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THE ANALYSIS OF A MULTI-YEAR MENTORING PROGRAM AND ITS LONG-TERM EFFECTS ON TEACHER SELF-EFFICACY

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ABSTRACT

THE ANALYSIS OF A MULTI-YEAR MENTORING PROGRAM AND ITS LONG-TERM EFFECTS ON TEACHER SELF-EFFICACY

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Preparing novice staff through induction programs is essential for teacher retention and student achievement. The purpose of the current research was to determine the impact of teacher participation in a multi-year mentoring program, teachers' years of experience, and school level taught as they relate to the self-efficacy scores of teachers. A non-experimental design was conducted with data collected through online surveys, voluntarily completed by 110 teachers across grades K-12, from a suburban school district nearby a large metropolitan city in the northeastern United States. The *Teachers' Sense of Efficacy Scale* (Tschannen-Moran & Hoy, 2001) was used to measure teacher self-efficacy in the following areas; (1) classroom management, (2) instructional strategies, (3) student engagement, and (4) self-efficacy overall. Independent variables included (1) teachers' years of experience (less than five years, five to fifteen years, more than fifteen years), (2) participation in a multi-year mentoring program (present participant, past participant, non-participant), and (3) school level (elementary school, grades K-6, middle school, grades 7-8, high school, grades 9-12). A three-way ANOVA and multiple regression analyses were utilized to examine the variables. Results showed a significant interaction between years of experience and participation in a multi-year mentoring program. Post hoc main effects showed a significant mean difference between non-participants who taught for five to fifteen years and non-participants who taught for

more than fifteen years. Furthermore, a significant mean difference was found between teachers who were non-participants and past participants who have taught for more than fifteen years. Four multiple regression analyses were conducted to examine the relationship between teachers' perceived self-efficacy across various areas and potential predictor variables including total years of experience, participation in a multi-year mentoring program, and school level taught. The first multiple regression analysis found that the potential predictor variables were not predictors of self-efficacy overall scores. The second multiple regression found that years of experience was a predictor of self-efficacy in classroom management. Self-efficacy in student engagement was not predicted by any variables. School level was found to be a predictor of self-efficacy in instructional strategies with the model being statistically significant. Findings indicated that teachers who have more years of experience demonstrated scores that showed a higher level of perceived self-efficacy. School districts need to be patient and understand that novice staff require time in an effort to build on their self-efficacy.

Key Words: self-efficacy, mentor, tenure, novice

DEDICATION

Daddy – you believed that I could accomplish this before it was truly a thought in my mind. It brings me peace to know that you and Molly are watching over us all.

I love you and miss you every day.

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CHAPTER 1

Introduction

In the 2015-2016 school year, 13,892 teachers across New York State participated in required classroom observations. Observations are rated on a four-point scale ranging from ineffective, developing, effective, and the highest being highly effective. During the aforementioned school year, the majority of those teachers were rated effective or highly effective while a total of 107 were rated as developing or ineffective. When compared to the 2016-2017 school year, data showed that New York State was unable to retain twelve percent of its educators. More specifically, of that twelve percent, twenty-one percent left their school or the profession entirely (NYSED, 2018). This created a major concern and demands an answer to the following question; Why are teachers in New York State leaving a profession that they appear to be excelling at? These data do not only represent a growing problem in New York State but continues to be a major concern across our nation.

Darling-Hammond (2010) stated that retaining quality teachers should be one of the most important agendas for our nation. Preparation through high quality induction is a key factor in the success of a novice teachers as these programs have the ability to cut new teacher turnover rates in half (Darling-Hammond 2010, Wong 2004, Kransoff, 2014). To meet the needs of novice teachers, a shared responsibility between colleges and/or universities and school districts (Darling-Hammond, 2010) is necessary as student achievement is dependent upon it. With higher turnover rates, schools are unable to maintain the employment of experienced teachers which places many of our most at-risk students at an educational disadvantage (Kini & Podolsky 2016). With federal legislation

such as, *Preparing and Retaining Education Professionals of 2019*, (Kaine, 2019) it is the nation's hope that schools and school districts develop more effective policies and programs to retain and support the learning of beginning teachers (Ingersoll & Strong, 2011).

Purpose of the Study

The purpose of the non-experimental research was to determine the impact of teacher participation in a multi-year mentoring program, teachers' years of experience, and school level taught as they relate to the self-efficacy scores of teachers from a suburban school district in a large metropolitan area of the northeastern United States. A mentoring program as defined by New York State, is a program with the purpose of providing brand new educators in teaching service with support in order to gain skillfulness (NYSED, 2015). A novice teacher is one who is employed in a probationary track teaching position in a school district, in their first four years working towards tenure attainment (NYSED, 2015). A mentor is defined as an experienced teacher assigned to work with a novice teacher in fulfillment of requirements of the district's mentoring program (NYSED, 2015).

Theoretical & Conceptual Framework

Bandura's (1977) Social Cognitive Theory explains that people learn by observing others in action. Furthermore, people learn from seeing others in social settings involving a relationship between two people and their environment. There are four processes of goal realization including; self-observation, self-evaluation, self-reaction, and self-efficacy. Self-observation supports the idea that observing oneself can inform and motivate one to assess progress of desired goal, however, it must be done regularly

and in close proximity to the behavior (Zimmerman & Schunk, 2001). Self-evaluation compares an individual's current performance with a desired performance or goal with the two standards being absolute and normative (Zimmerman and Schunk, 2001). Self-reaction to one's performance in regard to a specific task or goal will assist in motivating (Bandura, 1989). Self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations (Bandura, 1977).

All aspects of Bandura's Social Cognitive Theory were present within my study. Novice teachers often benefit from the support and guidance of a mentor teacher in order to thrive. Observing mentors' instructional approaches can aide young staff in their ability to evaluate and strengthen their own teaching abilities. In addition, they also benefit from observing how to act in social situations regarding colleagues, administrators, parents, and the greater school community. The overall focus of this study will be the construct self-efficacy within the classroom setting through classroom management, student engagement and instructional strategies.

Conceptual Framework

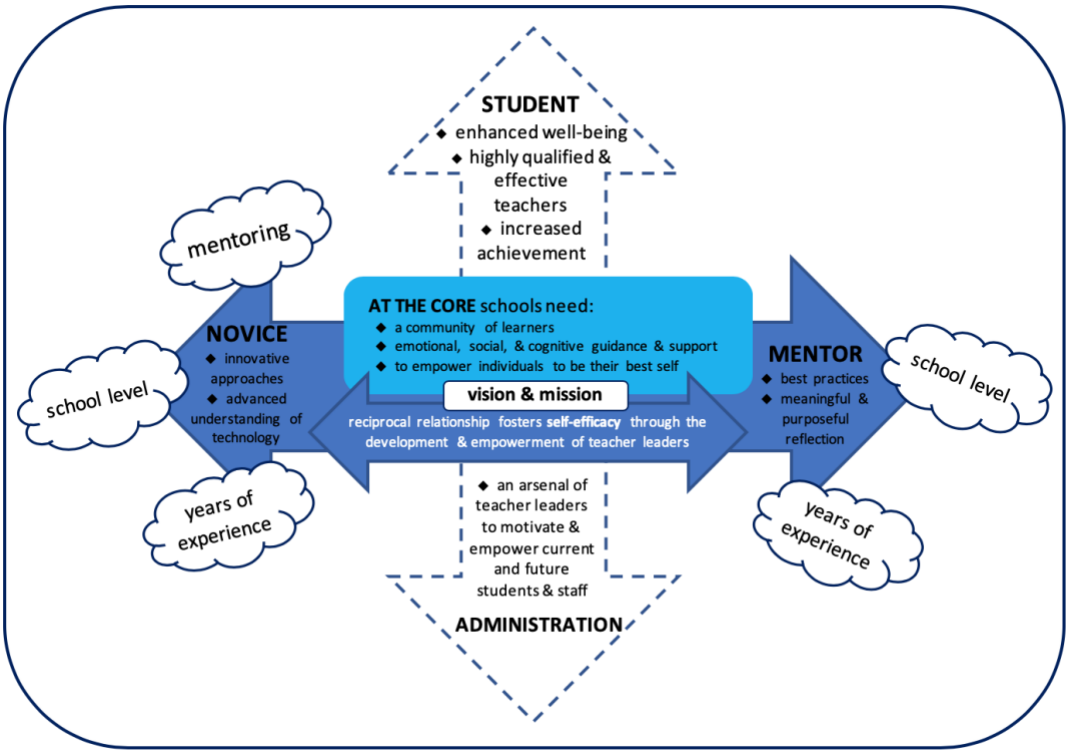
In efforts for schools to be successful, administrators, faculty, and students should abide by a vision and mission to propel all constituents forward. At the core, all schools need; a community of learners across all ages and abilities, emotional, social, and cognitive guidance and support and to be empowered to be their best selves in any and all situations brought forth (Kafele, 2015). With this vision in mind, all individuals have the ability to meet with success while being dependent on one another for their own success.

Novice teachers and mentor teachers yield a reciprocal relationship as they have the ability to bring different dimensions to their educational setting, as is shown in Figure

1. As an experienced teacher, the mentor has the ability to share tried and true best

Figure 1

Relationship Between Mentoring and School Constituents



practices with novice staff in addition to offering meaningful and purposeful methods of reflecting on instruction. At the same time, novice staff have typically just graduated with their bachelor's degree or may even be pursuing a master's degree therefore they bring innovative approaches often times through their advanced understanding of technology that have the ability to enhance the craft of senior staff. In addition, novice staff often begin their journey as an educator in substitute teaching positions or temporary leave replacement positions in which they are exposed to a variety of different approaches across many content areas and grade levels. It is the multitude of variables that not only have the ability to foster self-efficacy in all educators, but also the development and empowerment of teacher leaders.

On the contrary, while participation in a mentoring program, school level, and years of experience can enable the ability for novice and mentor staff to grow, it can also inhibit their ability to move forward and strive for success. Novice teachers may have a wealth of updated knowledge, however, experience difficulty applying it to the classroom as their years of experience. Mentors have been teaching for a number of years and could be content in their way of implementing instruction. Additionally, the school level in which the novice teacher and mentor are a part of could be one that is collegial or one in which teachers truly act in isolation. Novice teachers may find mentoring to be of value or could be overwhelmed with the amount of support and additional responsibilities that come along with it.

With mentors and novice staff learning and growing together, students' well-being, access to individualized education and increased achievement have the ability to grow as the students should be at the forefront of all decisions. Additionally, with a strengthened mentoring program in place, it has the ability to leave administrators with an arsenal of teacher leaders to motivate and empower both current and future students and staff.

The current study will uncover specific areas where novice teachers and mentors can focus to strengthen their reciprocal relationship which in turn will impact administration and students so that all parties can grow. It will highlight specific areas of teacher self-efficacy in classroom management, instructional strategies, and instructional strategies that can be strengthened. In addition, it will allow the researcher to determine which subpopulations of teachers exhibit a higher self-efficacy score. Utilizing the

findings of this current study will assist in increasing teacher attrition as well as increasing student achievement.

Significance of the Study

The current research is significant in that it will contribute to the existing body of research regarding the necessary supports required for novice teachers to thrive in their early years which has the capacity to impact students in highly effective way. Furthermore, it will determine various subgroups of teachers' level of self-efficacy based on their years of service and/or involvement in a mentoring program. It will assess the needs mentoring programs, specifically the impact of one-year programs as opposed to multi-year programs.

The vast majority of the research on teacher mentoring and induction programs tends to be qualitative in-depth case studies that showcase specific elements; however, few quantitative studies exist which have the potential to yield a larger sample size.

Title II, Part A Funding is reserved for Improving Teacher Quality which includes the development of teaching staff, determining the specific needs and outcomes that impact teachers' self-efficacy could assist in strengthening and/or modifying existing programs in efforts to maximize spending. In New York State, school districts are mandated to provide only one year of mentoring, however, if a program that consists of multiple years yields higher levels of teacher self-efficacy, districts may be inclined to reassess the way in which they allocate these funds. Due to the limited number of studies on multi-year programs, the findings of the current research can assist in minimalizing a gap in current literature as well as to inform statewide and national initiatives in education reform.

Connection with Social Justice and Vincentian Mission in Education

There are many factors that impact the ability to retain teachers. Often times, school districts in high needs communities are the most impacted. Teaching children can be a challenge in the most ideal environment and even more so in communities with lower socioeconomic backgrounds. The concept of providing support for novice teachers is one of great importance. It can serve as a foundation that one will build upon throughout their career. In addition, it provides teachers, who believe in their abilities, with the potential to assist in bridging the achievement gap for students within these at-risk communities.

Although the current study was focused within a middle-class neighborhood, gaining a perspective as to whether or not a mentoring program does increase teacher self-efficacy can assist school districts in all communities. A positive relationship between induction programs and novice staff have the ability to prove whether or not it could be worth the time, energy and capital needed to invest in such a program. School districts can apply for grants, as the school district in this study did, in an effort to support this need for new teachers. The current research could foster the work of ensuring that school districts can better serve their novice staff who in turn will better serve their students.

The mission of St. John's University, a Vincentian university, believes in the fundamental aspects of service to others, of global awareness and connection through human experience. As related to this current research, the ability for senior teachers to serve as mentors allows the ability to give back to not only their school community, but also their respective field of education. Furthermore, the ability for novice staff to be self-

reflective in an effort to be their best self also allows for further connection to the mission of this institution.

Research Questions

Research Question 1

To what extent are there differences between teachers' level of participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level on their overall self-efficacy?

Hypotheses

H_0: There will be no significant differences between the mean scores of teachers' perceptions of self-efficacy based upon teachers' participation in a multi-year mentoring program (present participants, past participants, and non-participants).

H_1: There will be a significant difference between the mean scores of teachers' perceptions of self-efficacy based upon teachers' participation in a multi-year mentoring program (present participants, past participants, and non-participants).

H_0: There will be no significant differences between the mean scores of teachers' perceptions of self-efficacy based upon teachers' years of experience (less than five years, six to fifteen years, more than fifteen years).

H_1: There will be a significant difference between the mean scores of teachers' perceptions of self-efficacy, based upon teachers' years of experience (less than five years, six to fifteen years, more than fifteen years).

H_0: There will be no significant difference between the mean scores of teachers' perceptions of self-efficacy based upon teachers' school level (elementary, middle school, high school).

H_1: There will be a significant difference in the mean scores of teachers' perceptions of self-efficacy based upon teachers' school level (elementary, middle school, high school).

H_0: There will be no interaction effect between teachers' participation in a multi-year mentoring program and teachers' years of experience.

H_1: There will be an interaction effect between teachers' participation in a multi-year mentoring program and teachers' years of experience.

H_0: There will be no interaction effects between teachers' participation in a multi-year mentoring program and teachers' school level.

H_1: There will be an interaction effect between teachers' participation in a multi-year mentoring program and teachers' school level.

H_0: There will be no interaction effect between teachers' years of experience and teachers' school level.

H_1: There will be an interaction effect between teachers' years of experience and teachers' school level.

H_0: There will be no interaction effect among teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level.

H_1: There will be an interaction effect among teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' level of school.

Research Question 2

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level predict teachers' self-efficacy overall?

Hypotheses

H_0: Teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level will not predict teachers' self-efficacy overall scores.

H_1: Teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level will predict teachers' self-efficacy overall scores.

Research Question 3

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy in classroom management?

Hypotheses

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level and teachers' self-efficacy in classroom management.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level and teachers' self-efficacy in classroom management.

Research Question 4

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of student engagement?

Hypotheses

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of student engagement.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of student engagement.

Research Question 5

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of instructional strategies?

Hypotheses

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of instructional strategies.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of instructional strategies.

Research Design and Data Analysis

A non-experimental design was conducted to determine the impact of teacher participation in a multi-year mentoring program, teachers' years of experience, and school level taught as they relate to the self-efficacy scores of teachers. The data of 110 teachers was collected voluntarily through an online survey. All participants taught in a suburban school district near a large metropolitan city in the northeastern United States.

In addition, all teachers in the sample taught across grades K-12 and had a broad range of teaching experience.

Independent variables include participation in a multi-year mentoring program as a (1) present participant, (2) past participant, or (3) non-participant, years of experience as a teacher from (1) less than five, (2) five to fifteen, or (3) more than fifteen and school level taught as (1) elementary school, K-6, (2) middle school, 7-8 or (3) high school, 9-12. The intervention, a multi-year mentoring program, was four years long with the goal of assisting teachers in attaining tenure.

