CAN POLICY INFLUENCE TEACHER PREPARATION PROGRAMS WITH REGARD TO SELF-EFFICACY:

A CASE STUDY OF WISCONSIN *PI34*

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DEDICATION

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ABSTRACT

This mixed methods study examined if state policy can influence pre-service teachers' sense of self-efficacy. Specifically, this study examined if teachers' sense of self-efficacy is associated with implementation of the Wisconsin Policy Initiative 34 (*PI34*). The University of Wisconsin-River Falls (UWRF) teacher preparation program served as a case study. Data were collected from identified elementary teacher candidates who completed their preparation program prior to and after implementation of *PI34.* Responding to a modified version of the Ohio State Teacher Efficacy Scale survey, participants provided information on their sense of self-efficacy. Questions were included to assess teacher perception on the influence of various support systems with regard to their sense of self-efficacy. Findings indicate that even after controlling for content knowledge, participants who graduated after *PI34,* reported higher self-efficacy scores than those who graduated before the law was enacted. All groups had similar perceptions regarding the influence of the support received from peers, principals and formal mentoring programs. However, those teachers who graduated after implementation of *PI34*, had lower ratings of their teacher preparation programs than those who graduated before the law. These findings suggest that policy can influence teachers' sense of self-efficacy. However, policy makers and practitioners need to identify specific programmatic changes that can affect that influence.

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CHAPTER 1

INTRODUCTION

With the national spotlight on the effectiveness of public schools and increasing pressures from political and business concerns, the importance of powerful teaching, now more than ever, is critical to contemporary society. Standards are higher as citizens and workers need greater knowledge and skills to succeed. There are multiple variables that have an impact on student learning, including socio-economic factors, peer influence, and personal characteristics. However, growing evidence shows that the abilities of the teacher contributes to student learning and can enhance the development of highly knowledgeable and skilled workers.

Quality teaching is multi-faceted and broadly defined (National Comprehensive Center for Teacher Quality, 2005). At the individual level, quality teaching not only includes an individual's knowledge, but also includes an individual's ability to act with intention. This ability to act with intention is characterized as dispositions. These qualities include attitudes, beliefs, interests, appreciations, values and modes of adjustment (Darling -Hammond & Bransford, 2005). Dispositions are described as the teacher having a vested interest and being committed to the growth and learning in all students. In sum, dispositions are often defined as those important, but intangible, qualities or characteristics that an individual possesses.

Many of the researched teaching attributes such as teacher certification, years of teaching experience, and level of degrees can be measured and quantified. However, as noted, the effectiveness of teachers depends also on many intangible attributes. A seminal RAND study (Armor, et al. 1976), for example, found links between student achievement

and teacher's sense of efficacy—their belief in not just their students' ability to succeed, but also their own ability as teachers to help those students thrive. Self-efficacy is the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations (Bandura, 1994). In other words, self-efficacy is a person's belief in his or her ability to succeed in a particular situation. Teachers who have the ability to connect with students and have a high sense of self- efficacy are highly effective.

The significance of teachers recognizing their impact on the growth, learning and achievement of students has policy implications as it relates to teacher preparation programs. Pre-service teacher preparation programs have a distinctive role in fostering pre-service teachers' ability to identify and challenge their own values, beliefs, and dispositions. These attributes can play an important role in fostering the pre-service teacher's sense of self-efficacy. Given the documented importance of teachers' sense of efficacy on student achievement, the purpose of this study is to examine if state policy can influence teacher preparation programs in their ability to teach dispositions and influence pre-service teachers' sense of self-efficacy. The connection between dispositions, self-efficacy, and high quality teachers is the thrust of this analysis.

The quest to recognize qualitative, but crucial attributes in identifying high quality teachers is necessary and was noted by National Council for Accreditation and Teacher Education (NCATE). Moreover, in the early 1990s, the Interstate New Teacher Assessment and Support Consortium (INTASC) recognized the importance of dispositions and the role they play in fostering self-efficacy among teachers. Consequently, INTASC encouraged institutions of higher education also to incorporate

dispositions in their development of pre-service teachers. NCATE further identified the need for teacher education preparation programs to focus on dispositions and attitudes as a means of strengthening pre-service teachers' sense of self-efficacy.

To address the potential influence of state policy on teachers' sense of self-efficacy, the Wisconsin Policy Initiative (PI34) is examined in this study. This policy initiative was enacted on September 1, 2004 and sought to have an impact on teacher preparation programs through an additional focus on dispositions. That is, while *PI34* continued to identify the importance of content knowledge and pedagogical skills in teacher preparation programs, it also targeted dispositions. *PI 34.02* states: To receive a license to teach in Wisconsin, an applicant shall complete an approved program and demonstrate proficient performance in the knowledge, skills, and dispositions under all of the ten Wisconsin standards (*PI34.02*).

This thesis is organized into five chapters. The remainder of chapter 1 describes the research problem, identifying limitations and assumptions of the research. It closes with a discussion justifying the research, detailing the significance of this study, and identifying key terms. Chapter 2 reviews the literature as it relates to teacher quality and student performance. It discusses the characteristics that scholars have identified as being associated with a highly qualified teacher. Content knowledge, years of experience, teacher preparation programs and certification are further reviewed in this chapter. Dispositions are identified as a teaching attribute having a positive influence on achievement. This discussion examines and synthesizes the research that links dispositions with the preparation and development of teachers, teacher preparation programs, and teachers' self-efficacy.

Chapter 3 further reviews the conceptual framework guiding this study. It describes the theory of change underlying the research. This discussion details the assumed relationships between policy, teacher preparation programs, policy impact of teaching dispositions to pre-service candidates, and student achievement. The chapter also includes the research methods used to explore the policy impact on teachers' perception of self-efficacy that is associated with implementation of Wisconsin *PI34*.

Chapter 4 provides a demographic summary of the cohorts who graduated in 2003, 2004, 2007, and 2008. These years were chosen to reflect participation in the teacher preparation program before and after enactment of the Wisconsin Policy Initiative, *PI34*. The discussion reports and summarizes the responses of participants to a questionnaire which included 12 questions from the Ohio State Teacher Efficacy Scale (OSTES) survey and questions having to do with teacher support systems. This chapter also presents findings of the multiple regression analysis which examined the variables associated with differences in perceptions of self-efficacy based on whether the teacher candidates completed their preparation program before or after enactment of *PI34.*

Chapter 5 summarizes the findings of the data and the implications of this research for educators, policy makers and the general public. Limitations of this research include other factors that may have contributed to the results of this research including length of time respondents were able to think back to their preparation program, diversity of demographics, and overall political climate. Future research needs are described identifying specific programmatic changes and providing means to assess the program's impact on pre-service teachers and teacher preparation program.

Definition and Significance of the Problem

Teacher Quality and Student Performance

The Nation's Report Card identifies dismal trends in a 2008 National Assessment of Educational Progress (NAEP) report. This NAEP report presents the results of long-term trend assessments in reading and mathematics of students at ages nine, thirteen, and seventeen. Nationally, representative samples of over 26,000 public and private school students were assessed in each subject area. Compared to previous years, the level of improvement in the mathematics scores of nine and thirteen year olds have varied, but there was no significant improvement shown by 17-year olds at any performance level. Average reading scores were higher in 2008 for White students at all three ages assessed. However, gaps between White and Black students at all three ages showed no significant change. Across all three age groups, neither White/Black nor White/Hispanic mathematic test scores indicated any narrowing of these gaps from 2004 to 2008 (Rampey, 2009). The disparity in achievement between students of color and their White peers have become pronounced over the past two decades. The 2009 NAEP report showed similarly bleak findings, and academic achievement gaps. For example, only 12 percent of fourth grade Black male students performed at or above proficiency in reading on the 2009 National Assessment for Education Progress, compared with 38 percent of White males. In eighth grade, 12 percent of Black males across the country performed at or above proficiency in math, compared with 44 percent of White males (Finkel, 2010).

The importance of quality teaching and its relationship is evident in research. Ladson-Billings (1999) and Zeichner & Hoeft (1996) note that in order to address relatively low overall achievement and widening achievement disparities, traditional pre-

service teacher education programs need a stronger emphasis on training and preparing teachers to educate diverse populations. Cochran Smith and Zeichner (2005) also assert that schools need to improve preparation of teachers to reduce these gaps.

National Graduation Rate and Effective Teaching

Other significant evidence of students' success in school is directly related to association between quality teaching and student graduation rates. Teachers have a great impact on the rate of successful student completion of high school. For example, Carpenter and Ramirez (2007) assert that highly effective teachers can make a difference in promoting student achievement. They examined dropout behavior among Black, White, and Hispanic students, with a particular focus on gaps within groups and not just between Whites and minorities. They found two common predictors on successful completion (or lack thereof) for all three groups--being held back and number of suspensions. As a result of this research, these scholars suggest that school leaders and policy makers create flexible dropout prevention policies and programs that provide teachers with the opportunity to learn how to individualize instruction based upon students and local conditions (2007). Though this research focused on student dropout rates among students, its findings may be related to student support from teachers. Because dispositions are characterized as a teacher having a vested interest and being committed to the growth and learning for all students, teachers who have a strong sense of self-efficacy do not give up on their students.

Student Academic Achievement and Teacher Quality within the Classroom

Quality teaching matters so much to student achievement that those individuals deemed to be ineffective teachers have profound effects on student performance. Even

when considering other factors contributing to student academic success, the importance of teacher quality has the greatest impact on student achievement. In an early study, Sanders and Rivers (1996) supported the importance of quality teachers in their research by pointing out that regardless of the initial academic level of students, teachers in the top quintile provided desirable academic progress for all students. However, students under the direction of teachers in the bottom quintile provided unsatisfactory gains for their students. Students benefiting from regular yearly assignments of effective teachers have an advantage in attaining higher academic gains. Expanding on the earlier research, they found that the presence of a quality teacher has a cumulative effect on student achievement. According to this research, students having comparable abilities and initial achievement levels may have vastly different academic outcomes as a result of differentiated quality among teachers. Realizing that the effects of the teacher on students are both cumulative and additive, it is extremely important that we are placing quality teachers with all students.

Often teachers that are characterized as "inadequate," tend to be placed in disadvantaged settings. Bridges (1996), in a review of teacher evaluation and personnel assignments, found that when parents and students complained about inadequate teachers, the teacher in many cases was transferred to schools where the parent was unlikely to complain. This was most likely due to little political and cultural capital of the parent. Those schools in which the teacher was transferred typically had high student mobility rates relative to other schools, a high percentage of students receiving free and reduced lunch, high numbers of minority students, and a high number of "disadvantaged" students as described by the educational community. This movement would not help students, nor

assist teachers' development of strong sense of efficacy, thus potentially creating a vicious cycle.

In a recent study conducted by the Mathematica Policy Research for the U.S. Department of Education's Institute of Education Sciences, value added test score data was analyzed for more than 11,000 teachers from 10 districts. Researchers identified the top 20 percent of teachers, those which had the greatest academic gains for students in various subjects and grades. The greatest disparities occurred for middle school math and reading. On average, 29 percent of the top middle school math teachers worked in the lowest-poverty schools, while 15 percent taught in the highest-poverty schools (Sawchuk, 2011). This again demonstrates that more often than not, ineffective teachers are placed in disadvantaged settings.

Teacher quality may also have an effect on low income students. NAED Teacher Quality: Education Policy white paper (2009) noted that students identified as low income exposed to three very good teachers consecutively in elementary school had a positive outcome in achievement. The impact of good teaching on a day-to-day basis also had an impact on student learning. Miller, Murnane, & Willett (2007) identified the association between employing substitute teachers in the absence of the classroom teacher with lower student test scores.

The significance of effective teachers with the belief that all students can learn, providing high standards and a safe and supportive learning environment on a daily basis, has tremendous impact on student achievement. In their empirical investigation, they found that 10 teacher absences a year can cause a significant drop in mathematics achievement (Miller, Murnane, & Willett, 2007). Walsh noted that a teacher gone for two

weeks can put students behind at least that much in terms of progress when substitutes are provided and lesson plans used (2008). This impact is educationally significant especially as it relates to specific groups of students. Schools serving large concentrations of students who live in poverty tend to have high levels of teacher absence. Consequently, teacher absences compound the already troubling equity problems in public schools. The presence of a consistent, high-quality teacher is an important factor for student academic achievement. By continuing with "business as usual," we risk a future citizenry lacking skills to be successful and contributing members of society nationally. Now, as the nation focuses our attention globally, allowing students to be competitive on the international stage is even more important.

International Student Academic Achievement and Teacher Quality

The Third International Mathematics and Science Study (TIMSS) report indicates a continued decline of the United States students' academic achievement as compared to other countries. The United States falls below the top ten countries in mathematics for grades four, eight, and twelve. Specifically, the United States ranks 28th among 34 nations identified at grade eight falling behind countries such as Norway, Israel, Hungary, and England. At grade twelve, the United States ranks number 19, with countries such as Lithuania and the Czech Republic ranking higher.

Recently, the American Institute of Research (2007) compared countries with specific states in the United States. This study compares standardized test scores of eighth grade students in each of the 50 states with those of their peers in 45 other countries. The scores for students in the United States came from tests administered by the Federal Department of Education in 2005 and 2007 in most states. For foreign students, the

scores came from mathematics and science tests administered worldwide in 2003, as part of the Third International Mathematics and Science Study (TIMSS). Students in Singapore and several other Asian countries significantly outperform American students in science and mathematics, even when compared to students in relatively high achieving states like Massachusetts. Those countries showing high student academic achievement have built human resource systems that focus their energy and resources upfront to ensure quality teaching through recruitment, training and ongoing professional development. They intentionally attract teachers from the top third of college graduates. (Asia Society and Council of Chief State School Officers, 2010).

As student demographics continue to change, the need for high quality teachers is critical to the teaching profession. As research indicates that policy can affect teacher quality, the call to conduct further research as it relates to positive policy changes affecting teacher preparation programs should be an ongoing initiative. Farr (2010) and Christenbury (2010) observed that effective teachers had similar attributes including the ability to deliberately create and maintain a welcoming environment where students felt safe taking risks. These particular teachers built strong relationships with their students and created a sense of community among them. They also created a culture for academic success for both the individual child as well as the entire classroom. Students were empowered with choice and responsibility. These teachers had strong beliefs in their students' success by constantly evaluating the situation and making adjustments (p.31).

Intangible characteristics such as warmth, empathy, and non-directivity that describe effective teachers were first identified in the early 1990s by the Interstate New Teacher Assessment and Support Consortium (INTASC). Members of the INTASC

described these intangible characteristics including attitudes, perceptions and beliefs that were much more difficult to measure and quantify as dispositions. Dispositions were described as predilections to act with awareness and intention. Fostering teacher candidates' dispositions help to develop their understanding and insight. These attributes, in turn, help to strengthen teachers' sense of efficacy, an important factor in teacher effectiveness. Research findings on dispositions related to effective teaching were recognized and supported with their inclusion in new national standards (NCATE, INTASC and National Board for Professional Teaching (NBPT)). This chapter closes with a discussion of the delimitation of the problem as well as a description and definition of key terms and organizations.

Delimitation of the Problem

The influence of Wisconsin *PI34*, enacted in 2004, provided the context and allowed the researcher to examine the impact of policy on preparation programs and the resulting effects on teacher self-efficacy. This study included both qualitative and quantitative data. Qualitative data included the response of survey respondents to questions relating to self-efficacy and the amount of support they felt they received from peers, principals, and formal mentoring programs. Specifically, by employing a modified version of the OSTES survey, the analysis captured respondents' opinion on three aspects of teacher self-efficacy: student engagement, instructional practice, and classroom management. This survey was used to better understand the attitudes, beliefs, and knowledge of the teacher groups identified.

Selection of the University of Wisconsin-River Falls teacher preparation program provided a useful case study since its pre-service teacher population is reflective of the 11

mid-size universities within the University Wisconsin system vis à vis specific university characteristics, including enrollment size, student population, teacher education requirements, and the number of program completers in the elementary and secondary education programs. Similarity in demographics between this university and the other Wisconsin universities allows the study to provide more persuasive findings relevant to the broader institutional system.

Limitations of the Study

Case study research can generalize the proposed theory but may not generalize to the populations (Merriam, 1998). In addition, the researcher of this study was an employee of the university and was familiar with many of the students, faculty and policies for teacher licensure through this particular institution. Due to this association, personal bias and assumptions may be held.

Another limitation is that there may be additional factors besides enactment of the Wisconsin law that could influence the response of participants. First, though the first year of teaching can be the most memorable for teachers, it may still be difficult to remember one's level of support and abilities as a first year teacher. Second, teachers trained prior to *PI34* may be systematically different than those trained after *PI34*. Third, while the selected participants were fairly typical of the system as a whole, respondents who chose to participate may be different from the population. To address this threat to the credibility of the results, this study also examined key differences between respondents and the population from which they were drawn, on factors that the literature identified as important for teacher self-efficacy. These included gender, ethnicity, and content knowledge. Using Pearson's Chi-squared test with Yates' continuity correction

for analyzing gender differences and ethnicity, there was not a statistical significant difference with regard to gender and ethnicity among each group of cohorts pre and post *PI34*. GPA was used to measure each cohort group's content knowledge. There was a statistically significant result between pre and post *PI34* with regard to GPA. However, the average difference of 0.1 grade points was likely not large enough to be practically significant. To the extent, however, that latent differences exist between respondents and the population as a whole, the generalizability of the findings will be limited. For example, if the teachers who chose to participate in this study had a greater sense of self-efficacy and more positive feeling about their teacher preparation program than non-participants, the levels of self-efficacy measured would be inflated. If this overall level of well-being was true before and after enactment of the law, the general difference between cohorts would be consistent and should not affect the overall findings. However, if the general sense of efficacy had more to do with the political climate and factors external to enactment of the law, the findings may be misleading. Given that the political climate in recent years, it is likely that these results may underestimate the association between the enactment of *PI34* and teacher self-efficacy.

In sum, this study focuses on what can be learned from the adoption of *PI34*. It identifies the general consensus among two sets of teacher candidates' sense of self-efficacy following their elementary teacher preparation program before and after Wisconsin *PI34* was enacted in September 2004. The researcher of this study assumed that by drawing from these two general groups before and after implementation of *PI34*, general themes would emerge. The specific research questions that guide the analysis are identified and discussed below.

Research Questions

The main question that this study investigates is, "Can policy influence teachers' sense of self-efficacy?" Specifically, this study sought to understand how policy can affect the ability of teacher preparation programs to foster dispositions, thus influencing pre-service teachers' sense of self-efficacy. As the literature review will describe, teacher effectiveness is more than content knowledge, certification and longevity in the profession (Rice, 2003). As part of that investigation, this study looked as specific aspects of self-efficacy—student engagement, instructional practice, and classroom management. This was to better understand the nuances of self-efficacy and to better inform the role of policy in each aspect.

Additional questions sought to assess the perception of respondents regarding the level of support they received from various individuals or systems, including principal support, support from peers, formal mentoring programs and teacher preparation program. These questions were included because countries having high performing educational systems typically build their human resource systems by focusing on preparation and support for teachers (Stewart, 2009). For example, Japan has been known to allow groups of teachers to review their own and others' lesson designs in an effort to improve instruction. In China, classrooms are routinely open for observation. Teacher trainees, practicing teachers and administrators are required to observe and provide feedback on their colleague's lessons each year. These professional development opportunities facilitate reflection and continuous improvement among teachers and can lead to improved self-efficacy.

In sum, this research examined two key questions, each with its own set of corollaries:

(1) Can policy influence the self-efficacy of teachers?

a. How is policy associated with the perceived sense of self-efficacy among teachers as it relates to student engagement?

b. How is policy associated with the perceived sense of self-efficacy among teachers as it relates to instructional practice?

c. How is policy associated with the perceived sense of self-efficacy among teachers as it relates to classroom management?

(2) What is the perception of teachers regarding the level of support received and influence on their sense of self-efficacy?

a. How do teachers perceive the role of principal support?

b. How do teachers perceive the role of peer support?

c. How do teachers perceive the role of formal mentoring programs?

d. How do teachers perceive the role of their teacher preparation program?

Definition of Terms

The following terms and organizations focus on teacher self-efficacy and are identified for better understanding of this study:

Beliefs: Webster-Merriam Dictionary defines beliefs as (n) A state or habit of mind in which trust or confidence is placed in some person or something. It is one attribute of dispositions which is described as a positive aspect in this research. For effective teaching to occur, a teacher must have the belief that all students are capable learners.

Dispositions: Webster-Merriam Dictionary defines Dispositions as (n) A person's inherent qualities of mind and character. Sockett (2009) described dispositions as having three characteristics: first, a disposition is an ability to act; second, a disposition to act implies awareness of what one is doing; third, acting with awareness implies that a person acts with intention. Thus, dispositions as used in this study refer to their effect on teachers' sense of self-efficacy when teaching students.

INTASC: The Interstate Teacher Assessment and Support Consortium (INTASC) is a consortium of state education agencies and national educational organizations dedicated to the reform of the preparation, licensing, and on-going professional development of teachers. Created in 1987, INTASC's primary constituency is state education agencies responsible for teacher licensing, program approval, and professional development. Its work is guided by one basic premise: An effective teacher must be able to integrate content knowledge with the specific strengths and needs of students to assure that all students learn and perform at high levels.

NCATE: The National Council for Accreditation of Teacher Education is a non-profit, non-governmental alliance of 33 national professional education and public organizations representing millions of Americans who support quality teaching. NCATE currently accredits 632 colleges of education. NCATE accreditation is a mark of distinction, and provides recognition that the college of education has met national professional standards for the preparation of teachers and other educators. In NCATE's performance-based accreditation system, institutions must provide evidence of competent teacher candidate performance. Teacher candidates must know the subject matter they plan to teach and how to teach effectively so that all students learn.

Pre-service teacher: One who has declared an education major but who has not yet completed training to be a teacher. Typically, the candidate has completed a period of observing teachers at different levels and then continues in an internship or student teaching experience. This experience is working alongside a mentor or master teacher before licensed as professional educators.

Self-Efficacy: Albert Bandura (p. 191) defines self-efficacy as "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations." In other words, self-efficacy is a person's belief in his or her ability to succeed in a particular situation. Bandura described these beliefs as determinants of how people behave, and feel, and think (1994).

Teacher Effectiveness: This refers to the ability of teachers to be effective. As Hassel and Hassel define teacher effectiveness, it is, "how MUCH do the teacher's students learn, on average –multiplied by how MANY students receive instruction from the teacher" (2009).

Values: Webster-Merriam Dictionary defines values as (n) the regard that something is held to deserve; the importance or preciousness of something.

CHAPTER 2

REVIEW OF THE LITERATURE

There is a significant body of research that indicates that teachers' dispositions about students and teaching strongly influence the impact they have on student learning. Dispositions are often defined as qualities or characteristics that an individual possesses. These qualities include attitudes, beliefs, and interest and commitment to the growth and learning in all students (Darling-Hammond & Bransford, 2005). A key dispositional characteristic of effective teachers is the strong belief that all students can learn. They also have a strong belief in their own abilities and those of their students. The RAND study (Armor, et al. 1976) found links between student achievement and teachers' sense of efficacy-the disposition of their belief in not just their students' ability to succeed, but also their own ability as teachers to help those students succeed.

Given the changing population of school children and the continuing disparities in the achievement of groups from different racial and cultural groups, it is imperative that educators demonstrate instructional expertise. It is important that teachers have this instructional expertise as it relates to knowledge, skills and dispositions for the benefits of students' educational achievement and future success in the work world. Quality teaching has an important influence on student performance. Acknowledging the changing demographics of the United States' student population and the direct relationship between teacher quality and student achievement, it is critical to understand more fully what characterizes quality teaching.

The review of the literature includes many aspects of teacher effectiveness and its relationship to student achievement. There are multiple variables that have an impact on

student learning including socio-economic context, peer influence, and personal characteristics. However, growing evidence shows that the abilities of the teacher are a crucial contributor to student learning and lead to highly knowledgeable and skilled workers. Hanushek (1971) identified several variables as having an influence on student achievement. Not surprisingly, families have considerable impact on a child's education through physical conditions, attitude formation, and direct involvement with the educational process. These factors are highly correlated with socio-economic status of the family which takes into account the father's occupation and family structure. In addition, peers have much the same influence as that of family. The innate abilities of a child were identified by Hanushek (1971) measuring this aspect. Rather, Hanushek (1971) focused his research on school influence. In his analysis of factors contributing to student achievement, Hanushek found that teaching experience and graduate education did not contribute to student academic gain. But other characteristics that did matter were correlated with teaching and student achievement.

One of the most important challenges for our future educational system is the ability to provide high-quality schooling for all students. There is a need to provide quality schooling to those presently underserved by the educational system, including students of color, low income students, and immigrant students. As identified in "Studying Teacher Education: The Report of the American Education Research Association (AERA) Panel on Research and Teaching" released by Cochran-Smith and Zeichner (2005), many factors influence educational outcomes in schools serving diverse student populations. There is increased agreement among members of the educational community that teacher quality is a major factor (Cochran-Smith & Zeichner, 2005).

In an analysis of 1996 National Association of Educational Progress (NAEP) data, Wenglinsky (2000) concluded that "This study indicates that one aspect of schools, the quality of their teaching force, does have a major impact on student test scores" (p.31). Through their Tennessee value-added assessment system research, Sanders (1998) and Sanders and Rivers (1996) identified the importance of teacher quality as one factor influencing achievement. The Tennessee value-added assessment system determined individual teacher's influence on the rate of academic growth for student populations.

As noted, highly effective teachers can make a difference in promoting student achievement. Dispositions are identified as a teaching attribute having a positive influence on student achievement. Dispositions are characterized as a teacher having a vested interest and being committed to the growth and learning of all students. Dispositions are often defined as qualities or characteristics that an individual possesses. These qualities include attitudes, beliefs, interests, appreciations, values and modes of adjustment (Darling -Hammond & Bransford, 2005). The significance of teachers recognizing their impact on growth, learning and student achievement has policy implications as it relates to teacher preparation programs. Pre-service teacher preparation programs have a distinctive role in fostering pre-service teachers' ability to identify and challenge their own values, beliefs, and dispositions.

