachers vicarious experiences by way of modeling lessons for new teachers and verbal persuasion by way of allocated time to give feedback to new teachers. This may lead to more mastery experience during the critical first years of teaching. According to Bandura (1977, 1997) vicarious experiences can effect efficacy beliefs by comparing attainments of others. In addition, Bandura states (1997) verbal persuasion can further strengthen people’s beliefs in their capabilities.

Physiological and affective states can affect the health functioning and ability to cope with stressors (Bandura, 1977 & 1997). Personal beliefs about self-efficacy can

influence how people handle stressors (Bandura, 1997). Higher self-efficacy for new teachers can lead to higher rates of retention (Pas et al., 2012). This highlights the importance of school administrators to exercise careful consideration when selecting mentors to support new teachers (Rippon and Martin, 2006).

The objective of the present study was to add to the literature on the topic of teacher self-efficacy and the benefits of providing mentor support for new teachers. Overall, the study found statistical significance for new teacher self-efficacy for mentees that shared the same content area as their mentor  $p = 0.13$ . This is consistent with other studies by Huffman and Leak (1986) and Smith and Ingersoll (2004). The other mentor characteristics of mentor gender, mentor years of experience, and mentor training did not yield statistically significant results but did contribute to the above average self-efficacy score reported by the study participants  $M = 7.66$ .

The Teacher Sense of Efficacy scale utilized in this study measured what teachers felt “they can do” in the areas of classroom engagement, instruction, and management. The overall mean score of  $M = 7.66$  for the study was encouraging. This supports the mentoring experience as being helpful for teacher self-efficacy. Bandura (1997) states self-efficacy beliefs are constructed from four principle sources of information: mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states. Two components of the four core principles are most closely linked to the mentoring experience for new teachers. These are verbal persuasion and vicarious experiences. Mentors often provide verbal feedback and encouragement to new teachers and model instruction for mentees (Chizhik et al., 2018). In particular, a main component of a vicarious experience and efficacy appraisals are mediated through modeled

attainments. For a new teacher, seeing or visualizing people similar to oneself perform successfully will typically raise the efficacy belief of the observer (Bandura, 1997). This may also closely link to the statistical significance found for those teachers that had a mentor with the same content area.

The present study is consistent with previous research in revealing there are benefits of mentoring on teacher efficacy. Some key components of mentoring new teachers are providing mentors from the same subject field (Huffman & Leak, 1986; Smith & Ingersoll, 2004) and providing mentors with proper training to support new teachers (Crutcher & Naseem, 2016; Grossman & Davis, 2012). In addition, time with the mentee to provide verbal feedback and share ideas regarding pedagogy (Lyne, 2016) are critical for developing teacher efficacy. This type of verbal persuasion and exposure to vicarious experiences (Bandura, 1997) are reinforced through selective mentor assignments and proper mentor training.

### **Limitations**

Several limitations that could have impacted the results should be considered in the interpretation and generalization of these findings. Selection bias of the participants posed a threat to the internal validity. The majority of the schools that participated were districts that had in place mentoring programs with training and mentors with over ten years of teaching experience. Another threat to statistical conclusion validity is the small sample size, which caused the study a lack of statistical power. The researcher received 103 responses and after cleaning the data set, the final result was 100 survey respondents.

Regarding threats to external validity, the demographic background of the participants and the districts they worked in limits the generalizability of the results. The

researcher first sent the survey to all New York school districts through the NYSASPA listserv. This yielded no responses. Next, in attempt to garner responses the researcher sent the survey to personnel colleagues in Long Island. Therefore, the participants were not randomly selected but rather invited to participate. All the participants were employed in suburban school districts across Long Island. The external validity could be strengthened if the sample included a more diverse group of new teachers from across the state of New York.

### **Implications for Future Practice**

Previous literature in the field identified several factors that have an influence on teacher self-efficacy. These factors include years of teaching experience (Klassen & Chiu, 2010) and mentor content area (Huffman & Leak, 1986). In addition, the importance of mentoring and mentor training (Crutcher & Naseem, 2016; Grossman & Davis, 2012) has been found to be critical in developing teacher efficacy. These studies were considered when determining the demographic factors that were part of the present study.