These variables were measured to determine their effects on the dependent variable, teacher self-efficacy, though the use of a 24 item Likert Scale survey, The *Teachers' Sense of Efficacy Scale* (Tschannen-Moran & Hoy, 2001). The dependent variables measured the following areas of self-efficacy; (1) classroom management, (2) instructional strategies, (3) student engagement, and (4) self-efficacy overall. Teachers' perceived self-efficacy were explored to explain the relationship between participation in a multi-year mentoring program, years of experience, school level taught and teachers' self-efficacy scores.

A three-way ANOVA and multiple regression analyses were utilized to examine the variables in the first research question. The remaining four research questions were addressed by conducting four multiple regression analyses to examine the relationship between teachers' perceived self-efficacy across various areas and potential predictor variables including total years of experience, participation in a multi-year mentoring program, and school level taught.

Definition of Terms

Multi-Year Mentoring Program:

a four-year program created in efforts to support novice teachers in a variety of areas including, but not limited to, planning and preparation, classroom environment, instruction, and professionalism (Danielson, 1996) in which the outcome is the hopes of all participants successfully completing a digital portfolio, exit interview, and achieving tenure.

Teacher Mentor:

an experienced teacher who provides support to a novice teacher in order to gain skillfulness and more easily make the transition to one's first professional experience under an Initial certificate (NYSED, 2015).

As per the District, Teachers Mentors must have previously demonstrated;

- commitment to students and their learning
- knowledge of the subjects they teacher and how to teach those subjects to students
- responsibility for managing and monitoring student learning
- systemic thinking about their practice and learn from these experiences, and
- membership in a learning community such as; National Board Teacher Certification

Present Participant:

a participant currently involved in a four-year mentoring program; with each year focusing on specific objectives and outcomes.

Past Participant:

a teacher who was enrolled in the multi-year mentoring program at one time and as a result has since attained tenure.

Non-Participant Teacher:

a teacher within the school district who did not participate in the program either as a present participant, or past participant.

Mentoring Program:

as defined by New York State, is a program with the purpose of providing brand new educators in teaching service with support in order to gain skillfulness (NYSED, 2015).

Novice Teacher:

one who is employed in a probationary track teaching position in a school district, in their first four years working towards tenure attainment (NYSED, 2015).

Self-Efficacy:

the beliefs in one's capabilities to organize and execute the courses of action required to management prospective situations, in the current study a teacher's belief to successfully create and implement an environment that demonstrates effective classroom management, instructional strategies, and student engagement (Bandura, 1977).

CHAPTER 2

Introduction

This chapter will expand on Albert Bandura's existing research on the Social Learning Theory and more specifically the construct of teacher self-efficacy. In addition, federal and state legislation regarding the development of novice teachers will be introduced. A discussion surrounding research collected on the foundational stages of teacher development, novice teachers' perceptions of supports needed in efforts to be successful as well as a variety of mentoring programs and its impact on teachers' self-efficacy. Furthermore, Chapter 2 will provide background information necessary to gain an understanding of the methodology presented in Chapter 3.

Theoretical Framework

Teacher Self-Efficacy

Bandura's (1977) Social Cognitive Theory addresses the ways in which people learn by observing others in action. There are four processes of goal realization including; self-observation (Zimmerman & Schunk, 2001), self-evaluation (Zimmerman and Schunk, 2001), self-reaction (Bandura, 1989), and self-efficacy (Bandura, 1977). Furthermore, Bandura discovered that there are four sources of information that demonstrate an individual's ability to judge their efficacy; performance outcomes, vicarious experiences, verbal persuasion, and physiological feedback.

For a novice teacher, their performance outcomes are crucial to their development as they will feed off of both positive and negative performances they have throughout their career (Bandura, 1977). These performances can range from teaching lessons daily

or for observations to how one interacts with other members of the school community including students, colleagues, administrators, parents, and community members. Positive performances and interactions have the ability to yield an increase in self-efficacy as well as the possibility increasing motivation or the ability to see out more challenging tasks. In addition, the ability to fail forward and learn from a mistake can either impact one in a way that lowers their self-efficacy, or it can promote a level of mastery as they feel more prepared for their future.

Vicarious experiences are relevant in the beginning stages of teaching as watching others practice their craft can be used as a means to compare their own level of competence with that of their peers and mentors (Bandura, 1977). These experiences could also provide a means of motivation since novice teachers are typically compared to their peers. In addition, novice teachers in the current study will have recorded themselves teaching. In addition, they will have shared the recording with a group of their peers as well as with their mentor in effort to reflect on their abilities which will provide greater means for them to judge their perceived self-efficacy.

Verbal persuasion can influence self-efficacy through encouragement or discouragement, essentially feedback whose credibility is determined by the individual providing it (Redmond, 2010). If mentors establish a level of respect, trust, and build a strong rapport with their mentee, they have the potential to demonstrate a high level of credibility. Positive or negative remarks can weigh heavily on a novice teacher's self-efficacy. Administrators influence novice teachers' self-efficacy regardless of whether it they are portrayed as credible due to the nature of their supervisory position. Often times,

untenured staff is told to avoid the faculty room due to the notion of verbal persuasion that could result in discouragement within the field.

Physiological Feedback is a physical response based upon a specific event or situation. The way in which one perceives emotional arousal influences their self-efficacy (Bandura, 1977). When applied to an educational setting, if a novice teacher delivers a lesson during an observation and experiences stress and anxiety they may perceive themselves as being unconfident or incapable from the start. On the contrary, if students are highly engaged at the start of the lesson and the teacher being observed recognizes evidence of student achievement throughout, his or her energy may demonstrate signs of enthusiasm and motivation which in turn may result in a higher level of self-efficacy. Over time, novice teachers have the ability to gain a stronger sense of positive physiological feedback where in their first year, as each experience in new, they may feel overwhelmed, anxious, and less capable in their ability to complete tasks as they arise.

Ashton, Webb, & Doda (1983) studied a framework that used an extensive review of literature to explore teachers who feel they have the ability to ensure that all students can attain the performance outcomes of achievement. Findings suggested that there was a significant relationship between teacher efficacy, student-teacher interaction, and student achievement. Furthermore, it indicated that highly effective teachers held high standards for all, they concentrate on academics and reinforce remaining on task, and worked towards building positive rapports with their low-achieving students. It was noted that the construct of self-efficacy does remain a continuous threat as its influences have the ability to change and become altered over the course of time.

After an in-depth analysis of multiple measures for teacher self-efficacy, Megan-Tschannen-Moran and Anita Woolfolk Hoy (2001) developed an instrument entitled, Teachers' Sense of Efficacy Scale (TSES). The purpose was to create an instrument that could truly capture the influence of a teacher over student outcomes. Specifically, a teacher's ability to maintain student engagement and learning regardless of students who appear difficult or unmotivated. Furthermore, they later went on to discover the that the efficacy of a faculty is a strong predictor of student achievement (Goddard, Hoy, & Hoy, 2000).

In 1992, Moore and Esselman sought to research the relationship between teachers' self-efficacy, empowerment, and school climate. Data was collected through a questionnaire of 1,802 teachers in an urban area in Kansas City. Findings indicated that thought there is a difference between teacher self-efficacy, empowerment and instructional climate between schools, levels, and grades it is still related to student achievement.

The current study will continue to explore the variables that may impact a teacher's self-efficacy across a mentoring program, school level and years of experience. The theoretical framework using Bandura's Social Cognitive Theory, specifically self-efficacy and Tschannen-Moran and Hoy's work guides the literature review in that it provides underpinnings for all other students on novice teachers and the ways in which they need to be supported throughout the early stages of their career.

Review of Related Literature

Chapter 1 discussed the purpose and significance of the current study. The following review of literature is designed to explore teacher attrition and support on a

federal and state level as well as research. Stages of teacher development will be discussed. A variety of different supports such as targeted professional development, perceptions of necessary support, and impacts of mentoring will be addressed. Furthermore, an overview of a possible intervention, a multi-year mentoring programs and its effects on novice staff will be discussed. This information will provide the background needed to understand the methodology of the current study.

Research on Federal and State Legislation

In New York State, teacher attrition continues to be an issue as teacher turnover continues to increase. Data from the 2015-2016 school year to the 2016-2017 school year shows that New York State experienced 12% of teachers leave either their school or the profession. More specifically, when looking at teachers that have served in positions for under five years, 21% chose to either leave their school or the profession. (NYSED, 2018). The statistic demonstrates the need for further exploration as to why 21% of novice teachers are not satisfied with the teaching profession. Furthermore, teacher education enrollment through colleges and universities dropped 35% between 2009-2014 (Learning Policy Institute, 2016) which provides more of a need to examine our current climate regarding novice teachers in efforts to be proactive in protecting the education of all students across the nation.

New York State requires all who wish to obtain a Professional Teaching Certification to participate in a mentoring program in their first year of teaching. “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 one’s first professional experience under an Initial

certificate" (NYSED, 2015). In addition, its goal is to "ease the transition from teacher preparation to practice, thereby increasing retention of teachers in the public schools, and to increase the skills of new teachers in order to improve student achievement in accordance with the State learning standards." (NYSED, 2015). It is the responsibility of each school district to create a mentoring program and ensure that it is accessible to all constituents. The program should include many components such as; the procedure for selecting mentors, the role of mentors, the preparation of mentors, types of mentoring activities, time allotted for mentoring.

On March 14th, 2012, Congress passed the revised teacher and principal evaluation system, Education Law 3012-c, which was then deemed effective in New York State by April 4th, 2012. The Board of Regents adopted regulations to implement this law which required all school districts to create an evaluation system for teachers and principals that was to be approved by New York State. A relationship between novice teachers' evaluations could have an impact on their self-efficacy and their willingness to remain in the public-school system.

Annual observations are a requirement for all teachers and administrators under education Law 3012-c. A total of four observations are to be conducted for untenured staff, two of which are formal, typically conducted by the building principal and include a pre-observation meeting and a post-observation meeting and two of which are classified as unannounced meaning teachers are provided with a two-week window of when it will occur, yet are not privy to the exact date and time prior to its occurrence. Moreover, mentoring participants often take active roles within the school community and participate in a variety of building and district-wide events and initiatives, many of which

are ongoing. In addition, many attend various colleges and universities in efforts to attain their master's degree which is also a requirement of New York State. A master's degree program is essential in applying for a Professional Teaching Certification and is to be completed within five years of a teacher receiving their Initial Certification, with the option of a one-time three-year extension on their Initial Certification if for some reason they cannot meet the deadline.

In the 2015-2016 school year, using the HEDI scale (highly effective, effective, developing, ineffective) to rate teachers in New York State on their classroom observations ranked teachers in the following categories 0% (n = 8) were ineffective, 1% (n = 99) were developing, 49% (n = 6,783), and 50% (n = 7,005) were highly effective. It is important to note that these data were provided by school districts which could mean that schools with lower teacher evaluation schools did not submit their data with integrity. Regardless, of the total amount of teachers included (n = 13,892) which indicates that the majority of teachers were ranked in the effective or highly effective range.

The conundrum surrounding teacher retention concerning as there is no clear answer as to why novice teachers leave the profession, especially in New York where statistically, it appears that most teachers are preforming at an expert level. Due to the nation-wide crisis, law makers are in the process of creating a bill in hopes of addressing these issues using a proactive approach.

A bipartisan bill entitled, *Preparing and Retaining Education Professionals of 2018* also referred to as *PREP* has been introduced by Senator Tim Kaine of Virginia and Senator Susan Collins of Maine in efforts to amend the Higher Education Act of 1965

which strengthened resources and provided aid to colleges and universities. The purpose of the proposed legislation is to attempt to minimize the shortage of qualified teachers by providing them with opportunities to better prepare for the role and thus ensure a higher level of student success. Innovative approaches are being considered such as, "Grown Your Own," an effort in which school districts partner with local colleges and universities to ensure that programs are educating future teachers in areas where teacher retention is a continued concern. In addition, the bill will redefine what a "high need" district is under Every Student Succeeds Act (ESSA) as well as open the door for teacher and school leader residency programs to provide effective, individualized training. Additionally, support for teacher preparation programs at Minority Serving Institutions and Historically Black Colleges and Universities.

Even with potential new policy in place, school districts must strive to research the most impactful qualities of induction and mentoring programs that yield both teacher retention and student achievement. Districts need to understand the stages of novice teachers, the specific needs embedded within each stage, and have an understanding of the generation of educators in their classrooms, just as teachers are meant to have an understanding of the generation of students sitting in their classrooms, so that districts, colleges, and universities can best meet them where they are.

Research on Stages of Teacher Development

In efforts to best assist and understand the perspective of a novice teacher, we must look to previous research to analyze the stages of development in which a teacher acquires the necessary skills and builds on their foundation to become an expert professional. Each of these stages will impact novice teachers' level of self-efficacy,

therefore, understanding them will gain an understanding of the supports necessary for their success.

One of the earliest research-based models created was Fuller's Stages of Concern (1969). Fuller interviewed teachers and asked them to share a response to the following question; "When you think about your teaching, what are you concerned about? (Do not say what you think others are concerned about, but only what concerns you now.) Please be frank." After coding his responses, he devised a three-tier model including the following stages; (1) Survival Concerns which is the concern for self, regarding maintaining classroom management, appearing as likable to others, supervisors' opinions, being observed, evaluated, praised and failed. This is seen as more predominate in pre-service teachers as opposed to in-service teachers. (2) Teaching Situational Concerns including; number of students, management of non-instructional duties, time management, inflexible situations, and lack of instructional materials. This stage is mostly recognized by in-service teachers over pre-service teachers. (3) Pupil Concerns including; the impact being made on students, meeting the social and emotional needs of students, being fair and differentiating instruction. Over time, a fourth stage was recorded before all three that focused on the Concerns of Pre-Service Teachers (Fuller & Brown, 1975).

Originally, Fuller noted that overall teachers cannot move on to the next stage until they master the current stage they are in (Fuller, 1960), however, he later mentioned that it was unclear if the stages or clusters are distinct from one another or rather overlap at times (Fuller & Bown 1975).

As research in teacher development continued to emerge, a number of models came to the surface. In 1970, Unruh and Turner found that there are three stages of teacher development including; (1) Initial Teaching where novice teachers strive to earn the respect of administrators and teachers across their first five years, (2) Building Security across years six through fifteen in which a teacher becomes more competent in his/her work and finds satisfaction in teaching, feel professionally secure, and open to changes if justified and in the best interest of the children, and (3) Maturing, in which teachers have been teaching for more than fifteen years, feel professional secure, open to change, and thrive on new ideas.

After working with approximately 1,500 novice teachers, Moir (1990), developed a cyclical set of phases that new teachers move through during their first year, in addition to their beginning years. It begins with the anticipation phase during student teaching where preservice teachers are excited and anxious about stepping into the education profession. This is followed by acquiring a position and entering the survival phase in which the first month can be incredibly overwhelming as novice teachers are expected to learn, understand, and process a great deal of new information in a relatively short amount of time. The disillusionment phase enters after about six to eight weeks in which the novice teacher struggles to manage the responsibilities of a classroom regarding behaviors of students, parent involved events such as back to school night and conferences, and the reality that they thought they would be focused more on curriculum and instruction to meet the needs of their students, however, organization and classroom management remain at the forefront. Slowly, but surely, the rejuvenation phase comes along in which teachers typically have a holiday break and the time to reorganize, reflect,

gain perspective and prepare for a fresh start. The last two months of the school year are considered the reflection phase where teachers think back to their successes and failures and determine any changes they would like to make or aspects of the year they would like to enhance for the following school year. This cycle will likely continue on the teacher's second year in the classroom. Moir's *Phases of First-Year Teachers' Attitudes Towards Teaching* is meant to assist in gaining a true understanding of where new teachers are so that we can in turn support them and get them to where they need to be to produce highly effective instruction and maintain high levels of student achievement.

Maynard and Furlong (1995) outline the following five stages of development teachers go through in their first years: (1) Early idealism: New teacher identifies with students and rejects older, cynical teachers, (2) Survival: New teacher reacts to reality shock/feels overwhelmed/seeks quick-fix methods (3) Recognizing difficulties: New teacher becomes more aware of complexity of teaching/realizes teachers are limited/enters stage of self-doubt—can I make it as a teacher? (4) Reaching a plateau: new teacher starts to cope with routines of teaching/develops a resistance to new approaches and methods (5) Moving on: New teacher begins to focus on quality of student learning.