Darling Hammond (2006) identifies the increased need for quality teachers as teachers' workloads increase resulting from changing school demographics. Within these "new" classrooms, teachers will be experiencing at least 25 percent of their students living in poverty; lacking food, shelter and health care; 10 to 20 percent of students will be identified as having learning differences; 15 percent speaking a language other than

English; and about 40 percent being members of racial/ethnic "minority" groups, many being recent immigrants from countries with very different educational systems and cultural traditions. The importance of teacher quality is critical to academic achievement for all students from the varying demographics that teachers will be experiencing. Teacher quality and its influence on student achievement provide educators, researchers, and policy makers' opportunities to have an impact on future educational outcomes.

This chapter reviews the literature regarding teacher quality in the United States. Section one will address teacher quality as it identifies specific criteria that characterize a quality teacher. There are many indicators of quality teaching, but no conclusive evidence exists regarding the impact of years of experience, methods of teacher preparation, or certification has on student success. By using years of experience, teacher preparation, and certification, section two further examines recruitment of quality individuals in teacher preparation programs both in the United States and internationally. This may assist policy makers and institutions as they try to influence policy relating to attracting, training, and retaining quality teachers. Countries demonstrating strong academic growth have implemented various recruiting strategies that evidence suggests provide effective student academic outcomes. By contrast, the United States has shown inconsistencies in recruiting strong teacher candidates. Section three moves beyond recruitment to teacher preparation programs to elements of these preparation programs. Cochran-Smith & Zeichner, (2005) assert that many teacher preparation programs have failed to prepare pre-service teachers adequately to meet the increased demands within the classroom. Some identified teacher preparation programs have used effective strategies to assist pre-service teachers in the training process. These training programs have gone beyond

acquisition of knowledge and skills and have fostered dispositions in pre-service candidates.

Section One: Characteristics of a High Quality Teacher

Knowing that the regular presence of a quality teacher has significant impact on student achievement, how does one define "quality?" The defining characteristics that identify a "quality" teacher have received a great deal of attention and research over the years. Notwithstanding, many of the research studies that have been collected and synthesized provide no consistent message. There is great disagreement on the individual benefits of any one attribute showing significance. For example, Goe (2007) states that certification has a positive effect on student achievement as it relates to the content area of mathematics. In addition, Goldhaber and Brewer (2000) found that certification does not have a statistically significant association with student performance. Rice (2003) examined the association between experience, certification, and content knowledge as attributes potentially fostering teacher quality. She found that no one specific attribute as being more important for teacher quality than the others. For example, teacher experience had some impact, but only in the first three to four years of teaching. There was little evidence that teacher preparation programs improved competency or student achievement. While teacher certification seems to matter for high school mathematics, there was little evidence that certification had a relationship to student achievement in lower grades or other content areas (p 50). The debate often presents a confusing message for educators, researchers, and policy makers. Nonetheless, it is important to highlight where consistencies exist and implications of these findings for policy and practice.

Teacher Quality and Certification

Teacher quality may be defined differently depending on different subjects. Research as it relates to teacher certification and its effects on teacher quality provides strong and consistent evidence on the association between certification and the specific content area of mathematics (Goe, 2007). There are no similarly strong associations found between teacher certification and other content areas. For example, after comparing achievement data for more than 3,000 high school students with their teachers' certification, Goldhaber and Brewer (2000) found "little rigorous evidence that [teacher certification] is systematically related to student achievement" (p.141). It is important to look at those states that have implemented policy identifying teacher quality based upon certification. By and large, the evidence does not show that there is a significant association with a high quality teacher as measured by student achievement (Goldhaber and Brewer, 2000).

Teacher Quality and Content Knowledge

Studying the effects of teacher content knowledge on student achievement, a team of researchers addressed the debate about what matters more—teachers' knowledge of subject matter or their knowledge of how to teach it (often referred to as pedagogical content knowledge). Baumert and colleagues (2010) tested 194 high school mathematics teachers on both their mathematic skills and their knowledge of how to teach difficult mathematic concepts. They found that although content knowledge is essential, teachers who also possess strong pedagogical knowledge are more effective than those with content knowledge alone. It is important to show competence in content. However, if the teacher is unable to deliver the content effectively, students will ultimately lose. As

Fenstermacher and Richardson (2005) noted, it is not only "what teachers do" but also "the student learning that teachers foster" (p.190).

Teacher Quality and Experience

One might believe that the ability of a teacher to foster student learning would have a direct relationship with multiple years of teaching experience. In one research finding that relates to years of teaching experience and its effects on teacher quality, evidence indicated that only in the first three to four years of teaching was there a positive effect on student achievement (Wilson and Floden, 2003). Betts, Zau and Rice (2003) focused their research on the San Diego Unified School District linking student and teacher data in elementary and high school, using 1998-2000 data. Many variables were included in their research such as school, student, and teacher characteristics. They identified years of teaching experience along with level of education, credentials, and subject matter knowledge in their research. Their findings identified correlations among these attributes and student achievement varied substantially across grades and subjects.

As the nation's attention has focused on the relationship between teacher quality and student achievement, policy makers have taken a pro-active stance through policy initiatives based upon constituents' ideas regarding teacher quality. One such policy includes the No Child Left Behind Act of 2002. No Child Left Behind (NCLB) requirements identify teachers' years of experience, the teacher's level of degree, and specific teacher certification as evidence of being "highly qualified." This does not necessarily align with key research supporting the attributes of a "quality" teacher.

Carr (2006) further linked Ohio teachers' experience and degree level to designate a teacher as highly qualified. Student achievement was measured by Ohio's standardized proficiency tests. Other variables linked by the author with student scores included student attendance, mobility, and disciplinary referrals. Controls included student socioeconomic status, learning disability status, race, and community type (urban vs. non urban). On the basis of a micro econometric examination of Philadelphia School District data, Summers and Wolfe's (1977) findings showed a positive relationship between teaching experience and student achievement for students that were already high achieving. However, this finding did not hold true for low achievers. Carr supported this finding with results suggesting that teacher experience and advanced degrees did not significantly contribute to student achievement. This finding suggests that relying solely on the NCLB "supported" qualifications accounts for only a small percentage of teacher contributions to student learning as measured by student achievement test scores (Carr, 2006 p. 12).

Teacher Quality and Teacher Preparation

Boyd, Grossman, Lankford, Loeb, and Wyckoff (2005) used teacher preparation as an indicator of teacher quality. They included a variety of teacher preparation pathways including those teachers who were trained through Teach for America and Teaching Fellows. The teaching Fellows program is designed specifically to help alleviate teacher shortages in New York City public schools. It subsidizes candidates attaining master's degrees in shortage areas. It especially focuses on areas such as mathematics, sciences, special education, and English as a second language. In addition

to Teach for America and Teaching Fellows pathways to teacher education, their research also included those individuals who were traditionally prepared in a college setting. English and mathematics scores were used from New York's statewide tests, which are aligned to the state standards. More than a million student mathematics scores and more than 900,000 student English scores were used, along with data on more than 65,000 teachers. Preliminary results suggested that there are differences in teacher quality as it relates to content knowledge, interaction with students, classroom management, and instructional strategies among teachers prepared in these aforementioned teacher preparation programs. They found that it is difficult to determine whether these differences are due to the preparation and support the teachers received or whether the differences reflected backgrounds, aptitudes, and characteristics for those entering teaching from various pathways. There was no definitive answer regarding which pathway ultimately led to high student achievement as a result of teacher preparation.

Beyond Cognitive Skills

Teaching quality gained great interest from Farr (2010) as he observed teacher effectiveness among a wide range of 28,000 teachers whom Teach for America had recruited, selected, trained, and supported in the last 20 years. His research went beyond teacher preparation and found that these teachers had similar attributes including the ability to deliberately create and maintain a welcoming environment where students felt safe taking the risks. Those teachers built strong relationships with their students and created a sense of community among them. They also created a culture for academic success for both the individual child as well as the entire classroom. Students were

empowered with choice and responsibility. These teachers had strong beliefs in their students' success by constantly evaluating the situation and making adjustments (p.31).

Christenbury (2010) asserts that quality teaching is evaluating and continually making these described adjustments. She describes effective teaching as variable. It is the ability to act, be aware, and act with intention with an emphasis on flexibility. Teachers vary strategies and methods on a moment's notice depending on what is needed for his or her students. She describes effective teaching as contextual. Effective teaching responds to students, school, and community needs as deemed appropriate. Effective teaching is premised on students' intellectual curiosity. She further states that effective teaching begins with the belief that students are smart and can be enticed to be self-directed learners. Consequently, effective teachers must be empowered to use their judgment to make classroom decisions where the needs of students come first rather than the curriculum guide or strictly interpreted demands of the school (p.48).

Many of the researched teaching attributes such as teacher certification, years of teaching experience, and level of degrees can be measured and quantified. However, teachers possess many intangible attributes as described by Farr (2010) and Christenbury (2010). A key characteristic of effective teachers is the strong belief that all students can learn. Hattie (2009) supports the fact that teachers' expectations for their students affects how well students learn. Effective teachers also have a strong belief in their own abilities. For example, a seminal RAND study (Armor, et al. 1976) found links between student achievement and teachers' sense of efficacy-their belief in not just their students' ability to succeed, but also their own ability as teachers to help those students succeed. Cornelius-White (2007) conducted a meta-analysis reviewing approximately 1000

articles to synthesize 119 studies from 1948 to 2004 with 1450 findings and 355,325 students on teacher-student relationships. His research found that teachers' warmth, empathy, and non-directivity strongly correlated to higher levels of student participation, motivation, and achievement.

If in fact years of experience, teacher preparation programs, and certification requirements show inconsistent associations between teacher quality and student achievement, we need to look to other attributes in our quest to identify high quality teachers. Current systems tend to reward only years of experience, teacher preparation programs, and certifications. If research indicates these do not consistently identify a quality teacher, perhaps the educational system needs to rethink what indeed needs to be recognized and rewarded for quality teaching.

Teacher Quality as it Relates to Dispositions

Those intangible characteristics such as warmth, empathy, and non-directivity that describe effective teachers were first identified in the early 1990's by the Interstate New Teacher Assessment and Support Consortium (INTASC). Members of the INTASC described these intangible characteristics including attitudes, perceptions and beliefs that were much more difficult to measure and quantify as dispositions. Diez (2007) explains the difficulty of linking levels of teacher knowledge and skills to levels of student performance: "The INTASC standards group recognized the problem of having the knowledge and skills required to be an effective teacher and yet not using them for good in the classroom" (p.389).

Sockett (2009) previously describes dispositions as having three characteristics: first, a disposition is an ability to act; second, a disposition to act implies awareness of

what one is doing; third, acting with awareness implies that a person acts with intention. Thus, dispositions are predilections to act with awareness and intention. Fostering teacher candidates' dispositions helps to develop understanding and insight. In order to do this, colleges of higher education must assist teacher candidates' in their ability to appraise situations where one acts with intention. Having the ability to have self-knowledge allows one to be prepared to reevaluate each aspect of one's individual practice and refrain from becoming static and repetitive. It is the ability to show care and compassion. Nussman (1998) describes this as the ability to imagine being in another person's place and having the ability to stand back and analyze the situation from various perspectives.

As NCATE (2002) identified the development of professional dispositions as an explicit obligation of teacher educators, the adoption of new standards gave rise to a debate on the role of dispositions in teacher preparation programs. Dispositions can bridge successful teaching utilizing teachers' knowledge and skills by providing students with the ability to achieve a worthwhile outcome. The difficulty in defining teacher quality in this way is that it focuses on characteristics that are often logically, ethically or practically beyond the teacher's (or school's) ability to change. NCATE provides the following definition of dispositions:

> The values, commitments, and professional ethics that influence behaviors toward students, families, colleagues and communities affect student learning, motivation, and development as well as the educator's own professional growth. Dispositions are guided by beliefs and attitudes related to values such as caring, fairness, honesty, responsibility and social justice. For example they might include a belief that all students can learn, a vision of high and

challenging standards, or a commitment to a safe and supportive learning environment (NCATE, 2002, p.53; 2006, p.53).

Consensus about dispositions is necessary and it is important to examine how dispositions might be used for selecting and educating teachers. Research findings on dispositions related to effective teaching are recognized and supported with their inclusion in new national standards (NCATE, INTASC and National Board for Professional Teaching (NBPT)).

The discussion and difficulty in assessing what is important to teacher preparation is not new. Combs (1974) researched the notion that the effective teacher is "a unique human being who has learned to use him/herself effectively and efficiently to carry out his/her own and society's purpose in education of others" (p.2). More than fifteen studies conducted at the University of Florida (the Florida Studies Dissertations) and the University of Northern Colorado (2000) support the view that effective teachers have similar perceptions (dispositions) about themselves as compared to those deemed as ineffective. Combs (1974) included the importance of the teacher having the perception of self as able, positive and being able to identify with diverse groups. They had also had the perception that others are able, dependable and worthy as well as the perception of being open and focusing on personal meaning as necessary for effective teaching. The comprehensiveness of this study included the use of evaluation of teachers by pupils, peers, administrators, teachers who won national honors for their outstanding teaching, and by student achievement tests. These evaluations were used to determine teacher quality and the effects of teaching on student achievement.

Schussler, et al. (2010) based their research on Combs assumption that quality teaching is predicated on the individual teacher's perceptions. If it is true that a teacher's perceptions are shaped by experiences, values, culture and beliefs, how can teacher education programs affect these attributes? Borich (1999) responds that through self-knowledge, individuals may begin to recognize their own values and biases and develop awareness that they can assess the effects of their behavior on students (p.95). Ultimately, there are strategies and reflections that can be attained through effective teacher preparation programs. Wilkerson (2006) supports the need for teacher preparation programs to include instructional activities that help pre-service teachers in the identification of their own values, beliefs, and dispositions in preparing to become a teacher. He also stated that not assisting pre-service teachers to identify their own values and beliefs, "would be unconscionable and dangerous, since we need to ensure that teachers are likely to apply the skills they have learned in our colleges" (Wilkerson, 2006, p.3).

Value of Dispositions in Teacher Preparation Programs

Assisting pre-service teachers to identify their own values and beliefs has much to do with how one responds to a given situation. Borko, Liston, & Whitcomb (2007) define disposition as "predictive patterns of action" exemplifying teachers" tendencies to act in certain ways under certain circumstances (p.361). Fenstermacher and Richardson (2005) argue that quality teaching is composed of both good teaching and successful teaching. Good teaching involves the "worthiness of the activity" and successful teaching involves the "realization of the intended outcomes" (p.186). It does not only know the content, but it is making sure that one is producing student learning.

Some critics suggest that the constructs of dispositions are blurred and there is no agreed upon definition of this construct. For example, Johnson, et al. (2005) argue that there is no measure of dispositions that is measured reliably and validly. Frederick Hess (2006) further argues that there is not a body of rigorous evidence demonstrating that certain dispositions improve teacher effectiveness. In light of this debate, it is this "blurred" definition that provides a way to promote further dialogue regarding the key disposition attributes of a quality teacher. As with the more tangible teacher quality attributes such as certification and years of experience, discussions including dispositions allows for further exploration of contributors to quality teaching. How can teacher education preparation programs strive to provide common norms that matter to the individual professional and are respected by the profession? Taylor and Wasicsko (2000) recognize the significance of research that indicates teachers' attitudes, values, and beliefs about students and teaching strongly influence the impact they have on student learning. This is often evident in practicing teachers who are strong in their subject matter but are unable to convey effectively their subject matter to students. In addition, those same teachers highly competent in a particular content area are often unable to relate to students' lives in any given moment, situation or matter which strengthens the quality teacher/student relationship.

Schussler, Stooksberry and Bercaw (2010) describe the meaning of dispositions based on the research on thinking dispositions. Psychologists studying "thinking dispositions" suggest that intelligence is more than ability. It involves the ability to provide sensitivity to a given situation, be able to know how to assess a situation and be able to know when to use a specific set of skills (p.351). Perkins, Tishman, Ritchart,

Donis and Andrade (2000) note that often times individuals possessed the intellectual ability, but unless they were prompted to use specific skills, they lacked the ability to put knowledge and skills together for a given situation. Teacher preparation programs need to identify teacher candidates possessing the skills to assess a situation, show sensitivity, and be able to act accordingly. In addition, preparation programs need to determine what strategies are necessary to teach pre-service teacher candidates' lacking such skills. To be highly effective with students, teachers must not only desire to achieve particular purposes, but be sensitive to the context of any teaching situation and to know what knowledge and skills are needed at a given moment. This multi-dimensional quality of teaching is summed up by Schussler (2010): "In addition to having sensitivity for the context of the situation, possessing awareness of the context of self is also important." Actions and attitudes of teachers are rooted in their own ways of how they view the world. If a teacher sees the world as the only way to success is working hard, he/she may not be sensitive to a student who has a learning disability and appears to lack a strong work ethic. According to Combs, Blume, Newman, and Wass (1974), "Whether an individual will be an effective teacher depends fundamentally on the nature of his private world of perceptions" (p.2).

The current literature strongly supports that teachers have a tremendous responsibility as it relates to student achievement. In addition, the literature acknowledges the fact that prospective and current teachers need to recognize their enormous responsibility in the task of helping all students to succeed. However, the literature does not often identify ways dispositions can be addressed through teacher preparation programs. There are some states and institutions that have identified the

dispositions of a quality teacher and addressed dispositions in program practice or policy implementation. Identifying those practices that can affect teaching dispositions both at the state level and in higher education institutions has important policy implications.

Section Two: Teacher Recruitment and Preparation Programs

Teacher Recruitment

Historically, teaching in the United States has attracted people from all socio-economic levels. As a primarily middle class occupation, it has been an upwardly mobile choice for those from the working and lower middle classes. Until the 1970's, professional job opportunities outside of education were limited for some of the nation's most talented female and non-White college graduates. School children benefited as a result. Currently, a larger range of job possibilities are available to this same talented pool of candidates, thus affecting high quality potential candidates attracted to teacher education. To create high standards for acceptance into teacher education, most states have passed higher standards for entry into teaching such as minimum grade point averages and entry and exit examinations to teacher preparation programs. However, as research indicates, policies relating to grade requirements and examinations do not solely support teacher quality (Betts, Zau & Rice, 2003; Carr, 2006). Some states have used alternative routes to the teaching field by easing the transitions for people from other fields. Alternative routes to the teaching field have been used as a means to attract academically skilled people into teaching and to fill various positions in hard to fill content areas. For example, in the United States, the distribution of teachers geographically by qualifications and experiences is highly unequal (Bridges, 1996). By

contrast, countries such as Japan, Finland, and China, have high performing educational systems that recognize teacher distribution and have provided financial incentives to attract individuals to specific geographical areas (Asia Society and Council of Chief State School Officers, 2010).

These same countries have also recognized quality teaching and its direct relationship with student achievement when recruiting individuals into the field of education. High performing educational systems internationally attract teachers from the top third of college graduates. Countries such as Finland have developed strategies to attract and keep quality teachers. Finland has raised standards for new teachers. By doing so, there has become an increased status of teachers and as a result an increase in the numbers of applicants to the field. Presently in Finland, teaching is a highly sought-after career; only 1 in 10 applicants is accepted into teacher preparation programs after two rounds of selection (Sahlberg, 2010). Finland, it may be noted, consistently outranks the United States on the Programme for International Students Assessment (PISA) (Munson, 2011).

Similarly, Singapore, selects prospective teachers from the top one-third of its secondary school class. Strong academics are essential along with a commitment to the profession and to serving the nation's diverse students. Trainees receive a stipend equivalent to 60 percent of a teacher’s salary while in training and commit to teaching for a minimum of three years (Ho, 2010). Moreover, in order to get high quality applicants, countries such as Finland and Singapore limit the number of candidates accepted into teacher education programs. This increases the attractiveness of the profession and provides a much higher chance of providing high quality teaching to students.

China, who has experienced a massive migration to the cities, finds that it is increasingly difficult to find teachers willing to work in rural areas. As a result, China provides scholarships to people in rural areas to train as teachers. Rural teachers earn 10 percent more than the average teacher and may have housing built for them. Professional development is provided with satellite television and the use of the Internet (Asia Society & Council of chief State School Officers, 2010).

Those countries demonstrating high student achievement have put in place strategies to attract, retain, and develop high quality teachers. In order to encourage and produce quality teaching, countries having high performing educational systems build their human resource systems by investing resources up front. They concentrate on attracting, preparing and supporting good teachers and nurturing teacher leadership talent, rather than on reducing teacher attrition and firing weak teachers (Stewart, 2009). These countries spend a higher proportion of their education dollars on classroom teachers than in the United States. However, these strategies often come with tradeoffs such as having higher class size, older facilities, and fewer special services.

Teacher Professional Development

High performing countries have developed strong systems of professional and school-level accountability. They do not base these systems solely on student test scores, but rather on a wider range of school improvement goals, professional contributions and indicators of student well-being (Stewart, 2010). Ongoing professional development support for teachers is critical in other countries. Teachers in Japan participate regularly in lesson study. The traditional practice is to allow groups of teachers the opportunity to review their lesson plans and consider how to improve them. This allows for reflection

and continuous improvement. In China, classrooms are routinely open for observation. Teacher trainees, practicing teachers and administrators are required to observe and provide feedback on their colleague's lessons each year. China also has weekly teacher research groups that focus on classroom improvement and whose work may be published to allow growth for others in the profession.

Teacher evaluation and its importance to teacher quality is a controversial subject in many countries. Evaluation practices vary greatly. For example, policy makers in Finland and Canada have rejected the merit-pay approach because of the lack of evidence that financial incentives result in high quality teaching. By contrast, teachers from China and Singapore receive financial bonuses and promotions for high performance. In Singapore, teachers' performance is appraised annually by several people on multiple criteria, including classroom instruction and results, collaboration with parents and community groups and contributions to their colleagues and the school as a whole. In the United States, professional development is not tightly linked to the instructional agenda of the school. Thus, it is often incoherent and many teachers avoid participating (Asia Society, 2006).

The importance of attracting, retaining, and supporting teachers in other countries has produced positive results and may be related to student academic performance. In the United States, poor student academic achievement may be a result of the inconsistency in their methods to attract, retain, and reward teachers.

Role of Teacher Preparation Programs

As evidenced in other countries, to maximize support for teacher candidates, teacher educators must create opportunities for candidates to examine their practices and

beliefs. Feiman-Nemser, et al. (2001) argues that because teacher candidates' beliefs are powerful filters that not only make new phenomena understandable, teacher educators cannot ignore their students' entering and developing beliefs. Unexamined beliefs, especially those that are contradicted by new ideas introduced in teacher education courses, tend to remain unattended, only to become apparent again once they are placed in a classroom to teach (Zeichner & Tabachnick, 1981). As Raths (2001) explains, prospective teachers generally dismiss teaching that challenges their beliefs on grounds that it is too theoretical, too impractical, or simply wrong. Thus, already held beliefs can act as barriers to learning on the part of teacher candidates. Without systematic reflection, many teachers-to-be are unable or unwilling to incorporate "new ideas and new habits of thought and action" into their teaching, preferring instead to teach based on their taken-for-granted beliefs (Feiman-Nemser, 2001, p. 374). With less focus on certifications and years of experience, a stronger emphasis may be placed on strengthening students' concepts of "new ideas and new habits of thought and action." This would promote a stronger sense of self and belief in the individual that he/she has a large impact on the academic performance for ALL students.

Section Three: Teacher Preparation Programs' role with Dispositions

Fostering Desired Dispositions

Teacher candidates can come from opposing camps with distinctly different political and moral lenses with regard to how they view different students within their classrooms. Borko, et al. (2007) highlight the tension in beliefs in how teachers view the reason for impoverished urban schools. Some view poor schools as outcomes of structural economic and racist forces. Other teachers may view these settings as mostly

created by poor choices of urban inhabitants. Still others may view school systems as a mix of both a result of structural economic outcomes and the effect of poor choices. If we are to educate teacher candidates to teach fairly and equitably with the belief that all children can learn, then our schools of education have a big role in presenting varying value orientations. By doing so, we will move more closely to our profession's goal to educate teachers and most importantly, all children. Colleges of education can make an attempt to assist teacher candidates to challenge their own values, beliefs, and biases. These values, beliefs and biases, Taylor, et al. (2000) described as a way of going beyond what we perceive. It is also essential to think of ways to change and improve dispositions or perceptions of teachers-in-training. Powers (1999) argues that "dispositions outlined in various standards are dispositions that could be 'taught' to students." She suggests that students can become aware of dispositions and help adopt them by using scenarios in which pre-service teachers are placed in situations that bring them into social contact with teachers exhibiting desired dispositions.

Teacher Quality, Dispositions, and Social Justice

Villegas (2007) strongly encourages the importance of social justice as one important component of dispositions. She challenges those critics who charge that the assessment of dispositions pertaining to social justice is a means of "political indoctrination" for vulnerable pre-service teacher candidates. She disagrees with the assertion that programs of teacher education that attend to issues of social justice and assess pre-service teachers' dispositions related to social justice are guilty of engaging in "thought control" (Leo, 2005) and "political screening" (Hines, 2007 p. 370). Villegas counters that because schools tend to be organizations that "sort" students, teachers have

a direct role in this process of sorting. Teachers must be conscious of their role in the future of students. Even without preparation, teachers will be morally and ethically responsible to and for all pupils.

Historically, factors such as social class, race, and ethnicity have been strong predictors of the benefits students attain while in public education. As indicated in previous data regarding student achievement, students from low income and racial/ethnic minority groups typically have lower scores on achievement tests and higher rates of dropping out of school. Such educational disparities have grown dramatically and may continue to do so with the increasing racial and ethnic diversity of the K-12 public school student population. By going beyond knowledge and skills in fostering quality teaching, teacher preparation programs can allow teachers to realize they have a responsibility in the lives of all learners.

In order to prepare future teachers to be successful with all learners, there must be the opportunity to provide experiences in multiple settings. Multiple school structures pose a whole new set of circumstances which new teachers' experience. Scribner and Cole (1973) recognize that a school's knowledge base and value system dominate learning situations. These functional learning systems may conflict with the student's traditional day-to-day life. Students may see the demands within a school structure as unreasonable and not consistent with their own lives. Quality teachers in schools that are highly successful with student academic performance have the ability to use strategies that are contrary to institutional design. Like John Dewey (1859-1952) who believed that students should be involved in real-life tasks and challenges, so too, do these teachers provide real and guided experiences which foster students' capacity to contribute to

society. They move students' everyday life into its subject matter and activities so that some aspects of social and physical reality are relevant to students outside of school. Teachers having strong impact on students are successful in these settings because they have used techniques that introduce concepts in the context of practical problems and are able to adapt their content knowledge to the needs of students at a given moment (Fry & DeWitt, 2010). Teaching has a positive influence on student performance. Teachers who have incorporated students' experience in their pedagogy have the ability to "connect the curriculum with students' lives and are continually making connections on how they can do this" (Fry & DeWitt, 2010).