The present study found significant differences in new teacher self-efficacy for those teachers that had the same content area as their mentor relative to those who did not. This is consistent with other studies, which had similar findings (Huffman & Leak, 1986; Smith & Ingersoll, 2004). However, the other independent variables did not yield significant difference in levels of new teacher self-efficacy. Although it was suggestive that mentor-training hours do impact new teacher self-efficacy, results may have been impacted by the limitation of selection bias.

The results of this study could be useful for school districts in New York State and administrators serving in these schools. In the state of New York, student achievement is a major component of teacher evaluation under Annual Professional Performance Review (APPR). Student achievement accounts for 50% of a teacher's final evaluation under the HEDI rubric. A teacher with a higher sense of efficacy has a positive impact on student achievement (Armor et al.,1976; Bandura,1993). In addition, higher sense of efficacy for teachers has been linked to innovation (Guskey,1988), which is critical for schools seeking to utilize technology for learning and engagement. It would be beneficial for school districts and administrators to leverage ways to increase new teacher self-efficacy. This could increase student performance, motivation, and teacher retention (Smith & Ingersoll, 2004).

Regarding education policy, New York State requires a mentoring experience for new teachers. The findings of this study emphasize the need for proper mentor training and the importance of matching mentors with mentees with specific emphasis on matching content area. According to the National Council on Teacher Quality (2011), there is a shortage of qualified teachers to serve as mentors. States and policy makers should explore mentor training as a requirement for a school district to properly support new teachers. Reevaluating these procedures and policies may help identify and properly train mentor teachers to support new teachers.

### **Implications for Future Research**

The present study investigated the impact of mentoring on the self-efficacy of new teachers. Mentoring is a critical component of school induction programs to support new teachers (Smith & Ingersoll, 2004). Mentor training and mentor-mentee relationships

are paramount to supporting new teachers (Crutcher & Naseem, 2016; Grossman & Davis, 2012). Furthermore, the proper support of new teachers can lead to a higher sense of self-efficacy. The research shows that an increase in teacher efficacy has a positive influence on teacher retention (Smith & Ingersoll, 2004; Womack-Wynne et al., 2011), teacher innovation (Guskey, 1988; Nie et al., 2013), student achievement (Armor et al., 1976; Ashton, 1983; Woolfolk & Hoy, 1990), and student motivation (Mojavezi & Tamiz, 2012).

Although teacher self-efficacy and mentoring programs have been thoroughly examined in the field of education, additional studies would be beneficial and add to the existing research. Future researchers may want to examine the impact of mentoring on teacher efficacy for specific teacher content areas. Although trends indicate student enrollment in dropping many school districts are hiring in the areas of special education and ENL. A study of efficacy on these teacher groups may prove beneficial. Another study that may be beneficial is the impact of self-efficacy on the mentor teachers. This would examine the efficacy of teachers that are further along in their career. In addition, the study would examine the impact or effects the mentor teacher receives from working with a new teacher as they collaborate on a daily basis.

## **Conclusion**

Previous research found benefits to teacher efficacy including teacher retention (Smith & Ingersoll, 2004; Womack-Wynne et al., 2011), student achievement (Ashton, 1983; Armor et al., 1976; Tschaanen-Moran & Hoy, 2001), student motivation (Mojavezi & Tamiz, 2012), and teacher innovation (Guskey, 1988). In addition, research has shown mentoring programs impact teacher self-efficacy (Chizhik et al., 2018; Lyne, 2016). The



present study investigated the impact of mentoring on new teacher self-efficacy and revealed a statistically significant difference in the new teachers that shared the same content area as their mentor. Thus, we can conclude that the matching of mentees with mentors of the same content area may be able to produce a higher sense of self-efficacy. There were additional findings in regards to the additional mentor characteristics. It was suggestive that mentor training and years of experience have an impact on new teacher self-efficacy. Additional research may be warranted in this area. The findings of this study are important to educators and policy makers as we look to support new teachers as they enter the field of education. This study adds to the literature on self-efficacy as well as the benefits of providing mentor support for new teachers.

## APPENDIX A: IRB AGREEMENT



Federal Wide Assurance: FWA00009066

Feb 25, 2020 4:23 PM EST

PI: John Craig  
CO-PI: Mary Ellen Freeley  
Dept: Ed Admin & Instruc Leadership

Re: Initial - IRB-FY2020-443 The Impact of Mentoring on New Teacher Self-Efficacy

Dear John Craig:

The St John's University Institutional Review Board has rendered the decision below for The Impact of Mentoring on New Teacher Self-Efficacy.