Stronge, Ward, & Grant (2011) believes that it's essential to provide the appropriate professional development sessions to teachers based on which one of the three stages they are in. Stage one is survival which happens during the first five years. This stage is paramount to a novice teacher's career as it will determine whether or not they will continue on with the profession. Strong suggests that this stage would be best supported through professional development through e-learning which allows

information to be internalized in smaller more manageable portions as well as through sustained learning in which professional development is provided over time so that is can be internalized. The second stage, focusing on educators in years six through fifteen is entitled, *Rinse, Repeat, and Renew.* At this stage, teachers feel more confident about their abilities in the classroom as they have an understanding of how a typical school year proceeds. At this stage, full day or multiple day conferences are now appropriate, valued and often times serve as sources of motivation. It is within this stage that many educators emerge as teacher leaders and are role models to their peers. Stage three which encompasses those who have been teaching for greater than fifteen years is known as the *Sergeant Major or Mastery Level*. This level of educators should be considered in decision making such as curriculum as well as to participate in developing colleagues who are at the start of their career. They should have opportunities for choice and teacher collaboration. Strong noted that all educators love learning, therefore it is important to uncover the best methods for educators at each stage in their career.

Although elements of each stage (Fuller, 1969, Fuller & Bown, 1975, Unruh & Turner, 1970, Moir, 1990, Maynard & Furlong, 1995, Stronge, Ward, & Grant, 2011) revolving around aspects of teacher development differ, the initial stages remain largely similar. The level of stress and frustration faced by novice teachers remains constant as all models begin with a stage that supports the need to survive the day to day and with this, educators need a level of support regarding both professional practice and personal well-being (Bickmore & Bickmore 2010). In addition, although there are estimates on the level of experience a teacher has acquired and how that relates to the prospective stage they are in, that does not alone determine their current stage. The initial stages of

teaching, if implemented correctly, can be less stressful with a comprehensive induction plan that is centered around the specific needs that teachers require during specific durations of time within their career. This will assist in novice teacher's ability to move across each stage or cluster at a faster rate and in a more peaceful state of mind.

Concerns for Novice Teachers

There are a variety of concerns experienced by novice teachers that prohibit them from thriving in their new profession. From their need for emotional support, understanding the culture of the building, and maintaining effective relationship with all constituents to classroom management and curriculum and instruction a trusted confidant is needed to navigate this new terrain.

Furthermore, novice teachers begin their role as student teachers or preservice teachers who can increase their self-efficacy with a tremendous level of support and ongoing guidance. In stark contrast, the first year of teaching can be isolating with minimal support on day to day responsibilities and instruction. Since novice teachers are expected to immediately assume full responsibility of instruction and management within their first year (Lortie, 1975) administrators must address any gaps in the level of support provided to novice staff to ensure that their full potential. In addition, the concept of building a professional learning community should be fostered amongst novice staff as they often feel the negative effects of being isolated in their own classrooms (Kauffman, 2002) with minimal feedback, each day.

In addition, in efforts to be proactive and eliminate the inevitable feeling of isolation amongst novice staff (Lortie, 1975, Kauffman, 2002), mentorship can help create one's foundation which is necessary to set the stage for novice teachers' potential

as well as define his/her students' professional successes. Many novice teachers experience difficulty in applying the theory learned in their higher education classes (Darling-Hammond, 2010) therefore access to clear guidance from a trusted expert is necessary for their success. Teachers who are well-prepared leave at more than two times lower rates than teachers who are not fully prepared (Darling-Hammond, 2010) which yields the need for comprehensive and reflective mentoring programs as they have the ability to cut new teacher turnover rates in half (Wong 2004, Kransoff, 2014).

Targeted Professional Development through Induction and Mentoring Programs

The terms mentoring and induction when referred to as programs are often used interchangeably, however, by definition are different. For the purposes of the current research and the way in which the program is referred to at this particular school district, it will be referred to as a mentoring program, however it is important to note that mentoring by definition is one element of a full induction program.

Induction is defined as; A professional development program that incorporates mentoring and is designed to offer support, guidance, and orientation for beginning teachers during the transition into their first teaching job (Smith & Ingersoll, 2011). These programs help teachers through their first year of teaching by supporting ongoing dialogue and collaboration among teachers, which has the ability to accelerate the new teachers' effectiveness and increases student achievement. Mentoring is a verb as referenced in the definition above. A mentor is defined as, an experienced and exemplary teacher who nurtures professional growth in a beginning teacher by sharing the knowledge and insights that the mentor has learned through the years; someone who is an

expert in the subject in which he or she teaches and is able to articulate and model the art of teaching adults.

Mentoring is one piece of the overall importance of teacher induction all under the umbrella of professional development which is meant to be comprehensive and collaborative professional learning (Wong, 2004) that is well planned, implemented and evaluated on an ongoing basis as high-quality mentoring especially due it its ability to cut attrition rates in half (Villar 2004).

There are seven key elements of professional development that could assist in the development of induction programs that include the notion that they are (1) content focused, (2) incorporate active learning strategies, (3) engage teachers in collaboration, (4) use models and/or modeling, (5) provide coaching and expert support, (6) include opportunities for feedback and reflection, and (7) are of sustained duration (Alliance for Excellent Education, 2004). Since mentoring is a program within induction which is under the greater category of professional development, the use of these key elements of professional development should contribute to the underlying themes within key factors of mentoring which include; (1) common planning time and collaboration (2) ongoing professional development, (3) an external network, (4) assessment and evaluation.

With these key factors in place alongside the seven key elements of professional development, schools can effectively raise the level of teacher self-efficacy and be mindful of creating an induction program that includes the essential components of mentoring. In addition, districts must strive to have a firm understanding of the needs of each individual teacher at specific points in their career and differentiate not only based on their years of experience, but also based on the nature of how that population of

teachers take in information during that time (Stronge, Ward, & Grant (2011). As the way in which teachers teach their students evolves with the addition of new curricula and advanced technology, the novice staff in our schools will also need crucial information provided to them in a way that makes sense for them to process and internalize.

Research on Perceptions of Supports Necessary for a Successful Beginning

Over the years, a wide variety of research has been conducted with findings that showcase the perceived necessary supports novice teachers need to ensure a successful start in their teaching career.

Andrews and Quinn (2005) conducted a study that analyzed the effects of mentoring on first-year teachers' perceptions of supports received. They collected data from first year teachers in a school district that serves over sixty thousand students. 135 teachers completed the questionnaire that was in the form of a twenty-item Likert scale and was related to the levels of supports first-year teachers perceived they received. Themes across the survey included assistance with and ideas about instruction and curriculum, personal and emotional support, obtaining materials, supplies, resources, information about school and school district procedures and policies, help with ideas about classroom management and discipline and ideas for dealing with parents or parent conferences. Each first-year teacher had either a mentor assigned by the school district's mentoring program, a mentor assigned by the principal, or no assigned mentor.

The findings showed there was a significant difference between the amount of support received as perceived by teachers with a mentor assigned by the school district ($M = 95.59$, $n = 47$) and school principal ($M = 92.92$, $n = 33$) as opposed to those without an assigned mentor ($M = 84.06$, $n = 55$). First year teachers with a mentor assigned by the

school district's mentoring program perceived they received significantly more support than first-year teachers with no assigned mentor, p =.049. This study not only proves the importance of effective mentoring programs, but also the need to understand the supports desired by novice teachers in efforts for them to feel successful.

Davigon (2016) conducted a qualitative case study to understand the relationship between new teachers and their mentors. Data was collected using the Omnibus T-Scale Survey, Teacher Leadership School Survey, as well as interviews and focus groups with eight novice teachers. Findings demonstrated that trust is an essential factor in building relationships between novice teachers and teacher leaders. It also indicated that desirable traits of teacher leaders include being supportive, approachable, and collaborative. Building this foundation is key in novice teachers feeling supported and can lead to greater student achievement. This, like many areas of research that focus on mentoring, took on a qualitative approach. The need for more concrete quantitative analyses with a qualitative approach to deepen the meaning of data would be a significant contribution to this topic.

The purpose of this research was to examine the South Texas region teachers' views of mentors of first-year teachers in the mentoring program across their school districts. More specifically, to determine what the characteristics of an effective mentoring program are and the essential needs of beginning teachers. A sample of school districts were utilized through the South Texas Region One Directory in which every fourth school was contacted to participate. Forty-six participants who were mentor teachers participated in the survey; eighteen (39.1%) male, twenty-eight (60.9%) female. Thirty-one of the participants were Hispanic (67.4%), thirteen participants were white

(28.3%), one participant was African American and one belonging the 'Other' ethnic grouping. Within this grouping twenty-five mentor teachers were responsible for high school grade levels (54.3%) and twenty-one for middle school grade levels (45.7%). Participants were asked which subjects they teach in which seven participants responded math (15.2%), eight teachers mentioned science (17.4%), ten teachers noted English (21.7%), seven teachers stated social studies (15.2%), and fourteen teachers responded elective (30.4%).

A self-administered survey consisting of 27 Likert-Type questions was created to determine essential elements needed to retain teachers with a range of scores of 4 (absolutely essential), 3 (mostly essential), 2 (somewhat essential), 1 (not essential) and d (uncertain). The following broad categories; teacher involvement/support, staff development, administrative support, and resource materials were all used to create specific factors within each theme. These questions were designed to evaluate support provided in the teacher-mentoring program, the most difficult duty of the program, and what areas they would have appreciated more support in the teacher-mentoring program. In addition, qualitative data was collected from first year teachers through open-ended questions.

Findings indicated that the most essential component of teacher involvement/support is that a mentoring program has well-defined goals 95.7% (n = 44), followed by creating a climate that encourages teachers to seek assistance when needed 91.3% (n = 42) of mentor teachers while 30.4% (n = 14) of teachers believed creating a portfolio that demonstrated growth is essential. Regarding staff development, mentor teachers felt that staff development that provided strategies and activities to better serve

students in special populations was absolutely essential 60.9% (n = 28). Social functions came in second as a means to assist newer staff in developing relationships with colleagues as essential at 26.1% (n = 12). Administrative support regarding mentoring programs being clearly explained as well as the respect for confidentiality laws between teachers and students was deemed most important at 52.2% (n = 24) followed by the need for time provided at the end of each grading period to evaluate the teacher mentoring program was a need at 30.4% (n = 14). Lastly, the most important resources first year teachers needed was orientation on Professional Development and Appraisal System (PDAS) at 82.6% (n = 38) as per mentor teachers. The open-ended responses yielded that mentor teachers felt most supported in areas including; being given time to evaluate, plan with, and support new teacher, being selected based on proximity and class subject, positive reinforcement on work being accomplished with novice teacher. Conflicting responses indicated mentors felt the opposite including lack of time to meet with mentee and no clear communication and/or lack of communication between teacher, mentor, and administration.

Kidd, Brown, & Fitzallen's (2015) mixed-methods study sought to gain a deeper understanding of beginning teachers experiences and perceptions of their induction into teaching as well as the supports they received. The sample included novice teachers who have graduated within a five-year period from the University of Tasmania. 49 teachers from government-based schools completed an online questionnaire and 42 teachers from non-government-based schools completed hard copy questionnaires that included demographic items and teaching experiences. The final section of the questionnaire asked Liker-type agreement statements and open-ended statements about beginning teachers'

induction to the teaching profession. The Likert-Scale statements were divided into five categories; School-based Relationships, School Resources and Policies, School-based and General Support, Workload, and Job Satisfaction. The response categories were Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

Findings indicated that the support beginning teachers need is not equally available to all and regardless of how long they have been employed and which position they hold (contract, short-term, permanent) all teachers seek equal access to an induction program. A variety of support is needed ranging from administration, mentors, and structured professional development. Professional development approaches should be reconsidered, and possibility offered online due to the lack of time during the school day. Novice teachers feel that mentors should be available to them early on in their induction to the profession to assist in offering advice and instructional feedback and this will minimize the percentage of teachers leaving the profession each year.

Rienbenbauer, Dreisienbner, & Stock (2017) surveyed over 188 novice teachers and mentors through 1,245 questionnaires in efforts to assess the key elements of successful mentoring programs along with the factors of competency exhibited by their mentors and how that impacted the program. The findings demonstrated that novice teachers valued feedback over meetings and opportunities for reflection.

Polikoff, Desimone, Porter, & Hochberg (2015) conducted a study that focused on the need for policymakers and practitioners to determine what features or mentoring programs are associated with desired outcomes and teacher attainment. (Ingersoll & Strong 2011, Youngs 2007). They sought to investigate to what extent mentor policy features related to the quality of mentoring received. Fifty-six teachers in ten districts

across Kentucky, Pennsylvania, Tennessee, and New Jersey completed a researcher created survey and/or semi-structured interview. An in-depth analysis of each states mentoring policy was also used as a data scores, with Kentucky's being the strongest and a state-wide approach while Pennsylvania, Tennessee, and New Jersey's differ per district, however, must be approved by the state.

The findings of this mixed-method approach demonstrated that each state's policy has different variations of what should be included in a mentoring program. Providing teachers time to meet during the school day was a statistically significant predictor of improved mentoring interactions. Areas that did not yield a significant association with improved mentor and novice teacher interaction include; those who were full-time mentors as they took on a more evaluative role, those who worked in the same building, had formal mentor training, received compensation, experienced in the same content area, and had a large mentoring caseload. Aspects of these findings go against previously discussed literature. Overall, the study also suggest that policymakers must continue to face the reality that educational policies are often modified as they are implemented and what teachers and students receive may differ from what was intended.

Many times, teachers who are not in a full year position, or a probationary track position, in which there is a pathway towards tenure, are not eligible to participate in mentoring programs. The majority of research findings can conclude the importance of providing some level of mentoring to all involved in a school district. With this, there is limited research on the length of the program and how that impacts the self-efficacy of novice teacher, the focus of this particular study, as well as the impact made on student achievement.

Impacts of Mentoring on the Self-Efficacy of Novice Teachers

Ackerman (2012), examined novice teachers perceived self-efficacy, their beliefs about the quality of a new teacher induction program and their relationship with their mentor. The data showed that there was a significant difference between the self-efficacy of those with a favorable view of the induction program as opposed to those with an unfavorable view. Gender, school location, and years of teaching experience did not demonstrate any statistical differences when comparing teacher attitudes towards mentoring and induction programs. This indicates the importance of receiving feedback from both mentors and novice teachers regarding the program and its impact on self-efficacy and utilizing it to refine, reflect on and strengthen existing program components.

Munshi (2018), explored the role that mentoring and professional development programs play in developing the self-efficacy and inquiry-based practices of novice teachers. Self-efficacy was measured through the use of surveys, an interview, and three observations of mentoring sessions. Data revealed that mentors play an important role in helping novice teachers engaged in inquiry and reflect on the outcomes of their efforts which in turn supports their growing sense of self-efficacy as educators.

Although the central focus of the current research will be that of novice teachers and their self-efficacy as impacted by a multi-year mentoring program, it is important to analyze mentor teachers' self-efficacy. Mentors with a higher level of self-efficacy will likely be able to explain, model, and truly understand the needs of mentoring as they are experts in their field.

Roff (2012) conducted cased studies on 16 teachers which showed that mentors are novice teachers safety nets and trusted advisor who displays no judgement and mutual

trust. In addition, a reciprocal relationship was formed in that the novice teacher was able to guide and support their mentor with technology. There was a further need for time to collaborate and communicate within district. Most importantly, both teachers and their mentors felt that they grew throughout this process.

A comprehensive induction program with a well-defined mentoring program, if planned and implemented correctly, can demonstrate an impact on both novice and veteran teachers alike. Schools should explore how understanding the benefit of contributing to experienced teachers' professional learning and development through mentoring programs can create life-long reciprocal relationships and whether or not it increases self-efficacy and enhanced student achievement over time.

Multi-Year Mentoring Program and its Effects on Novice Teachers

Although more and more states are considering the development and implementation of multi-year mentoring programs are far from the norm, likely because of the time and human and/or financial capital required to make them efficient and effective.