Realizing the "connectivity" attributes successful teachers use with their students is a starting point for teacher preparation programs. For example, universities and colleges such as the University of Northern Iowa and other Iowa colleges require their pre-service teachers to take a human relations course in conjunction with their student teaching experience. This identified course has three major goals: (1) To confront individuals with experiences designed to create an awareness of biases, attitudes, and beliefs; (2) To create awareness of the degree of congruency between stated beliefs and actual behavior; and (3) To internalize and translate such awareness into actions which result in more positive relationships within the teaching/learning environment. With these three goals, teacher candidates have a greater ability to identify their own values and beliefs. This allows them to connect and support student learning.

Identifying and Supporting Desired Dispositions

In order to assess these characteristics of quality teaching in pre-service teachers, educators have routinely used portfolios, observations, and standardized tests (Combs,

1974; Wasicsko, 1977). Assessment of dispositions of the pre-service teachers calls for a modified approach to many of the assessment strategies that have been currently used. Several approaches have been used for the assessment of dispositions. In addition, follow up strategies have been suggested to assist pre-service teachers effectively apply strategies to reflect, assess and act with intention within their own teaching. One such example includes the work of Wilson and Cameron (1996). Their research used unstructured student teacher journals to assess the student teachers' perceptions while in a field placement. These journals provided a contextual understanding and insight into the thinking which underpins many of these pre-service teachers' perceptions.

Percy (1990) advocates that preparation programs be proactive in addressing dispositions. He used a Teacher Effectiveness training model, which consisted of a series of intensive and one-week workshops. He found that the training enhanced both teachers' attitudes toward children and selected teacher behaviors associated with effective teaching. The training resulted in a significant improvement in the teacher's attitudes toward children and increased teachers' ability to listen empathetically and confront appropriately. This type of instruction would allow pre-service teachers to identify their own values, beliefs, and dispositions. Opportunities such as this would allow more chances that the behaviors may be sustained over time or the pre-service candidate would be less likely to return to his/her preferred taken-for-granted beliefs and past practices.

Villegas (2007 p.375) recognizes the importance of teacher preparation in supporting teacher candidates' training as she works on social justice with colleagues at Montclair State University. In their work, they assist students to assess their own dispositions as they deal with students from racial or ethnic minorities and low socio-

economic backgrounds. Montclair State University faculty provides a multi-level and ongoing process so that students can grapple with their own values and beliefs assisting candidates' ability to act with intention.

In order to demonstrate the importance for pre-service teachers to be self-aware of dispositions, an interdisciplinary group of faculty at the Alverno college worked together to integrate student awareness of self along with knowledge and skills. Beginning with undergraduate liberal arts programs, the faculty continued to guide students to make links in what they believe, how they act and are able to see how their beliefs influence their actions, thus affecting their sense of self-efficacy. As students move to more advanced courses, they broaden their understanding of the context of their own values including how groups, cultures, and societies formulate values in moral systems or ethical frameworks. Faculty from the Alverno program provide self-assessment prompts to assist candidates to examine their practice reflectively, following a process of observing, analyzing/interpreting, judging and planning (Diez, 2007).

Carroll and Carney (2005), in their research identified that effective teachers possess a value system and respond to situations accordingly. They use this system to reflect on how their responses to various teaching situations and making choices are effective with students. Schussler, et al. (2010) identify the need for preparation programs to assist teachers to perceive these types of situations with greater clarity. She supports doing this through self-awareness tools which may help teacher educators to develop candidates' dispositions. For example, as a means of fostering the development of candidates' awareness of dispositions, Schussler, et al. developed a framework that included three disposition domains. These included intellectual, cultural, and moral

which is referred to as the ICM framework. Pre-service candidates reflect on their ability to utilize knowledge of themselves and their students and to make modifications to their instruction based on their students' beliefs and culture (p.353). Teachers' ground their understanding of teaching situations on their students' underlying value system. This included their personal distinctions of right and wrong. By doing so, these teachers were constantly making decisions using their own value system as a guide.

Various teacher preparation programs have incorporated strategies to attract, train, and retain teacher candidates. These have included teacher testing, teacher certification and rigorous course work. With support from organizations such as NCATE and INTASC, various teacher preparation programs have also recognized and implemented programs that identify dispositions as a means to strengthen pre-service teachers' sense of self-efficacy. By relying explicitly on dispositions, preparation programs allow pre-service candidates to recognize, identify, and challenge their own values and beliefs thus ultimately affecting a teachers' sense of self-efficacy as an effective teacher.

Summary

Both qualitative and quantitative research indicates the association between teacher quality and student performance. The importance of these findings is critical as we view both national and international student academic achievement and the downward trend in student performance. In addition, the impact a highly effective teacher has on a student over consecutive years can be substantial. If we are to improve student performance, then we need to identify what makes a high quality teacher and be assured that there are high quality teachers in every classroom.

The literature identifies what high academically performing countries do to attract, train, and retain teachers. In those countries with high student achievement, policy makers must provide systems and resources to retain high quality individuals. These countries typically set high standards to attract quality individuals and create a high standard for the profession of teaching. The research shows that there are many indicators of what constitutes a high quality teacher, but the research is inconclusive regarding the effects of any one attribute. That is, it is still unclear exactly how teachers' years of experience, certification, and content knowledge systematically affect student performance. Notwithstanding, many current policies including the NCLB Act identifying a "highly qualified teacher" use these indicators as a means of allocating funds. Research suggests that identifying a high quality teacher should go beyond these quantifiable measures. Instead, more attention needs to be paid to the impact of teacher dispositions on student success.

National organizations such as NCATE, INTASC, and NBPT have recognized dispositions as values, attitudes, and beliefs that are critical to a teacher's success with students. Education scholars are still divided on the role of policy and teacher preparation programs in fostering the appropriate dispositions among pre-service teachers. There are those who believe dispositions are vague and not easy to define. However, those supporting the critical role of dispositions in quality teaching assert that dispositions have "predictive patterns of action." There is a significant body of research that indicates that teachers' attitudes, values, and beliefs about students and teaching strongly influence the impact they have on student learning. That is, the literature is clear that dispositions and self-efficacy matters to good teaching and student achievement. However, the literature

remains relatively silent with regard to whether policy can affect teachers' dispositions and sense of self-efficacy. Consequently, this chapter closes with an interest in the overarching question: “Can policy influence teachers' sense of self-efficacy?” This study sought to understand how policy can affect the ability of teacher preparation programs to foster dispositions, thus influencing pre-service teachers’ sense of self-efficacy. The response to this question will fill a gap in the literature and by doing so, inform practice. If policy can affect the way teacher preparation programs prepare candidates then preparation programs have a responsibility to identify highly effective practices in the preparation of quality teachers. If teacher preparation programs can influence positively the competence of teacher candidates, thus making them more effective, then that is a valuable contribution to improving student performance.

CHAPTER 3

METHODOLOGY

Research suggests that the abilities of the teacher are a crucial contributor to student learning which in turn can lead to the development of highly knowledgeable and skilled workers. This chapter describes methods used to examine if state policy can influence teacher preparation programs in their ability to influence pre-service teachers' sense of self-efficacy. It describes the methods used to examine if policy can influence teacher preparation programs in their ability to teach dispositions, thus influencing teachers' sense of self-efficacy. More specifically, this study is designed to assess if teacher's perception of their sense of self-efficacy has been affected by implementation of Wisconsin Policy Initiative 34 (*PI34*). The overarching question is, "Can policy influence teachers' sense of self-efficacy?" In addition, this research identifies how policy is associated with the ability of teacher preparation programs to foster dispositions, thus influencing pre-service teachers' sense of self-efficacy.

This chapter is divided into three sections. Section one explores the potential importance of policy on dispositions. It describes the September 2004 implementation of Wisconsin Policy Initiative 34 (*PI34*). This policy emphasizes teacher attributes that go beyond knowledge and skills and includes dispositions. As noted in the research, teacher dispositions that include values, beliefs and commitment in both students' ability to learn and their own ability to impact learning, is associated with a strong sense of self-efficacy. Tschannen-Moran & Hoy (2000), for example, note that dispositions such as values and beliefs about persistence, commitment, and enthusiasm vis-à-vis student learning and their own abilities, have a powerful relationship with teacher efficacy. Section two

describes the changes in teacher preparation programs both in the state of Wisconsin and at the University of Wisconsin-River Falls as a result of WI *PI34*. Section three specifically describes research methods that were used to explore changes in teachers' perception of self-efficacy associated with Wisconsin *PI34*.

Section One: Policy Impact

Wasicsko and Taylor (2002) believe that policy can influence teacher preparation programs. They recognized that effective teachers had the intersection of three important components including teacher knowledge, pedagogical skills, and dispositions resulting in a strong sense of self-efficacy. They assert that if one of these traits is absent, meaningful teaching and learning do not occur. Wilkerson (2006) supports the need for teacher education programs to include instructional activities that help pre-service teachers in their identification of their own values, beliefs, and dispositions and how this results in a given positive student outcome. By experiencing positive student outcomes, teachers are able to attribute this to their own actions contributing to a stronger belief in themselves as professionals. Having a strong belief in one's ability to influence student outcomes help teachers' persistence when things do not go smoothly. That is, teachers possess the resilience to "forge on" in the face of setbacks (Ashton & Webb, 1986). Following WI *PI34* implementation, teacher preparation programs had an additional focus on dispositions. By surveying teacher candidates' perceived sense of self-efficacy before and after policy implementation, one can explore if policy can influence self-efficacy.

Self-Efficacy as an Outcome of Mastery Experiences

Bandura (1977) described self-efficacy as a belief that a person could do something to produce a specific outcome and "a person's estimate that a given behavior will lead to certain outcomes" (p.79). Bandura (1986) asserted that the opportunity for individuals to have mastery experiences as the most powerful source that impacts self-efficacy. Moreover, he finds that performing a task successfully can strengthen one's sense of self-efficacy. However, failing to deal adequately with a task or challenge can also undermine and weaken self-efficacy. Both pre and post *PI34*, the UWRF teacher preparation program required a minimum number of 100 hours of field experience for pre-service teachers. These experiences were to provide a means for pre-service teachers to practice the craft of teaching and allow opportunities for mastery experiences. If these mastery experiences are the most powerful source for self-efficacy information, teacher preparation programs have the ability to provide these kinds of teaching opportunities for pre-service teachers. Various teaching experiences can help pre-service teachers' ability to gain confidence in their teaching strategies as they work with students of all abilities, behaviors, and cultures. As noted in Figure 1 below, policy can affect teacher preparation programmatic changes as mastery experiences are identified. For example, some state education policies have required pre-service teachers to perform a minimum number of field placement hours in schools prior to student teaching. This provides pre-service teachers opportunities to interact with students of various ages, abilities and developmental levels. This allows pre-service teachers more opportunities to experience classroom management strategies, understand child growth and development, and begin to work with lesson design. Having these opportunities scaffolds the learning process of

teaching and allows the pre-service teacher to gain confidence. The pre-service teacher is provided with opportunities for decision making based upon understanding of successfulness of mastery experiences. Preparing pre-service teachers with these experiences can lead to a greater sense of self-efficacy, thus improving student performance. The University of Wisconsin-River Falls requires a minimum of 100 hours of field placement hours for pre-service teachers prior to student teaching. These experiences provide pre-service teachers opportunities to gain in mastery experiences.

Figure 1: How Policy Affects Student Performance

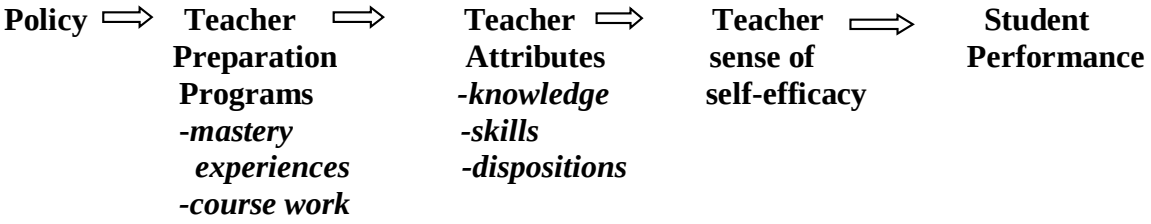
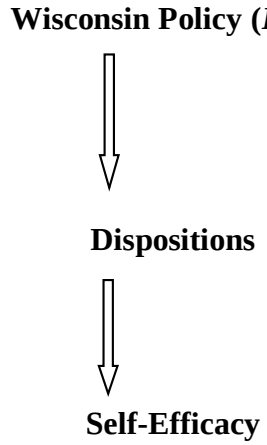


Figure 2: Wisconsin PI34 Policy Effect on Teacher Self-Efficacy



Source: Created by author to illustrate relationship of key variables and concepts.

Policy Impact and Model

Figure 1 relies on Easton's (1965) systems framework, where the theory of action suggests that policy implementation influences student performance through its effect on teacher preparation programs. These programs thus have an impact on teacher attributes and ultimately teacher effectiveness. As noted in "Schools in Conflict," (Wirt and Kirst 1982, 1989), the systems framework can be used to explain how political demands are converted to educational policies at the federal, state and local level. Currently, there is concern about poor student academic performance across the country. In addition, teacher preparation programs are under attack (Quality Counts, 2012). The systems framework helps describe how environmental demands and stresses become policy inputs that are converted within the political system into policy outputs that are fed back into the environment. Policy is responding to a demand for higher student achievement. Currently one of the environmental parameters affecting student achievement is teacher effectiveness. As teacher effectiveness is evaluated, research shows a substantial way to affect student performance is through strong and effective teacher preparation programs and their impact on teachers' sense of self-efficacy (Cochran-Smith & Zeichner, 2005).

Teacher Preparation Program Impact

Figure 1 identifies that policy affects teacher preparation programs. It is critical to pay close attention to how we train and support new pre-service teachers. Just as professionals in medicine, architecture, and law have opportunities to learn through examining case studies, learning best practices, and participating in internships, exemplary teacher preparation programs allow teacher candidates the time to apply their learning of theory in the context of teaching in a real classroom setting (Edutopia, 2008).

In their research, Boyd, Grossman, Lankford, Loeb, and Wyckoff (2005) used teacher preparation as an indicator of teacher quality. They included a variety of teacher preparation pathways. Preliminary results suggested that there were differences in teacher quality at it relates to content knowledge, interaction with students, classroom management, and instructional strategies among teachers prepared in these preparation programs. But no one preparation program provided consistent results.

Knowledge, Skills and Dispositions Impact

Figure 1 shows the role teacher preparation programs have on knowledge, skills, and dispositions of pre-service teachers. Wasicsko and Taylor (2002) recognized that effective teachers had the intersection of three important components including teacher knowledge, pedagogical skills, and dispositions resulting in a strong sense of self-efficacy. NCATE (2002) identified the development of professional dispositions as an explicit obligation of teacher educators. In 2000, the adoption of new standards gave rise to a debate on the role of dispositions in teacher preparation programs. Many research findings recognize the relationship between dispositions and effective teaching. National accreditation agencies have shown their support for dispositions by including them in the new national standards (NCATE, INTASC, and National Board of Professional Teaching (NBPT)).

Teacher Sense of Self-Efficacy Impact

NCATE (2005) describes quality teaching as multi-faceted and broadly defined. At the individual level, quality teaching includes an individual's knowledge and ability. For individual teacher quality, Fentstermacher and Richardson (2005) identify effective teaching as having two dimensions: 1) the task of teaching (what teachers do) and 2)

achievement (the student learning that teachers foster). Quality teaching is not simply the act of teaching. It is also the connections the teacher can make with students that allows learning to occur. Carr's (2006) research focused on teachers' confidence in their ability and influence as the single most important factor contributing to student achievement. Using hierarchal lineal models with student race, gender, socio-economic status and school sized as covariates, Goddard, Hoy and Hoy found a significant association between teacher efficacy and student achievement. Policy makers and scholars generally describe this confidence as dispositions and typically measure it with self-efficacy scales.

Student Achievement as Final Output of Policy Implementation

The quality of teaching to which a child is exposed can have lasting effects on student learning and their future success. Consequently, policy initiatives impacting teacher preparation programs have implications as they influence teacher quality. *PI34* is one such policy as illustrated in Figure 2.

PI34 continues to identify the importance of knowledge and skills in teacher preparation programs. However, there is a call to focus on dispositions which research suggests leads to an improved sense of self-efficacy among pre-service teachers. A teacher's belief in his or her own capabilities often brings about student engagement and learning, even among those students who may be difficult and unmotivated. As noted in the research, teacher dispositions that include values, beliefs and commitment in both students' ability to learn and the teacher's own ability to impact learning, influences a teacher's strong sense of self-efficacy. INTASC highlighted the importance of dispositions and encouraged institutions of higher education to incorporate dispositions as they train pre-service teachers. NCATE identified the development of professional

dispositions as an explicit obligation of education policy makers. Wisconsin educators recognized dispositions and attitudes as a means of strengthening pre-service teachers' self-efficacy with the implementation of the WI *PI34* initiative.

Section Two: Wisconsin Policy Initiative 34 (*PI34*)

Wisconsin Policy Initiative 34 *(PI34)* sought to have an impact on teacher preparation programs to provide stronger teacher candidates. Examining Wisconsin *PI34* after seven years, a useful case study is provided to assess the potential influence of policy on preparation programs and the resulting association with teacher self-efficacy. The results of this study can help to inform research by analyzing if the sense of self-efficacy among teacher candidates was positively associated with policy changes.

In an effort to strengthen teacher quality as it relates to attracting, preparing, and retaining teachers, in 1994 the Wisconsin State Superintendent of Public Instruction appointed a task force to study, develop, and recommend a new system for preparing and licensing educators. State, national, and global trends influenced this task force's work. These trends included the influence of technology both in terms of tools for learning and the nature of work. The speed and ease of travel was also recognized as it affected shrinking boundaries of our world. Finally, the trend with regard to the increasing gap in student wealth was also recognized as having an impact on education. The work of the task force resulted in a plan that 1) created a vision of what educators should know and do; 2) developed career-long professional development; 3) created performance based assessment of preparation and practice; 4) addressed challenges and opportunities presented by diverse student populations; and 5) improved access to equitable educational opportunities for all students. As a result of this task force's

recommendations, Wisconsin Administrative Code *PI34,* the Wisconsin Quality Educator Initiative, was adopted in 2000. The foundation of the new system was the Wisconsin Educator standards. Policy Initiative 34 (*PI 34*) of the Wisconsin State Statutes was then implemented on September 1, 2004. *PI 34.02* states: *To receive a license to teach in Wisconsin, an applicant shall complete an approved program and demonstrate proficient performance in the knowledge, skills, and dispositions under all of the ten Wisconsin standards.*

The Change from Wisconsin PI3 and PI4 to Wisconsin PI34

Wisconsin Policy Initiative 34 is an evolution of two key previous Wisconsin education policies, Policy Initiative (*PI3)* and Policy Initiative (*PI4)*. Previously, *PI3* and *PI4* occurring simultaneously, identified teacher preparation program requirements for institutions of higher education. *PI3* identified specific program guidelines. *PI4,* building upon *PI3,* identified specific coursework for content areas and grade levels of licensing. After implementation of *PI34*, the measure of what educators must know and do is no longer simply a list of courses and credits that characterized these past two policies. The recently adopted ten Wisconsin standards, based upon the national standards implemented by INTASC, require the demonstration of proficiency in knowledge, skills, *and* dispositions. The newly adopted *PI34* provides broad expectations of program and licensing requirements whereas the old policy content of *PI3* and *PI4* had specific requirements.

Wisconsin PI34 -PI3 Defined

The requirements of *PI3* identified the requirements for acquiring a teaching license in the state of Wisconsin. A license was issued to an applicant who had

satisfactorily completed an approved program, who had received institutional endorsement and who had completed specific course requirements. Through the 1960s to 1980s, *PI3* underwent modifications to update requirements and courses a pre-service teacher was expected to accomplish. The most current examples of these modifications included completing 3 semester credits or equivalent in special education, completing course work in the teaching of reading and language arts appropriate to his/her level of licensure and a course of study including 12 semester credits of mathematics, social studies, and science. These and other requirements such as the completion of an environmental education program and a student teaching experience for a full semester following the school district calendar are also contained in *PI34*.

PI3 required an applicant to have a minimum grade point average of 2.75 on a 4.0 scale. He/she needed to receive a passing score on standardized examinations in mathematics, reading, and writing. Applicants were also expected to receive a passing score on a standardized examination in each major, minor, concentration and advanced program in which licensure was sought. Other requirements under *PI3* included the completion of particular courses such as human relations, cooperative marketing, preparation program working with students at risk, and demonstration of competency in conflict resolution. *PI3* also required courses such as historical, legal, political/economic, and social foundations underlying the development, purpose, and governance of education. *PI3* identified pre-service teacher requirements, especially related to a minimum number of credits in specific course areas. While *PI3* focused on number of credits and general course requirements, *PI4* was more specific as to what constituted the content of the courses. (See Table 3.1)

Requirements of PI4 Defined

PI4 followed and built upon *PI3* with adoption and implementation in the 1980s. It identified the institution of higher educations' specific guidelines. Beginning in the two inch thick guide with "Teacher Education Program Approval, Appeals and Review of Rule" on page 1, it continued by dedicating 67 pages to the licensure rules identified in *PI3*. Each major and minor program requirement is detailed in 131 pages. The final 48 pages clearly outlined program guidelines for additional licensures and certifications. Clearly, one will note the vast differences from *PI4* to the changes characterizing the *PI34* policy simply by the current size of the slim 26 page document. Defining *PI34*, in those 26 pages, 5 pages specifically identify the institution of higher educations' guidelines. These five pages of guidelines were once included in 131 pages of *PI4. (See Table 3.1)*

The New Institutional Context: PI34 Changes

As noted throughout the pre-service candidates' program requirements, *PI34* requires institutions of higher education (IHE) to have a performance-based professional education program representing the 10 Wisconsin standards. These standards must reflect the college's mission and vision and be integrated throughout the program with a research based focus. This provides an opportunity for the individual, classmates, and the instructor to base conversation and decisions on research of best teaching practices.

Clinical programs including pre-student teaching and student teaching provides experiences to pre-service teachers which are developmental in scope and sequence and occur in a variety of school sites including rural, suburban, and urban settings. Through assessments of these experiences, an increased knowledge and understanding of the 10

Wisconsin standards should result for the pre-service teacher. Institutions of higher education are able to assess this growth through required evaluations, including a pre-service teacher assessment portfolio. Wisconsin is the only state that requires pre-service teachers to complete an 18-week student teaching experience under the mentorship of a certified cooperating teacher. This experience follows the school district calendar in which the pre-service teacher is placed (Education Week, January, 2012).

Other requirements under *PI34* have gone unchanged since *PI3* and *PI4*, including completion of courses such as human relations, cooperative marketing, preparation program working with students at risk, and demonstration of competency in conflict resolution. Though *PI3* focused on various aspects underlying the development, purpose, and governance of education, *PI34* now includes the demonstration of knowledge and understanding of minority group relations. For example, the history and culture of American Indian tribes in Wisconsin, women, various racial, cultural, language and economic groups are specifically identified. This can have an impact on dispositions providing pre-service teachers with the opportunity to learn about and discuss the implications of practice for American Indians in the K-12 school system.

PI34 continues to focus on academic expectations having to do with minimum grade point average, passing scores on standardized examinations in basic skills (math, reading, and writing), and a content area examination. Additional assessments of knowledge, skills, and dispositions within the educational program are integrated with the 10 Wisconsin/INTASC standards. *PI34* identifies that assessments shall be developmental, multiple and measurable over time and shall be grounded in research based on best practices in education.

Under *PI3* and *PI4*, training requirements have gone unchanged as it relates to cooperating teachers and university supervisors. For example, a cooperating teacher must hold a Wisconsin teaching license, have at least three years of teaching experience in the school or school system of current employment, and have completed training in both the supervision of clinical students and in the applicable Wisconsin teaching standards.

Institutions of higher education are required to provide a general education program so that pre-service teachers are well rounded in a variety of content areas that are relevant to students' learning. These include written and oral communication, mathematics, fine arts, social studies, biological and physical sciences, the humanities, Western and non-western history or contemporary culture in which the 10 Wisconsin standards are embedded throughout the education program. The connection between teacher knowledge and student learning as it relates to these broad content areas encountered within the school setting is extremely important. Prospective teachers may know and understand these broad content areas, but they must also be able to convey the information to students for effective teaching to occur. Changes in licensing requirements by student developmental differences under *PI34* attempted to address this issue. Being open to new ideas and challenging one's own values and beliefs allows one to have a better connection with students to allow for learning. These changes are expected to have a positive impact on the self-efficacy of future teachers.

PI34 also contained many of *PI4*'s requirements having to do with knowledge and skills of pre-service teachers. Areas were added not only to assess knowledge and skills but to better inform IHE of those pre-service candidates' having specific dispositions to be an effective future teacher. Assessments that are developmental, based upon research,

multiple and measureable over time assists with all three teacher characteristics-knowledge, skills, *and* dispositions. *PI34* encouraged the development of assessments and also allowed institutions of higher education to identify strengths and weaknesses of its pre-service teacher training program and to make necessary changes. Though the previous policies *PI3* and *PI4* were more prescriptive stating exact courses and credits necessary for teacher licensing, *PI34* provides guidelines that allow more flexibility to institutions of higher education. For example, before *PI34*, 100 hours of field experience/pre-student teaching was required for all Wisconsin teacher candidates prior to student teaching. *PI34* provided flexibility of this requirement by allowing IHE to set individual institutional guidelines. (See Table 3.1)

Table 3.1 *PI3; PI4 and PI34 Defined*

Criteria	***PI3***	***PI4***	***PI34***
#credits	Specific to course work	Specific to course work	Specific to course work
GPA	2.75	2.75	2.75
PRAXIS I(pre prof. skills)	yes	yes	yes
PRAXIS II(content)	no	no	yes
Course content defined	yes	yes	flexibility
Inclusion of 10 WI standards	no	no	yes
Knowledge and skills	yes	yes	yes

embedded in program			
Dispositions embedded in program	no	no	yes
100 practicum hours prior to student teaching.	yes	yes	flexibility
Course work including minority groups (diversity)	no	no	yes
Training requirements for supervisors	yes	yes	yes
18 weeks of student teaching	yes	yes	yes

Source: Compiled by author based on data. PRAXIS I assesses pre professional skills. PRAXIS II assesses content specific skills data measures

Section Three: Case Study: Can Policy Influence Teachers' Sense of Self-Efficacy?