Decision: Exempt

PLEASE NOTE: If you have collected any data prior to this approval date, the data must be discarded.

Selected Category: Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).  
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

Sincerely,

Raymond DiGiuseppe, PhD, ABPP  
Chair, Institutional Review Board  
Professor of Psychology

Marie Nitopi, Ed.D.  
IRB Coordinator

## APPENDIX B: INTRODUCTORY LETTER



You are invited to participate in a study about The Impact of Mentoring on New Teacher Self-Efficacy. This research is in partial fulfilment of the requirements for my degree of Doctor of Education through St. John's University.

If you agree to participate, you will be required to complete a survey which may take approximately 5 minutes to complete. This requires the participant to complete the Teacher's Sense of Efficacy Scale. You will answer the 12 questions based on your feelings and opinions after your mentoring experience. You will also answer demographic questions.

If you are interested in participating, please email John at [John.Craig17@st.johns.edu](mailto:John.Craig17@st.johns.edu) for more information.

Thank you, in advance, for your cooperation.

John Craig

## APPENDIX C: TEACHER SENSE OF EFFICACY SCALE

### Teachers' Sense of Efficacy Scale<sup>1</sup> (short form)

Teacher Beliefs		How much can you do?								
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.		Nothing	Very Little	Some	Quite A Bit Influence	A Great Deal				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2.	How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3.	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)
4.	How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5.	To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6.	How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.	How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8.	How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9.	How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10.	To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11.	How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12.	How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

## APPENDIX D: COPYRIGHT PERMISSIONS



Anita Woolfolk Hoy, Ph.D.

Professor

Psychological Studies in  
Education

Dear

You have my permission to use 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,  
Ph.D.  
Professor  
Emeritus

## REFERENCES

- Achenstein, B., & Athanes, S. (2006). *Mentors in the making: Developing new leaders for new teachers*. Teachers College Press.
- Ahmad, I. (2011). Effect of teacher efficacy beliefs on motivation. *Journal of Behavioral Sciences, 21*(2), 36-46.
- Aldridge, J. M., & Fraser, B. J. (2016). Teachers' views of their school climate and its relationship with teacher self-efficacy and job satisfaction. *Learning Environments Research, 19*(2), 291–307. <http://dx.doi.org.jerome.stjohns.edu:81/10.1007/s10984-015-9198-x>
- Ambrosetti, A. (2014). Are you ready to be a mentor? Preparing teachers for mentoring pre-service teachers. *Australian Journal of Teacher Education, 39*(6), 14. <http://dx.doi.org/10.14221/ajte.2014v39n6.2>
- Armor, D., Conry-Oseguera, P., Cox, M., King, N., McDonnell, L., Pascal, A., Pauly, E., & Zellman, G. (1976). Analysis of the school preferred reading program in selected Los Angeles minority schools. <https://eric.ed.gov/?id=ED130243>
- Ashton, P.T. (1985). Motivation and the teachers' sense of efficacy. In C. Ames & Ames (Eds.), *Research on motivation in education: Vol.2 The classroom milieu* (pp. 141-174). Academic Press.
- Ashton, P. T., Webb, R. B., & Doda, N. (1983). *A study of teachers' sense of efficacy. Final report, Executive summary*. <https://eric.ed.gov/?id=ED231833>
- Bandura, A. (1971). *Social learning theory*. General Learning Press. [www.esludwig.com/uploads/2/6/1/0/26105457/bandura\\_sociallearningtheory.pdf](http://www.esludwig.com/uploads/2/6/1/0/26105457/bandura_sociallearningtheory.pdf)