Tew's qualitative case study (2017) examined the influence of a multi-year mentoring program on the self-efficacy and instructional practice of teachers in years two, three, and four in New Jersey. She collected data through focus groups, anonymous surveys, and professional evaluation forms to compare and contrast how each year of induction might have influenced teacher' perception of their self-efficacy and instructional practice. The following themes emerged; (1) mastery developed over time, (2) teachers felt more comfortable taking risks with new instructional strategies and teacher leadership, (3) assisted novice teachers in developing instructional strategies as

they progressed throughout each year, (4) encouraged teachers to bridge the divide and build relationships with fellow educators as the profession can be quite isolating, (5) sought vicarious experiences to improve their instruction and self-efficacy regularly.

Conclusion

Many educators as well as researchers argue that one full year of mentoring is not substantial. As described in numerous studies on the stages of teacher development, most teachers do not reach a level of mastery until, approximately five to ten years into their career (Berliner, 1988, Fuller, 1969, Katz, 1972, Moir, 1990, Unruh & Turner, 1970). According to a Policy Report from the New Teacher Center (Goldrick, 2016) there are currently four states; Connecticut, Delaware, Iowa in 2012, and Hawaii in 2016, in which districts are required to provide educators with multi-year support. In most states, the required about of time mentoring novice staff is that of one year, which questions any correlation that may exist between districts that experience high turnover rates and the number of years a teacher is mentored for. It could be that districts need more funding for these types of programs to be implemented effectively, however, it is imperative that we work to close the research gap in understanding multi-year mentoring programs and those aspects that foster higher levels of teacher self-efficacy.

CHAPTER 3

Introduction

Chapter 2 provided a brief overview of the existing literature on the subject of state and federal legislation regarding novice teachers, induction programs, and support necessary for teachers' success. Chapter 3 will focus on the research questions, methods and procedures designed for the current study. Chapter 4 will provide a detailed description of the result for each research question.

Methodology & Procedures

The current study investigated a multi-year mentoring program on teachers' perceived self-efficacy through a non-experimental design. This chapter outlines the hypotheses tested throughout the study as well as the sample of teacher participants. Details regarding the specifics of one school district's multi-year mentoring program in addition to data collection and instruments necessary to conduct the present study are also discussed.

Research Questions and Hypotheses

1. To what extent are there differences between teachers' level of participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level on their perceptions of self-efficacy overall?

    H_0: There will be no significant differences between the mean scores of teachers' perceptions of self-efficacy based upon teachers' participation in a multi-year mentoring program (present participants, past participants, and non-participants).

H_1: There will be a significant difference between the mean scores of teachers' perceptions of self-efficacy based upon teachers' participation in a multi-year mentoring program (present participants, past participants, and non-participants).

H_0: There will be no significant differences between the mean scores of teachers' perceptions of self-efficacy based upon teachers' years of experience (less than five years, six to fifteen years, more than fifteen years).

H_1: There will be a significant difference between the mean scores of teachers' perceptions of self-efficacy, based upon teachers' years of experience (less than five years, six to fifteen years, more than fifteen years).

H_0: There will be no significant difference between the mean scores of teachers' perceptions of self-efficacy based upon teachers' school level (elementary, middle school, high school).

H_1: There will be a significant difference in the mean scores of teachers' perceptions of self-efficacy based upon teachers' school level (elementary, middle school, high school).

H_0: There will be no interaction effect between teachers' participation in a multi-year mentoring program and teachers' years of experience.

H_1: There will be an interaction effect between teachers' participation in a multi-year mentoring program and teachers' years of experience.

H_0: There will be no interaction effects between teachers' participation in a multi-year mentoring program and teachers' school level.

H_1: There will be an interaction effect between teachers' participation in a multi-year mentoring program and teachers' school level.

H_0: There will be no interaction effect between teachers' years of experience and teachers' school level.

H_1: There will be an interaction effect between teachers' years of experience and teachers' school level.

H_0: There will be no interaction effect among teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level.

H_1: There will be an interaction effect among teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' level of school.

2. In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level predict teachers' self-efficacy overall scores?

H_0: Teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level will not predict teachers' self-efficacy overall scores.

H_1: Teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level will predict teachers' self-efficacy overall scores.

3. In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy in classroom management?

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level and teachers' self-efficacy in classroom management.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level and teachers' self-efficacy in classroom management.

4. In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of student engagement?

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of student engagement.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of student engagement.

5. In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of instructional strategies?

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of instructional strategies.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of instructional strategies.

Research Design and Data Analyses

To inform the research questions, a non-experimental design was utilized. The purpose of using this approach was to determine the cause or consequences of differences that already exist between or among a group of individuals who participated in a multi-year mentoring program and those who did not, the school level they teach and the number of years they've taught based upon their self-efficacy score (Fraenkel, Wallen, & Hyun, 2019). In addition, due to its quantitative nature, access to a larger sample size allows the sample to be generalizable to the population being explored in addition to a more objective perspective.

As applied to the current study, a non-experimental design allowed the researcher to gain a more concrete understanding as to whether or not teacher self-efficacy in classroom management, instructional practice, student engagement or overall self-efficacy based upon specific variables including participation in a multi-year mentoring program, years of experience, and school level taught. The collected data was analyzed to identify possible causes for or consequences of the mentoring programs overall impact (Fraenkel et al., 2019).

Research Question 1

To what extent are there differences between teachers' level of participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level on their perceptions of self-efficacy overall?

A three-way, between subjects, analysis of variance (ANOVA) was conducted to compare the mean differences in self-efficacy scores between teachers' participation in a multi-year mentoring program (present participants, past participants, and non-participants), their years of teaching experience (less than five years, six to fifteen years, more than fifteen years) and the school level they teach (elementary, middle school, high school) .

The analysis assisted the researcher in gaining an understanding of differences, if any, that exist in the main effects; teachers' participation in multi-year mentoring program, teachers' years of experience, and teachers' school level (Fraenkel et al., 2019). Furthermore, it determined the mean differences of teachers' self-efficacy scores, if any exist, between the interaction effects including; teachers' participation in multi-year mentoring program and teachers' years of experience, teachers' participation in multi-year mentoring program and teachers' school level and teachers' years of experience and teachers' school level. Lastly, it determined the interaction effects, if any exist, between; teachers' participation in multi-year mentoring program, teachers' years of experience and teachers' school level on self-efficacy scores at an alpha level of .05. The effect size for each significant interaction was calculated to determine the magnitude of the relationship between each independent variable regardless of the initial analysis being statistically significant or not (Fraenkel et al., 2019). Gaining an understanding of any differences that exist between groups can assist the district in providing targeted professional development to those subgroups to enhance or maintain a greater level of teacher self-efficacy.

The following assumptions were met prior to data collection and they included; dependent variables that are continuous (ie. Self-efficacy scores), two or more independent groups with categorical data (participation in multi-year mentoring program, years of experience, school level taught) and independence of observation with no relationship between the levels in each group as each level includes different participants. Additional assumptions were explored using Statistical Package for the Social Sciences (SPSS) after data collection was completed.

Research Question 2

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level predict teachers' self-efficacy overall scores?

A multiple regression analysis of variance was conducted to investigate if participation in a mentoring program, years of teaching experience, and school level taught may predict teachers' self-efficacy overall at an alpha level of .05. The analysis allowed the researcher to gain further insight into which variables predict a higher rate of teachers' self-efficacy overall among the population being studied which will allow the district to identify areas in need of more targeted professional development. All assumptions were explored using the SPSS analysis in which the multiple regression was conducted.

Research Question 3

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy in classroom management?

A multiple regression analysis of variance was conducted to determine if a correlation exists between the criterion variable and the best combination of two or more predictor variables and to determine the strength of the correlation between them (Fraenkel et al., 2019). Specifically, the current analysis investigated if participation in a mentoring program, years of teaching experience, and school level taught may predict teachers' self-efficacy on classroom management at an alpha level of .05. The analysis allowed the researcher to gain further insight into which variables predict a higher rate of self-efficacy in the area of classroom management among the population of teachers being studied which will allow the district to identify areas in need of more targeted professional development. All assumptions were explored as the SPSS analysis of the multiple regression was conducted.

Research Question 4

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of student engagement?

A multiple regression analysis of variance was conducted to investigate if participation in a mentoring program, years of teaching experience, and school level taught may predict teachers' self-efficacy of student engagement at an alpha level of .05. The analysis allowed the researcher to gain further insight into which variables predict a higher rate of self-efficacy in the area of student engagement among the population of teachers being studied which will allow the district to identify areas in need of more targeted professional development. All assumptions were explored as the SPSS analysis of the multiple regression was conducted.

Research Question 5

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of instructional strategies?

A multiple regression analysis of variance was be conducted to investigate if participation in a mentoring program, years of teaching experience, and school level taught may predict teachers' self-efficacy of instructional strategies at an alpha level of .05. The analysis allowed the researcher to gain further insight into which variables predict a higher rate of self-efficacy in the area of instructional strategies among the population of teachers being studied which will allow the district to identify areas in need of more targeted professional development. All assumptions were explored as the SPSS analysis of the multiple regression is run.

Sample and Population

The target sample for the current study included teachers across grades K-12, from a suburban school district nearby a large metropolitan city in the northeastern United States. This district is comprised of 5,506 students across one high school, one alternative high school, one middle school, six elementary schools and a kindergarten center as noted in Table 1.

Table 1

Demographic Information of the Student Population for the 2019-2020 School Year

	Elementary School, Grades K-6	Middle School, Grades 7-8	High School, Grades 9-12
Total # of Students Enrolled	2846	893	1767

Gender			
Male	1468	455	929
Female	1378	438	838
Ethnicity			
White	1983	607	1299
African American	56	11	42
Hispanic or Latino	609	215	330
Asian or Native Hawaiian/Other Pacific Islander	117	38	55
American Indian or Alaska Native	0	0	1
Multiracial	81	21	38
Other			
English Language Leaner	165	25	30
Students with Disabilities	328	107	243
Economic Disadvantage	499	204	379

Sample

Convenience sampling was utilized to identify a group of approximately 400 teachers, 118 of which who were available to participate in the study with the intent of having an equal number of subjects across each variable grouping (Frankel, Wallen, & Hyun, 2019). The researcher was successful in acquiring the results of approximately 40 participants in each group as the recommended minimum sample size for a casual-comparative study is 30 participants (Fraenkel et al., 2019).

The majority of the teachers who were included in this sample were females who taught at an elementary school for more than fifteen years. Furthermore, a large majority

of teachers also specialized in one or more of four core subjects; English-Language Arts, Social Studies, Mathematics and Science as displayed in Table 2.

Table 2

Demographic Information for Teacher Participants

	Number	Percentage
Gender		
Male	19	17.3%
Female	91	82.7%
Grade Level		
Elementary School, K-6	75	68.2%
Middle School, 7-8	16	14.5%
High School, 9-12	19	17.3%
Teachers' Years of Experience		
Less than Five Years	18	16.4%
Six to Fifteen Years	34	30.9%
More than Fifteen Years	58	52.7%
Content Area*		
English Language Arts	60	24.3%
Mathematics	47	19.1%
Social Studies	58	23.5%
Science	40	16.2%
Special Education	20	8.1%
English as a New Language	3	1.2%
Music & Arts	5	2%
World Languages	4	1.6%
Instructional Support	5	2%
Other	5	2%

Note. *Teachers indicated *all* content areas taught during the 2019-2020 school year.

Additionally, participants were asked whether or not they've participated in the multi-year mentoring program in any capacity. This included serving as a mentor or being involved in the program currently or previously. In addition, for those teachers who

were current participants in the program, the majority who responded were in their third year as represented in Table 2.

The participants were categorized in the following three independent variables (1) Participation in a Multi-Year Mentoring Program, (2) Teachers' Years of Experience, and (3) School Level. A limitation in convenience sampling is essentially the bias of participants as they are all from the same district with a unified vision and mission (Fraenkel et al., 2019). There is a lack of school districts that implement a multi-year mentoring program as a component in their induction program, therefore, the current study should be replicated across schools who attempt to pilot the program.

Table 3

Teacher Information as it Relates to Multi-Year Mentoring Program

	Number	Percentage
Participation in Multi-Year Mentoring Program		
Present Participant	20	18.2%
Past Participant	20	18.2%
Non-Participant	70	63.6%
Year in Mentoring Program		
First Year	6	5.5%
Second Year	2	1.8%
Third Year	12	10.9%
Fourth Year	2	1.8%
Past Participants	20	18.2%
Does not apply.	68	61.8%
Mentor		
Yes	16	14.5%
No	94	85.5%
National Board		

Certified Teacher		
Yes	7	6.4%
Working Towards	2	1.8%
No	101	91.8%

Population

In 2018-2019, New York State had 2,598,921 students enrolled in both public and charter schools. When comparing the demographics of the students in New York State to that of the school district used in the current study there were similarities and differences as shown in Table 4. Gender was nearly evenly distributed as females. Regarding ethnicity, there was a greater discrepancy between students who identify as White and those who identify as African American. Other ethnic groupings were more evenly aligned.

New York State is made up of a variety of regional areas that are urban, suburban, or rural. Although each school district is unique, the overall results can be generalized to the population as the demographics of students in this district and that of New York State remain similar. Furthermore, there are school districts in the more immediate area represent a much more similar student demographic to the one being studied. These surrounding school districts could use this study as a model to reflect their own schools and determine if a multi-year mentoring program would be an appropriate approach.

Table 4

Comparison of Demographic Information of the Student Population for New York State 2018-2019 and School District 2019-2020

	New York State	%	School District	%

Total # of Students Enrolled	2,598,921	100%	5,506	100%
Gender				
Male	1,345,240	51.3%	2,852	51.8%
Female	1,277,639	48.7%	2,654	48.2%
Ethnicity				
White	1,133,631	43.2%	3,889	70.6%
Hispanic or Latino	708,319	27%	1,154	20.9%
African American	448,499	17.1%	109	2%
Asian or Native Hawaiian/Other Pacific Islander	252,191	9.6%	210	3.8%
American Indian or Alaska Native	18,105	0.7%	1	.01%
Multiracial	62,134	2.4%	149	2.7%

Instruments

In an effort to assess the hypotheses, teachers in the sample were asked to complete Tschannen-Moran and Hoy's (2001) 24-item survey entitled; *Teachers' Sense of Self-Efficacy Long-Form (TSES)* (See Appendix B). The researcher was granted permission by the authors to utilize the survey for the current research via email from Dr. Megan Tschannen-Moran, Ph. D on February 3, 2020 (Appendix B) and Anita Woolfolk-Hoy, Ph.D. on February 3, 2020 (Appendix B).

The TSES assessed teachers' level of self-efficacy. The survey took approximately ten minutes to complete. Tschannen-Moran and Hoy granted the researcher permission to utilize their survey (Appendix B) for the purpose of the current

research. The survey consists of three subscales; Efficacy in Student Engagement, Efficacy in Instructional Practices, and Efficacy in Classroom Management all of which were measured using a 9-point Likert Scale ranging from (1) None at All to (9) A Great Deal. The raw scores were collected and utilized to determine the mean scores of each individual's subtests as well each individual's self-efficacy score overall.

The following reliabilities demonstrating internal consistency using Cronbach's Alpha were discovered on each subscale; Efficacy in Student Engagement ($\alpha = .87$), Efficacy in Instructional Practices ($\alpha = .91$), and Efficacy in Classroom Management ($\alpha = .90$) as well as the total for self-efficacy ($\alpha = .94$) (Tschannen-Moran & Hoy's, 2001).

In addition, demographic information was collected. As shown in Table 3, this information included; gender, number of years teaching, school level, content area and whether or not the individual is a National Board-Certified Teacher.

Intervention

The school district in which the program is offered is located in a suburban school district nearby a large metropolitan city in the northeastern United States. The district is comprised of one Pre-K and Kindergarten Center, seven elementary schools with students across grades K-6, one middle school with students across grades 7-8, one high school and one alternative high school both of which serve students across grades 9-12. The number of students being served district-wide is an approximate total of 5,506.

All novice teachers with their initial teaching certification are required, as per New York State, to complete one year of mentoring through the school district in which they are employed as they work towards attaining their professional teaching certification. Each school district has the responsibility of determining the way in which

they will develop a program that meets the needs of their particular school district given their respective allotted budget and capital provided through Title II, Part A funding.

The particular Multi-Year Mentoring Program is an experience provided to teachers who are new to the school district. Although the program initially began with a three-year scope and sequence, as New York State amended the probationary period necessary towards tenure attainment to be four years, the school district made that amendment to their program as well. Since 2015, all participants in the program were required to remain in it for four years.