It is important to examine if Wisconsin *PI34's* added emphasis on dispositions is associated with teacher quality as it relates to teachers' perceived sense of self-efficacy. This study was designed to assess teachers' perception of their sense of self-efficacy before and after implementation of Wisconsin *PI34*. In order to do this, a key question is explored: What is the general sense of self-efficacy that exists among teacher candidates in the period before and after Wisconsin *PI34* was implemented in September, 2004? To address this query, both qualitative and quantitative data was utilized in this research. This study looked at the perceived efficacy of teacher candidate cohort groups from the University of Wisconsin-River Falls elementary teaching preparation program before and after Wisconsin *PI34* was implemented. Elementary teaching candidates were specifically selected because the preparation program is most similar in pedagogical

content. In contrast, secondary teaching preparation programs contain more pedagogical variation among content areas.

Case Study

This analysis is primarily an exploratory case study. As Yin (2009) notes, the goal of an exploratory case study is to develop pertinent hypotheses and propositions for further inquiry. The quintessential characteristic of case studies is that they strive towards a holistic understanding of cultural systems of action (Feagin, Orum,& Sjoberg, 1990). Cultural systems of action refer to sets of interrelated activities engaged in by the actors in the social situation. It was the goal of this study to inform the reader of the association of policy (*PI34*) on pre-service preparation as it relates to dispositions, specifically as it relates to teacher candidates' perceived sense of self-efficacy. This study utilized both qualitative and quantitative data. Quantitative data were collected on elementary teacher candidates and included Grade Point Average (GPA) and ratings from respondents completing the OSTES survey. Qualitative data include teacher responses on a questionnaire regarding elementary teacher candidates' perception of their sense of self-efficacy. The selection of one particular university within the Wisconsin university system is appropriate for gaining information as it provides insight even if it is not representative of the larger group.

Qualitative research is used in this study so that one can look at a broad range of interconnected processes or causes. It offers a wealth of varied information on a small case over a broad set of data. It can help us to see how many different causes and actions lead to specific outcomes. Qualitative data included survey respondents' response to questions about if they agreed/disagreed (Likert) with the questions and ratings of their

perceived sense of self-efficacy. This was used to better understand the attitudes, beliefs, or knowledge of the particular groups. Selection of this one university within the Wisconsin university system provided an information-rich case and offered the opportunity to maximize what can be learned in the period of time available for the study (Patton, 2002, Stake, 1995).

The objective of quantitative research in this study is to develop and employ mathematical models, theories and/or hypotheses pertaining to phenomena regarding the cohort groups of participants selected. Quantitative data used in this study included respondents' grade point average. As illustrated in Figure 1 (page 51), teachers' perceived sense of self-efficacy following their teacher preparation program, is fundamental to understanding the system being examined. This single case study helps to inform policy and practice regarding emphasis on dispositions as well as more technical skills in enhancing teachers' perceived sense of self-efficacy. As noted in the research, though content knowledge is essential for teacher effectiveness, there is a strong association between student achievement and strong pedagogical skills (Baumert, 2010). Including data regarding respondents' grade point average provides common elements of the content knowledge of the study participants before and after *PI34* implementation. This allows the study to identify more persuasively the findings as being associated with changes in the policy and its increased focus on dispositions. In drawing conclusions, one must also recognize that case study research can generalize the proposed theory but may not generalize to populations (Merriam, 1998).

University of Wisconsin-River Falls- A Case Study-Rationale for Participant Selection

The University of Wisconsin-River Falls teacher preparation program provides a useful case study since its pre-service teacher population is reflective of the state of Wisconsin's comprehensive university system. Table 1 identifies 11 mid-size universities within the University Wisconsin system. Specific characteristics such as enrollment size, enrollment by gender, race, and number of students in the undergraduate college of education program completers in elementary and secondary education are included in this table. These identified universities range in enrollment from 2,700 students to 13,000 scattered throughout the state of Wisconsin. They include the universities of Eau Claire, Green Bay, LaCrosse, OshKosh, Parkside, Platteville, Stevens Point, Stout, Superior, Whitewater, and River Falls. Having an enrollment of approximately 6,200 students set in a rural community with close proximity to a large metropolitan area, the University of Wisconsin-River Falls is fairly typical of the 11 mid-size universities that are located throughout the state of Wisconsin university system. The University of Wisconsin-River Falls College of Education and Professional Studies graduates approximately 260 teachers each year with more than half of those becoming elementary teachers (2009).

The University of Wisconsin-River Falls is located in Western Wisconsin in River Falls, Wisconsin. The city of River Falls is the second largest Wisconsin city adjacent to the St. Paul/Minneapolis metropolitan area in Minnesota. It is the 8th largest metropolitan area in the state of Wisconsin. With a population of 16,549 residents, the median income is $41,184 as compared to the median income of approximately $39,000 for the state of Wisconsin. The poverty rate of households in the state of Wisconsin stands at 13.2% as compared with 15% for River Falls' residents. Because of its

proximity to Minneapolis /St. Paul, Minnesota, the University of Wisconsin-River Falls draws its student population from both rural and urban communities. This location provides a relatively diverse student population attracting students from Asian, African American, and Hispanic descent. The University of Wisconsin-River Falls enrolls more females (60%) as compared to males (40%). The Wisconsin university system attracts 53% females and 46% males. In addition, enrollment by gender also reflects national trends regarding the higher number of females attending institutions of higher education than the number of males. (See Appendix B- UW-System student statistics, 2009/2010).

University of Wisconsin System Teacher Education Requirements

Acceptance to the teacher education program at the University of Wisconsin-River Falls has similar requirements as other Wisconsin institutions. Wisconsin requirements for admittance into teacher education include the expectation of a grade point average of at least 2.75 on a 4.0 scale in the licensing field. The pre-service candidate must pass a minimum examination score for their licensing field and demonstrate knowledge of the ten teaching standards by completing a portfolio before student teaching. Because of these aforementioned similarities with the other 11 universities, the results of this study can help to inform theory and practice as it relates to the context of other universities within the University of Wisconsin system. Table 3.2 identifies the University of Wisconsin universities as follows: Eau Claire - (EAU); Green Bay - (GBY); LaCrosse - (LAC); Oshkosh - (OSH); Parkside - (PKS); Platteville - (PLT); River Falls - (RVF); Stevens Point - (STP); Stout - (STO); Superior - (SUP); and Whitewater - (WTW).

Table 3.2

University of Wisconsin system of eleven universities
Student Demographics
Fall 2009/2010

Criteria	EAU	GBY	LAC	OSH	PKS	PLT	**RVF**	STP	STO	SUP	WTW	mean
Enroll	10204	5959	8787	11911	3877	7025	**6156**	8291	7906	2392	9748	7478
#fem	6050	3878	5295	7248	2087	2624	**3754**	4433	4021	1416	4930	4158
#male	4154	2081	3492	4663	1790	4401	**2402**	3858	3885	976	4818	3320
#Afr. Am	62	52	86	186	527	195	**89**	110	75	37	514	176
#Hisp.	140	124	186	247	463	110	**85**	137	130	30	291	177
#Nat. Am.	61	108	41	113	21	28	**20**	54	46	69	42	55
#SE Asian	214	129	164	290	18	46	**79**	153	170	11	86	124
#tcher ed.	216	117	280	239	41	110	**171**	258	164	87	409	190

(Source for table: The University of Wisconsin System Student Statistics, Fall 2009-10 Headcount Enrollment by Race/Ethnicity and Gender)

University of Wisconsin-River Falls Prior to PI34

Prior to implementation of *PI34*, an applicant who had satisfactorily completed an approved program, who had received institutional endorsement and who had completed specific requirements from the University of Wisconsin-River Falls was eligible for a Wisconsin teaching license. A student teaching experience consisting of 18 weeks following the school district calendar was required for all pre-service teachers. Overall, UWRF followed the program guidelines as identified by the Wisconsin Department of Public Instruction.

University of Wisconsin-River Falls Responds to PI34 Implementation

Following the adoption of *PI34* in 2004, the University of Wisconsin-River Fall's College of Education and Professional Studies underwent a number of programmatic changes. The professional education program embraced the inclusion of knowledge, skills, *and* dispositions by adopting the ten Wisconsin teaching standards to reflect the college's mission, vision, and philosophy as part of its conceptual framework. The standards which include knowledge, skills *and* dispositions, were identified and integrated throughout the program. Responding to *PI34,* an electronic assessment portfolio was initiated to assess students' ability to demonstrate understanding of the ten Wisconsin teaching standards.

In order to assess knowledge and skills within a professional program, teacher candidates continued to be required to meet a minimum examination score on an approved standardized examination (PRAXIS I) that measured basic skills in reading, writing, and mathematics prior to entrance to teacher education. Communication and human relations skills were identified and completed through course work. To meet the "highly qualified teacher" requirements under federal law, Wisconsin *PI34* required an additional examination. This examination required teacher candidates to meet a minimum examination score in their subject-specific content area and specific teaching skills that covered broad content areas. Responding to this requirement, the University of Wisconsin-River Fall's College of Education and Professional Studies required teacher candidates to pass an examination (PRAXIS II) prior to entrance to student teaching. PRAXIS II focuses on content area and pedagogical skills in the specific content(s) the pre-service teacher is seeking a license to teach. Because the PRAXIS I examination was

inconsistent among those participants after *PI34*, this study relied on GPA as a measure of content knowledge rather than PRAXIS I results.

The clinical program including pre-student teaching and student teaching after implementation of *PI34* continued to focus on the importance of diverse school experiences. Therefore, placement in a variety of diverse settings including rural, suburban, and urban environments was required. In Wisconsin, 100 hours of additional field placement experiences prior to student teaching requirement was no longer required under *PI34*. However, UWRF continued with this practice. Field placement requirements continued to incorporate course work within the field experience with evaluations conducted from experienced, licensed, and identified cooperating teachers. Field placement requirements and preparation of the assessment portfolio specifically assessed pre-service candidates' growth over time from beginning course work to the end of the program prior to student teaching placement.

Because *PI34* allowed for an intense program review and a stronger emphasis on communication skills that included emerging technology, an additional technology course was added for all students in teacher education. Continuing with the need to identify strengths and weaknesses of the education program, the College of Education and Professional Development developed a survey instrument to identify programmatic needs that aligned with the ten Wisconsin standards. Pre-service teacher candidates completing the teacher education preparation program were asked to articulate strengths and weaknesses of the UWRF teacher preparation program relating to the ten Wisconsin teaching standards. Students responded to these surveys voicing their opinions of their preparation program with regard to the ten Wisconsin standards. This survey was not

used to measure dispositions. Therefore, was not utilized for this research. (See appendix A-UWRF End of Program Evaluation)

What Can be Learned from PI34 Implementation?

Because this study focuses on what can be learned from the adoption of *PI34*, the type of research methods employed is consistent with an exploratory case study. By selecting four cohorts of participants within one university included in the Wisconsin university system, this selection offers the opportunity to maximize what can be learned as a result of policy implementation. The overarching purposed of this was to identify teachers' sense of self-efficacy prior to and following *PI34* implementation in the state of Wisconsin. From two sets of specific cohort groups, this study identifies the general consensus among teacher candidates' perception of sense of self-efficacy following their elementary teacher preparation program *before* Wisconsin *PI34* was implemented in September 2004. In addition, from two sets of specific cohort participants, this study identifies the general consensus among teacher candidates' perception of sense of self-efficacy following their elementary teacher preparation program *after* Wisconsin *PI34* was implemented in September 2004. Ultimately, the study explores how the perceptions of the pre and post groups compare with each other as it relates to their sense of self-efficacy.

Teacher Preparation Program Selected for Study

Of the UWRF teacher preparation programs, the elementary preparation program was selected specifically because this preparation program is most similar across all teacher candidates. Data were collected from elementary teacher candidates from the academic years of 2002-2003 and 2003-2004. These groups were chosen because they

are the most recent teacher education groups who had completed a program under the old ruling of *PI3* and *PI4* and prior to *PI34* implementation in September 2004.

To explore and examine the full implications of *PI34* policy change, this study examines two additional cohort groups: elementary teacher candidates who had completed an elementary teacher preparation program at the University of Wisconsin-River Falls after September, 2004. This includes data for teacher candidates who completed the elementary teacher preparation program during the academic years of 2006-2007 and 2007-2008. These two groups of elementary teacher candidates were chosen because they were the first pre-service teacher candidates to have been admitted into teacher education after implementation of *PI34*. This group of candidates experienced the full effects of program changes, (such as testing requirements, course and content changes), as a result of *PI34* policy implementation.

Teacher Preparation Program Participants' Contact Information and Search

Each of the four academic years includes a total of 292 graduates of the elementary teacher preparation program. Because these individuals have graduated and have not always provided current contact information on an ongoing basis with the University of Wisconsin-River Falls, the author of this research contacted the University of Wisconsin-River Falls' Institutional Research Office. This office provided data regarding students' names, addresses and phone numbers (UWRF Institutional Research). The author of this research then contacted participants via telephone to verify current addresses. This was helpful in the sense that it updated information regarding the participants' current mailing addresses but still lacked many participants' current contact information. The next step was contacting the University of Wisconsin-River Falls

Alumni Office. This office provided the most up to date addresses and phone numbers of the participants.

Teacher Preparation Program Final Selection of Participants

The four academic years included a total of 292 graduates of the elementary teacher preparation program. From the original 292 identified graduating elementary majors in the four cohort groups, 29 of these participants were excluded from the survey because there was no current contact information. From this information, 263 identified participants were asked to respond to the Ohio State Teacher Efficacy Scale (OSTES) which provided teachers' information regarding sense of self-efficacy following their teacher preparation program from the University of Wisconsin-River Falls.

Each group of respondents had similar attributes which include male and female participants, mix of ethnicity and information on the respondents' grade point average. The percent of total females in the population of all four cohort groups was 92.4 percent whereas the total of female responders was 93 percent. The percent of males within all four cohort groups was 7.6 percent compared to 7 percent for male responders. The percent of White from the population of all four cohort groups was 96.2 percent and 96.5 percent of respondents were White. The percent of the population of all Non White was 3.8 percent with 3.5 percent of responders being Non White. Of the 263 surveys sent to participants, eight letters were returned for incorrect addresses. There were 85 participants who responded to the survey with a response rate of 32.31 percent. The following represents the response rate:

Table 3.3: Teacher Preparation Program Cohort Participants and Response Rate

Cohort Year	Total Number Surveyed	Number of Responses	%Response Return Rate
2002-2003	57	15	26%
2003-2004	69	28	40.5%
2006-2007	68	18	26.4%
2007-2008	69	24	34.7%
Overall Response rate	263	85	32.3%

Collection of Qualitative Data: Survey Instrument

Because the Ohio State Teacher Efficacy Scale (OSTES) focuses on dispositions, this survey served as the primary tool to gain information about participants' perception of sense of self-efficacy. The survey allows the study to explore if teacher candidates who were educated before *PI34* had substantially different perceptions of their self-efficacy than those teacher cohorts who were educated after implementation of *PI34*. It is assumed that if there is significant difference in the self-efficacy score, this may be credited to the changes brought about by *PI34*. It should be noted however, that there are other reasons regarding why those changes occurred. These may have included the number of years since respondents had graduated and overall attitudes regarding their teacher preparation program. In addition, the general political climate in the state of Wisconsin could have influenced respondents' self-efficacy scores.

Participants responded to questions on their perception of self-efficacy as they reflected on their completion of the university program and began teaching students in their first year. To measure the selected candidates' self-efficacy beliefs, respondents completed a teaching self-efficacy scale derived from Anita Woolfolk Hoy's Teachers' Sense of Self-Efficacy Scale. This measure, named Ohio State Teacher Efficacy Scale (OSTES), with a focus on dispositions has been examined in three separate studies. The first study took the original 52 items and reduced the instrument to 32 items. The instrument was tested on 224 participants including 146 pre-service teachers and 78 in-service teachers. The sample included both male and female, ages ranging from 18 to 56 years, and racial make-up of 184 European Americans, 23 African Americans, 4 Latinos/Latinas, 3 Asian Americans, and 10 self-identified as other. Respondents rated their ability to influence teaching circumstances based upon a 9-point scale of 1--nothing, 3--very little, 5-- some influence, 7-- quite a bit, and 9-- a great deal. In addition, respondents were asked to rate the importance of each item for effective teaching on a 4-point scale (not at all, somewhat, important, or critical). As a result of this data collection, the 52 items were reduced to 32 items for further testing.

In the second study, another group of 217 pre-service (70) and in-service (147) teachers participated. Based on the procedures, the 32-item scale was further reduced to 18 items made up of three sub scales. The sample included both male and female teachers, ranging in age from 20-62 years and including 172 European Americans, 22 African Americans, 6 Latinos/Latinas, 6 Asian Americans and 8 who self-identified as other. Participants in this study were also asked to respond not only to the OSTES but also to the Rand item survey, the Hoy and Woolfolk (1993) 10-item adaptation of the

Gibson and Dembo TES, the pupil control ideology form (Willower, Eidell, & Hoy, 1967), and the work alienation scale (Forsyth & Hoy, 1967). As expected, total scores on the OSTES were positively related to these other scales. The findings of this second study were encouraging thus resulting in an 18-item self-efficacy instrument. This instrument had good validity and the factors were conceptually sound representations of the various tasks of teaching. The weakness of the management factor as well as the strength of the instructional strategies and student engagement factors led to the design of the third study.

In the third study, the purpose was to refine the OSTES. Because the classroom management factor of the 18-item scale was weak and recommended for elimination, more items were written to capture this important dimension of teaching rather than eliminating it. Based upon this feedback, 36-items were included on this instrument and a third study was conducted with a sample population of 410 participants including 103 pre-service teachers and 255 in-service teachers. The sample included both male and female participants ranging in age 18-57 years, 332 European Americans, 38 African Americans, 3 Latinos/Latinas, 7 Asian American/Pacific Islander, and 10 who self-identified as other. In each of the three sub-categories, those items with the highest loadings on each factor were selected. The resulting instrument had two forms, a long form with 24 items and a short form with 12 items. The factor structure, reliability, and validity of the new measure were examined, as well as the appropriateness for both pre-service and in-service teacher populations. The results of these analyses indicate that the OSTES is considered to be reasonably valid and reliable (Tschannen-Moran & Woolfolk Hoy, 2001).

After careful refining of the measurement instrument, both the 24-item and the 12-item (short form) were subjected to two separate factor analyses. In addition, the construct validity of the short and long forms of the OSTES were assessed by correlating this measure and other existing measures including the Rand measure and Hoy and Woolfolk (1993), 10-item adaptation of the Gibson and Dembo TES measures. At the conclusion of this analysis, the authors, Tschannen-Moran and Woolfolk Hoy, indicated that both subscale scores and the total score for both forms can be used to assess efficacy. Tschannen-Moran and Woolfolk Hoy (1993, p.801) assessed the validity of this instrument stating, "The results of these analyses indicate that the OSTES could be considered reasonably valid and reliable. With either 24 or 12 items, it is of reasonable length and should prove to be a useful tool for researchers interested in exploring the construct of teacher efficacy."

Though the Rand and Gibson and Dembo (1984) instruments focused on coping with students' difficulties and disruptions, the OSTES moved beyond previous measures to capture a wider range of teaching tasks. The OSTES assesses teachers' support of student thinking, effectiveness with capable students and flexible application of alternative assessment and teaching strategies (Tschannen-Moran & Woolfolk Hoy, 2001). Each of these attributes captures a teacher's identification of their own values, beliefs, and dispositions about positive student outcomes as a result of their own mastery abilities. (See Appendix C for factor analysis/reliability/validity data).

Survey Scale Described

Relying on the OSTES scale, the questions used in the survey addressed teachers' perceived sense of self-efficacy following completion of the University of Wisconsin-

River Falls teacher preparation program and beginning their first year of teaching. Respondents rated their ability to influence teaching circumstances based upon a 9-point scale: 1-- nothing, 3--very little, 5-- some influence, 7-- quite a bit, and 9-- a great deal. Specific questions addressed on this scale were grouped into three main categories including 1) Student Engagement; 2) Instructional Strategies; and 3) Classroom Management.

OSTES Sub-Category: Student Engagement

The first category addressed individuals' perception of their beliefs and confidence in dealing with student engagement following their teacher preparation program from the University of Wisconsin-River Falls. Types of questions having to do with student engagement include questions such as, "How much can you do to motivate students who show low interest in school work?"; "How much can you do to help students to value learning?"; "How much can you do to calm a student who is disruptive or noisy"; "How much can you assist families in helping their children do well in school?" As Darling-Hammond & Bransford (2005) noted, these questions address teacher attitudes, beliefs, and commitment to the growth and learning of all students.

OSTES Sub-Category: Instructional Strategies

The second category addressed individuals' perception of their beliefs and confidence in dealing with instructional strategies following their teacher preparation program. Types of questions having to do with instructional strategies include questions such as: "To what extent can you craft good questions for your students?"; "How much can you use a variety of assessment strategies?"; "To what extent can you provide an alternative explanation or an example when students are confused"; "How well can you

implement alternative strategies in your classroom?" Fentstermacher and Richardson (2005) identified that effective teaching was not only the task of teaching (what teachers do) but also achievement (the student learning that teachers foster). Effective teachers recognize the connections they need to make with students and that allows learning to occur.

OSTES Sub-Category: Classroom Management

The third category addressed the participants' perception of their beliefs and confidence in dealing with classroom management following their teacher preparation program from the University of Wisconsin-River Falls. Types of questions having to do with classroom management include questions such as: "How much can you do to control disruptive behavior in your classroom?"; "How much can you do to get students to believe they can do well in school work?"; "How much can you do to get children to follow classroom rules?"; "How well can you establish a classroom management system with each group of students?" Having a positive belief in one's estimation that a given behavior will lead to a certain outcome, provides a strong sense of self-efficacy as a teacher manages the classroom environment (Bandura, 1977). (See Appendix B for survey instrument).

Modifications to the OSTES Survey Instrument

Additional questions were included on the survey to gain background information regarding participants' current status of teaching, number of years of teaching, opportunities of support within the school system, and perception of the UWRF teacher preparation program. This study sought information on the respondents' perception of self-efficacy after their first year of teaching. Rust (2002) noted that first year teachers

are emotionally most affected because they are strongly affected by the conditions of the workplace and most particularly by the climate of acceptance established by the school principal. In addition, the University of California Santa Cruz New Teacher Project (2000) identify this first year of teaching as most memorable as a result of the many phases a new teacher experiences all within the first year. Because a teacher's memory of the first year of teaching is imprinted in their mind, reflective questions focusing on the experience allowed the survey participants' an opportunity to think back to the time they had begun teaching.

Aware of the fact that mentoring can provide the necessary support for new teachers, Wisconsin *PI34* mandated K-12 Wisconsin schools to establish school wide and district wide mentoring programs. Fieman-Nemser (2003) identified mentoring programs as a high priority for the success of first year teachers. Allowing first year teachers' opportunity for success, introductory questions addressed these support systems, such as collegial support and mentoring programs. Introductory questions included the following questions: 1) How many years have you taught since completing the UWRF teacher preparation program? Are you still teaching? 2) Did you have a mentor formally assigned to you during your first year of teaching? If not formally assigned, did you have another faculty member who served as a support person to you? 3) How much support did you feel you received from your peers during your first year of teaching? 4) How much support did you feel you received from your school principal during your first year of teaching? 5) How much influence did your teacher training program and/or experience provide you to be an effective teacher?

Principal support reflects the level of support given to new teachers by principals. Principal support measures include providing new teachers opportunities to be specifically placed in their levels of expertise and licensure. Support from principals includes providing new teachers adequate resources to meet their needs, and assignments that limit extra duties and responsibilities to optimize their chance of success. Principal support plays a significant role in promoting the new teachers' development and is therefore important to consider.

Peer support was included because of its importance for new teachers' success. As Carl Rogers (1958) pointed out, peer support is accepting of another person without making judgments. Peer support recognizes the power of accepting the beginning teacher as a developing person and professional.

Teacher preparation programs as noted in Chapter 2 have a number of varying criteria depending on the specific teacher preparation program. Effective teacher preparation programs cite a number of criteria as seen as successful in developing a new teacher. The teacher preparation program at the University of Wisconsin-River Falls underwent changes after the passage of *PI34* and therefore student perception of program was also considered in the examination of the association of policy on perceived sense of self-efficacy.

Instrument Piloted

Prior to finalizing the survey, 10 veteran teachers were asked to take the survey to provide further information regarding the usefulness of the types of questions that were asked, the amount of time it took to complete the survey, and overall clarity of the questions. These teachers were selected for their multiple years of teaching and all had

been mentors to new teachers over their 20 to 30 years of teaching. These participants were asked to address the following questions regarding the sample survey:

1. Respond to the ease of taking the survey.
2. How long did it take?
3. Were questions confusing or misleading?

All participants felt the survey was straightforward with clear questions. On average it took most participants 10 minutes to complete. One participant completed it within eight minutes while another took 20 minutes because she took the time to make suggestions. One of these suggestions had to do with the assignment of a mentor. Often times a district may not have a formal mentoring program and a veteran teacher will take responsibility of assisting a new teacher. This type of experience typically provides a successful experience for the new teacher. This would have been especially true prior to *PI34*. Following *PI34* legislation, Wisconsin school districts were required to create and institutionalize mentoring programs. Some districts, prior to *PI34* legislation may have had formal mentoring programs because they deemed it important. Other districts perhaps had veteran teachers who sought out the new teacher and took him or her "under their wing." Therefore, the mentoring question was rephrased to include this concept. This question was addressed previously in question #2 in gathering participants' background information. The original question asked, "Were you assigned a mentor as a first year teacher?" It was then rephrased to the question, "Did you have a mentor formally assigned to you during your first year of teaching? If not formally assigned, did you have another faculty member who served as a support person to you?" (See Appendix D for survey instrument including these questions).

Analytical Model

Responses from the OSTES survey were gathered regarding respondents' perception of their teacher preparation program if they graduated prior to *PI34* legislation and from respondents graduating after *PI34* policy implementation. The goal of this study was to assess the effect of changes in Wisconsin state law *(PI34)* on the dispositions of elementary teaching graduates by examining the perceptions of four cohort groups of graduates at the University of Wisconsin-River Falls.