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Bandura, A. (1994). Self-efficacy. In V.S. Ramachaudran (Ed.), *Encyclopedia of Human Behavior* (Vol. 4, pp. 71-81). Academic Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman and Company
- Betoret, F. D. (2006). Stressors, self-efficacy, coping resources, and burnout among secondary school teachers in Spain. *Educational Psychology*, 26(4), 519–529. <https://doi.org/10.1080/01443410500342492>
- Betoret, F. D. (2009). Self-efficacy, school resources, job stressors and burnout among Spanish primary and secondary school teachers: A structural equation approach. *Educational Psychology*, 29(1), 45–68. <https://doi.org/10.1080/01443410802459234>
- Brondyk, S., & Searby, L. (2013). Best practices in mentoring: Complexities and possibilities. *International Journal of Mentoring and Coaching in Education; Bingley*, 2(3), 189–203. <https://doi.org/10.1108/IJMCE-07-2013-0040>
- Caprara, G. V., Barbaranelli, C., Borgogni, L., & Steca, P. (2003). Efficacy beliefs as determinants of teachers' job satisfaction. *Journal of Educational Psychology*, 95(4), 821–832. <https://doi.org/10.1016/j.jsp.2006.09.001>

- Chizhik, E. W., Chizhik, A. W., Close, C., & Gallego, M. (2018). Developing student teachers' teaching self-efficacy through Shared Mentoring in Learning Environments (SMILE). *International Journal of Mentoring and Coaching in Education*, 7(1), 35–53. <https://doi.org/10.1108/IJMCE-02-2017-0014>
- Coladarci, T., & Breton, W. A. (1997). Teacher efficacy, supervision, and the special education resource-room teacher. *The Journal of Educational Research*, 90(4), 230.
- Crasborn, F., Hennissen, P., Brouwer, N., Korthagen, F., & Bergen, T. (2008). Promoting versatility in mentor teachers' use of supervisory skills. *Teaching and Teacher Education*, 24(3), 499–514. <https://doi.org/10.1016/j.tate.2007.05.001>
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Crutcher, P. A., & Naseem, S. (2016). Cheerleading and cynicism of effective mentoring in current empirical research. *Educational Review*, 68(1), 40–55. <https://doi.org/10.1080/00131911.2015.1058749>
- Devos, C., Dupriez, V., & Paquay, L. (2012). Does the social working environment predict beginning teachers' self-efficacy and feelings of depression? *Teaching and Teacher Education*, 28(2), 206–217. <https://doi.org/10.1016/j.tate.2011.09.008>
- Feiman-Nemser, S. (2012). Beyond solo teaching. *Educational Leadership*, 69(8), 10-16. <http://www.ascd.org/publications/educational-leadership/may12/vol69/num08/abstract.aspx>



- Fernet, C., Guay, F., Senécal, C., & Austin, S. (2012). Predicting intraindividual changes in teacher burnout: The role of perceived school environment and motivational factors. *Teaching and Teacher Education, 28*(4), 514–525.  
<https://doi.org/10.1016/j.tate.2011.11.013>
- Fuchs, L. S., Fuchs, D., & Bishop, N. (1992). Instructional adaptation for students at risk. *Journal of Educational Research, 86*, 70-84. <https://doi.org/10.1080/00220671.1992.9941143>
- Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569–582. <https://doi.org/10.1037/0022-0663.76.4.569>
- Giebelhaus, C. R., & Bowman, C. L. (2002). Teaching mentors: Is it worth the effort? *The Journal of Educational Research, 95*(4), 246.
- Gless, J. (2012). The big picture: Comprehensive systems of teacher induction. *Reflections*. [https://newteachercenter.org/wp-content/uploads/the-big-picture\\_induction-brief.pdf](https://newteachercenter.org/wp-content/uploads/the-big-picture_induction-brief.pdf)
- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal, 37*(2), 479–507. <https://doi.org/10.2307/1163531>
- Good, T. L. (1981). Teacher expectations and student perceptions: A decade of research. *Educational Leadership, 38*(5), 415–422.
- Grossman, P., & Davis, E. (2012). Mentoring that fits. *Educational Leadership, 69*(8), 54–57.