Each participant is assigned a mentor teacher by the district at the start of their probationary period. The mentor is tasked to work with a small group of approximately two to three participants during their first year in the program. In their subsequent years participants may work with the same mentor or may be switched to a different group based on need, phase in the program, and/or the availability of staff willing to become mentors. If a participant has demonstrated success throughout the program, their fourth and final year is meant to focus on their preparation for an exit interview through the creation of a portfolio and their culminating year end celebration of tenure.

Mentor teachers are assigned on a case by case basis and a strong consideration is that they work in the same field or school as the Participant Teacher(s) they will be assigned to, however, this is not a requirement. Participation as a mentor is voluntary and those who apply do receive compensation for their time in the amount of one thousand, five hundred dollars per year. These mentors receive training through a two-day institute over the summer each school year. In addition, throughout the school year, mentors and their assigned mentoring program participants from across the district meet all together to

collectively as well as in separate groups with their peers in which both opportunities allow for the opportunity to check-in, in addition to sharing any questions or concerns.

For those senior teachers who are interested in applying for mentorship, the district requests that they have demonstrated the following;

- *commitment to students and their learning*
- *knowledge of the subjects they teacher and how to teach those subjects to students*
- *responsibility for managing and monitoring student learning*
- *systemic thinking about their practice and learn from these experiences, and*
- *membership in a learning community such as; National Board Teacher Certification*

The vast majority of the Teacher Mentors enrolled in the program either have National Board Teacher Certification or are working towards it. This is beneficial to program participant because the framework that is utilized as an underlining guideline for the program is the Five Core Propositions: What Teachers Should Know and Be Able to Do, developed by National Board for Professional Teaching Standards.

Mentor teachers are expected to work with their assigned mentoring participant(s) on a number of items that were predetermined in Table 5.

Table 5

The Roles and Responsibilities of Mentors in the Multi-Year Mentoring Program

Mentor Responsibilities	Curriculum & Instruction	District-Wide/Building-Wide Policies & Procedures
Assisting in the identification of the Resident Teacher's needs	Modeling effective strategies and communication	Documenting Professional Practice
Discussing informal classroom inter-visitations or videos posted in Teaching Channel mentoring groups	Lesson Planning & Record Keeping	Student Record Confidentiality

Serving as a coach and supporter of the Resident Teacher	Use of Computer Technology & Use of Equipment	Familiarizing the Resident Teacher with school-based and district-wide routines, procedures, requirements
Engaging in reflective practice as a Mentor, thus participating in the evaluation of the Mentor program and his/her own effectiveness as a Mentor	Classroom Management & Behavioral Strategies	IEPs, CSTs, CSEs, Section 504s, Report Cards, AIS, modifications
Understanding of the stages of development of a new teacher	Reflective Practice	Forms (Conference, Referrals, etc.)
Acting as a confidential, objective, collegial coach	Learning Styles Inventory	Parent Meetings/Conferences
Sharing common planning time to assist in presentation, pacing, and effective communication skills	Differentiated Instruction	Parent Communication –verbal vs. written
	Authentic Assessment	Observation and Evaluation Process
	Literacy – District Adoptions/Programs	
	Integrated co-teaching model, ELL	

The Teaching Channel

A key element of the multi-year mentoring program is an online platform entitled, *The Teaching Channel*. The purpose of this website is to highlight inspiring and effective teaching practices in America's schools (https://www.teachingchannel.com). More specifically it delivers professional development by allowing educators to view teachers in action across multiple grade levels and content areas. The Teaching Channel community is meant for educators to "share ideas, best practices and enhance their knowledge."

In addition, the Teaching Channel allows school districts to create individual accounts with the ability to record themselves in the classroom and upload their footage through the Teaching Channel application. In addition, purposeful groups can be created, such as a mentor with their mentees, so that teachers can become reflective of their craft. Once the video is uploaded into a secure group, teachers can view the video and comment

on specific timestamps in efforts to offer warm and cool feedback in addition to asking meaningful questions.

The Teaching Channel is utilized in the multi-year mentoring program as it offers a means for guidance, reflection, and ongoing communication throughout the school year, regardless of all participants locations. Both mentors and program participants receive in-depth training on how to utilize the program in efforts to limit the possible difficulties associated with technology. In addition, the Teachers Center offers the ability to borrow iPads in efforts to make video recording seamless and stress free.

Participants have a number of requirements bestowed upon them during their untenured years an addition to their required participation in the multi-year mentoring program. They are required to acquire twenty professional development hours each year, some of which are considered mandated, meaning they are chosen by administration, such as face-to-face mentoring workshops and Teaching Channel assignments while the remainder are to be self-selected through the districts catalog, many of which are taught by their administrators and colleagues within the district.

Digital Portfolios

As mentioned previously, at the conclusion of the multi-year mentoring program, program participants are required to create a digital portfolio to culminate their efforts and accomplishments. The portfolio is an ongoing project that is presented to participants at the start of their mentoring program as the expectation is that they are collecting artifacts that display the evolution of themselves as an educator over the course of the program. When the program consisted of three years, program participants were required to seek evidence of distinguished teaching using Charlotte Danielson's Framework for

Teaching Evaluation Rubric. Evidence was meant to support each indicator across all domains including; planning and preparation, classroom environment, instruction, and professional responsibilities. When the program switched to four-year model, the criteria for the digital tenure portfolio switched to the Five Core Propositions of National Board Teachers Certification which include; Proposition 1: Teachers are committed to students and their learning, Proposition 2: Teachers know the subjects they teacher and how to teach those subjects to students, Proposition 3, Teachers are responsible for managing and monitoring student learning, Proposition 4, Teachers think systematically about their practice and learn from experience, and Proposition 5, Teachers are members of learning communities (National Board for Professional Teaching Standards, 2012).

At the conclusion of their four years in the program, the participant who is then considered a candidate for tenure will meet with the district Superintendent and their building principal and/or department administrator to participate in an exit interview in which their digital portfolio is to be shared and reflected upon.

The overall outcome of the program from the district's perspective is that after attaining tenure, the district hopes that teachers will continue their journey of professional growth in one or more of the following ways; by pursuing National Board Teachers Certification, acting as a building level union representative, serving as a mentor teacher (after five years within the district/teaching experience), participating in curriculum writing or fulfilling a role as a teacher leader by providing professional development opportunities for their colleagues.

Procedures for Collecting Data

An email explaining the purpose of the study along with informed consent and the accompanying survey (See Appendix C) was created shared with district and building-wide administration. First, an email was sent to nine building principals across K-12 schools who forwarded this information to their respective teachers. The initial email was sent in early June and yielded approximately 70 participants. A follow up email was sent to building principals approximately one week later. Additionally, an email was sent to four district-wide department supervisors across the following content areas; English-Language Arts, Mathematics, Social Studies, Science. Their email was sent to the same population of teachers with the goal of accessing their interest and participation in a different way. Lastly, a direct email from the researcher was sent to all teachers that were currently enrolled in or were past participants of the multi-year mentoring program in an effort to produce a broader sample. Both the *Teachers' Sense of Teacher Efficacy Scale*, as well as the demographic information were collected through the online data collection tool, Survey Monkey.

The purpose of multiple methods of survey distribution was in effort to acquire a larger sample size. In addition, this allowed for willing participants to review the informed consent and voluntarily complete the survey individually at their own convince from their computer or cellular device.

Data was collected to determine if teachers perceived self-efficacy as an overall measure and across three sub-categories; student engagement, instructional practices, and classroom management to determine how it relates to their participation in a multi-year mentoring program along with their years of service. These data were collected and

secured by the researcher through an online platform entitled, “Survey Monkey.” The original survey was carefully reproduced to be utilized as an online survey in efforts to reach a higher sample size, however, the questions as well as the layout of the original survey were kept intact as to maintain the reliability and validity of the instrument.

Research Ethics

To ensure that the current study is ethically sound, the researcher took a number of precautions. All participants received informed consent at the start of the survey. All responses were confidential and by submitting the survey, participants agreed to the informed consent statements. The informed consent included the purpose of the current study, clear directions, as well as informed each individual of their ability to skip questions, sections, or withdraw from the study at any point. Participants were also informed that their data will remain confidential and be stored on the researcher’s locked and password protected laptop. The National Institute of Health training was completed on January 28, 2018 (see Appendix A) and submitted to the St. John’s University’s Institutional Review Board (IRB) for review on March 18, 2020 in addition to documentation related to the current research. The IRB granted the status of “exemption” as stated in the email received on April 15, 2020 (see Appendix A) prior to the execution of the research.

Conclusion

A robust and multi-faceted multi-year mentoring program absorbs a great deal of human and fiscal capital. The results in the next chapter assists in determining whether items that are inputted into the multi-year mentoring program, such as, time, energy, and capital are worth the outcome.

CHAPTER 4

Introduction

The methods and procedures for the present study were explained in the previous chapter. In addition, specific details regarding the multi-year mentoring program being studied were stated. Chapter 4 presents the findings from the five research questions in the current study. The implications of the results and conclusion will be further discussed in the final chapter.

The purpose of the present study was to examine the differences, if any exist, between teachers' perceived self-efficacy scores and school level, participation in a multi-year mentoring program, and years of experience teaching. Furthermore, the current study explored which variables, if any, predicted the self-efficacy scores of teachers. Independent variables included (1) teachers' years of experience (less than five years, five to fifteen years, more than fifteen years), (2) participation in a multi-year mentoring program (present participant, past participant, non-participant), and (3) school level (elementary school, grades K-6, middle school, grades 7-8, high school, grades 9-12). The dependent variable, *Teachers' Sense of Efficacy Scale* (Tschannen-Moran & Hoy, 2001) was used to measure teachers perceived self-efficacy in the following areas; (1) classroom management, (2) instructional strategies, (3) student engagement, and (4) self-efficacy overall scores.

Results

Participants included in this study are teachers who teach grades K-12, from a suburban school district nearby a large metropolitan city in the northeastern United States. The district is comprised of one Pre-K and Kindergarten Center, seven elementary

schools with students across grades K-6, one middle school with students across grades 7-8, one high school and one alternative high school both of which serve students across grades 9-12. The majority of participants were females from an elementary school who did not participate in the multi-year mentoring program and have been teaching for more than fifteen years as shown in Table 6.

Table 6

Description of Participants by Independent Variable

Variable	*Variable Levels*	*N=110*
Years of Experience	Less than Five Years	18
	Five to Fifteen Years	34
	More Than Fifteen Years	58
School Level	Elementary School, K-6	75
	Middle School, 7-8	16
	High School, 9-12	19
Participation in Mentoring	Present Participant	20
	Past Participant	20
	Non-Participant	70

Data Screening

Prior to analysis, the data were screened for missing values, univariate outliers and coding errors. Of the 118 participants that responded to the Teachers Sense of Self-

Efficacy Scale (TSES), eight responses included missing values and demographic information and were therefore removed which left 110 responses. The data were collected through Survey Monkey. The data was then exported, and a SPSS file was created. The researcher coded any data that was not already automatically coded. For example, school level was coded from "1" representing elementary school, "2" representing middle school and "3" representing high school.

Research Question 1

To what extent are there differences between teachers' level of participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level on their perceptions of self-efficacy overall?

Hypotheses

H_0: There will be no significant difference between the mean scores of teachers' perceptions of self-efficacy based upon teachers' participation in a multi-year mentoring program (present participants, past participants, and non-participants).

H_0: There will be no significant difference between the mean scores of teachers' perceptions of self-efficacy based upon teachers' years of experience (less than five years, five to fifteen years, more than fifteen years)

H_0: There will be no significant difference between the mean scores of teachers' perceptions of self-efficacy based upon teachers' school level (elementary school, middle school, high school).

H_0: There will be no interaction effect between teachers' participation in a multi-year mentoring program and teachers' years of experience.

H_0: There will be no interaction effect between teachers' participation in a multi-year mentoring program and teachers' school level.

H_0: There will be no interaction effect between teachers' years of experience and teachers' school level.

H_0: There will be no interaction effect among teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level.

The three-way analysis of variance (ANOVA) was used to determine if there was an interaction effect between three independent variables on a continuous dependent variable (Frankel, Wallen, & Hyun, 2019). The independent variables include: participation in a multi-year mentoring program (present participant, past participant, non-participant), school level taught (elementary school, K-6, middle school, 7-8, high school, 9-12), and years of experience (less than five years, five to fifteen years, more than fifteen years). The dependent variable measured teachers' perceived level of self-efficacy overall scores. The alpha level of .05 was chosen to test for significance. A total of 110 teachers completed the survey as presented in Table 7.

The assumptions for conducting the three-way ANOVA were met prior to conducting the statistical analysis. There was one dependent variable at a continuous level (i.e. self-efficacy scores). There were categorical independent variables with three levels each as displayed in Table 7. There was independence of observations as there were different participants in each level of each group. After careful inspection of boxplots, there were no outliers found in the data. The assumption of normality was assessed by examining the skewness and kurtosis of self-efficacy overall scores which were converted to z-scores. All z-scores were between +2.58 and -2.58 indicating no

skewness or kurtosis with variables normally distributed. There was homogeneity of variances for self-efficacy overall scores for all group combinations of school level, years of experience, and participation in a mentoring program assessed by Levene's test for equality of variances, $F(14,90) = 1.25$, $p = .256$

Descriptive statistics showed that teachers with more than fifteen years of experience ($M = 7.67$ $SD = .71$) have the highest perceived self-efficacy overall scores followed by middle school teachers ($M = 7.61$, $SD = .73$) then high school teachers ($M = 7.64$, $SD = .81$). The lowest mean scores were found for teachers with less than five years of teaching experience ($M = 7.24$, $SD = .78$) followed by present participants in the mentoring program ($M = 7.31$, $SD = .73$) as stated in Table 8.

The highest mean scores between independent variables was found at a high school teacher who was a past participants with less than five years of experience (M = 8.67, n = 1). This was followed by a middle school teacher who was a part participant with five to fifteen years of experience (M = 8.42, n = 1). Though these were the highest mean scores, they each represented only one participant. High school teachers with more than fifteen years of experience who did not participant in the mentoring program also showed a higher level of perceived self-efficacy (M = 8.21, SD = .69, n = 6). The lowest mean scores between independent variables were elementary school teachers with less than five years of experience who are present participants in the mentoring program (M = 6.81, SD = .50, n = 7) as presented in Table 8.

Table 7

Mean and Standard Deviations of Self-Efficacy Overall Scores Based Upon Years of Experience, School Level, and Participation in a Multi-Year Mentoring Program

Variable	*Variable Levels*	*n*	*M*	*SD*
Years of Experience	Less than Five Years	18	7.24	.78
	Five to Fifteen Years	34	7.36	.61
	More Than Fifteen Years	58	7.67	.71
School Level	Elementary School, K-6	75	7.45	.68
	Middle School, 7-8	16	7.61	.73
	High School, 9-12	19	7.64	.81
Participation in Mentoring Program	Present Participant	20	7.31	.73
	Past Participant	20	7.44	.65
	Non-Participant	70	7.58	.71

Table 8

Mean and Standard Deviations of Self-Efficacy Overall Scores on the Teachers' Sense of Self-Efficacy Survey Across Experience, School Level, Participation in Mentoring Program

Years of Experience	*School Level*	*Participation in Mentoring*	*M*	*SD*	*N=110*
Less than Five Years	Elementary, K-6	Present Participant	6.81	.50	7
		Past Participant	7.27	1.03	2
		Non-Participant	7.22	.47	4
	Middle School, 7-8	Present Participant	7.76	1.23	3
		Past Participant	7.25	*	1
	High School, 9-12	Past Participant	8.67	*	1
Five to Fifteen Years	Elementary, K-6	Present Participant	7.54	.65	8
		Past Participant	7.33	.60	8
		Non-Participant	7.22	.48	4
	Middle School, 7-8	Past Participant	8.42	*	1
		Non-Participant	7.25	.42	4
	High School, 9-12	Present Participant	7.44	.03	2
		Past Participant	7.67	.24	2
		Non-Participant	6.98	.89	5
More Than Fifteen Years	Elementary, K-6	Past Participant	6.83	*	1
		Non-Participant	7.63	.70	41
	Middle School, 7-8	Past Participant	6.88	*	1
		Non-Participant	7.81	.66	6
	High School, 9-12	Past Participant	7.40	.65	3
		Non-Participant	8.21	.69	6

The results of the three-way ANOVA demonstrated that there was no statistically significant three-way interaction between participation in a multi-year mentoring program, years of experience, and teachers' school level, $F(2,90) = .43$, $p = .653$. Therefore, the null hypothesis was retained as there was no significant difference between the mean scores of teachers perceived self-efficacy who have participated in a multi-year mentoring program, years of experience, and teachers' school level. Although there no significant interaction was found, the highest mean score in overall self-efficacy was shown by high school teachers with less than five years of experience who were a past participant in the multi-year mentoring program ($M = 8.67$, $SE = .68$). Elementary school teachers who had taught for less than five years and are present participants in the multi-year mentoring program had the lowest self-efficacy overall mean score ($M = 6.81$, $SE = .26$).