It is assumed that dispositions (self-efficacy) may be characterized as a function of the passage of the law, the perceived relevance of teacher preparation programs, reported support including principal and peer support and an individual's knowledge and skills. That is,

$$Self\text{-}Efficacy = f(\beta 1 Policy + \beta 2 Teach + \beta 3\ Principal\ Support + \beta 4\ Peer\ Support + \beta 5\ GPA)$$

The following association between the identified variable of interest and self-efficacy scores were anticipated:

Table 3.4: Author's Anticipated Relationship

Variable to be analyzed	**Positive relationship as a result of *PI34* *(expected)***
Principal support	+
Teacher preparation program	+
GPA	+
Formal mentor	+
Peer support	+

The remainder of this section discusses these variables more fully and how they were derived.

Self-Efficacy

Because research (Armor, et al. 1976) identifies links between student achievement and a teacher's sense of self-efficacy- the disposition of their belief in both their students' ability to succeed, as well as their own, this chapter measures the average self-efficacy score of each respondent. This dependent variable was associated with measures of self-efficacy among elementary teaching graduates from four cohort groups of graduates at the University of Wisconsin-River Falls. This analysis determines this association as measured by the average response score given on the OSTES 12-question instrument designed to measure self-efficacy. It should be noted that the numbered responses to the individual questions on the survey are not, in fact, rational, but ordinal categorical (representing categorical responses with a clear ordering, such as "nothing," "very little," "some," "quite a bit," or "a great deal"). They are coded as numbers from 1 through 9 and then averaged to get a disposition score for each respondent. As noted by the author, Woolfolk Hoy (2001), the OSTES is a measure that is superior to previous measures in that it is a unified and stable factor structure and assesses a broad range of capabilities that teachers consider important to good teaching. However, as mentioned previously, the OSTES may not fully capture the other variable that may have affected self-efficacy scores. Teachers who have strong dispositional characteristics have more confidence in their teaching skills. The mean dispositional score was calculated for each of the survey participants. Participants tended to rank all twelve questions similarly in the survey's entirety with very little variation among scores.

Policy

Policy was determined by identifying "policy" as a 0-1 dummy variable. The value of 0 was used for cohort groups in the years 2002-2003 and 2003-2004 and a value of 1 for cohort groups 2006-2007 and 2007-2008. This means that the linear regression analysis was actually an analysis of covariance (linear regression with dummy variables). In essence, "0" was used for before "policy" or a "1" was used for "policy". As a result, two different linear models are produced, one for when policy equals 0 and one for when policy equals 1. It would be expected that there would be a positive relationship with the passage of the law and respondents' sense of self-efficacy.

Teacher Preparation Program

Survey responses from participants ranged from 1 to 9 indicating the amount of influence respondents perceived regarding the association between the support they had from their teacher preparation program and their effectiveness as a teacher. Responses represented 1 as "nothing," 5 as "some influence," and 9 as "a great deal of influence." They were coded as numbers 1 through 9 indicating respondents' perception of influence of their teacher preparation program. It is expected that this variable (perceived influence of the preparation program) would have a positive relationship with the passage of the policy and with the respondents' sense of self-efficacy.

Support Systems-Principal

Survey responses from participants ranged from 1 to 9 indicating the amount of influence the respondent had from the school principal during the first year of teaching. Responses represented 1 as "nothing," 5 as "some influence," and 9 as "a great deal of influence." They were coded as numbers from 1 through 9 indicating the amount of

influence respondents' perceived regarding the association between the support they had from their principals in their first year of teaching and their effectiveness as a teacher. It is expected that this variable (perceived influence of teacher preparation program) would have a positive relationship between principal support, passage of the policy, and with respondents' sense of self-efficacy

Support Systems-Peers

Respondents were asked their level of support and influence from peers. Survey responses from participants ranged from 1 to 9 indicating the amount of influence the respondent had from peer support during the first year of teaching. Responses represented 1 as "nothing," 5 as "some influence," and 9 as "a great deal of influence." They were coded as numbers from 1 through 9 indicating the amount of influence respondents' perceived regarding the association between the support they had from their peers in their first year of teaching and their effectiveness as a teacher. It is expected that this variable (perceived influence of teacher preparation program) would have a positive relationship between peer support, passage of the policy, and with respondents' sense of self-efficacy.

Knowledge and Skills-Grade Point Average

Scholars have examined the association between experience, certification, and content knowledge as attributes potentially fostering teacher quality and self-efficacy. Consequently the analytical model controls for this by including GPA. This measure ranges from 0.0 to 4.0 and reflects the cumulative grade point average of course work taken by pre-service teachers in the program. The group of participants' grades was based upon standardized measurements of varying levels of comprehension within subject

areas. Grade point average (GPA) is calculated by taking the number of grade points a student earned in a given period of time divided by the total number of credits taken ranging with a score from 0.0 to a 4.0. This study included GPA because researchers and scholars may view the knowledge and ability of a teacher as the main influence on perceived self-efficacy. Therefore it is important also to include this data for participants in order to control for the association of knowledge with one's sense of self-efficacy. When analyzing all teacher candidates from the four cohort groups as compared to those who responded to the survey, it is noted that the responders had a slightly higher GPA ($p= 0.003$). Though this difference was statistically significant, the difference of 0.1 grade points is likely not large enough to be practically significant. This difference in higher GPA among responders may reflect the possibility that those participants having a higher desire of task completion, thus completing the survey and returning it.

Regression Model to Determine Change in Dispositions Before and After PI34

In order to determine whether *PI34* legislation was associated with any change in teacher disposition as measured by the average efficacy scores given on the 12-question OSTES survey instrument, a linear regression was used to analyze this data. The independent (explanatory) variable was the categorical variable "Law." All other independent variables were included as control variables. The final model was selected using stepwise regression (backward elimination) to eliminate independent variables that were not statistically significantly related to the dependent variable. The statistical program does not eliminate variables that may be more important in the simpler model with fewer variables.

The Normal Q-Q plot (Figure 3.3) of the residuals was used to assess the normality of the residuals, which is a key assumption behind all of the hypothesis tests in the multiple linear regression analysis. This plot shows a roughly straight line, indicating that the residuals are roughly normally distributed. The only concern with this plot is one point with a relative large negative residual, corresponding to case #17. Case #17 is an outlier; it reflects that this respondent rated a high support rating in the first year of teaching. The respondent rated support from peers, principal and teacher training program all higher than 6.0 on the ordinal scoring system. However, when rating his perception of self-efficacy, the respondent rated 10 of the 12 survey items under a 6.0. Therefore, one might conclude that even though the respondent may have had perceived himself to have a strong support system and had relatively high GPA score, the individual did not feel confident in his/her teaching during this first year. The respondent was a 2002-2003 graduate who had a 3.6 GPA score.

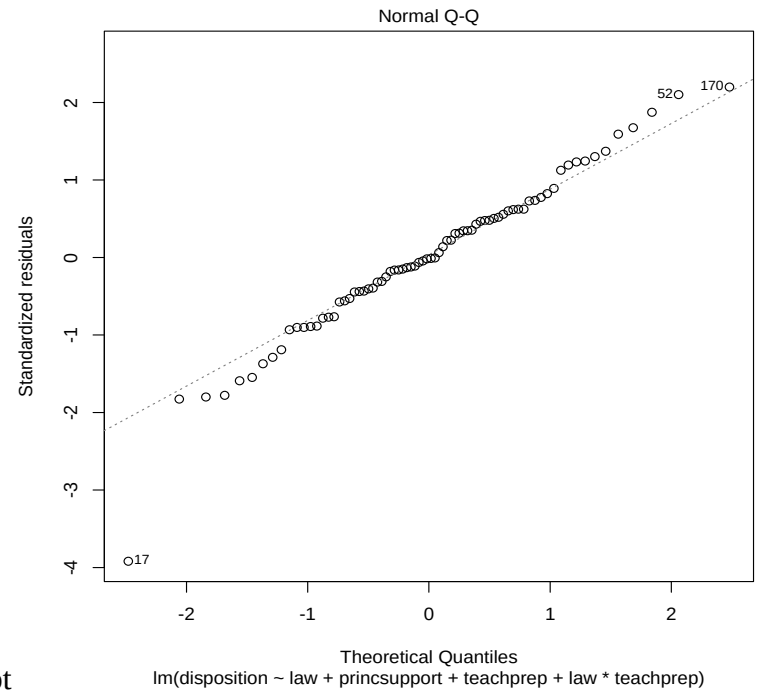


Figure 3.3 Q-plot

Further analysis of the demographics of each of the specific cohorts follows in chapter 4. In addition, the three factors capturing teachers' sense of self-efficacy including student engagement, instructional practices, and classroom management are more fully described among the cohorts pre and post *PI34*. Findings related to the introductory questions having to do with support systems and analysis of these on teachers' sense of self-efficacy are analyzed more fully in chapter 4.

CHAPTER 4

RESULTS

This chapter presents the findings of the analyses done to examine the association between policy and pre-service teachers' sense of self-efficacy. It is assumed that policy can influence self-efficacy indirectly through its impact on teacher preparation programs. More specifically, the goal of this study was to assess the associations between changes in Wisconsin state law, *PI34* and change in perceived self-efficacy of teaching graduates at the University of Wisconsin-River Falls. Participants were selected from four different graduation years, two before the new legislation went into effect and two years after the legislation was in effect. Besides focusing on an individual's sense of self-efficacy as a result of knowledge and skills in the preparation of pre-service teachers, *PI34* legislation included dispositions as part of a new initiative for teacher licensing. A central question guided the study: "Can policy influence teachers' sense of self-efficacy?" Specifically, this study sought to understand the general sense of self-efficacy that exists among teacher candidates in the period before and after Wisconsin *PI34* was implemented in September 2004.

The population of interest is undergraduate education students in Wisconsin during the years 2002–2004 and 2006–2008. These cohorts are believed to be reasonably representative of the students in the population of interest. Surveys were sent to 263 UWRF graduates, with 85 graduates responding for a response rate of 32.3 percent. Missing data were treated as missing completely at random (MCAR).

Because the sample is not a random sample (survey respondents are self-selected), data analyses were conducted to attempt to determine whether there were significant

differences between the group of respondents and the group of non-respondents on several key variables. It is acknowledged that the lack of significant differences does not preclude the possibility of response bias related to variables other than the ones examined below. Because this is a sample from the population of teaching graduates from a particular school, these results cannot be generalized to the population of all Wisconsin education graduates.

This chapter is divided into four sections. Section one provides a demographic summary of the cohort participants for the years 2002-2003, 2003-2004, 2006-2007 and 2007-2008 and a comparison of survey respondents to non-respondents on variables that were available for both groups. Section two reports the responses to 5 questions that make up the introductory portion of the questionnaire. Section three reports the findings of the 12 questions from the OSTES survey. As noted elsewhere, (Hoy & Woolfolk, 2009) it is assumed that three factors capture teachers' sense of self-efficacy: efficacy in student engagement, efficacy in instructional practices, and efficacy in classroom management. Data are included to represent responses in these three general categories. Section four reports the findings of the multiple regression analysis in which an attempt is made to explain differences in self-efficacy scores based on whether the teacher candidates were in school before Wisconsin's PI34 implementation or afterwards controlling for other variables.

Section One: Demographic Summary of Participants

Individual attributes beyond teacher preparation and enacted policy can influence self-efficacy among teachers (Villegas, 2007). Consequently, in examining the association between policy and perception of efficacy, one has to take into consideration

those attributes that may have an impact on teacher perception of self-efficacy. Consequently, this study examined the differences among cohorts on key variables using Pearson's Chi-squared test with Yates' continuity correction for analyzing gender differences, the p-value for the test for independence was > 0.05. Thus, we cannot conclude that the population percentage of women was different before and after the law went into effect. Similarly, using Pearson's Chi-squared test with Yates' continuity correction for analyzing ethnicity differences, the p-value for the test for independence was > 0.05. Again, we cannot conclude that the population percentage of Non-whites was different before and after the law went into effect. Therefore, there was not a statistical significant difference between cohorts pre and post *PI34* with regard to gender and ethnicity. The discussion below reports on key demographic characteristics of the respondents and compares those data with the population from which they were drawn.

Gender

With regard to self-efficacy, early studies regarding pre-service teachers' patterns revealed both females and prospective elementary teachers (regardless of gender) expressed greater concern for interpersonal relationships and individual differences among students than did male and prospective secondary teachers (Evans & Tribble, 1986). The 2005 report from the National Center for Education Information identifies that 8 out of 10 public school teachers nationwide are female (Dukes and Victoria, 1989). Thus the high percentage of female pre-service teachers noted in both the UWRF population and the sample is consistent with national trends. Analysis indicates that survey responders had a similar composition of females as the entire population of all

four cohort groups. The percent of total female in all four cohort groups was 92.4 percent whereas females accounted for 93 percent of responders.

In the instances that respondents from specific cohorts deviated from the mean for the population as a whole, this deviation was consistent with the demographic distribution of the cohorts for the specified year. For example, the percent of male and female survey responders from the 2006-2007 cohort was not similar to the average of all four groups. That is, there was a larger male population within the cohort group for that year. Male respondents were 12.6 percent of the population of 2006-2007 pre-service teachers. By contrast, males typically accounted for a significantly smaller portion of the population as a whole; that is, males comprised 7.6 percent and females comprised 92.4 percent of the population for all four cohort groups. (See Tables 4.1a and 4.1b)

Table 4.1a- Summary of Gender Characteristics for the UWRF Population of Pre-Service Teachers 2002-2003, 2003-2004, 2006-2007; 2007-2008

Attributes	All students (responders and non responders)	2002/2003	2003/2004	2006/2007	2007/2008
%Female	92.4%	95%	96%	88%	91%
%Male	7.6%	5%	4%	12%	9%

Table 4.1b- Summary of Gender Characteristics for Pre-Service Teacher Respondents 2002-2003, 2003-2004, 2006-2007; 2007-2008

Attributes	All cohort responders	2002/2003 Responders	2003/2004 Responders	2006/2007 Responders	2007/2008 Responders
%Female	93%%	95%	94.5%	87.4%	90.5%
%Male	7 %	5%	5.5%	12.6%	9.5%

Source: University of Wisconsin-River Falls –Both tables compiled from data based on responses and Institutional Research, July, 2012; University of Wisconsin-River Falls, Teacher Education Data

Ethnicity

The National Center for Education Information reports that there is a slight shift toward more teachers of color. Nationally, the proportion of K-12 teachers who are white has gone from 91 percent in 1986 to 92 percent in 1990 to 89 percent in 1996 to 85 percent in 2005. The percent of pre-service teachers who answered "white" for the population of all four cohort groups was 96.2 percent; this is not practically or statistically significant different from the 96.5 percent of responders who answered white.

Though the percentages are rather similar for the entire cohort groups when compared with survey responders, there were significant differences among responders within individual cohort groups. For example even though the percent of non-white was 3.8 percent for all four cohort groups, 11 percent of non-white responded to this study within the 2003-2004 cohort group. One will also note that the percent of non-white within the entire 2003-2004 population had a higher percent of non-white students as well. (See Tables 4.2a and 4.2b)

Table 4.2a- Summary of Ethnic Characteristics for the UWRF Population of Pre-Service Teachers 2002-2003, 2003-2004, 2006-2007, 2007-2008.

Attributes	All students (responders and non responders)	2002/2003	2003/2004	2006/2007	2007/2008
%White	96.2%	98%	92.9%	98%	98%
%Non-White	3.8%	2%	7.1%	2%	2%

Table 4.2b- Summary of Ethnic Characteristics for UWRF Pre-Service Responders 2002-2003, 2003-2004, 2006-2007, 2007-2008.

Attributes	All students Cohort Responders	2002/2003	2003/2004	2006/2007	2007/2008

% White	**96.2%**	**98.2%**	**89%**	**96.83%**	**98.5%**
%Non-White	**3.8%**	**1.75%**	**11%**	**3.17%**	**1.5%**

Source: University of Wisconsin-River Falls –Both tables compiled from data based on responses and Institutional Research, July, 2012; University of Wisconsin-River Falls, Teacher Education Data

Grade Point Average

Scholars have examined the association between experience, certification, and content knowledge as attributes potentially fostering teacher quality and self-efficacy. Grade-point average (GPA) was recorded for all students in the cohort groups and was included, along with other variables, in the linear regression analysis of self-efficacy and its association with implementation of *PI34* which is discussed in section 4. The GPA measure ranges from 0.0 to 4.0 and reflects the cumulative grade point average of course work taken by pre-service teachers in the program. The group of participants' grades was based upon standardized measurements of varying levels of comprehension within subject areas. Grade point average (GPA) is calculated by taking the number of grade points a student earned in a given period of time divided by the total number of credits giving a score from 0.0 to a 4.0. The GPA is credit adjusted. (i.e.: a 4-credit A is worth more than a 3-credit A.)

An important preliminary question is, "Were there differences between the respondents and non-respondents with respect to GPA?" A standard two-tailed t-test was used to compare the two groups with regard to GPA. There is a statistically significant result between these two groups with respect to GPA ($p = 0.003$). However, the average difference of 0.1 grade points (3.57 GPA for non-respondents versus 3.67 GPA for

respondents) is likely not large enough to be practically significant. (See Tables 4.3a and 4.3b)

See figures 4.1 and 4.2 below for histograms, on the same scales showing the distribution of GPAs in both the entire groups as well as only those who responded.

Histograms Figure 4.1 **Figure 4.2**

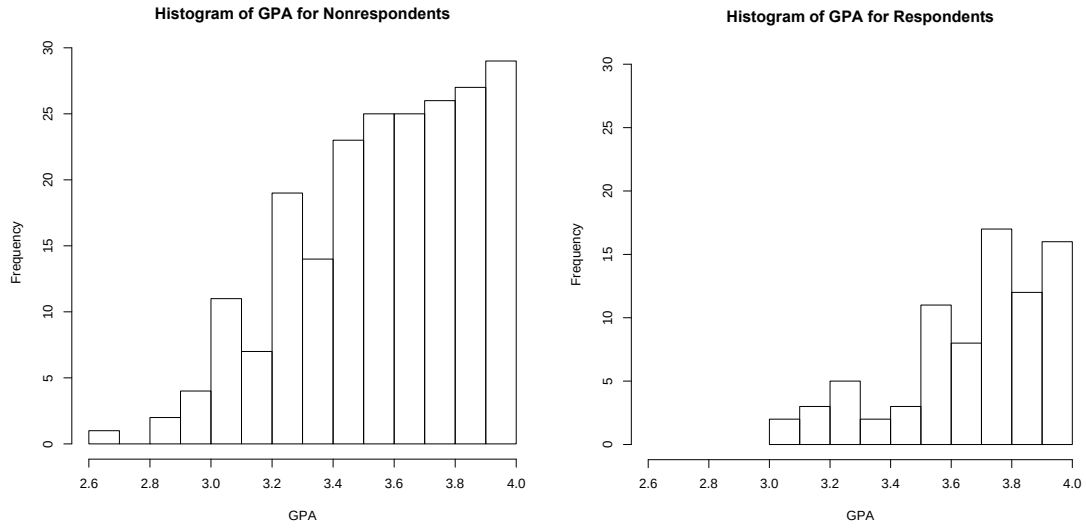


Table 4.3a- Summary of Grade Point Average for the UWRF Population of Pre-Service Teachers
2002-2003, 2003-2004, 2006-2007; 2007-2008

Attributes	Non Responders only	All students (responders and non-responders)	2002-2003	2003-2004	PRE LAW mean	2006-2007	2007-2008	POST LAW mean
Grade Pt Av	3.57	3.59	3.4	3.6	3.5	3.6	3.6	3.6

Table 4.3b- Summary of Grade Point Average for UWRF Pre-Service Teacher Responders 2002-2003, 2003-2004, 2006-2007; 2007-2008

Attributes	All Cohort Responders	2002-2003	2003-2004	PRE LAW mean	2006-2007	2007-2008	POST LAW mean
Grade Pt Av	3.67	3.59	3.7	3.64	3.7	3.64	3.67

Source: University of Wisconsin-River Falls –Both tables compiled from data based on responses and Institutional Research, July, 2012; University of Wisconsin-River Falls, Teacher Education Data

Section Two: Support Systems

Questions were included on the survey to gain background information on respondents' current status of teaching, number of years of teaching, opportunities for support within the school system, and respondent perception of the effectiveness of UWRF teacher preparation program. Because the first year as a teacher can prove to be difficult, support systems are necessary for the success of novice teachers. Key areas of support include peer support, principal support and the effectiveness of the teacher preparation program. Questions were asked of the identified cohort groups' perceived level of support from these support systems. Introductory questions included questions relating to perceived support received from peers during the first year of teaching, support from the school principal during the teacher's first year of teaching and perceived influence from the respondent's teacher training program and/or experience provided to be an effective teacher.

Constructs were first examined in the years before *PI34* legislation, respondents within the cohort groups of 2002-2003 and 2003-2004. They rated support from peers, support from principal and their perception of their teacher preparation program. Survey responses from participants ranged from 1 to 9 based upon a 9-point Likert scale. Possible responses ranged from the number 1 representing no support or influence; the

number 5 represented some support or influence to the largest number within the range, the number 9 which represented a great deal of support or influence.

Similarly, following *PI34* legislation, the cohort groups of 2006-2007 and 2007-2008 also rated perceived support from peers, support from principal and the influence of their teacher preparation program. Survey responses from participants ranged from 1 to 9 indicating perceived support or influence from each of the support systems.

All responder groups in this study rated support systems similarly. Further analysis was conducted to compare variables before and after *PI34* legislation. In order to determine whether there were statistically significant differences between the before and after *PI34* cohort groups on the variables of peer support, principal support and UWRF teacher preparation program, independent sample t-tests were conducted.

Peer Support

Peer support was considered for respondents' sense of self-efficacy because of its importance for new teachers' success. As Carl Rogers (1958) pointed out, peer support is accepting of another person without making judgments. Peer support recognizes the power of accepting the beginning teacher as a developing person and professional. The p-value for the t-test run for peer support was .66. Since this is much larger than .05, there is no indication that peer support levels were, on average, different for cohort groups before and after *PI34* policy implementation.

Principal Support

Principal support reflects the level of support given to new teachers by principals. Principal support measures include providing new teachers opportunities to be specifically placed in their levels of expertise and licensure. This support from principals

includes providing new teachers adequate resources to meet their needs, and assignments that limit extra duties and responsibilities to optimize their chance of success. Principal support plays a significant role in promoting the new teachers' development and is therefore important to consider. The p-value for the t-test run for principal support was .86. Since this is much larger than .05, there was no indication that principal support levels were, on average different for cohort groups before and after *PI34* implementation.

Teacher Preparation Program

Teacher preparation programs as noted in Chapter 2 have a number of varying criteria depending on the specific teacher preparation program. Effective teacher preparation programs cite a number of criteria as seen as successful in developing a new teacher. The teacher preparation program at the University of Wisconsin-River Falls underwent changes after the passage of *PI34* and therefore student perception of program was also considered in the examination of the association of policy on perceived sense of self-efficacy. However, similar to the previous two support systems, the p-value for the t-test was .53, much larger than .05. Thus, there is no indication that perceptions of the teacher preparation program levels were, on average different for the cohort groups before and after *PI34* policy implementation. (See Table 4.3)

Table 4.3c- Summary of Participants' Response to Support Systems During First Year of Teaching

Support systems	2002-2003		2003-2004		2006-2007		2007-2008	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Peers	6.92	1.38	6.77	1.47	7.0	1.37	6.76	1.63
Principal	5.69	2.12	5.81	1.71	6.94	1.89	5.04	1.98
Teacher Preparation Program	6.84	1.29	7.25	1.0	7.17	.85	7.33	1.55

Section Three: Findings from 12 Questions on the OSTES Survey

The Ohio State Teacher Efficacy Scale (OSTES) focuses on disposition; it serves as the primary tool to gain information about participants' perception of sense of self-efficacy. The survey allows this study to explore if teacher candidates who were educated before *PI34* had substantially different perceptions of their self-efficacy than those teacher cohorts who were educated after implementation of *PI34*. The OSTES assesses teachers' support of student thinking, effectiveness with capable students and flexible application of alternative assessment and teaching strategies (Moran & Woolfolk Hoy, 2001). Each of these attributes captures a teacher's identification of their own values, beliefs, and dispositions about positive student outcomes as a result of their own mastery abilities. Participants rated their ability to influence teaching circumstances based upon a 9-point scale ranging from 1- indicating no influence; 3-very little influence; 5- some influence; 7- quite a bit of influence; and 9- a great deal of influence. Consistently, as noted in previous survey studies including the Rand measure, Gibson and Dembo TES measures, Hoy and Woolfolk and the OSTES measure, three factors are correlated with teachers' sense of self-efficacy. These include *Efficacy in Student Engagement, Efficacy in Instructional Practices and Efficacy in Classroom Management*. A respondent's overall perception of self-efficacy was measured using the average self-efficacy score of the entire survey for each respondent. While the average self-efficacy score was employed for each respondent for use in the regression analysis, the following discussion focuses on each category that the self-efficacy construct encompasses.

OSTES Sub Categories- Student Engagement

The first category of the OSTES survey addressed individuals' perception of their beliefs and confidence in dealing with "Student Engagement" following their teacher preparation program from the University of Wisconsin-River Falls. Questions on the survey were not in specific order by the listed category. Rather they were randomly distributed throughout the survey. Types of questions having to do with student engagement included their four questions:

(2) How much can you do to motivate students who show low interest in school work?

(4) How much can you do to help students value learning?

(7) How much can you do to calm a student who is disruptive or noisy?

(11) How much can you assist families in helping their children do well in school?