- Gujarati, J. (2012). A comprehensive induction system: A key to the retention of highly qualified teachers. *The Educational Forum*, 76(2), 218–223. <https://doi.org/10.1080/00131725.2011.652293>
- Guskey, T. R. (1987). Context variables that affect measures of teacher efficacy. *Journal of Educational Research; Bloomington, Ill.*, 81(1), 41–47.
- Guskey, T. R. (1988). Teacher efficacy, self-concept, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education*, 4(1), 63–69.
- Hoy, A. W., & Spero, R. B. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*, 21(4), 343-356. <https://doi.org/10.1016/j.tate.2005.01.007>
- Hoy, W. K., & Woolfolk, A. E. (1990). Socialization of student teachers. *American Educational Research Journal*, 27(2), 279-300. <https://doi.org/10.3102/00028312027002279>
- Hughes, G.D., (2012). Teacher retention: Teacher characteristics, school characteristics, organizational characteristics and teacher efficacy. *The Journal of Educational Research*, 105(4), 245-255. <https://doi.org/10.1080/00220671.2011.584922>
- Huang, X., Liu, M., & Shiomi, K. (2007). An analysis of the relationships between teacher efficacy, teacher self-esteem and orientations to seeking help. *Social Behavior and Personality*, 35(5), 707–715. <https://doi.org/10.2224/sbp.2007.35.5.707>
- Huffman, G., & Leak, S. (1986). Beginning teachers' perceptions of mentors. *Journal of Teacher Education*, 37(1), 22.

- Ingersoll, R., Merrill, E., Stuckey, D., & Collins, G. (2018). Seven trends: The transformation of the teaching force – Updated October 2018. *CPRE Research Reports*. [https://repository.upenn.edu/cpre\\_researchreports/108](https://repository.upenn.edu/cpre_researchreports/108)
- Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(2), 201–233. <https://doi.org/10.3102/0034654311403323>
- Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, 102(3), 741–756. <https://doi.org/10.1037/a0019237>
- Lee, V. E., Dedrick, R. F., & Smith, J. B. (1991). The effect of the social organization of schools on teachers' efficacy and satisfaction. *Sociology of Education*, 64(Jul 91), 190–208.
- Lodico, M., Spaulding, D., & Voegtler, K. (2010). *Methods in educational research*. John Wiley & Sons.
- Lofstrom, E., & Eisenschmidt, E. (2009). Novice teachers' perspectives on mentoring: The case of the Estonian induction year. *Teaching and Teacher Education*, 25(5), 681–689. <https://doi.org/10.1016/j.tate.2008.12.005>
- Lyne, M. J. H. (2013). Effect of teacher mentoring programme in Malaysia on improving teachers' self-efficacy. *Malaysian Journal of ELT Research*, 9(1), 1–18.
- Midgley, C., Feldlaufer, H., & Eccles, J. S. (1989). Change in teacher efficacy and student self- and task-related beliefs in mathematics during the transition to junior high school. *Journal of Educational Psychology*, 81(2), 247. <https://doi.org/10.1037/0022-0663.81.2.247>

- Mojavezi, A., & Tamiz, M. P. (2012). The impact of teacher self-efficacy on the students' motivation and achievement. *Theory and Practice in Language Studies*, 2(3), 483–491. <https://doi.org/10.4304/tpls.2.3.483-491>
- Muijs, D., & Reynolds, D. (2002). Teacher beliefs and behaviors: What matters. *Journal of Classroom Interaction*, 37, 3-15. [https://www.researchgate.net/publication/232489588\\_Teachers'\\_beliefs\\_and\\_behaviors\\_What\\_really\\_matters](https://www.researchgate.net/publication/232489588_Teachers'_beliefs_and_behaviors_What_really_matters)
- National Association of State Boards of Education (2012). [www.nasbe.org](http://www.nasbe.org)
- National Council on Teacher Quality. (2007). Report generator. [www.nctq.org](http://www.nctq.org)
- National Council on Teacher Quality. (2011). Student teaching in the United States. [http://www.nctq.org/dmsView/Student\\_Teaching\\_United\\_States\\_NCTQ\\_Report](http://www.nctq.org/dmsView/Student_Teaching_United_States_NCTQ_Report)
- National Commission on Teaching and America's Future (2007). [www.nctaf.org](http://www.nctaf.org)
- New York State Education Department (2015). [www.nysed.org](http://www.nysed.org)
- Nie, Y., Tan, G. H., Liao, A. K., Lau, S., & Chua, B. L. (2013). The roles of teacher efficacy in instructional innovation: Its predictive relations to constructivist and didactic instruction. *Educational Research for Policy and Practice*, 12(1), 67–77. <https://doi.org/10.1007/s10671-012-9128-y>
- Pan, Y. H. (2014). Relationships among Teachers' Self-Efficacy and Students' Motivation, Atmosphere, and Satisfaction in Physical Education. *Journal of Teaching in Physical Education*, 33(1), 68-92. <http://dx.doi.org.jerome.stjohns.edu:81/10.1123/jtpe.2013-0069>
- Pas, E. T., Bradshaw, C. P., & Hershfeldt, P. A. (2012). Teacher- and school-level predictors of teacher efficacy and burnout: Identifying potential areas for support.