A statistically significant interaction effect was not found between the mean scores based upon school level and years of experience, $F(4,90) = .1.09$, $p = .364$ therefore the null hypothesis was retained. In addition, a statistically significant interaction was not found between the mean scores based upon school level and participation in a multi-year mentoring program, $F(4,90) = .41$, $p = .800$ in which case the null hypothesis was retained.

A statistically significant two-way interaction was discovered between years of experience and participation in a multi-year mentoring program, $F(3,90) = 3.51$, $p = .0.19$ as evidenced in Table 9. The researcher rejected the null hypothesis as there is a significant difference in the mean scores of teachers perceived self-efficacy based upon

the number of years they had been teaching and level of participation in a multi-year mentoring program. The effect size of $\eta^2 = .09$ was found to be medium.

Table 9

Three-Way Analysis of Variance for Self-Efficacy Overall Scores of Teachers, K-12 Based Upon Experience, School Level, Participation in Mentoring Program

Variable	*SS*	*Df*	*MS*	*F*	*p*	η^2
School Level	2.60	2	1.30	2.85	.063	
Experience	.09	2	.04	.09	.918	
Participation	.15	2	.07	.16	.850	
School Level*Experience	2.00	4	.50	1.09	.364	
School Level*Participation	.75	4	.19	.41	.800	
Experience*Participation	4.80	3	1.60	3.51	.019*	.09
SchoolLevel*Experience*Participation	.39	2	.20	.43	.653	
Error	41.040	90	.46			
Total	6246.512	109				

Note. *$p<.05$

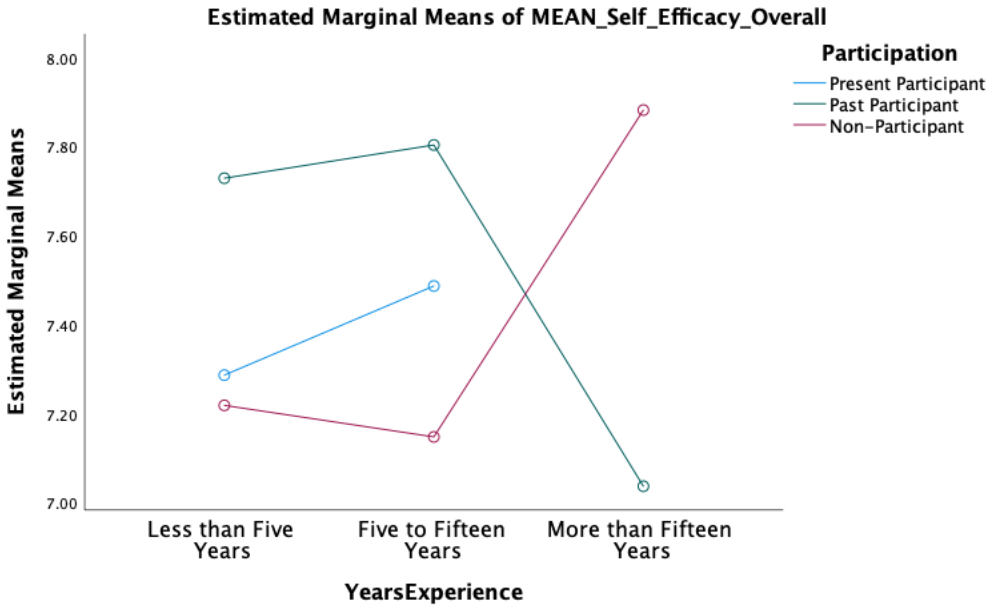
The main effects for all three independent variables in the present analysis were found to be statistically nonsignificant; school level taught $F(2,90) = 2.85$, $p = .063$, years of experience $F(2,90) = .09$, $p = .918$, and participation in a multi-year mentoring program $F(2,90) = .16$, $p = .850$. The null hypotheses were all retained.

Post hoc analysis using simple effects determined a significant mean difference between the self-efficacy overall scores of teachers who were non-participants in the multi-year mentoring program with five to fifteen years of experience and more than fifteen years of experience was found (MD = .73, SE = .23, p = .006). Non-participants with more than fifteen years of experience were shown to have a higher level of self-efficacy overall at (M = 7.88, SE = .14) whereas non-participants with lesser experience between five to fifteen years demonstrated a lower level of self-efficacy overall (M = 7.15, SE = .19).

In addition, there was a significant mean difference between teachers with more than fifteen years of experience who were non-participants and those who were past participants of the multi-year mentoring program (MD = .85, SE = .37, p = .024). Of those teachers who have been teaching for more than fifteen years, non-participants demonstrated a higher level of perceived self-efficacy overall (M = 7.88, SE = .14) as opposed to past participants of the multi-year mentoring program (M = 7.04, SE = .34). A significant mean difference suggests that teachers with a greater amount of experience in the classroom often experience higher levels of perceived self-efficacy overall as opposed to those who have been in the profession for less time despite being supported a mentoring program.

Figure 2

Interaction Effects of Teachers' Self-Efficacy Scores Based upon Years of Experience and Participation in a Multi-Year Mentoring Program



This figure illustrates the distribution for the mean scores of teachers based on years of experience and participation in a multi-year mentoring program. A set of non-parallel lines that cross indicate an interaction between teachers' years of experience and participation in a multi-year mentoring program. A significant mean difference can be observed between teachers with more than fifteen years of experience who were past participants and non-participants. In addition, a significant mean difference is evident between teachers who did not participate in the multi-year mentoring program with five to fifteen years and more than fifteen years of experience.

Research Question 2

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level predict teachers' self-efficacy overall scores?

Hypotheses

H_0: Teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level will not predict teachers' self-efficacy overall scores.

H_1: Teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level will predict teachers' self-efficacy overall scores.

A multiple regression analysis was conducted to determine if a correlation exists between the criterion variable and the best combination of two or more predictor variables and to determine the strength of the correlation between them (Fraenkel et al., 2019). The dependent variable, self-efficacy overall scores, was measured as a continuous variable. An independent variable, years of teaching experience, was measured as a continuous variable. Two independent variables were polychotomous and were dummy coded in order to be recognized as quantitative variables in SPSS for the regression analysis; participation in a program (present participant, past participant, non-participant) and school level taught (elementary school, middle school, high school). The alpha level of .05 was chosen to test for significance. This analysis allowed the researcher to gain further insight into which variables predict a higher rate of self-efficacy overall among the population of teachers being studied.

Prior to running the multiple regression analysis, the six assumption tests were conducted. Scatterplots show that the relationship between the predictor variables and the outcome variable were linear. There was no multicollinearity in the data as the highest correlation was between high school and elementary school teachers, $r = .67$ which was less than .800. The Collinearity statistics showed that the VIF scores were below 10 (total years of teaching experience = 1.92, present participation in a multi-year mentoring program = 1.86, past participation in a multi-year mentoring program = 1.40, middle school level = 1.06, high school level = 1.07). The tolerance scores were above 0.2 (total years of teaching experience = .52, present participation in a multi-year mentoring program = .54, past participation in a multi-year mentoring program = .71, middle school level = .95, high school level = .93). Therefore, the multicollinearity assumption was met. The Durbin-Watson statistic, which indicates an independence of residuals, showed that this assumption had been met, as the obtained value was close to 2 (Durbin-Watson = 2.15). The plot displaying the variance of the residuals was constant as it indicated no signs of funneling, which suggested that the assumption of homoscedasticity had been met. The P-P plot for the model suggested that the assumption of normality of the residuals had been met as the dots closely followed the line. Lastly, Cook's Distance values were all under 1, suggesting there were no influential cases of outliers.

Two predictor variables were excluded when running the standard multiple regression in SPSS. This occurs when one or more predictor variables can be perfectly predicted from one or more of the other independent variables. The excluded variables included teachers who were non-participants of the multi-year mentoring program and those who taught elementary school.

Tolerance ranges from 0 to 1, with 0 indicating multicollinearity and 1 indicating that predictors are not correlated with each other (Mertler & Reinhart, 2017, p. 183). The tolerance values for each of these two predictors was zero. This meant that the variance in participation in a multi-year mentoring program for non-participants and school level for elementary school teachers were already contained in the other predictors. Though years of teaching experience was a continuous variable, both participation and school level were dummy coded categorical variables with only three levels each. Any one of the three groups for each independent variable could be predicted perfectly if one knows the other two. Therefore, only two out of these three variables could be included as predictors. In this study present and part participants in a multi-year mentoring program and middle school and high school teachers were included as predictors.

A multiple regression analysis was conducted to examine the relationship between teachers' perceived self-efficacy and potential predictor variables including total years of experience, participation in a multi-year mentoring program, and school level taught. The results indicated that the model was not a significant predictor of perceived self-efficacy overall scores $F(5,104) = 1.72$, $p = .137$, and only accounted for approximately 7.6% of the variance of self-efficacy overall scores *($R^2 = .076$, $R^2_{adj} = .032$)*. Total years of teaching experience ($\beta = .27$, $p = .039$) predicted perceived self-efficacy overall scores, while present participation in a multi-year mentoring program ($\beta = .03$, $p = .797$), past participation in a multi-year mentoring program ($\beta = .02$, $p = .862$), middle school level ($\beta = .11$, $p = .268$) and high school level ($\beta = .12$, $p = .235$) did not predict perceived self-efficacy overall scores. Years of experience received the strongest positive weight in the

model and uniquely provided the contribution of sr^2 = .038 or 3.8%, as shown in Table 10. The null hypothesis for the regression model was retained.

Though the other variables selected in the current study did not add significantly to the model, the results indicated teachers' years of experience was found to be a significant predictor of self-efficacy overall scores.

Table 10

Summary of Multiple Regression Analysis for Variables Predicting Perceived Self-Efficacy Overall Scores (N = 110)

Variables	*B*	*SE B*	*β*	sr^2
Total Years of Experience	.02	.01	.27*	.038
Present Participation in a Multi-Year Mentoring Program	.06	.24	.03	
Past Participation in a Multi-Year Mentoring Program	.04	.20	.02	
Middle School Level	.22	.19	.12	
High School Level	.22	.18	.12	
R^2		.076		
F		1.719		

*Note. *p<.05.*

Research Question 3

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy in classroom management?

Hypotheses

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level and teachers' self-efficacy in classroom management.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level and teachers' self-efficacy in classroom management.

A multiple regression analysis was conducted to determine if a relationship exists. The criterion variable was teachers' perceived self-efficacy scores in classroom management measured as a continuous variable. One continuous predictor variable measured total years of experience. Two predictor variables were dummy coded polychotomous; participation in a program (present participant, past participant, non-participant) and school level taught (elementary school, middle school, high school).

Prior to running the multiple regression analysis, the six assumption tests were conducted. Scatterplots showed that the relationship between the predictor variables and the outcome variable were linear. There was no multicollinearity in the data as the highest correlation was between high school and elementary school teachers, $r = .67$ which was less than .800. The Collinearity statistics showed that the VIF scores were below 10 (total years = 1.92, present participation in a multi-year mentoring program = 1.86, past participation in a multi-year mentoring program = 1.40, middle school level = 1.06, high school level = 1.07). The tolerance scores were above 0.2 (total years = .52, present participation in a multi-year mentoring program = .54, past participation in a multi-year mentoring program = .71, middle school level = .95, high school level = .93).

Therefore, the multicollinearity assumption was met. The Durbin-Watson statistic, indicating an independence of residuals, showed that this assumption had been met, as the obtained value was close to 2 (Durbin-Watson = 2.109). The plot displayed the variance of the residuals was constant as it indicated no signs of funneling, suggesting the assumption of homoscedasticity had been met. The P-P plot for the model suggested that the assumption of normality of the residuals had been met as the dots closely followed the line. Lastly, Cook's Distance values were all under 1, suggesting there were no influential cases of outliers.

A multiple regression analysis was conducted to examine the relationship between teachers' perceived self-efficacy in classroom management and potential predictor variables including total years of experience, participation in a multi-year mentoring program, and school level taught. The results indicated that the model was not a significant predictor of perceived self-efficacy scores in classroom management $F(5,104) = 1.75$, $p = .129$, and accounted for *7.8%* of the variance of self-efficacy scores in classroom management *($R^2 = .078$, $R^2_{adj} = .033$).* Total years of experience ($\beta = .326$, $p = .01$) significantly predicted perceived self-efficacy scores in classroom management, while present participation in a multi-year mentoring program ($\beta = .13$, $p = .331$), past participation in a multi-year mentoring program ($\beta = .04$, $p = .749$), middle school level ($\beta = .01$, $p = .896$) and high school level ($\beta = .11$, $p = .268$) did not predict perceived self-efficacy scores in classroom management. Total years of experience received the strongest positive weight in the model and provided the contribution of $sr^2 = .0552$ or 5.52%, as shown in Table 11. The null hypothesis was retained.

Though the model was not statistically significant, the results indicated that teachers who have more teaching experience showed a higher level of perceived self-efficacy in classroom management.

Table 11

Summary of Multiple Regression Analysis for Variables Predicting Perceived Self-Efficacy Scores in Classroom Management (N = 110)

Variables	*B*	*SE B*	*β*	sr^2
Total Years of Experience	.02	.01	.33*	.0552
Present Participation in a Multi-Year Mentoring Program	.24	.25	.13	
Past Participation in a Multi-Year Mentoring Program	.07	.21	.04	
Middle School Level	.03	.20	.01	
High School Level	.21	.19	.11	
R^2		.078		
F		1.755		

*Note. *p<.05.*

Research Question 4

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of student engagement?

Hypotheses

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of student engagement.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of student engagement.

Prior to running the multiple regression analysis, the six assumption tests were conducted. Scatterplots showed that the relationship between the predictor variables and the outcome variable were linear. There was no multicollinearity in the data as the highest correlation was between high school and elementary school teachers, $r = .67$ which was less than .800. The Collinearity statistics showed that the VIF scores were below 10 (total years = 1.92, present participation in a multi-year mentoring program = 1.86, past participation in a multi-year mentoring program = 1.41, middle school level = 1.06, high school level = 1.07). The tolerance scores were above 0.2 (total years = .52, present participation in a multi-year mentoring program = .54, past participation in a multi-year mentoring program = .71, middle school level = .95, high school level = .93). Therefore, the multicollinearity assumption was met. The Durbin-Watson statistic, indicating an independence of residuals, showed that this assumption had been met, as the obtained value was close to 2 (Durbin-Watson = 2.28). The plot displayed the variance of the residuals was constant as it indicated no signs of funneling, suggesting the assumption of homoscedasticity had been met. The P-P plot for the model suggested that the assumption of normality of the residuals had been met as points followed the line

closely. Lastly, Cook's Distance values were all under 1, suggesting there were no influential cases of outliers.

A multiple regression analysis was conducted to examine the relationship between teachers' perceived self-efficacy in student engagement and potential predictor variables including total years of experience, participation in a multi-year mentoring program, and school level taught. The results indicated that the model was not a significant predictor of perceived self-efficacy scores in student engagement $F(5,104) = .38$, $p = .863$, and accounted for *1.8%* of the variance of self-efficacy scores in student engagement *($R^2 = .018$, $R^2_{ad} = -0.29$).* The predictor variables were not statistically significant and did not predict perceived self-efficacy scores in student engagement as noted in Table 12. The null hypothesis was retained.

Table 12

Summary of Multiple Regression Analysis for Variables Predicting Perceived Self-Efficacy Scores in Student Engagement (N = 110)

Variable	*B*	*SE B*	*B*
Total Years of Experience	.01	.01	.17
Present Participation in a Multi-Year Mentoring Program	.19	.29	.09
Past Participation in a Multi-Year Mentoring Program	.05	.25	.02
Middle School Level	.10	.24	.04
High School Level	-.02	.23	-.01
R^2		.018	

F	.378

Research Question 5

In what way does teachers' participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level influence teachers' self-efficacy of instructional strategies?