The following data in Table 4.4 provides specific response rates from the individual cohort groups having to do with student engagement. For example, question number two asked respondents to indicate their opinion about how much he or she could feel they could do to motivate students who show low interest in school work. (See Table 4.4)

Table 4.4 Summary of Participants' Response to OSTES question #2: "How much can you do to motivate students who show low interest in school work?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*1*	*0*	*0*	*1*
4-	*0*	*0*	*0*	*0*
5- Some Influence	*1*	*3*	*1*	*0*
6-	*1*	*3*	*6*	*3*

7- Quite a bit	*5*	*9*	*2*	*12*
8-	*2*	*6*	*4*	*1*
9-A Great Deal	*2*	*5*	*2*	*5*

Question number four asked respondents to indicate their opinion about how much he or she could do to help students value learning. (See Table 4.5)

Table 4.5 Summary of Participants' Response to OSTES question #4: "How much can you do to help students value learning?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*0*	*0*	*0*
4-	*1*	*0*	*0*	*0*
5- Some Influence	*1*	*2*	*0*	*1*
6-	*1*	*7*	*4*	*4*
7- Quite a bit	*4*	*8*	*0*	*9*
8-	*1*	*5*	*5*	*5*
9-A Great Deal	*3*	*5*	*5*	*3*

Question number seven asked respondents to indicate their opinion about how much he or she could do to calm a student who is disruptive or noisy. (See Table 4.6)

Table 4.6 Summary of Participants' Response to OSTES question #7: "How much can you do to calm a student who is disruptive or noisy?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*2*	*0*	*0*

4-	*1*	*0*	*0*	*1*
5- Some Influence	*0*	*0*	*0*	*1*
6-	*0*	*2*	*2*	*1*
7- Quite a bit	*5*	*8*	*4*	*7*
8-	*4*	*7*	*6*	*9*
9-A Great Deal	*2*	*8*	*2*	*3*

Question number eleven asked respondents: "How much can you assist families in helping their children do well in school?" (See Table 4.7)

Table 4.7 Summary of Participants' Response to OSTES question #11: "How much can you assist families in helping their children do well in school?".

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*1*	*0*	*1*	*0*
4-	*0*	*1*	*1*	*0*
5- Some Influence	*1*	*1*	*1*	*1*
6-	*1*	*2*	*0*	*2*
7- Quite a bit	*4*	*14*	*5*	*10*
8-	*1*	*7*	*5*	*5*
9-A Great Deal	*3*	*2*	*2*	*4*

Cohort groups before and after *PI34* policy implementation, on the average, showed a similar confidence level with regard to student engagement. The frequency of responses for all cohort groups tended to be grouped rather tightly as a whole for all four questions. The range of the mean for all four groups was between 7.07 to 7.27 for this attribute. (See Table 4.8)

Table 4.8 Summary Mean and Standard Deviation of Participants' Response to OSTES questions regarding Student Engagement

Student Engagement	2002-2003	2003-2004	PRE LAW	2006-2007	2007-2008	POST LAW
Overall Mean	**7.07**	**7.17**	**7.12**	**7.20**	**7.27**	**7.20**
Stand. Dev.	**.19**	**1.30**		**.30**	**.13**	
SQ2 Mean	6.9	7.1		6.8	7.1	
Stand. Dev.	1.6	1.2		1.3	1.3	
SQ4 Mean	7.0	7.1		7.5	7.2	
Stand. Dev.	1.5	1.2		1.2	1.0	
SQ7 Mean	7.4	7.4		7.5	7.4	
Stand. Dev.	1.2	1.5		0.9	1.1	
SQ11 Mean	7.0	7.1		7.0	7.4	
Stand. Dev.	1.7	1.0		1.5	1.0	

SQ2-How much can you do to motivate students who show low interest in school work?
SQ4-How much can you do to help students value learning?
SQ7-How much can you do to calm a student who is disruptive or noisy
SQ11-How much can you assist families in helping their children do well in school?

OSTES Sub Categories- Instructional Practices

The second category of the OSTES survey addressed individuals' perception of their beliefs and confidence in dealing with "Instructional Practices" following their teacher preparation program from the University of Wisconsin-River Falls. The following discussion provides specific response rates from the individual respondents within the cohort groups having to do with instructional practices. Types of questions, not in sequential order, having to do with instructional practices included the following four questions:

(5) To what extent can you craft good questions for your students?

(9) How much can you use a variety of assessment strategies?

(10) To what extent can you provide an alternative explanation or example when students are confused?

(12) How well can you implement alternative strategies in your classroom?

The following provides specific response rates from the individual cohort groups having to do with "Instructional Practices." Question number five asked respondents to indicate their opinion to what extent they could craft good questions for students. (See Table 4.9)

Table 4.9 Summary of Participants' Response to OSTES question #5: "To What Extent Can You Craft Good Questions for Your Students?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*1*	*0*	*0*	*0*
4-	*0*	*0*	*0*	*1*
5- Some Influence	*0*	*2*	*0*	*0*
6-	*0*	*1*	*4*	*3*
7- Quite a bit	*4*	*14*	*5*	*3*
8-	*2*	*8*	*4*	*9*
9-A Great Deal	*4*	*2*	*4*	*5*

Question number nine asked respondents how much they could use a variety of assessment strategies. (See Table 4.10)

Table 4.10 Summary of Participants' Response to OSTES question #9: "How much can you use a variety of assessment strategies?".

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*

3- Very little	*0*	*0*	*1*	*0*
4-	*1*	*0*	*0*	*0*
5- Some Influence	*1*	*1*	*0*	*1*
6-	*2*	*3*	*3*	*6*
7- Quite a bit	*3*	*8*	*3*	*5*
8-	*8*	*7*	*3*	*5*
9-A Great Deal	*9*	*8*	*1*	*4*

Question number ten asked respondents to what extent could they provide an alternative explanation or example when students were confused. (See Table 4.11)

Table 4.11 Summary of Participants' Response to OSTES question #10: "To what extent can you provide an alternative explanation or example when students were confused?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*0*	*0*	*0*
4-	*0*	*0*	*1*	*0*
5- Some Influence	*1*	*1*	*0*	*0*
6-	*0*	*2*	*2*	*2*
7- Quite a bit	*3*	*3*	*5*	*4*
8-	*4*	*11*	*5*	*10*
9-A Great Deal	*4*	*10*	*4*	*6*

Question number twelve asked respondents to respond to how well they were able to implement alternative strategies in the classroom. (See Table 4.12)

Table 4.12 Summary of Participants' Response to OSTES question #12: "How well can you implement alternative strategies in the classroom?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*1*	*0*	*0*
4-	*1*	*0*	*0*	*0*
5- Some Influence	*0*	*1*	*1*	*0*
6-	*1*	*1*	*2*	*2*
7- Quite a bit	*3*	*11*	*5*	*10*
8-	*4*	*7*	*5*	*7*
9-A Great Deal	*3*	*5*	*4*	*3*

Cohort groups before and after *PI34* policy implementation, on the average, showed a similar confidence level with regard to instructional practice. The frequency of responses for all cohort groups tended to be grouped rather tightly as a whole for all four questions. All cohort groups before and after *PI34* legislation had an mean of 7.41, perhaps indicating there was little difference between the teacher preparation program regarding instructional practice before and after *PI34* legislation. (See Table 4.13)

Table 4.13 Summary Mean and Standard Deviation of Participants' Response to OSTES questions regarding Instructional Practices

Instructional Practices	2002-2003	2003-2004	Pre Law	2006-2007	2007-2008	Post Law
Overall Mean	**7.32**	**7.5**	**7.41**	**7.3**	**7.52**	**7.41**
Stand. Dev.	**.34**	**.33**		**.23**	**.28**	
SQ5 Mean	7.0	7.2		7.4	7.5	
Stand. Dev.	1.5	.92		1.0	1.2	
SQ9 Mean	7.0	7.6		76.9	7.2	
Stand. Dev.	1.4	1.1		1.2	1.1	

SQ10 Mean	7.8	8.0		7.4	7.9	
Stand. Dev.	1.1	1.0		1.2	1.7	
SQ12 Mean	7.5	7.2		7.5	7.5	
Stand. Dev.	1.3	1.3		1.1	.83	

SQ5-To what extent can you craft good questions for your students?
SQ9-How much can you use a variety of assessment strategies?
SQ10-To what extent can you provide an alternative explanation or example when students are confused
SQ12- How well can you implement alternative strategies in your classroom?

OSTES Sub-Categories -Classroom Management

The third category on the OSTES survey addressed the participants' perception of their beliefs and confidence in dealing with "Classroom Management" following their teacher preparation program from the University of Wisconsin-River Falls. Types of questions, not in sequential order, having to do with classroom management included the following four questions:

(1) How much can you do to control disruptive behavior in your classroom?

(3) How much can you do to get students to believe they can do well in school work?

(6) How much can you do to get children to follow classroom rules?

(8) How well can you establish a classroom management system with each group of students?

The following provides specific response rates from the individual respondents within the cohort groups having to do with classroom management. The following provides specific response rates from the individual cohort groups having to do with "Classroom Management." Question number one asked respondents to indicate their opinion to how much then felt they could control disruptive behavior in the classroom. (See Table 4.14)

Table 4.14 Summary of Participants' Response to OSTES question #1: "How much can you do to control disruptive behavior in the classroom?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*1*	*0*	*1*
4-	*0*	*0*	*0*	*1*
5- Some Influence	*1*	*2*	*1*	*0*
6-	*1*	*1*	*2*	*1*
7- Quite a bit	*4*	*5*	*5*	*8*
8-	*3*	*9*	*3*	*8*
9-A Great Deal	*3*	*9*	*5*	*3*

Question number three asked respondents to respond to how much they felt they could do to get students to believe they could do well in school. (See Table 4.15)

Table 4.15 Summary of Participants' Response to OSTES question #3: "How much can you do to get students to believe they could do well in school?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*0*	*0*	*0*
4-	*1*	*0*	*0*	*0*
5- Some Influence	*1*	*1*	*1*	*0*
6-	*3*	*2*	*2*	*3*
7- Quite a bit	*4*	*11*	*7*	*6*
8-	*1*	*6*	*4*	*8*
9-A Great Deal	*3*	*7*	*3*	*5*

Question number six asked respondents to respond to how could they get students to follow classroom rules. (See Table 4.16)

Table 4.16 Summary of Participants' Response to OSTES question #6: "How much can you do to get students to follow classroom rules?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*0*	*0*	*0*
4-	*0*	*0*	*0*	*1*
5- Some Influence	*0*	*0*	*0*	*0*
6-	*0*	*5*	*1*	*1*
7- Quite a bit	*4*	*5*	*3*	*7*
8-	*6*	*9*	*9*	*10*
9-A Great Deal	*2*	*8*	*4*	*3*

Question number eight asked respondents to respond to how well they could establish a classroom management system with each group of students. (See Table 4.17)

Table 4.17 Summary of Participants' Response to OSTES question #8: "How can you establish a classroom management system with each group of students?"

Response on scale	2002-2003	2003-2004	2006-2007	2007-2008
1 -Nothing	*0*	*0*	*0*	*0*
2-	*0*	*0*	*0*	*0*
3- Very little	*0*	*0*	*0*	*0*
4-	*0*	*0*	*0*	*0*
5- Some Influence	*1*	*0*	*1*	*0*
6-	*0*	*3*	*0*	*2*

7- Quite a bit	*1*	*3*	*4*	*4*
8-	*7*	*12*	*8*	*9*
9-A Great Deal	*3*	*9*	*4*	*7*

Similar to instructional practices, cohort groups before and after *PI34* policy implementation, on average, showed a similar response rate in assisting students with regard to classroom management. The frequency of responses for all cohort groups tended to be grouped rather tightly as a whole for all four questions. This may indicate little perceived difference between the teacher preparation program regarding classroom management before and after *PI34* legislation. The mean for groups before *PI34* was 7.66 as compared to 7.58 after *PI34* legislation. (See Table 4.18)

Table 4.18 Summary Mean and Standard Deviation of Participants' Response to OSTES questions regarding Classroom Management

Classroom Management	**2002-2003**	**2003-2004**	**Pre Law**	**2006-2007**	**2007-2008**	**Post Law**
Overall Mean	**7.62**	**7.7**	**7.66**	**7.62**	**7.55**	**7.58**
Stand. Dev.	**.23**	**.18**		**.23**	**.25**	
SQ1 Mean	7.5	7.6		7.5	7.2	
Stand. Dev.	1.1	1.4		1.2	1.4	
SQ3 Mean	7.3	7.5		7.3	7.6	
Stand. Dev.	1.0	1.2		1.0	.95	
SQ6 Mean	7.8	7.7		7.9	7.5	
Stand. Dev.	.68	1.0		.80	1.0	
SQ8 Mean	7.9	8.0		7.8	7.9	
Stand. Dev.	1.0	.94		.98	.92	

SQ1-How much can you do to control disruptive behavior in your classroom?
SQ3-How much can you do to get students to believe they can do well in school work?
SQ6-How much can you do to get children to follow classroom rules?
SQ8-How well can you establish a classroom management system with each group of students?

Section Four: Multiple Regression Analysis of Predictors of Self-Efficacy

The goal of this study is to try to assess the associations between changes in Wisconsin state law and changes in perception of self-efficacy of teaching graduates from the population of teaching graduates at UWRF. A linear regression analysis was used to examine whether the legislation was associated with any change in teacher self-efficacy, as measured by the average score given on a 12-question OSTES instrument designed to measure self-efficacy.

It should be noted that the responses to the individual questions on the survey are not, in fact, continuous variables, but ordinal categorical variables (representing categorical responses with a clear ordering, such as from "not at all" to "a great deal"). They are coded as numbers from 1 through 9 and then averaged to get a self-efficacy score for each respondent. This procedure, though common, is questionable, since converting categories to numbers is not technically valid. Nonetheless, the study hopes that the findings yielded from this strategy can offer useful insights. The net result is a numerical variable ranging from 1 to 9 recorded to several decimal places; this variable was treated as a continuous dependent (response) variable for the purposes of the linear regression analysis.

The key independent (explanatory) variable was the categorical variable "Policy" which was the dummy variable code as 0 for years pre-2004 and 1 for years post-2004. However, it was important to attempt to control for other variables which could also relate to self-efficacy. A limitation in the data was the use of overall GPA to measure content knowledge. Ideally, the study would have used the more precise measure of content knowledge by using PRAXIS I scores of pre-service teachers. However, the

examination changed over the years and would have affected the analysis. Missing data were treated as missing completely at random (MCAR). Students in the past had a choice between a paper-based test and a computer-based test. That option was available for the 2003 and 2004 graduates, who attended school prior to the new legislation taking effect, but was not available to those graduating in 2007 and 2008, who attended school after the legislation took effect. Because the two versions of the test have different scales and are not comparable, all students who took the paper-based test were eliminated from the regression analysis. If the selection of the paper-based test was used over the computer-based test relating it to other variables in the study, a form of bias would have been created in the study. There was, unfortunately, no way to eliminate this as a possibility. Thus, PRAXIS scores were ultimately eliminated from the final variables considered. Stepwise regression was used to select the best fitting model from among variables. The other independent (explanatory) variables considered are noted in table 4.19.

Table 4.19 Author's expected (as noted in chapter 3) and actual outcome of independent variables

Variable analyzed	**Positive relationship as a result of *PI34 (expected)***	**<u>Actual</u> Positive relationship as a result of *PI34* following regression analysis**
Policy (0-before policy; 1- after policy)	+	+
Principal support (1-9)	+	-
Teacher preparation program(1-9)	+	+ (with the exception of 2007-2008 cohort group)
GPA (0-4)	+	Not used
Currently teaching (0=no, 1=yes)	+	Not used
Formal mentor (0=no, 1=yes)	+	Not used
Peer support (1–9)	+	Not used

Using the R-Project for Statistical Computing, of the stepwise regression (backward elimination) each of the variables with the largest p-value was eliminated one at a time. Each variable was eliminated from the multiple linear regression model until every variable had a p-value ≤ 0.05, thus settling on the final model in response to the (dependent) variable, self-efficacy. In addition to interactions between variables, some of these variables (such as principal support) are technically ordinal variables but were treated as numerical variables in the analysis. As indicated in table 4.20, there was an interaction between teacher preparation program and the policy. Full output, using the R-Project for Statistical Computing, of the stepwise regression follows (See Table 4.20):

Disposition = $\beta_0 + \beta_1$(law) + β_2(principal support) + β_3(teacherprep) + β_4(teacherprep * law) + β_5(GPA) + β6(currently teaching) + β7(formal mentor) + β8(peer support) + **€**

Table 4.20 Summary of Initial Model for Stepwise Regression using all variables

Coefficients	Estimate	Std. Error	t-value	Pr (>l t l)
(Intercept)	7.39	1.43	5.15	2.46e-06
Law	2.29	0.959	2.38	0.019
Principal support	-0.08	0.04	-1.94	0.05
Teacher Preparation Program	0.30	0.09	3.25	0.001
GPA	-0.44	0.34	-1.28	0.20
Currently teaching	-0.11	0.30	-0.39	0.69
Formal mentor	-0.03	0.17	-0.19	0.84
Peer support	0.00	0.05	0.14	0.88
Teacher Preparation Program and policy implementation	-0.30	0.12	-2.23	0.02

Residual standard error	0.6859 on 67 degrees of freedom
Multiple R-squared:	0.1962, Adjusted R-squared: 0.1003
F-statistic: 2.045 on 8 and 67 DF,	p-value: 0.05409

After several iterations, focusing on the association between policy and self-efficacy, GPA, peer support, and currently teaching were eliminated from the final model. The final model is presented below and was the best fit for the data based on the stepwise regression:

Disposition = $\beta_0 + \beta_1$(policy) + β_2(principal support) + β_3(teacherprep) + β_4(teacherprep * policy) + €

The following presents the numerical estimates of the coefficients:

Disposition = 5.87 + 2.15(law) -0.09(principal support) + 0.28(teacherprep) -0.28(teacherprep *policy)+ €

The initial model accounts for 10 percent of the variation in self-efficacy scores. Because *r* squared indicates the percent of variation in the dependent variables explained by the independent variable, the co-efficient of policy tells us the different perceptions of self-efficacy before and after *PI34* passed. The co-efficient on teacher preparation programs indicates the relationship between perception of teacher preparation programs and self-efficacy. Because this variation was relatively low, there may be other factors that affect teachers' sense of self-efficacy. Also noted, was the importance to examine if the perception of teacher preparation programs were different for cohorts who completed their preparation before and after implementation of *PI34.* β4=-.30 indicating that

respondents in earlier cohorts had a more positive perception of teacher preparation programs and their perceived sense of self-efficacy.

The results of the findings are mixed. As expected, there is a positive and statistically significant association between the enactment of the policy and self-efficacy scores. On average, self-efficacy scores were 2.29 points higher for respondents who completed their degree in the years after *PI34* was passed. This is surprising because there was no statistically significant differences in the individual self-efficacy sub categories between the groups before and after *PI34* policy implementation. That is, on average the groups before policy implementation had similar scores for each sub-category on the OSTES as the groups after implementation of PI34. However, groups before and after *PI34* policy implementation, on the average, showed similar scores in assisting students with regard to the three OSTES sub categories of student engagement, instructional practices and classroom management. The frequency of responses for all cohort groups tended to be grouped rather tightly as a whole for all four questions in each sub category. These smaller differences are cumulative and are reflected in the overall scores regarding respondents' sense of self-efficacy. This may be reflective of "the whole being greater than the sum of its parts." That is, the seemingly insignificant differences in engagement, instruction, and classroom management all add up to be an association with an overall sense of efficacy. This may reflect a synergy among the different components that are reflected in overall scores. (See Tables 4.8; 4.13 & 4.18) The data in Table 4.21 shows the final model of the relationship between policy and perception of self-efficacy holding other key variables constant. As with the initial model, there is a positive and statistical significant association between policy and perception of self-efficacy. That is,

the co-efficient associated with policy indicates that the respondents who graduated post 2004 on average, had 2.14 units higher level of self-efficacy (B=2.14) than students who graduated pre 2004 holding other key variables constant.

Not surprisingly, respondents perception of teacher preparation programs were also positively and statistically significantly associated with self-efficacy scores (p=.05). However, the higher the perception respondents had of support received from principals, the lower the sense of self-efficacy they had (as measured by the average self-efficacy score).

The co-efficient of principal support indicated that perceptions of increased principal support is negatively associated with perceptions of self-efficacy. This was true among all participants before and after *PI34* legislation, again holding other key variables constant.

Responders' perception of the influence of their teacher preparation programs was both positively and significantly associated with self-efficacy, holding other key variables constant. Thus on average, the higher support that responders noted receiving from their teacher preparation program, the higher their rating in their self-efficacy. However, the interaction variable between policy and teacher preparation indicates that those participants who graduated in 2007-2008 had a lower self-efficacy score than those who graduated in 2003-2004 (See Table 4.21). Indeed, the analysis indicates that the association between teacher preparation programs and self-efficacy scores disappear for those students who graduated after implementation of PI34. Several possible explanations exist for this finding. Though this is discussed in chapter 5, some of these possible explanations include the amount of time that has lapsed from the responder's attendance

in the teacher preparation program and overall political climate in both the state of Wisconsin and in the United States.

Perhaps this lower score reflects that the policy allowed pre-service teachers to be more aware of what they do not know. Ironically, this increased knowledge may have caused them to be more aware of their own personal shortcomings and to be more critical of the teacher preparation program.

Table 4.21 Final Model at Conclusion of Stepwise Regression Model

Coefficients	All variables Estimate	Final model variables- Estimate	Std. Error	t-value	Pr (>l t l)
(Intercept)	7.39	5.87	0.72	8.12	1e-11
Law	2.29	2.14	0.93	2.30	0.02
Principal support	-0.08	-0.08	0.03	-2.22	0.02
Tchr Prep.	0.30	0.28	0.09	3.14	0.00
GPA	-0.44	Not used			
Currently teaching	-0.11	Not used			
Formal mentor	-0.03	Not used			
Peer support	0.00	Not used			
Tchr Prep/policy		-0.28	0.12	-2.26	0.02

Residual standard error: 0.6746 on 71 degrees of freedom -Multiple R-squared: 0.176, Adjusted R-squared: 0.1296
F-statistic: 3.792 on 4 and 71 DF, p-value: 0.007505

Summary

Survey participants responded to a survey regarding their level of agreement with specific questions that address their perceived sense of self-efficacy. This was used to better understand the attitudes, beliefs, or knowledge of the particular groups. Data were collected on elementary teacher candidates' grade point average (GPA) and ratings on the

OSTES. The objective of quantitative research in this study was to better understand the association between the enactment of Wisconsin Policy Initiative (PI34) *PI34*, perceived sense of self-efficacy, and other key variables including the knowledge and skills regarding the cohort groups of selected participants.

The demographics of the respondents of this study were typical of the overall population of UWRF pre-service teacher candidates from those cohorts selected. The self-efficacy of responders graduating after policy *PI34* implementation, on average, had a higher level of self-efficacy than those who graduated before *PI34* implementation holding other key variables constant. However, when referring to support systems, specifically principal support, respondents, both before and after policy implementation indicated a decrease in self-efficacy with each additional unit of principal support. With regard to teacher preparation program, data indicated that with all other factors held constant, self-efficacy was positively associated with respondents' perception of the influence of teacher preparation programs. However, after enactment of the law, the 2007-2008 cohort groups' sense of self-efficacy was not significantly correlated with their positive evaluation of teacher preparation programs. The implications of this analysis will be explored and discussed in chapter 5.

CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

Introduction

Evidence indicates that the abilities of the teacher are a crucial contributor to student learning and can lead to highly knowledgeable and skilled workers. Qualitative and quantitative analysis of teacher qualifications 1993-94 Schools and Staffing Surveys (SASS), and the National Assessment of Educational Progress (NAEP)) and other school inputs related to student achievement across the states found that policy investments in the quality of teacher were related to improvements in student performance (Darling-Hammond, 2000). In Sanders (1998) and Sanders and Rivers (1996) research, the fact that teacher quality as one important component having impact on student achievement is an important influence on students' school success. The authors conclude that teacher quality contributes significantly to variations in student achievement. The significance of teachers recognizing their impact on growth, learning and student achievement has policy implications as it relates to teacher preparation programs. Pre-service teacher preparation programs have a distinctive role in fostering pre-service teachers' ability to identify and challenge their own values, beliefs, and dispositions. Effective teachers have a strong belief in their own abilities. Studies found links between student achievement and teachers' sense of efficacy-their belief in not just their students' ability to succeed, but also their own ability as teachers to help those students succeed (Armor, et al. 1976).

This study specifically assessed teacher's perception of their sense of self-efficacy as affected by implementation of Wisconsin Policy Initiative 34 (*PI34*). We are reminded of the conceptual model in chapter 3 how policy affects teacher preparation

programs, which affects teacher attributes, thus affecting student performance. (Figure 1; p. 54)

This chapter is divided into three sections: Section one will summarize the findings of the data from chapter 4; Section two describes the implications of this research for educators, policy makers and the general public; Section three identifies limitations of this research and the potential for future research.

The survey responders in this study described their overall sense of self-efficacy with regard to various support systems before and after *PI34* legislation. Respondents in this study revealed their general sense of self-efficacy as a result of their teacher preparation program at the University of Wisconsin-River Falls and also included the importance of the support systems available to them during their first year of teaching. As previously described, dispositions are predilections to act with awareness and intention. Fostering teacher candidates' dispositions helps to develop understanding and insight and provide a stronger sense of self-efficacy. In order to do this, colleges of higher education must assist teacher candidates' in their ability to appraise situations where one acts with intention. Identifying those practices that can affect teaching dispositions both at the state level and in higher education institutions has important policy implications.

Section One: Summary of Findings:

This study was designed to understand how policy can influence teachers' sense of self-efficacy. In order to do this, a key question was explored: "Can policy influence teachers' sense of self-efficacy?" specifically through its influence on teacher preparation programs. For this study, the question explored dealt with a general sense of self-efficacy that exists among teacher candidates in the period before and after Wisconsin *PI34* was

implemented in September 2004. To address this question, both qualitative and quantitative data were utilized in this research. Elementary teaching candidates were specifically selected because the preparation program is most similar in pedagogical content. Qualitative research was used in this study so that one can look at a broad range of interconnected processes. These interconnected processes included respondents' perceptions of support systems within the first year of teaching as well as sense of self-efficacy when responding to specific questions having to do with their ability to teach.

Implemented in September 2004, *PI34* emphasized teacher attributes that go beyond knowledge and skills and included dispositions. This law made substantial programmatic changes for Institutions of Higher Education in such areas as course work, field experiences, and testing requirements. Selection of the University of Wisconsin-River Falls provided an information-rich case and offered the opportunity to maximize what can be learned in the period of time available for the study.

Key demographic attributes of the cohort groups were considered including gender and ethnicity. When examining the association between policy and perception of efficacy, one has to take into consideration those attributes that may have an impact on teacher perception of self-efficacy independent of the policy. This research reported on key demographic characteristics of the respondents and compared those data with the population from which they were drawn. Analysis indicated that survey responders had a similar composition with regard to gender and ethnicity as total cohort groups as well as national trends. Each cohort group of responders was representative of the general population of the particular cohort group. For example, the 2006-2007 responders had a

larger population of males. This was also characteristic of the entire 2006-2007 cohort group**.**

With regard to GPA, there was a statistical significant difference between those respondents and non-respondents with regard to the survey. However, the difference of 0.1 grade points was likely not large enough to be practically significant. This was important to note for research validity.