- Journal of School Psychology*, 50(1), 129–145. <https://doi.org/10.1016/j.jsp.2011.07.003>
- Pirkle, S. (2011). Stemming the tide: Retaining and supporting science teachers. *Science Educator*, 20(2), 42
- Rippon, J. H., & Martin, M. (2006). What makes a good induction supporter? *Teaching & Teacher Education*, 22(1), 84–99. <https://doi.org/10.1016/j.tate.2005.07.004>
- Sabet, M. K., Dehghannezhad, S., & Tahriri, A. (2018). The Relationship between Iranian EFL teachers' self-efficacy, their personality and students' motivation. *International Journal of Education and Literacy Studies*, 6(4), 7–15. <http://dx.doi.org/10.7575/aiac.ijels.v.6n.4p.7>
- Schmidt, J. A., & Wolfe, J. S. (2009). The mentor partnership: Discovery of professionalism. *NASPA Journal*, 46(3), 371–381.
- Schutz, P. A. & Zemblyas, M. (2009). *Advances in teacher emotion research: The Impact on teachers' lives*. Springer Publishing.
- Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, 99(3), 611–625. <https://doi.org/10.1037/0022-0663.99.3.611>
- Smith, T. M., & Ingersoll, R. M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal; Washington*, 41(3), 681–714. <https://doi.org/10.3102/00028312041003681>
- Stanulis, R. N., & Ames, K. T. (2009). Learning to mentor: Evidence and observation as tools in learning to teach. *The Professional Educator; Auburn*, 33(1), 1–11.

- Stanulis, R. N., & Floden, R. E. (2009). Intensive mentoring as a way to help beginning teachers develop balanced instruction. *Journal of Teacher Education; Washington, 60*(2), 112. <https://doi.org/10.1177/0022487108330553>
- Strong, M., & Baron, W. (2004). An analysis of mentoring conversations with beginning teachers: Suggestions and responses. *Teaching & Teacher Education: An International Journal of Research and Studies, 20*(1), 47–57. <https://doi.org/10.1016/j.tate.2003.09.005>
- Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education, 27*(4), 751–761. <https://doi.org/10.1016/j.tate.2010.12.005>
- Tschannen-Moran, M., Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research; Washington, 68*(2), 202–248. <https://doi.org/10.3102/00346543068002202>
- Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teacher and Teacher Education, 17*, 783-805. [https://doi.org/10.1016/S0742-051X\(01\)00036-1](https://doi.org/10.1016/S0742-051X(01)00036-1)
- Van Zandt Allen, L. (2013). The impact of induction support on teacher development, teacher retention, and the teacher quality issue. *Teacher Education Quarterly, 40*(3), 75–92.
- Wang, J., & Odell, S, J. (2002). Mentored learning to teach according to standards-based reform: A critical review. *Review of Educational Research, 72* (3), 481-546. <https://doi.org/10.3102/00346543072003481>

- Washburn-Moses, L. (2010). Rethinking mentoring: Comparing policy and practice in special and general education. *Education Policy Analysis Archives*, 18(32), 25.  
<https://epaa.asu.edu/ojs/article/viewFile/716/873>
- Womack-Wynne, C., Dees, E., Leech, D., LaPlant, J., Brockmeier, L., & Gibson, N. (2011). Teacher's perceptions of the first-year experience and mentoring. *International Journal of Educational Leadership Preparation*, 6(4), 11.  
<https://doi.org/10.1080/13611267.2014.926664>
- Wong, H. (2002). Induction: the best form of professional development. *Educational Leadership*, 59(6), 52-55. <http://www.newteacher.com/pdf/Induction-TheBestFormOfProfessionalDevelopment.pdf>
- Wood, R., & Bandura, A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of Personality and Social Psychology*, 56, 407-415.
- Wood, A. & Stanulis, R. (2009). Quality teacher induction: "Fourth-wave" (1997-2006 induction programs). *The New Educator*, 5(1), 1-23.  
<http://dx.doi.org/10.1080/1547688X.2009.10399561>
- Woolfolk, A. E., & Hoy, W. K., (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology*, 82, 81-91.  
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