Hypotheses

H_0: There will be no significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of instructional strategies.

H_1: There will be a significant relationship between teachers' participation in a multi-year mentoring program, teachers' years of experience, or teachers' school level influence and teachers' self-efficacy of instructional strategies.

Prior to running the multiple regression analysis, the six assumption tests were conducted. Scatterplots showed that the relationship between the predictor variables and the outcome variable were linear. There was no multicollinearity in the data as the highest correlation was between high school and elementary school teachers, $r = .67$ which was less than .800. The Collinearity statistics showed that the VIF scores were below 10 (total years = 1.92, present participation in a multi-year mentoring program = 1.86, past participation in a multi-year mentoring program = 1.40, middle school level = 1.06, high school level = 1.07). The tolerance scores were above 0.2 (total years = .52, present participation in a multi-year mentoring program = .54, past participation in a multi-year mentoring program = .71, middle school level = .95, high school level = .93). Therefore, the multicollinearity assumption was met. The Durbin-Watson statistic,

indicating an independence of residuals, showed that this assumption had been met, as the obtained value was close to 2 (Durbin-Watson = 2.16). The plot displayed the variance of the residuals was constant as it indicated no signs of funneling, suggesting the assumption of homoscedasticity had been met. The P-P plot for the model suggested that the assumption of normality of the residuals had been met as the dots followed closely to the line. Lastly, Cook's Distance values were all under 1, suggesting there were no influential cases of outliers.

A multiple regression analysis was conducted to examine the relationship between teachers' perceived self-efficacy in instructional strategies and potential predictor variables including total years of experience, participation in a multi-year mentoring program, and school level taught. The results indicated that the model was a significant predictor of perceived self-efficacy scores in instructional strategies $F(5,104) = 3.96$, $p = .003$, and accounted for *16%* of the variance of self-efficacy scores in student engagement *($R^2 = .160$, $R^2_{ad} = .120$).* Those who teach at the middle school level ($\beta = .22$, $p = .021$) and high school level ($\beta = .21$, $p = .028$) significantly predicted perceived self-efficacy scores in instructional strategies. Total years of experience ($\beta = .23$, $p = .069$), present participation in a multi-year mentoring program ($\beta = -.11$, $p = .352$), and past participation in a multi-year mentoring program ($\beta = -.004$, $p = .973$) did not predict perceived self-efficacy scores in instructional strategies. Teachers' scores at the middle school level received the strongest positive weight in the model and provided the unique contribution of $sr^2 = .0441$ or 4.41%. High School teachers' scores received the second strongest positive weight in the model and provided the unique contribution of $sr^2 = .04$ or 4% as shown in Table 13. The null hypothesis was rejected.

The results indicated that those who teach at the middle school have a higher perceived self-efficacy in their ability to utilize instructional strategies within their lessons, followed by teachers' at the high school level. The final predictive model was: Self-Efficacy in Instructional Strategies Score = 7.21 + (.52*Middle School) + (.46*High School).

Table 13

Summary of Multiple Regression Analysis for Variables Predicting Perceived Self-Efficacy Scores in Instructional Strategies (N = 110)

Variable	*B*	*SE B*	*β*	sr^2
Total Years of Experience	.02	.01	.23	
Present Participation in a Multi-Year Mentoring Program	-.25	.27	-.11	
Past Participation in a Multi-Year Mentoring Program	-.01	.23	-.004	
Middle School Level	.52	.22	.22*	.044
High School Level	.46	.21	.21*	.040
R^2		.160		
F		3.961*		

Note. *$p<.05$.

Conclusion

The results of the current study indicate that years of teaching experience is the most crucial variable that yields higher levels of self-efficacy. In the subsequent chapter,

a connection to previous research on the topic of mentoring novice teachers and the current research will be discussed. In addition, limitations to the study will be outlined for transparency. A discussion regarding how the results can be used to provide recommendations to practitioners, policymakers, and researchers will be addressed.

CHAPTER 5

Introduction

This chapter will further investigate the results stated in chapter 4. In addition, the implications of findings within the current study and a connection to prior research will also be discussed. Limitations present within the study will also be addressed as well as recommendations for future practice and recommendations for future research.

Discussion

Implications of Findings

The purpose of the current study was to explore the impact of a multi-year mentoring program, school level, and years of experience as it relates to teachers' self-efficacy scores. The first research question focused on the differences that exist between teachers' level of participation in a multi-year mentoring program, teachers' years of experience, and teachers' school level based on their perceptions of self-efficacy overall. The results showed no interaction between school level, years of experience, or participation in a multi-year mentoring program aside from participation x experience. An interaction effect between years of experience and participation was found. There was a difference between non-participants with five to fifteen years of teaching experience and those with more than fifteen years of teaching experience. Those with more than fifteen years of experience were not enrolled in the multi-year mentoring program therefore it is unknown whether the mentoring program is what influences self-efficacy as opposed to trainings and other means of collegial and building level support.

This indicates that the more time a teacher spends enhancing their craft, the higher their level of self-efficacy will be regardless of their participation in a mentoring

program. Although these participants did not participate in a multi-year mentoring program, it is unknown as to whether or not a particular group participated in activities that would allow them to build on their self-efficacy such as learn from observing others learning (Bandura, 1977). Furthermore, the rigor of both state standards and administrators' standards for teachers have increased over the years. It is conceivable that teachers with greater experience had experienced increased positive performance outcomes that were more attainable therefore yielded higher levels of self-efficacy.

Additionally, a difference was also discovered in teachers who have more than fifteen years of experience and were non-participants in the multi-year mentoring program and those who were past participants in the multi-year mentoring program. This notion refutes the concept of a reciprocal relationship between mentor and novice teachers working together to build on each other's knowledge base as presented in Figure 1. Experience still prevails as non-participants have more years of teaching experience. In addition, one of the requirements of the multi-year mentoring program was to participate in digitally recording their own lessons and sharing them with a mentor and other novice teachers. This provides a vicarious experience; however, this aspect of self-efficacy did not yield higher scores for past participants.

The findings further explored which variables were predictors of increased self-efficacy. The number of years a teacher had been teaching for was found to be a significant predictor of self-efficacy scores overall and self-efficacy in classroom management. However, the other variables, school level and participation in a multi-year mentoring program, did not add significantly to either model.

It is possible that over time, each teacher may have sought to personally fill in their own learning gaps in an effort to be a highly effective teacher. For example, teachers may have created their own community of learners in which best practices are shared and discussions regarding teaching and learning in a meaningful and purposeful way are being had. Working with colleagues in a cooperative way could lead to more empowered teachers which in turn produces higher levels of perceived self-efficacy.

Participation, school level, and years of teaching experience were not predictors of self-efficacy scores in student engagement. As one of the most critical and complex components of teaching (Danielson, 2016), it could be argued that it is a challenge to achieve higher perceived level of teacher self-efficacy in student engagement, due to the nature of teaching diverse learners that change from year to year. Since every year could be incredibly different, it could be a challenge to develop this skill and gain a sense of mastery. It is likely not the case with classroom management, a skill that necessary to acquire in the beginning, or with instructional strategies, both of which are practiced and perfected multiple times during a typical school day.

The results of the final research questions indicated that school level is a predictor of higher perceived self-efficacy in instructional strategies. Middle school teachers appear to be a stronger predictor than high school teachers. Secondary levels typically have access to department supervisors who strive to foster a positive learning community which in turn can increase teachers' ability to thrive. In addition, due to having multiple class periods, there is more of a built-in ability to promote teacher's ability to observe one another to assist in building on their peer interactions and furthermore strengthen their self-efficacy.

Overall, the data collected showed that teachers who have been teaching for longer periods of time reported higher levels of self-efficacy overall and in the areas of classroom management, instructional strategies, and student engagement. This was reinforced through differences between experience and participation, or the lack of participation in a multi-year mentoring program. Furthermore, years of experience specifically was a predictor of teachers' overall self-efficacy and self-efficacy in classroom management. It was evident that the more experience a teacher had in their field, the more they believed in their ability to teach.

The implications of these findings clearly indicate the importance of time needed for novice teachers to fully absorb all elements of self-efficacy in order to thrive and become highly effective. Teachers should be provided with rich and rewarding experiences whether through professional development or mentoring that they can continue to build upon. Although findings did not identify participation in a mentoring program to yield a difference, it is possible that teachers' self-efficacy was influenced by the program in some way. Furthermore, creating an environment with high standards, the motivation to learn, and the ability to persevere could impact novice teachers in the future (Bandura, 1982).

Relationship to Prior Research

Across most analyses, the current study showed that years of teaching experience accrued was an indicator of higher perceived self-efficacy. This supports a wide variety of research that indicates the potential needs of teachers as they approach different stages or milestones of teacher progression. In the early years, most research revealed that most teachers begin with a sense of excitement and survival and build their skills with a final

outcome of confidence and mastery achieved over time (Fuller 1969, Maynard & Furlong, 1995, Moir 1990, Unruh, & Turner, 1970).

The current research supports the need for novice teachers to have carefully curated professional development in the beginning stages of a teacher's career (Stronge, Ward, & Grant, 2011). School districts should not only measure teachers' self-efficacy to meet their individual needs, but also have a fundamental understanding of where novice staff are in their journey. This will allow districts to enhance the skills that novice teachers may lack at a quicker rate.

Although in most cases the model for school level was not found to be significant or the variable a significant predictor of self-efficacy, school level was a predictor of higher perceived self-efficacy in instructional strategies. Teaching is deemed to be an isolating profession; however, specific school levels may show the ability to be more collegial by planning together therefore sharing instructional strategies which may have had an effect on self-efficacy in this category (Kauffman, 2002, Lortie, 1975).

Furthermore, this particular mentoring program is meant to serve educators in probationary positions who are striving to attain tenure within a duration of four years. It does include well-defined goals for teachers and an element of trust expected between mentors and novice staff was is essential for their success (Davigon, 2016). A major component of this mentoring program is recording lessons via The Teaching Channel so that a novice teacher's mentor can provide feedback. This element of the program was consistent with that of previous research which stated feedback on lessons is valued over meetings and reflection (Dreisienbner, Rienbenbauer, Stock 2017). Former research stated that mentoring programs that allow teachers to meet during the school day has

been deemed a significant predictor of improved mentoring interactions (Polikoff, Desimone, Porter, Hochberg, 2015). While this particular program included recording of lessons during the school day, meetings with mentors typically took place after school hours. The district, however, has been focused on reflecting on and refining their mentoring program each year as they receive feedback from those who participate.

An issue that all school districts should consider is at what point is in a novice teachers' career should any gaps created between theory and practice be addressed (Lortie, 1975)? Should all novice staff regardless of probationary status be placed in a mentoring program for the betterment of education overall? This collective effort at the statewide level could fill the gaps for the greater good of all teachers and students (Kidd, Bown, Fitzallen, 2015).

As mentioned previously, student engagement is essentially one of the most fundamental aspects of instruction (Danielson, 2007). There were no variables identified as significant predictors of this concept. This could be because student engagement is a fluid construct. Although it is an essential component of teaching, it is likely the one that changes the most. A teacher can go a full school year with a class that is highly engaged most of the time, or on the contrary, a class that is rarely engaged. Furthermore, levels of engagement can adjust from day to day, subject to subject, or lesson to lesson. This makes the ability to master this concept a challenging one, unlike that of classroom management and instructional strategies where the outcomes are more achievable.

In the United States, the vast majority of states require school districts to offer one year of mentoring, however, not all states mandate this. Further research across various states should be considered to determine not only the best methods for specific areas

(urban, suburban, rural), but also which mentoring approaches will enhance the self-efficacy of teachers. In addition, as we move to a world that encompasses even more technology in education, schools should come up with creative approaches for mentors to be more readily available to the novice staff they are supporting. Traditionally new teachers connect with their mentors through in-person meetings and trainings. Technology allows for more immediate support through video conference calls which could also be used in an effort to build rapport.

Limitations of the Study

A few limitations were present throughout the current study. Due to the nature of a non-experiment, what was being researched has already occurred or was in progress at the time of data collection. This means there was no control over the multi-year mentoring program being studied. In addition, as the years within the program progressed, year one participants may or may not have received an identical level of support as instructors and mentors within the program have likely changed from year to year.

In addition, the researcher was unable to manipulate groupings in any way as they preexist. This created a complex situation as randomizing subjects allows for the findings to be generalizable to the greater population. In an effort to counteract this, the target population of teachers was randomly selected, and the survey was sent to approximately 400 teachers across grades K-12 with every member of the target population having an equal and independent chance of participating in the current study voluntarily (Fraenkel et al., 2019).

In regard to statistical conclusion validity, it is evident that with a smaller sample size there is a possibility the data will yield a low statistical power. Each category of participants was limited to a maximum of no more than forty participants within each category. This was based on the number of people who were enrolled in the program since it was developed and implemented in 2015. Had the sample size been larger, statistical analyses could have demonstrated more of a significance within the overall findings. Additionally, conducting this same study at a later date can assist in gaining a larger sample size.

Threats to internal validity include the selection process. Although the participants were from a variety of different schools, they were all from the same school district. The current study could be replicated with a multitude of different individuals of diverse genders, ethnicities, races, socioeconomic backgrounds. Furthermore, individuals who work across various different districts and demographics. In addition, teachers who participated in the program range across grades K-12 and taught a variety of diverse content areas and/or school levels. This limited the researcher's ability to determine how the program impacted one particular group. It can also be argued that teachers across different school levels require different levels of support. All district-wide visions, philosophy, programs, expectations remain consistent.

Threats to external validity include reactive arrangement. Although it was noted through the informed consent that the survey responses remained confidential, novice teachers working to achieve tenure may have adjusted their responses assuming that they may be viewed by their administrators or mentors.

In addition, it will be difficult to generalize the results of the current study to other districts that do not currently have a multi-year mentoring program in place. The researcher sought out neighboring districts in hopes of finding one with a multi-year mentoring program with similar demographics, however, was unsuccessful. The current study offers districts the needed research to implement an innovative approach to provide mentoring as per state mandates (New York State Education Department, 2015).

It must also be noted that due to the COVID-19 pandemic, the multi-year mentoring program for the 2019-2020 school year was cut short as it ended in April of 2020 as opposed to June of 2020. This may or may not have impacted the results of the current study.

Recommendations for Future Practice

First and foremost, the consistent finding within this study and across previous research was that the amount of experience a teacher had yielded a higher level of self-efficacy. Patience, understanding, and the importance of time in the development of a teacher is vital to their perceived self-efficacy, their success and likely the success of their students.

School districts should work towards determining a baseline of the skillset their novice staff has. Gaining an understanding of their strengths can assist in conquering their weaknesses. This could assist in bridging the gap between a pre-service and in-service. Mentoring programs could be tailored to the individuals participating in them as opposed to a one size fits all approach. Furthermore, the use of observations scores could assist in determining areas of strength collectively and guidance can be provided within the content of those topics.

In the current research, school level was a predictor of self-efficacy in instructional strategies. Expert educators within a district could be used to serve as a model through peer observations or to teach their colleagues aspects of instruction that they have a higher level of self-efficacy in. In addition, vertical articulation between school levels could serve to strengthen all within a school district as teachers would learn and grow as a collective.

In the United States, a typical school year runs about ten months. School districts can seek out opportunities for teachers to strengthen their skills within a given calendar year. For example, districts can consider enlisting novice staff in summer school teaching opportunities or to facilitate academic based after school. This could provide teachers with more time to perfect their craft. In addition, that time will compound and could lead to a higher level of self-efficacy in specific subcategories in less time.

Policymakers should continue to focus on supporting higher education and school districts across the country by providing more hands-on experience to pre-service teachers. This approach could expedite novice teachers' exposure to various situations within the classroom. This guided experience would provide a greater foundation that teachers can build upon when they are responsible for a classroom of their own.

Partnerships between school districts and colleges and universities could be utilized to enhance pre-service teachers experiences to learn while gaining experience independently. Inviting pre-service teachers to act as substitute teachers periodically or to volunteer to lead an after-school club could build of their experiences. This can be done strategically by placing pre-service teachers in local high needs areas with support in an attempt to increase retention in schools.