The analysis examined the associations among the responders' overall described their sense of self-efficacy with the various support systems before and after *PI34* legislation. It is important to note that some of these findings may not be a result of the data collected, but may be other factors that are unaccounted for in this study. Both before and after *PI34* legislation, participants within the cohort groups rated strong support from peers and support from principal. Similarly, both before and after *PI34* legislation, responders within the cohort groups, showed no indication that the influence of the teacher preparation program were, on average different. The comparison of the means within cohort groups indicates that there is no significant difference between the cohorts.

The association between responders' perceived first year support with perceived sense of self-efficacy, served as the primary tool to gain information about changes in perception of sense of self-efficacy. The survey allowed the study to explore if teacher candidates who were educated before *PI34* had substantially different perceptions of their self-efficacy than those teacher cohorts who were educated after implementation of *PI34*. Viewing individual cohort groups before and after *PI34* legislation, there was a positive and statistically significant association between the enactment of the policy and self-

efficacy scores. On average, self-efficacy scores were 2.29 points higher for respondents who completed their degree in the years after *PI34* was passed. This is consistent with the conceptual model in which policy can be positively associated with teachers' sense of self-efficacy. All cohort groups before and after *PI34* legislation reported a similar self-efficacy score with regard to three categories of efficacy as identified in the OSTES survey including student engagement, instructional practice and classroom management. The frequency of responses for all cohort groups tended to be grouped rather tightly as a whole for all four questions in each sub category. This indicated little perceived difference between each of these smaller units but these smaller differences did affect the larger score regarding sense of self-efficacy. This may be summed up as the whole is greater than the sum of its parts. Upon initial review of each of the sub categories averages, one would believe that the result should be less, but as the parts interact (synergy) the resulting product is larger than each part added together. (See Tables 4.8; 4.13 & 4.18)

In the regression models for self-efficacy, there was no statistically significant relationship between GPA and self-efficacy score among those who responded. After the elimination of this variable and the variables that were not significantly related to the response variable "self-efficacy", the final model to be the best fit for the data based on the stepwise regression included the law (policy), principal support, teacher preparation program and the interaction between the teacher preparation program and the law (policy).

Data relating to principal support indicated that as teachers indicated a higher degree of support from their principals, there was an accompanying decrease in their

perception of self-efficacy. This was true among all participants before and after *PI34* legislation, again holding other key variables constant.

Analysis indicated that respondents had a positive and statistically significant association between their perception of the influence of the teacher preparation program and perception of self-efficacy. Teacher preparation program data indicated that with all other factors held constant, self-efficacy characteristics were positively affected. This means that as a responder rated their teacher preparation program as being highly supportive, they had a higher sense of self-efficacy. However, in the years following enactment of the policy, those participants who graduated after *PI34*, did not have a positive association between perception of self-efficacy and perception of teacher preparation program.

Section Two: Implications and Recommendations from the Research

PI34 Changes Affecting Institutions of Higher Education

Wasicsko and Taylor (2002) conclude that policy can influence teacher preparation programs. The findings from this study are consistent with this conclusion. The data indicates a positive association between policy and an influence on a specific teacher preparation program. *PI34* mandated programmatic changes in which key aspects of the teacher preparation program was affected. A reasonable explanation is that this particular policy, *PI34,* provided guidelines that were less prescriptive than previous policies as it related to programmatic recommendations. This allowed Institutions of Higher Education the capacity to customize programs to best fit the individual university as well as to provide for higher teacher quality. However, because of more flexible guidelines, Institutions of Higher Education may have interpreted this as requiring less

stringent measures. For example, responders' self-efficacy score in 2007-2008 was not associated with teacher preparation program than those before the law. Perhaps this may indicate that the teacher preparation program may have provided less rigor for pre-service candidates. This in turn may have affected responders' confidence in their teaching. This lower score may also reflect that the policy allowed pre-service teachers to be more aware of what they do not know. Ironically, this increased knowledge may have caused them to be more aware of their own personal shortcomings and to be more critical of the teacher preparation program. In addition, the mean for the three categories within the OSTES survey- student engagement, instructional practice and classroom management, indicated little differences before and after *PI34* for all four cohort groups. This may also suggest that minimal programmatic changes occurred after *PI34* legislation.

Years of Experience and its Association with Self-Efficacy

Rice (2003) examined the association between experience, certification, and content knowledge as attributes potentially fostering teacher quality. She found that no one specific attribute is more important for teacher quality than the others. In the analysis of the survey responses, the self-efficacy score for respondents who graduated in 2007 and 2008 was, on average, higher than for responders who graduated in 2003 and 2004, holding all other variables constant. A reasonable explanation is that implementation of PI34 had a positive influence on self-efficacy. It may also suggest that less experienced teachers have stronger sense of self-efficacy because they do not know what they do not know. Thus, ironically, teachers who have been teaching for a number of years may be more critical of themselves as teachers and of their teacher preparation program. This may also be the result of maturation. Teachers that have been teaching for a number of

years may recognize their initial deficiencies as a new teacher. As a result they may have given themselves a lower self-efficacy score when completing the OSTES survey.

Principal Support and its Association with Self-Efficacy

Principal support reflects the perception that responders had with their level of support given to new teachers by principals. Principal support measures include providing new teachers opportunities to be specifically placed in their levels of expertise and licensure. Support from principals includes providing new teachers adequate resources to meet their needs, and assignments that limit extra duties and responsibilities to optimize their chance of success. Principal support plays a significant role in promoting the new teachers' development and is therefore included as one of the independent variables. The data on the multi regression analysis suggests that with each additional unit of principal support, there was an decrease in self-efficacy scores. Troubling is the fact that *PI34* legislation mandated mentor programs for new teachers in which principal support would be a critical factor in this initiative. However, a possible explanation for the negative association could be principal providing support for an individual struggling as a teacher. This may result in a lower sense of self-efficacy. Assistance from administration in providing support and ability to experience successes with students is critical for those teachers who have difficulty in the classroom.

Peer Support and it Association with Self-Efficacy

The study examined the association between perception of peer support for respondents' sense of self-efficacy because of its importance for new teachers' success. Peer support recognizes the power of accepting the beginning teacher as a developing person and professional. Mentoring programs were mandated following *PI34* legislation,

peer support appeared to be associated with perceived self-efficacy. Overall respondents had positive perception for peer support among all cohort groups before and after *PI34* legislation. Therefore, this data suggests that policy did not have an effect on teachers supporting one another. This may be explained that veteran teachers see it as a professional obligation to assist new teachers employed within their schools.

Teacher Preparation Programs Affecting Self-Efficacy

Analysis indicates that there is a positive association between teacher preparation programs and sense of self-efficacy with key factors being held constant. As respondents rated their teacher preparation program as being highly supportive, there was a strong correlation to a higher level rating in their sense of self-efficacy. The interaction between "policy" (*PI34*) and the teacher preparation program for people who graduated in 2003 and 2004, before *PI34* legislation went into effect, each additional unit associated with the teacher preparation program was associated with an increase in self-efficacy score. However, for people who graduated in 2007 and 2008, after the *PI34* legislation went into effect, the variable as the teacher preparation program is unrelated to self-efficacy scores. This is interesting since *PI34* for the first time included dispositions as an important component of Institutions of Higher Education's preparation programs. Perhaps this lower score reflects that the policy allowed pre-service teachers to be more aware of what they do not know. Ironically, this increased knowledge may have caused them to be more aware of their own personal shortcomings and to be more critical of the teacher preparation program. In addition, respondents also were aware that the research focused on *PI34* – a new law. Respondents, post *PI34,* knew they were part of this new law and may have responded to the OSTES more critically because of this. As some

critics suggest that the constructs of dispositions and effects on self-efficacy are blurred in which measures are non-existent or lack reliability and validity (Johnson, et al 2005), it is nonetheless, important to highlight where consistencies and inconsistencies exist

Section Three-Limitations of Findings:

Though this study was very specific as to sense of self-efficacy as a result of the University of Wisconsin-River Falls preparation program before and after *PI34* implementation, the results of analysis could have been affected by other variables. Based upon this research alone, there may be additional factors to consider regarding participant response, as well as factors affecting policy impact on the teacher preparation program. As mentioned previously, though we are seeking information about perceived sense of self-efficacy during the first year of teaching, it is sometimes difficult to think back to eight years ago and remember one's level of support and abilities as a first year teacher. Because the PRAXIS I examination's format was inconsistent among those participants after *PI34*, (electronic vs. paper examination with different scoring) GPA was used to measure content knowledge for all cohort groups before and after *PI34* implementation. There was a statistically significant result between pre and post *PI34* with regard to GPA. However, the average difference of 0.1 grade points was likely not large enough to be practically significant. To the extent, however, that latent differences exist between respondents and the population as a whole, the generalizability of the findings will be limited. In addition, there may be other external factors that were not considered in this research. Though this group represented typical pre-service teachers within the relatively same size university setting within the Wisconsin university system, they may have chosen to participate in this study because they had a generally positive feeling about

their teacher preparation program and were successfully employed as teachers. In addition, the role of a teacher is comprehensive and the scale that was used may not fully capture the complexity of a teacher's many responsibilities.

Political Climate Affecting K-12 Public Education

During spring 2011, the state of Wisconsin abolished collective bargaining rights for public employees which included public school teachers. Because UWRF is a Wisconsin school and the majority of survey respondents resided in the state of Wisconsin, the overall educational political climate may have affected overall participant's responses. The 2011 Wisconsin Act 10, also known as the Wisconsin Budget Repair Bill, [1] was legislation that primarily impacted the following areas: collective bargaining, compensation, retirement, health insurance, and sick leave. For those participants affected, the overall positive attitude about the teaching profession may have suffered, contributing to survey respondents' attitude regarding dispositions and levels of support. In addition, this may have also contributed to the overall response rate of 32.3 percent of survey participants.

Most importantly, as student demographics change, Linda Darling Hammond (2006) identifies the increased need for quality teachers as increased demands on teachers' workloads resulting from changing school demographics. She noted that within these "new" classrooms, teachers will be experiencing at least 25 percent of their students living in poverty; lacking food, shelter and health care; 10 to 20 percent of students will be identified as having learning differences; 15 percent speaking a language other than English; and about 40 percent being members of racial/ethnic "minority" groups, many in which being recent immigrants. Because responders primarily resided in homogeneous

communities throughout the state of Wisconsin, many may have not have the opportunity to work with diverse populations, thus skewing some of the responses to questions regarding the ability to engage and manage students specifically related to diverse student populations.

Future Research

Wisconsin Policy Initiative 34 (*PI34*) sought to have an impact on teacher preparation programs in order to provide stronger teacher candidates. Examining Wisconsin *PI34* after eight years, a natural experiment provides the opportunity to assess the potential association between policy, preparation programs and teacher self-efficacy. As a result of this study, there are many areas of future research that could be explored.

For those responders within this study, they provide a beginning to ongoing collection of data for future pre-service teachers and their ability to assess their preparation program in regard to the self-efficacy identified on the OSTES survey. The ability to assess various components as they related to dispositions thus affecting self-efficacy within the teacher preparation program would be invaluable for program improvement.

Wasicsko & Taylor (2002) recognized that effective teachers had the intersection of three important components: Teacher Knowledge, Pedagogical Skills and Dispositions (Self-Efficacy).

Though this research controlled for content knowledge (GPA), future and additional consistent quantitative data, besides GPA, could include PRAXIS I and PRAXIS II data, test taking attempts, and student teaching final evaluations from cooperating teachers. Use of the OSTES survey measuring self-efficacy following the first year of teaching

would be most effective in seeking out information regarding pre-service teachers' perception of the teacher preparation program and to analyze perception of self-efficacy. Pedagogical skills would be equally important to analyze with the use of the Education Teacher Performance Assessment (edTPA). This performance assessment will be implemented in the state of Wisconsin, fall 2015.

Fowler (2009) indicates that successful implementation of policy depends on developing and maintaining both the will and the capacity of intermediaries. The individuals and agencies who must cooperate in order to implement a policy must have reasons for doing so- in other words, they must be willing. Therefore it would be important to research organizational change as a result of this particular policy. Identifying specific programmatic changes and providing means to assess the program's impact on pre-service teachers would serve as a vehicle identifying program strengths and weaknesses. Wisconsin policy, *PI34*, provided guidelines that were less prescriptive than previous policies as it related to programmatic recommendations. These tended to be more flexible guidelines, providing institutions of higher education their own interpretation of these less stringent measures. As Fowler describes the importance of the will and capacity of the intermediaries involved in change efforts, research having to do with organizational change, would also be a component to review along with pre-service teacher's perception of their teacher preparation program. It is these intermediaries that have dramatic effect on change and the success of policy implementation.

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Appendix A

UWRF End of Program Evaluation
Student End of Program Survey Spring 2013

Q1.1 Semester Student Teaching
- Fall (1)
- Spring (2)

Q1.2 Year

Q1.3 Gender
- Male (1)
- Female (2)
- Non-Disclosed (3)

Q1.4 Age
- Under 25 (1)
- 26-35 (2)
- 36-45 (3)
- Over 45 (4)

Q1.5 Racial/Ethnic Identity
- Nonresident Alien (international) (1)
- Black, non-Hispanic (2)
- American Indian or Alaskan Native (3)
- Asian or Pacific Islander (4)
- Hispanic (5)
- White, non-Hispanic (6)
- Race/ethnicity unknown (7)

Q1.6 Program Level
- Undergraduate (1)
- Graduate (2)
- Post-bachelor (non degree seeking) (3)

Q1.7 Program: Choose an area based on your first major
- EC, Regular Education (Early Childhood, Regular Education {early childhood major}) (1)
- EC-MC, Regular Education (Early Childhood - Middle Childhood {elementary major with early childhood minor}) (2)
- MC-EA, (Middle Childhood - Early Adolescence, Regular Education {elementary major with any minor except early childhood}) (3)
- EC-A Early Childhood - Adolescence, Agricultural Education (4)
- EC-A, Early Childhood - Adolescence, Art Education (5)
- EC-A, Early Childhood - Adolescence, Communicative Disorders (6)
- EC-A, Early Childhood - Adolescence, English as a Second Language {TESOL major} (7)

- EC-A, Early Childhood - Adolescence, Health Education (8)
- EC-A, Early Childhood - Adolescence, French Education (9)
- EC-A, Early Childhood - Adolescence, German Education (10)
- EC-A, Early Childhood - Adolescence, Spanish Education (11)
- EC-A, Early Childhood - Adolescence, Music Education {Choral} (12)
- EC-A, Early Childhood - Adolescence, Music Education {Instrumental} (13)
- EC-A, Early Childhood - Adolescence, Music Education {Choral & Instrumental} (14)
- EC-A, Early Childhood - Adolescence, Physical Education / Health Education (15)
- EC-A, Early Childhood - Adolescence, Physical Education (16)
- EA-A, Early Adolescence - Adolescence, Biology Education (17)
- EA-A, Early Adolescence - Adolescence, Broad Field Physical Science Education (18)
- EA-A, Early Adolescence - Adolescence, Broad Field Science Education (19)
- EA-A, Early Adolescence - Adolescence, Broad Field Social Studies Education (20)
- EA-A, Early Adolescence - Adolescence, Chemistry Education (21)
- EA-A, Early Adolescence - Adolescence, English Education (22)
- EA-A, Early Adolescence - Adolescence, Earth & Space Science Education (geology major) (23)
- EA-A, Early Adolescence - Adolescence, Mathematics Education (24)
- EA-A, Early Adolescence - Adolescence, Physics Education (25)

Q2.1 How well prepared were you to understand your content /subject area?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q2.2 How well were you prepared were you to create learning experiences that make subject matter meaningful for your pupils?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q3.1 How well prepared were you to understand how children with broad ranges of ability learn?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q3.2 How well prepared were you to support children's intellectual development?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)

- Not Prepared (5)

Q3.3 How well prepared were you to support children's social development?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q3.4 How well prepared were you to support children's personal development?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q4.1 How well were you prepared to understand how pupils differ in their approaches to learning?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q4.2 How well were you prepared to identify barriers that impede learning?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q4.3 How well were you prepared to differentiate instruction to meet the diverse needs of all pupils, including those with disabilities and exceptionalities?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q4.4 How well were you prepared to support the learning of students whose first language is not English?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q5.1 How well were you prepared to teach using a variety of instructional strategies?

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q5.2 How well were you prepared to integrate technology in your teaching?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q5.3 How well were you prepared to promote critical thinking?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q5.4 How well were you prepared to promote problem solving skills?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q5.5 How well were you prepared to promote performance skills?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q6.1 How well were you prepared to use individual and group motivation strategies to encourage positive social interaction?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q6.2 How well were you prepared to use individual and group motivation strategies to promote active engagement in learning?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)

- Not Prepared (5)

Q6.3 How well were you prepared to use individual and group motivation strategies to promote self-motivation?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q6.4 How well were you prepared to use positive behavioral support strategies to effectively manage your classroom?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q7.1 How well were you prepared to use verbal communication techniques to foster active inquiry, collaboration, and supportive interaction?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q7.2 How well were you prepared to use non-verbal communication techniques to foster active inquiry, collaboration, and supportive interaction?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q7.3 How well were you prepared to use instructional media and technology to foster active inquiry, collaboration, and supportive interaction?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q7.4 How well were you prepared to communicate in ways that demonstrate sensitivity to cultural and gender differences?
- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)

 Not Prepared (5)

Q8.1 How well were you prepared to organize and plan systematic instruction based upon knowledge of subject matter?
 Exceptionally Prepared (1)
 Well Prepared (2)
 Adequately Prepared (3)
 Somewhat Prepared (4)
 Not Prepared (5)

Q8.2 How well were you prepared to organize and plan systematic instruction based upon knowledge of your students?
 Exceptionally Prepared (1)
 Well Prepared (2)
 Adequately Prepared (3)
 Somewhat Prepared (4)
 Not Prepared (5)

Q8.3 How well were you prepared to organize and plan systematic instruction based upon knowledge of the community?
 Exceptionally Prepared (1)
 Well Prepared (2)
 Adequately Prepared (3)
 Somewhat Prepared (4)
 Not Prepared (5)

Q8.4 How well were you prepared to organize and plan systematic instruction based upon knowledge of curriculum goals?
 Exceptionally Prepared (1)
 Well Prepared (2)
 Adequately Prepared (3)
 Somewhat Prepared (4)
 Not Prepared (5)

Q9.1 How well were you prepared to use formal assessment strategies (e.g., criterion-referenced, and norm-referenced instruments, traditional standardized and performance-based tests) to evaluate and ensure the continuous intellectual, social, and physical development of your students.
 Exceptionally Prepared (1)
 Well Prepared (2)
 Adequately Prepared (3)
 Somewhat Prepared (4)
 Not Prepared (5)

Q9.2 How well were you prepared to use informal assessment strategies (e.g., observation systems, assessment of student work) to evaluate and ensure the continuous intellectual, social, and physical development of your students.
 Exceptionally Prepared (1)

- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q10.1 How well were you prepared to continually evaluate the effects of your choices and actions on others?

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q10.2 How well were you prepared to use classroom observation, information about students, cultural, social, and philosophical frameworks, and research to evaluate the outcomes of your teaching?

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q45 How well were you prepared to utilize professional literature, colleagues, professional associations and other resources to support your professional development?

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q11.1 How well were you prepared to understand and implement public laws related to student rights and teacher responsibilities? (e.g., for equal education, appropriate education for students with disabilities, confidentiality, privacy, appropriate treatment of students, reporting in situations related to possible child abuse)?

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q46 How well were you prepared to participate to collaborate with others (e.g., school colleagues, parents, and agencies in the larger community) to make the entire school a productive learning environment?

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q47 How well were you prepared to act with integrity, fairness, and in an ethical mannor?

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q48 Overall, how well do you feel UW - River Falls prepared you for the demands of your chosen profession

- Exceptionally Prepared (1)
- Well Prepared (2)
- Adequately Prepared (3)
- Somewhat Prepared (4)
- Not Prepared (5)

Q49 Additional Comments

Appendix B

Teachers' Sense of Efficacy Scale1 (short form)

Teacher Beliefs How much can you do?

Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.

Nothing Very Little Some Quite A Bit A Great Deal

(1) (2) (3) (4) (5) (6) (7) (8) (9)

1. How much can you do to control disruptive behavior in the classroom2. How much can you do to motivate students who show low interest in school

work?

(1) (2) (3) (4) (5) (6) (7) (8) (9)

3. How much can you do to get students to believe they can do well in school

work?

(1) (2) (3) (4) (5) (6) (7) (8) (9)

4. How much can you do to help your students value learning?

(1) (2) (3) (4) (5) (6) (7) (8) (9)

5. To what extent can you craft good questions for your students?

(1) (2) (3) (4) (5) (6) (7) (8) (9)

6. How much can you do to get children to follow classroom rules?

(1) (2) (3) (4) (5) (6) (7) (8) (9)

7. How much can you do to calm a student who is disruptive or noisy?

(1) (2) (3) (4) (5) (6) (7) (8) (9)

8. How well can you establish a classroom management system with each

group of students?

(1) (2) (3) (4) (5) (6) (7) (8)
(9)

9. How much can you use a variety of assessment strategies?

(1) (2) (3) (4) (5) (6) (7) (8) (9)

10. To what extent can you provide an alternative explanation or example when

students are confused?

(1) (2) (3) (4) (5) (6) (7) (8)
(9)

11. How much can you assist families in helping their children do well in school?

(1) (2) (3) (4) (5) (6) (7) (8)
(9)

12. How well can you implement alternative strategies in your classroom?

(1) (2) (3) (4) (5) (6) (7) (8)
(9)

Appendix C

The Teachers' Sense of Efficacy Scale

Directions for Scoring the Teachers' Sense of Efficacy Scale

Developers: Megan Tschannen-Moran, College of William and Mary

Anita Woolfolk Hoy, the Ohio State University.

Construct Validity

For information the construct validity of the Teachers' Sense of Teacher efficacy Scale, see:

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

Factor Analysis

It is important to conduct a factor analysis to determine how your participants respond to the questions. We have consistently found three moderately correlated factors: *Efficacy in Student Engagement, Efficacy in Instructional Practices*, and *Efficacy in Classroom Management*, but at times the make up of the scales varies slightly. With preservice teachers we recommend that the full 24-item scale (or 12-item short form) be used, because the factor structure often is less distinct for these respondents.

Subscale Scores

To determine the *Efficacy in Student Engagement, Efficacy in Instructional Practices*, and *Efficacy in Classroom Management* subscale scores, we compute unweighted means of the items that load on each factor.

Reliabilities

In Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education, 17,* 783-805, the following were found:

	Long Form			**Short Form**		
	Mean	SD	alpha	Mean	SD	alpha
TSES (OSTES)	7.1	.94	.94	7.1	.98	.90
Engagement	7.3	1.1	.87	7.2	1.2	.81
Instruction	7.3	1.1	.91	7.3	1.2	.86

Management	6.7	1.1	.90	6.7	1.2	.86

1 Because this instrument was developed at the Ohio State University, it is sometimes referred to as the *Ohio State Teacher Efficacy Scale* (OSTES). We prefer the name, *Teachers' Sense of Efficacy Scale (TSES)*.

UP

Teacher Efficacy Scale (Gibson & Dembo: Long Form)

If you want a copy of this scale, click here

Directions for Scoring the Teacher Efficacy Scale: Long Form

1. Construct validity

For information the construct validity of the 22-item efficacy scale, see Woolfolk, A. E., & Hoy, W. K. (1990). Prospective teachers' sense of efficacy and beliefs about control. *Journal of Educational Psychology, 82*, 81-91.

2. Factor Analysis

When using the 22-item of the Teacher Efficacy Scale, it is important to conduct a factor analysis to determine how your subjects respond to the questions. We have consistently found two independent factors: Teaching Efficacy (TE) and Personal Efficacy (PE), but at times the make up of the scales varies slightly. For example, we often find that items 15 and 21 of the 22-item version do not load on either factor and must be dropped.

3. Reverse scoring:

Given the 1="strongly agree" to 6="strongly disagree" format, if you want a high score on each scale to indicate strong sense of efficacy, then you must reverse the scoring for the Personal Efficacy items. Thus a "strongly agree" response to the statement, "When I try really, I can get through to most difficult students" must be reversed so that the respondent receives a score of 6 rather than 1.

The reverse scored items on the 22-item version

are: 1, 5, 6, 7, 8, 11, 12, 14, 15*, 16, 18, 19, 22

*Note that item 15 is the only reversed item that is from the Teaching Efficacy, not Personal Efficacy scale.

4. TE and PE Scores:

To determine the TE and PE scores, we compute unweighed means of the items that load .35 or higher on each respective factor. We do not recommend combining the TE and PE scores to compute a total score because the TE and PE scales represent independent factors.

UP

Teacher Efficacy Scale (Hoy & Woolfolk: Short Form)

If you want a copy of this scale, click here

Directions for Scoring the Teacher Efficacy Scale: Short Form

1. Construct validity

For information the construct validity of the 10-item efficacy scale, see Hoy, W. K., & Woolfolk, A. E. (1990). Organizational socialization of student teachers. *American Educational Research Journal, 27*, 279-300.

2. Factor Analysis

It is important to conduct a factor analysis to determine how your subjects respond to the questions. We have consistently found two independent factors: Teaching Efficacy (TE) and Personal Efficacy (PE), but at times the make up of the scales varies slightly.

3. Reverse scoring:

Given the 1=”strongly agree” to 6=”strongly disagree” format, if you want a high score on each scale to indicate strong sense of efficacy, then you must reverse the scoring for the Personal Efficacy items. Thus a “strongly agree” response to the statement, “When I try really, I can get through to most difficult students” must be reversed so that the respondent receives a score of 6 rather than 1.

The reverse scored items on the 10-item version

are: 3, 6, 7, 8, 9

4. TE and PE Scores:

To determine the TE and PE scores, we compute unweighed means of the items that load .35 or higher on each respective factor. We do not recommend combining the TE and PE scores to compute a total score because the TE and PE scales represent independent factors.

UP

The Teaching Confidence Scale

If you want a copy of the Teaching Confidence scale, click here

Directions for Scoring the Teaching Confidence Scale

This scale was developed in order to devise a program-specific measure of efficacy. In an attempt to identify an appropriate level of specificity for assessing efficacy in our preservice teacher preparation program, we surveyed all the instructors who worked with the prospective teacher cohorts, asking the instructors what students should be able to do after completing the coursework. After removing redundancies, the result was a list of 32 teaching skills such as manage classrooms, evaluate student work, use cooperative learning approaches, teach basic concepts of fractions, and build learning in science on children's intuitive understandings.

We then designed a questionnaire, named the Teaching Confidence Scale (initially called the OSU Teaching Confidence Scale because it focused on skills in our program), that asked students to rate on a 6-point scale how confident they were in their ability to accomplish each skill, the higher the score, the more confident. We then calculated a total average score for each respondent. In our first study, based on the average score for the entire 32-item scale, the alpha coefficient of reliability was in the 95.

In order to create a measure appropriate for your program, you would have to determine what students should be able to do after completing your requirements and then build a scale based on these expectations.

1. Construct validity

For information the construct validity of the Teaching Confidence Scale, see Woolfolk Hoy, A. (2000, April). *Changes in teacher efficacy during the early years of teaching*. Paper presented at the American Educational Research Association, New Orleans, LA.

2. Factor Analysis

As described in Woolfolk Hoy, A. (2000, April), *Changes in teacher efficacy during the early years of teaching*, we performed a principal-axis factor analysis using Kaiser's criterion of eigenvalues greater than 1 (Kaiser, 1974) in combination with Cattell's scree test (Cattell, 1965) to determine the number of factors (Kim & Mueller, 1978). Three factors emerged and accounted for 70% of the variance. Some of the items loaded on two or all three factors, so these items were dropped and the remaining items analyzed into three factors with varimax rotation. The three factors seem to represent confidence to teach math and science, confidence to use instructional innovations, and confidence to manage classrooms. It is important to conduct a factor analysis to determine how your subjects respond to your questions.

UP

Other Efficacy Scales

1. Responsibility for Student Achievement

For a copy of the *Responsibility for Student Achievement* scale, click here.

Shortly after the first Rand study was published, Guskey developed a 30-item instrument measuring *Responsibility for Student Achievement* (Guskey, 1981). For each item, participants were asked to distribute 100 percentage points between two alternatives, one stating that the event was caused by the teacher and the other stating that the event occurred because of factors outside the teacher's immediate control. Consistent with explanations from attributional theory (Weiner, 1979, 1992, 1994), four types of causes were offered for success or failure: specific teaching abilities, the effort put into teaching, the task difficulty, and luck. Scores on the *Responsibility for Student Achievement* (*RSA*) yielded a measure of how much the teacher assumed responsibility for student outcomes in general, as well as two subscale scores indicating responsibility for student success (R+) and for student failure (R-). The 100-point scale proved cumbersome and in subsequent uses the scale was reduced to 10 points for the teacher to divide between the alternative explanations.

When Guskey (1982, 1988) compared scores from the *RSA* with teacher efficacy (TE) as measured by the sum of the two Rand items, he found significant positive correlations between teacher efficacy and responsibility for both student success (R+) and student failure (R-). He reported strong intercorrelations ranging from.72-\ to .81 between overall responsibility and responsibility for student success and student failure while the subscales for student success and student failure were only weakly related (.20) or not at all (Guskey, 1981, 1988). Guskey asserted that positive and negative performance outcomes represent separate dimensions, not opposite ends of a single continuum, and that these dimensions operate independently in their influence on perceptions of efficacy (Guskey, 1987). In general, teachers assumed greater responsibility for positive results than for negative results, that is, they were more confident in their ability to influence positive outcomes than to prevent negative ones. Greater efficacy was related to a high level of confidence in teaching abilities on a measure of teaching self-concept (Guskey, 1984). In an extensive review of the research on teacher efficacy, no published studies were found in which other researchers had adopted this measure.

Responsibility for Student Achievement (Guskey, 1981)	
Format: Participants are asked to give a weight or percent to each of the two choices.	**Example Items** If a student does well in your class, would it probably be

Scoring: A global measure of responsibility, with two subscales: responsibility for student success (R+) & responsibility for student failure (R-)	a. because that student had the natural ability to do well, or b. because of the encouragement you offered? When your students seem to have difficulty learning something, is it usually a. because you are not willing to really work at it, or b. because you weren't able to make it interesting for them?

UP

2. Teacher Locus of Control

For a copy of the *Teacher Locus of Control* scale, click here.

At the same time as Guskey developed the *RSA*, Rose and Medway (1981) proposed a 28-item measure called the *Teacher Locus of Control* (*TLC*) in which teachers were asked to assign responsibility for student successes or failures by choosing between two competing explanations for the situations described. Half the items on the *TLC* describe situations of student success while the other half describe student failure. For each success situation, one explanation attributes the positive outcome internally to the teacher (I+) while the other assigns responsibility outside the teacher, usually to the students. Similarly, for each failure situation, one explanation gives an internal teacher attribution (I-) while the other blames external factors.

Scores on the *TLC* have been weakly but significantly related to the individual Rand items (GTE and PTE) as well as to the sum of the two Rand items (TE) with correlations generally ranging from .11 to .41 (Coladarci , 1992; Parkay, Greenwood, Olejnik, & Proller, 1988). Rose and Medway (1981) found that the *TLC* was a better predictor of teacher behaviors than Rotter's Internal-External (I-E) Scale, probably because it was more specific to a teaching context. For example, the TLC predicted teachers' willingness to implement new instructional techniques, whereas Rotter's I-E Scale did not. To further examine the *TLC* and the two Rand items, Greenwood, Olejnik, and Parkay (1990) dichotomized teachers' scores on the two Rand questions and cross-partitioned them into four efficacy patterns. They found that teachers with high efficacy on both measures (I can, teachers can) had more internally-oriented scores on the *TLC* for both student success and student failure than teachers who scored low on both (I can't, teachers can't). This measure never received wide acceptance and has all but disappeared from view in the past decade.

Teacher Locus of Control (Rose & Medway, 1981)	
Format: 28 items with a forced-choice format. **Scoring: Half of the items describe situations of student success (I+) and half describe student failure (I-).**	**Example Items** Suppose you are teaching a student a particular concept in arithmetic or math and the student has trouble learning it. Would this happen a. because the student wasn't able to understand it, or b. because you couldn't explain it very well? If the students in your class perform better than they usually do on a test, would this happen a. because the students studied a lot for the test, or b. because you did a good job of teaching the subject area?

UP

3. The Webb Scales

For a copy of the *Webb Efficacy* scales, click here.

At about the same time as the *RSA* and the *TLC* were being developed, a third group of researchers sought to expand the Rand efficacy questions to increase their reliability. *The Webb Scale* (Ashton, et al., 1982) was an attempt to extend the measure of teacher efficacy while maintaining a narrow conceptualization of the construct. To reduce the problem of social desirability bias, Webb and his colleagues used a forced-choice format with items matched for social desirability. They found that teachers who scored higher on the *Webb Efficacy Scale* evidenced fewer negative interactions (less negative affect) in their teaching style (Ashton, et al, 1982). This measure, however, never met with wide acceptance and we found no published work beyond the original study in which the scale was used.

Webb Efficacy Scale (Ashton, et al. 1982).	
Format: 7 items, forced choice. Participants must determine if they agree most strongly with the first or the second statement.	**Example Items** A. A teacher should not be expected to reach every child; some students are not going to make academic progress.

	B. Every child is reachable. It is a teacher's obligation to see to it that every child makes academic progress. A. My skills are best suited for dealing with students who have low motivation and who have a history of misbehavior in school. B. My skills are best suited for dealing with students who are academically motivated and generally well behaved.

UP

4. The Ashton Vignettes

For a copy of the *Ashton Vignettes*, click here.

In order to address the assumption that teacher efficacy is context specific, Ashton and her colleagues (1984) developed a series of vignettes describing situations a teacher might encounter and asking the teacher to make a judgment as to their effectiveness in handling the situation. The researchers tested two frames of reference for judgments. The first asked teachers to judge how they would perform in the described situation on a scale from "extremely ineffective" to "extremely effective." The second version asked teachers to make a comparison to other teachers, from "much less effective than most teachers" to "much more effective than most teachers." The norm-reference vignettes in which teachers compared themselves to other teachers were significantly correlated with Rand items but the self-referenced vignettes, rating effectiveness or ineffectiveness, were not (Ashton, Buhr, & Crocker, 1984; Ashton & Webb, 1986). Teachers also were asked to indicate the level of stress in each of the situations but, with correlations between efficacy and stress ranging from -.05 to -.82, with an average of -.39, it was concluded that stress could not be used as a proxy for efficacy. This measure has not received wide acceptance. Only one study was found where it was used since it was used in the original study.

Ashton Vignettes (Ashton, et al. 1982).	
Format: 50 items describing problem situations concerning various dimensions of teaching, including motivation, discipline, academic instruction, planning, evaluation, and work with parents. Self-referenced:	**Example Items** Your school district has adopted a self-paced instructional program for remedial students in your area. How effective would you be in keeping a group of remedial students on task and engaged in

"extremely ineffective" to "extremely effective." Norm-referenced: "much less effective than most teachers" to "much more effective than other teachers."	meaningful learning while using these materials? A small group of students is constantly whispering, passing notes and ignoring class activities. Their academic performance on tests and homework is adequate and sometimes even good. Their classroom performance, however, is irritating and disruptive. How effective would you be in eliminating their disruptive behavior?

UP

5. Science Teaching Efficacy Belief Instrument

For a copy of the *Science Teaching Efficacy Belief Instrument*, click here.

Science educators have conducted extensive research on the effects of efficacy on science teaching and learning. Riggs and Enochs (1990) developed an instrument, based on the Gibson and Dembo approach, to measure efficacy of teaching science–the *Science Teaching Efficacy Belief Instrument* (STEBI). Consistent with Gibson and Dembo they have found two separate factors, one they called *personal science teaching efficacy* (PSTE) and a second factor they labeled *science teaching outcome expectancy* (STOE). The two factors are uncorrelated. Exploring an even greater level of specificity, Rubeck and Enochs (1991) distinguished chemistry teaching efficacy from science teaching efficacy. They found that among middle-school science teachers, personal science teaching efficacy (PTE for teaching science) was correlated with preference to teach science, and that chemistry teaching self-efficacy (PTE for teaching chemistry) was related to preference to teach chemistry. Chemistry teaching self-efficacy was related to science teaching self-efficacy, and science teaching self-efficacy was significantly higher than chemistry teaching self-efficacy. Science teaching self-efficacy was related to the teacher's experiences taking science courses with laboratory experiences and to experience teaching science, while chemistry self-efficacy was related to chemistry course work involving lab experiences and chemistry teaching experience. This instrument has been used in several studies (see Enochs, Posnanski, & Hagedorn, 1999).

Science Teaching Efficacy Belief Instrument (Riggs & Enochs, 1990)	
Format: 25 item 5 point Likert scale from strongly agree to strongly disagree.	**Example Items** I understand science concepts well enough to be effective in teaching elementary science.

	Effectiveness in science teaching has little influence on the achievement of students with low motivation.

UP

6. Bandura's Teacher Efficacy Scale

For a copy of the *Bandura's Teacher Efficacy* scale, click here.

In the midst of the confusion about how to best measure teacher efficacy, an unpublished measure used by Bandura in his work on teacher efficacy has begun quietly circulating. Bandura (1997) pointed out that teachers' sense of efficacy is not necessarily uniform across the many different types of tasks teachers are asked to perform, nor across different subject matter. In response, he constructed a 30-item instrument with seven subscales: efficacy to influence decision making, efficacy to influence school resources, instructional efficacy, disciplinary efficacy, efficacy to enlist parental involvement, efficacy to enlist community involvement, and efficacy to create a positive school climate. Each item is measured on a 9-point scale anchored with the notations: "nothing, very little, some influence, quite a bit, a great deal." This measure attempts to provide a multi-faceted picture of teachers' efficacy beliefs without becoming too narrow or specific. Unfortunately, reliability and validity information about the measure have not been available.

Bandura's Teacher Efficacy Scale (unpublished)	
Format: 30 items on a 9 point scale anchored at nothing, very little, some influence, quite a bit, a great deal. **7 subscales: Influence on decision making, influence on school resources, instructional efficacy, disciplinary efficacy, enlisting parental involvement, enlisting community involvement, and creating a positive school climate.**	**Example Items** How much can you influence the decisions that are made in your school? How much can you do to overcome the influence of adverse community conditions on student learning? How much can you do to get children to follow classroom rules? How much can you assist parents in helping their children do well in school? How much can you do to get local colleges and universities involved in working with your school?

	How much can you do to make students enjoy coming to school? How much can you do to get students to believe they can do well in schoolwork?

Appendix D

Teachers' Sense of Efficacy Scale (1) short form

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.

*What year did you complete your teacher education program from the University of Wisconsin-River Falls?_____

*How many years have you taught since completing the UWRF teacher preparation program?_____

*Are you still in the teaching profession? _____yes _____no

Think back on your first year of teaching, and answer the following questions:

1. Did you have a mentor formally assigned to you during your first year of teaching?

_____yes _____no If not formally assigned, did you have another faculty member who served as a support person to you? _____yes _____no

2. How much support did you feel you received from your peers during your first year of teaching?

Nothing		Very little		Some support		Quite a bit		A great deal
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

3. How much support did you feel you received from your school principal during your first year of teaching?

Nothing		Very little		Some support		Quite a bit		A great deal
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

4. How much influence did your teacher training program and/or experience provide you to be an effective teacher.

Nothing		Very little		Some influence		Quite a bit		A great deal
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

***Now think back on your current status and fill out the twelve questions that follow. Please return by July 31, 2012 in the addressed stamped envelope. Thank you.

Appendix E

Consent Form

Teacher Efficacy: More than Certifications, Pathways, and Longevity

You are invited to be in a research study of the effects of the University of Wisconsin-River Falls' teacher preparation program as it relates to candidates' sense of self efficacy. You were selected as a possible participant because you completed the elementary teacher preparation program at the University of Wisconsin-River Falls in school years 2003, 2004, 2007, or 2008. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Wanda Schlesser Erwin, a doctoral student in the department of Organizational Leadership, Policy, and Development at the University of Minnesota-Twin Cities.

Background Information

Research shows that the abilities of the teacher are a crucial contributor to student learning which in turn can lead to the development of highly knowledgeable and skilled workers. This study examines teacher preparation programs and their ability to teach dispositions and influence pre-service teachers' sense of self efficacy as a result. .

Procedures

If you agree to be in this study, we would ask you to do the following things:

Complete two short surveys.

Survey 1: Because the Ohio State Teacher Efficacy Scale (OSTES) focuses on dispositions, the enclosed survey will be the primary tool used to gain information about participants' perception of sense of self efficacy thinking back to the first year of teaching.

Survey 2: Four additional questions are included on the survey to gain background information regarding your current status of teaching, number of years of teaching and opportunities of support within the school system.

The enclosed two surveys will require approximately 10-15 minutes to be completed.

Risks and Benefits of being in this Study:

This study anticipates little risk to the participant. The benefits to participation include gaining better insight on programmatic influences, dispositions, and teacher self efficacy.

Compensation

There is no compensation for responding.

Confidentiality

The records of this study will be kept private. In any sort of report we might publish, we will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records. Study data will be encrypted according to current University policy for protection of confidentiality.

Voluntary Nature of the Study

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or the University of Wisconsin-River Falls. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions

The researcher conducting this study is: Wanda Schlesser Erwin. If you have any questions, you are encouraged to contact the researcher by phone or e-mail: 715-377-2315 (cell, home) or wanda.schlesser@uwrf.edu (w) or wanda@amerytel.net (h).

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

This is a copy for your records.

_____
____

Statement of Consent:

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature:_____Date:_____

Appendix F

Research Request from UWRF Institutional Research

TO: Research office

FROM: Wanda Schlesser Erwin

RE: For doctoral work at the University of Minnesota- Twin Cities.

The purpose of this research is to review the result of policy changes Wisconsin PI34 has had on teacher education candidates. This law went into effect September, 2004. This is a case study on UWRF. My chapter 3- Research methods was currently approved from my committee and has undergone some revisions. I am currently submitting it to IRB. Therefore, it has not been approved yet, but I would like to begin requesting this data.

The information I need is as follows:

Students that have graduated in teacher education for the following years;

2002-2003

2003-2004

2006-2007

2007-2008

1. This would include both Winter and Spring graduates.

2. Specifically, I would like only elementary teacher candidates if that is possible.

3. Though this data will be random selected and anonymous, I will need as much personal data in order to make contact with the participants. Name, address, e-mail, phone number.

4. The following data on the participants would include:

   a. gender
   b. race
   c. Praxis I score
   d. GPA

**If you have any questions or you need additional information, please contact me.

wanda.schlesser@uwrf.edu 715-377-2315 cell 715-425-3976 office WEB

Appendix G

Research Table

Researcher	Topic	Methodology	Findings	Credibility
Sanders Sanders & Rivers (1996)	Teacher impact on student achievement	Tennessee Value Added assessment system: Methodology had 3 components: 1. a testing process which produces scales that have a strong relationship to curriculum and which produces measurement that extends above and below grade level; 2. the construction and ongoing expansion of a longitudinal data base; 3. a statistical process that enable a multivariate, longitudinal analysis to produce unbiased and efficient estimate of the desired effects.	1. Differences in student achievement of 50 percentile points were observed as a result of teacher sequence after only 3 years. 2. The effects of teachers on student achievement was both cumulative and additive. 3. As teacher effectiveness increases, lower achieving students are the first to benefit. 4. Students of different ethnicities respond equivalently within the same quintile of teacher effectiveness.	Credible being that it is a longitudinal study. Study cited by several other sources including (Bock and Wolf, 1996)
Carpenter & Ramirez (2007)	High school completion	Examined dropout behavior among Black, White and Hispanic students. Focus on gaps within groups. Hierarchal linear modeling.	Multiple achievement gaps both between and within groups, ultimately concluding that within-group gaps were often more significant than gaps between groups. Common predictors for all three groups was being held back and suspensions. Recommendation that policy makers and school leaders provide prevention policies that allow school personnel flexibility to individualize for students and conditions.	Very logical and is identified in several sources.
Miller, R., Murnane, R., & Willett, J. (2007)	Relationship between teacher absenteeism and student achievement	Empirical investigation of the causal impact of teacher absence on student achievement. Conducted in a student-teacher- year dataset. In the baseline hypothesized regression model, student mathematics achievement depended on teacher absence.	Ten additional days of teacher absence reduce student achievement in 4th grade math by 3.3 % of a standard deviation is large enough to have policy relevance.	Credible being they saw the significance of teacher presence as having a strong effect on student achievement. Quantified the data.
Goe, L. (2007)	Relationship between	Selected study based on 2 criteria:	Positive correlation between licensing in	Sources expert data

	teacher certification and student achievement	1. Outcomes measured student achievement on standardized nationally normed tests. 2. Measurement of teacher quality *Studies were identified using internet sources as well as library resources. Studies were solicited from experts.	mathematics teaching and a degree in mathematics and mathematics achievement especially at the secondary level. Not as significant in other content areas.	were highly credible.
Goldhaber and Brewer (2000)	Relationship between teacher certification and student achievement	Use of data from National Educational Longitudinal Study from 1988 examining student achievement and teacher certification	Positive correlation between licensing in mathematics teaching and a degree in mathematics and mathematics achievement especially at the secondary level. Not as significant in other content areas.	Significance of quantifiable data (.08 standard deviation, not of practical significance of those not having a not holding degree in mathematics)
Baumert, Kunter, Blum, Brunner, Voss, & Jordan (2010)	Relationship between teacher content knowledge and student achievement	1- year study conducted in Germany with representative sample of Grade 10 classes and their math teachers. Teacher pedagogical content knowledge was theoretically and empirically distinguishable from their content knowledge.	Multi level structural equation models revealed a substantial positive effect of pedagogical content knowledge on students' learning gains that was mediated by the provision of cognitive activation and individual learning support.	Quantitative data over a one year period
Betts, Zau & Rice (2003)	Relationship between teaching experience, level of education, credentials and subject matter knowledge and student achievement.	Linked student and teacher data. San Diego Unified school district (1998-2000 data) Included 123 elem. schools, 24 middle schools, 17 high schools and 5 charter schools	The results suggest that the contributions of various paper qualifications vary widely among subject areas and between grade levels.	Quantifiable data over a two year period with a study group within one school district
Wilson and Floden (2003)	Relationship between teacher experience and student achievement	Based upon 12 studies	Relationship between teacher experience and student achievement was inconsistent	Many studies they had conducted on teacher quality and teacher effectiveness
Summers and Wolfe (1977)				
Carr (2006)	Relationship between teaching experience and degree level with student achievement	Linked Ohio Teachers' experience, degree and highly qualified designation of NCLB with student achievement as indicated on Ohio's standardized proficiency tests. Archival data from traditional and charter	Teaching experience and advanced degrees did not significantly contribute to student achievement.	Quantifiable data over a one year period with a large research group. Indicated policy implications.

		schools for 2004-2005 school year. Variables included socio economic status, learning disabilities, mobility and discipline referrals.		
Boyd, Grossman, Lankford, Loeb, and Wyckoff (2005)	Relationship between teacher preparation program and student achievement.	Used teacher preparation as an indicator of teacher quality. Included a variety of teacher preparation pathways including those teachers who were trained through Teach for America and Teaching Fellows. Also included those individuals who were traditionally prepared in a college setting. English and mathematics scores were used from New York's statewide tests, which are aligned to the state standards. More than a million student mathematics scores and more than 900,000 student English scores were used, along with data on more than 65,000 teachers.	Teaching experience and advanced degrees did not significantly contribute to student achievement.	Quantifiable data using a large study of a variety of populations
Farr (2010)	Relationship between teacher preparation programs and dispositions.	Observed teacher effectiveness among a wide range of 28,000 teachers whom Teach for America had recruited, selected, trained, and supported in the last 20 years.	His research went beyond teacher preparation and found that these teachers had similar attributes including the ability to deliberately create and maintain a welcoming environment where students felt safe taking the risks.	Quantitative and qualitative research
Cornelius-White (2007)	Relationship of dispositions and student achievement	Reviewed about 1000 articles to synthesize 119 studies from 1948 to 2004 with 1450 findings and 355,325 students on teacher-student relationships.	His research found that teachers' warmth, empathy, and non directivity strongly correlated to higher levels of student participation, motivation, and achievement.	Large research sample over a long period of time.
Schussler, et al. (2010)	Relationship between dispositions and student achievement	Based their research on Combs assumption that quality teaching is predicated on the individual teacher's perceptions. Data consisted of 35 teacher candidate journals from two U.S. education programs.	Allowed a beginning to understand how candidates develop self awareness of their dispositions. It is only a beginning	*Too early to assess credibility.*
Taylor & Wasicsko (2000)	Relationship between dispositions	Review of the literature that supports the importance of	Review of the literature that supports the importance of dispositions in quality teaching.	Large body of literature supporting this fact

	and student achievement	dispositions in quality teaching.		
Wilson & Cameron (1996)	Teacher preparation programs focus on dispositions	Use of student teacher journals to assess the student teachers' perceptions .	Journals helped to "provide contextual understanding and an insight into the thinking which underpins many of the perceptions" held by pre service teachers.	Somewhat subjective and not enough informations
Percy (1990)	Teacher preparation programs focus on dispositions	He used a Teacher Effectiveness training model, which consisted of a series of intensive and one- week workshops.	He found that the training enhanced both teachers' attitudes toward children and selected teacher behaviors associated with effective teaching. The training resulted in a significant improvement in the teacher's attitudes toward children and increased teachers' ability to listen empathetically and confront appropriately.	This type of instruction would allow pre-service teachers to identify their own values, beliefs, and dispositions. Opportunities such as this would allow more chances that the behaviors may be sustained over time or the pre-service candidate would be less likely to return to his/her preferred taken-for-granted beliefs and past practices.
Villegas (2007)	Teacher preparation programs focus on dispositions	At Montclair State University they assist students to assess their own dispositions as they deal with students from racial or ethnic minorities and low socio economics. Montclair State University faculty provides a multi level and ongoing process so that students can grapple with their own values and beliefs.		
Diez, 2007	Teacher preparation programs focus on dispositions	In order to demonstrate the importance for pre-service teachers to be self aware of dispositions, an interdisciplinary group of faculty at the Alverno college worked together to integrate student awareness of self along with knowledge and		

		skills. Beginning with undergraduate liberal arts programs, the faculty continued to guide students to make links in what they believe, how they act and are able to see how their beliefs influence their actions. As students move to more advanced courses, they broaden their understanding of the context of their own values including how groups, cultures, and societies formulate values in moral systems or ethical frameworks. In the Alverno program, faculty provide self assessment prompts to assist candidates to examine their practice reflectively- following a process of observing, analyzing/interpreting, judging and planning.		

Appendix H

International Review Board

UNIVERSITY OF MINNESOTA

RSPP internal

Logged in as mart2479 - Logout

Study Search: Study Number Search

Edit IRB Study

Print Version | Flag as High Priority | Create Label(s) | Create Form Letter

Study: **1204E13182**
PI: **Schlesser Erwin, Wanda**
Status: Active
Title: Teacher Efficacy: Beyond Certification, Pathways and Longevity

Approval date: 04/30/2012
Expiration date:

Type: (E) Exempt
Subtype: General
Exempt Category: EXMT2
Committee: Expedited
Status: Active

Update

- Submissions
- Titles (1)
- Personnel (2)
- Funding (0)
- Details
- Notes (0)
- Email Log
- Primary Project (0)

Email

<< Previous | Back to Email Log | Next >>

Date: 04/30/2012
To: Wanda, Schlesser Erwin (erwin020@umn.edu)
From: irb@umn.edu
Subject: #STUDYNBR# - PI #PILASTNAME# - IRB - Exempt Study Notification
Message:

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TO : nalexand@umn.edu, erwin020@umn.edu,
```

The IRB: Human Subjects Committee determined that the referenced study is exempt from review under federal guidelines 45 CFR Part 46.101(b) category #2 SURVEYS/INTERVIEWS; STANDARDIZED EDUCATIONAL TESTS; OBSERVATION OF PUBLIC BEHAVIOR.

Study Number: 1204E13182

Principal Investigator: Wanda Schlesser Erwin

Title(s):

Teacher Efficacy: Beyond Certification, Pathways and Longevity