Recommendations for Future Research

The current study identified school level as a predictor of self-efficacy scores in the area of instructional strategies. Further studies on mentoring specific school levels and/or content areas can assist in identifying the specific needs within subgroups of teachers. At the secondary level, teachers generally specialize in a specific content area in which an entire department is there to provide support. At the elementary school level, teachers have the support of their grade level colleagues and are often responsible for teaching a multitude of different subjects. Year after year, changes in curriculum may result in a higher level of self-efficacy for one group as opposed to another. Measuring the collective self-efficacy of each department across an entire school district could assist in the development of highly effective and targeted professional development. In addition, it can open the door for vertical articulation as a means of learning and growing together as a district.

As the various approaches to mentoring are explored, further research should be conducted on the long-term gains as a result of a specific mentoring programs. Teachers perceived level of self-efficacy can be assessed at the start and conclusion of a mentoring program. That data can be utilized in an effort to determine the strength of the mentoring program as a whole by looking at whether or not there is a significant increase in scores over a course of time. Furthermore, a district may choose to collect and assess self-efficacy scores each year of the program to identify if there is one specific year within a multi-year mentoring program that demonstrates the highest gain scores in a specific subset of self-efficacy. This would further explore if experience is essential to growth or if specific elements and components learned within a specific year in the program build

on teachers perceived self-efficacy. An analysis between teachers' level of perceived self-efficacy in a one-year mentoring program as compared to teachers enrolled in a multi-year mentoring program can further explore the impact of a program. A study of this nature could assist in outlining whether or not the human and financial capital invested in such a program is worth the outcome.

Furthermore, research on the relationship, if any exists, between teachers' self-efficacy scores and the average of teachers' observation scores could also provide insight. It allows teachers to be reflective while seeing if their belief in their abilities matches the point of view of the administrator assessing their ability to provide highly effective instruction. This could be utilized to provide targeted professional development for teachers so that they can enhance their craft in areas they experience lower levels of self-efficacy which may be further supported by observations scores. In addition, this can assist administrators in ensuring that they are observing instructional staff objectively and have a deeper understanding of the rubrics set in place.

Additional research should be conducted to measures students' perceptions of their teacher's ability to deliver an engaging and highly effective lessons as it relates to teachers' self-efficacy scores. For example, if a teacher feels that he/she is highly effective in maintaining students' level of engagement, comparing that to students' perception of whether or not they often feel engaged in a specific class. This information could assist teachers in determining if a teacher's ability to provide highly effective instruction aligns with students feeling engaged and motivated which has the ability to serve as a reflective tool.

Conclusion

Overall, the current study provided a greater understanding of the impact of a multi-year mentoring program based upon teachers' perceived self-efficacy across classroom management, instructional strategies, and student engagement. Hypotheses were tested using a three-way ANOVA and multiple regression analyses using data from the Tschannen-Moran and Hoy's (2001) 24-item survey entitled; *Teachers' Sense of Self-Efficacy Long-Form*. A three-way ANOVA revealed that there is a significant interaction between the mean scores of teachers' years of experience and participation in a multi-year mentoring program. Furthermore, a statistically significant mean difference was found between non-participants with five to fifteen years of experience and more than fifteen years of experience. In addition, a statistically significant mean difference was found of teachers who taught for more than fifteen years and were non-participants and past participants in the mentoring program.

A multiple regression analysis revealed that total years of teaching experience was a significant predictor of teachers' perceived self-efficacy overall and self-efficacy in classroom management. In addition, school level was a significant predictor of self-efficacy with the model also being statistically significant. There were no variables found to be significant predictors of self-efficacy in student engagement. The outcome of this study reinforced the importance of providing novice teachers with time and patience so that they master the art of teaching. School districts as well as colleges and universities should work together in an effort to expedite the learning process to strengthen teachers' self-efficacy.

APPENDIX A

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Kelly Marzocchi** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 01/28/2018.

Certification Number: 2616856.

IRB-FY2020-471 - Initial: Initial - Exempt - St. John's

irbstjohns@stjohns.edu <irbstjohns@stjohns.edu> Wed, Apr 15, 2020 at 11:35 AM
To: freeleym@stjohns.edu, kelly.marzocchi16@stjohns.edu

ST. JOHN'S UNIVERSITY

Federal Wide Assurance: FWA00009066

Apr 15, 2020 11:35 AM EDT

PI: Kelly Marzocchi
CO-PI: Mary Ellen Freeley
Dept: Ed Admin & Instruc Leadership

Re: Initial - IRB-FY2020-471 THE ANALYSIS OF A MULTI-YEAR MENTORING PROGRAM AND ITS LONG-TERM EFFECTS ON TEACHER SELF-EFFICACY

Dear Kelly Marzocchi:

The St John's University Institutional Review Board has rendered the decision below for THE ANALYSIS OF A MULTI-YEAR MENTORING PROGRAM AND ITS LONG-TERM EFFECTS ON 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.(ii). 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).
Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

Sincerely,

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

Marie Nitopi, Ed.D.
IRB Coordinator

APPENDIX B

Teachers' Sense of Efficacy Scale - Tschannen-Moran and Hoy, 2001

Teacher Beliefs - TSES

This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential.

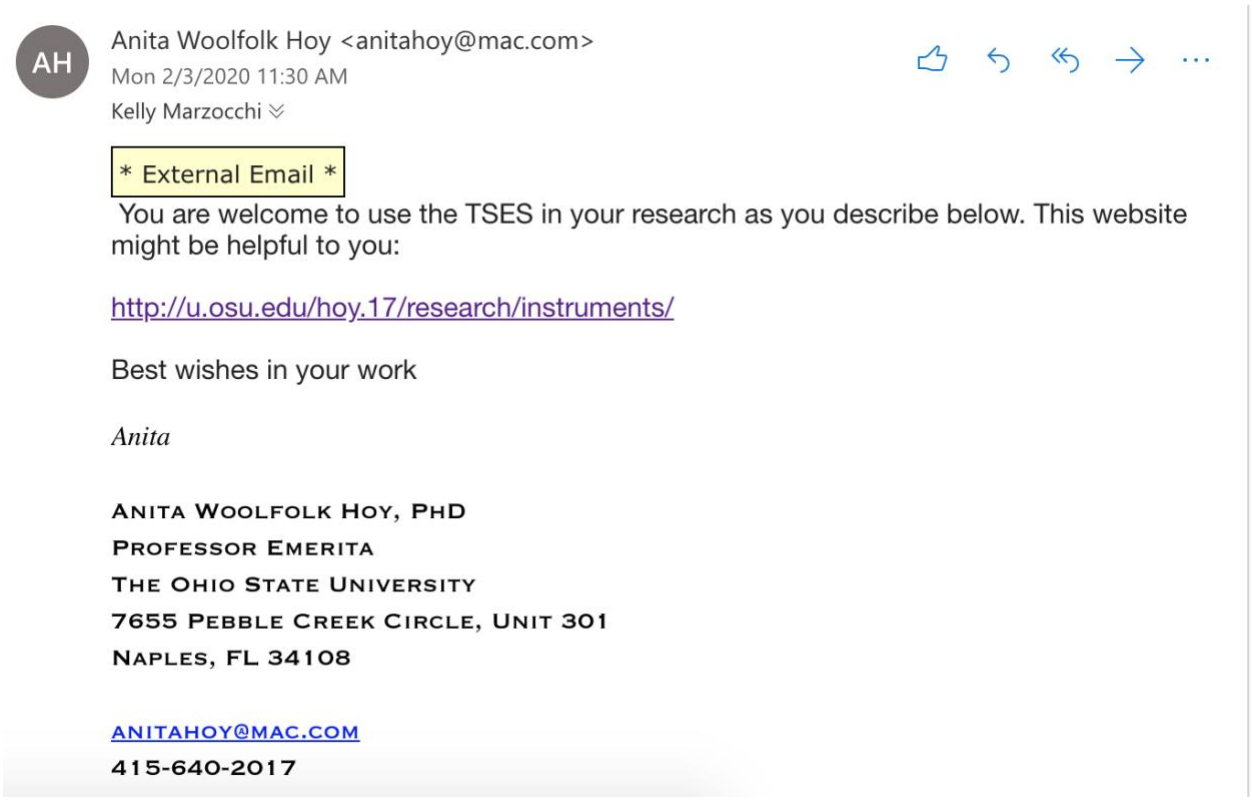
Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your *current* ability, resources, and opportunity to do each of the following in your present position.

	None at all		Very Little		Some Degree		Quite A Bit		A Great Deal
1. How much can you do to get through to the most difficult students?	1	2	3	4	5	6	7	8	9
2. How much can you do to help your students think critically?	1	2	3	4	5	6	7	8	9
3. How much can you do to control disruptive behavior in the classroom?	1	2	3	4	5	6	7	8	9
4. How much can you do to motivate students who show low interest in school work?	1	2	3	4	5	6	7	8	9
5. To what extent can you make your expectations clear about student behavior?	1	2	3	4	5	6	7	8	9
6. How much can you do to get students to believe they can do well in school work?	1	2	3	4	5	6	7	8	9
7. How well can you respond to difficult questions from your students?	1	2	3	4	5	6	7	8	9
8. How well can you establish routines to keep activities running smoothly?	1	2	3	4	5	6	7	8	9
9. How much can you do to help your students value learning?	1	2	3	4	5	6	7	8	9
10. How much can you gauge student comprehension of what you have taught?	1	2	3	4	5	6	7	8	9
11. To what extent can you craft good questions for your students?	1	2	3	4	5	6	7	8	9
12. How much can you do to foster student creativity?	1	2	3	4	5	6	7	8	9
13. How much can you do to get children to follow classroom rules?	1	2	3	4	5	6	7	8	9
14. How much can you do to improve the understanding of a student who is failing?	1	2	3	4	5	6	7	8	9
15. How much can you do to calm a student who is disruptive or noisy?	1	2	3	4	5	6	7	8	9
16. How well can you establish a classroom management system with each group of students?	1	2	3	4	5	6	7	8	9
17. How much can you do to adjust your lessons to the proper level for individual students?	1	2	3	4	5	6	7	8	9
18. How much can you use a variety of assessment strategies?	1	2	3	4	5	6	7	8	9
19. How well can you keep a few problem students form ruining an entire lesson?	1	2	3	4	5	6	7	8	9
20. To what extent can you provide an alternative explanation or example when students are confused?	1	2	3	4	5	6	7	8	9
21. How well can you respond to defiant students?	1	2	3	4	5	6	7	8	9
22. How much can you assist families in helping their children do well in school?	1	2	3	4	5	6	7	8	9
23. How well can you implement alternative strategies in your classroom?	1	2	3	4	5	6	7	8	9
24. How well can you provide appropriate challenges for very capable students?	1	2	3	4	5	6	7	8	9

APPENDIX C

Permission to Use Survey Instrument



AH

Anita Woolfolk Hoy <anitahoy@mac.com>
Mon 2/3/2020 11:30 AM
Kelly Marzocchi

* External Email *

You are welcome to use the TSES in your research as you describe below. This website might be helpful to you:

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

Best wishes in your work

Anita

ANITA WOOLFOLK HOY, PHD
PROFESSOR EMERITA
THE OHIO STATE UNIVERSITY
7655 PEBBLE CREEK CIRCLE, UNIT 301
NAPLES, FL 34108

ANITAHOY@MAC.COM
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William & Mary
School of Education

MEGAN TSCHANNEN-MORAN, PHD
PROFESSOR OF EDUCATIONAL LEADERSHIP

February 3, 2020

Kelly,

You have my permission to use the Teacher Sense of Efficacy Scale (formerly called the Ohio State Teacher Sense of Efficacy Scale), which I developed with Anita Woolfolk Hoy, in your research.

You can find a copy of the measure and scoring directions on my web site at http://wmpeople.wm.edu/site/page/mxtsch .

Please use the following as the proper citation:

> Tschannen-Moran, M & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

I will also attach directions you can follow to access my password protected web site, where you can find the supporting references for this measure as well as other articles I have written on this and related topics.

All the best,

Megan Tschannen-Moran
William & Mary School of Education

P.O. Box 8795 • Williamsburg, VA 23187-8795 • (757) 221-2187 • mxtsch@wm.edu

ST. JOHN'S UNIVERSITY
THE SCHOOL OF EDUCATION

District Superintendent Informed Consent Form

The purpose of this research is to gain a deeper understanding of the influence on teachers' perceived self-efficacy in classroom management, instructional strategies, and student engagement as it relates to teachers' level of participation in a mentoring program, years of teaching experience and the school level they teach as well as the differences, if any, exist between these groups.

The potential benefits of participating in this study for your district include:

- utilizing the results to determine appropriate professional development opportunities for staff
- engaging in reflective practices regarding areas within the district's mentoring program to be celebrated as well as areas to be strengthened

The potential risks of participating in this study for your district include:

- teachers being asked to complete an online questionnaire that will take approximately ten minutes of their time
- there are no known risks associated with participation in this research beyond those of everyday life

If you decide to participate in the study, your district will be asked to do the following:

- distribute a letter of consent and an online questionnaire via email to all instructional staff members across grades K-12

Teacher participation in this study is strictly voluntary. Teachers may refuse to participate by simply not completing the distributed survey. In addition, teachers also have the right to skip or refuse to answer any question within the study. The school district reserves the right to withdraw from this study at any time.

For questions about this study, teacher participation, or if you wish to report a research related problem, you may contact the researcher directly at [redacted] or kelly.marzocchi16@stjohns.edu or my mentor, Dr. Mary Ellen Freeley, at freeleym@stjohns.edu. For questions about the rights of research participants, you may contact the University's Institutional Review Board, Dr. Raymond DiGiuseppe, Chair, at digiuser@stjohns.edu or (718) 990-1955 or Marie Nitopi, IRB Coordinator, at nitopim@stjohns.edu or (718) 990-1440.

If you permit this study to be conducted in your school district, kindly sign and return this form to the researcher.

[redacted]

Permission for District to Participate – Superintendent's Signature

[redacted]

Name of Superintendent

2/11/2020

Date

Teachers' Sense of Efficacy Scale

Informed Consent

Dear Educators,

You have been invited to take part in a research study that hopes to *gain a deeper understanding of factors that influence teachers' perceived self-efficacy*. This study will be conducted by Kelly Marzocchi as part of her doctoral dissertation through St. John's University. Her faculty mentor is Dr. Mary Ellen Freeley, Associate Professor of Administration and Instructional Leadership in The School of Education at St. John's University

If you agree to participate in this study, you will be asked to complete a brief questionnaire about your background in addition to a twenty-four-item questionnaire that is meant to measure your perceived self-efficacy as an educator. Self-efficacy is defined as, "the beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1977). In this study, this concept relates to a teacher's belief to successfully create and implement an environment that demonstrates effective classroom management, instructional strategies, and student engagement. Participation in this study will take **approximately ten minutes** of your time.

There are no known risks associated with your participation in this study beyond those of everyday life. Although you will receive no direct benefits, this study may help the researcher understand the impact of teacher self-efficacy based upon participation in a mentoring program and provide meaningful information that can assist school districts with the ability to make informed decisions.

Participation in this study is completely anonymous. The confidentiality of all research records will be strictly maintained. All data will be stored on the researcher's secure personal laptop and will be deleted after the completion of this research project. Your personal answers will not be shared with anyone besides the researcher and her faculty mentor.

Participation in this study is voluntary. You may refuse to participate or withdraw at any time without penalty. You also have the right to skip or not answer any questions you prefer not to answer. If there is anything about the study or your participation that is unclear or that you do not understand, if you have questions or wish to report a research-related problem, you may contact myself, Kelly Marzocchi, at [redacted] or kelly.marzocchi16@my.sju.edu or my mentor, Dr. Mary Ellen Freeley, at freeleym@stjohns.edu. For questions about your rights as a research participant, you may contact the University's Institutional Review Board, Dr. Raymond DiGiuseppe, Chair, at digiuser@stjohns.edu or (718) 990-1955 or Marie Nitopi, IRB Coordinator, at nitopim@stjohns.edu or (718) 990-1440.

If you agree to participate in this study, please click 'next' to access the survey.

Thank you in advance for your consideration.

Warm Regards,

Kelly Marzocchi

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Vita

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Date Graduated	*January 2010*
Other Degrees and Certificates	Master of Science, *Childhood Education, Grades 1-6 Special Education, Grades 1-6 Touro College, Queens, NY* *Gifted & Talented Advanced Certification Brooklyn College, NY* *School Building Leadership Certification St. John's University, Jamaica, NY* *School District Leadership Certification St. John's University, Jamaica, NY*