A Mixed Methods Study of the Impact of a Teacher Education Program using Professional
Development Schools on Teacher Persistence

A Thesis Submitted by
Christina Bebas
to
The College of Professional Studies

In partial fulfillment of the requirements for the degree of Doctor of Education (EdD) in
Educational Leadership with a Specialization in Curriculum Leadership

Northeastern University
Boston, MA

Dr. Chris Unger, Advisor
June 2012
Abstract

The problem of beginning teacher attrition is costly to school districts and to the teaching profession in many ways. Teacher preparation programs, such as the elementary education program at Worcester State University (WSU), can potentially contribute to lessening the number of beginning teachers who leave the profession. Therefore, the purpose of this study was to investigate the various elements of a specific model of teacher preparation, the professional development schools model, employed at WSU to consider their effect on self-efficacy, teacher efficacy, and beginning teacher persistence/retention. A mixed methods design in the form of an outcome evaluation was utilized to explore and compare the perceptions of graduates of the program who have remained in the teaching profession for at least three years (persisters) and graduates of the program who have left the profession or never entered the profession (non-persisters). Survey, focus group, and interview data were analyzed to consider if graduates of the program attributed the various elements of the WSU program to increases in self-efficacy, teacher efficacy, and eventually persistence in the teaching profession. It was found that almost all the graduates of the WSU program have high levels of self-efficacy and teacher efficacy and attribute the program with increases in self-efficacy and teacher efficacy. However, these increases do not predict or guarantee persistence/retention in the teaching profession.

Key Words: Beginning teacher attrition, Beginning teacher retention, Professional Development Schools, Teacher preparation, Self-efficacy, Teacher efficacy, Teacher persistence
Acknowledgements

First, I would like to thank Dr. Chris Unger for all his support and the countless hours that he committed to working with me in order to successfully complete this project. I would also like to thank Dr. Sara Ewell for her input and the effort and time she contributed as my second reader. I’d also like to thank Ms. Erin Dobson for volunteering to participate in this process and providing me with much needed encouragement and feedback.

I want to also thank the graduates of Worcester State University who participated in this study and took the time to complete the survey. I would especially like to thank those who took time out of their busy schedules to participate in the focus group and interview sessions.

The editing process would not have been quite as smooth if it wasn’t for Ms. Meredith Galena who has been one of my biggest cheerleaders while I completed this project and who volunteered her time to help me. You’re the best, Merrie!

I would like to thank everyone at Worcester State University, who helped me through this process, especially my colleagues in the WSU education department who lived through this with me and provided endless support. I would like to extend a special thanks to Dr. Elaine Tateronis for encouraging me to pursue a doctoral degree and offering advice and encouragement to me always.

I want to thank all my teachers and coaches throughout the years, and most importantly, I want to thank my parents who are the greatest teachers of all who knew when to push me and when to reassure me and who have been amazing models of how to live. I couldn’t have done this without the support of my amazing friends and family. I love you all!
# TABLE OF CONTENTS

**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>6</td>
</tr>
</tbody>
</table>

## CHAPTER I: INTRODUCTION

<table>
<thead>
<tr>
<th>Section Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Statement</td>
<td>8</td>
</tr>
<tr>
<td>Significance of the Problem</td>
<td>9</td>
</tr>
<tr>
<td>Intellectual Goals</td>
<td>11</td>
</tr>
<tr>
<td>Practical Goals</td>
<td>12</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>13</td>
</tr>
<tr>
<td>Professional Development Theory/Adult Learning Theory</td>
<td>13</td>
</tr>
<tr>
<td>Self-Efficacy Theory</td>
<td>19</td>
</tr>
</tbody>
</table>

## CHAPTER II: LITERATURE REVIEW

<table>
<thead>
<tr>
<th>Section Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Causes of Beginning Teacher Attrition</td>
<td>22</td>
</tr>
<tr>
<td>Types of Teacher Preparation Programs</td>
<td>26</td>
</tr>
<tr>
<td>The Benefits of Professional Development Schools</td>
<td>42</td>
</tr>
</tbody>
</table>

## CHAPTER III: METHODOLOGY

<table>
<thead>
<tr>
<th>Section Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Questions</td>
<td>45</td>
</tr>
<tr>
<td>Use of the WSU Teacher Preparation Logic Model</td>
<td>47</td>
</tr>
<tr>
<td>Rationale for a Mixed Methods Design</td>
<td>47</td>
</tr>
<tr>
<td>The Study’s Relationship to Outcome Evaluation</td>
<td>55</td>
</tr>
<tr>
<td>Site and Participants</td>
<td>56</td>
</tr>
<tr>
<td>Data Collection</td>
<td>61</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>68</td>
</tr>
<tr>
<td>Trustworthiness and Validity</td>
<td>73</td>
</tr>
<tr>
<td>Protection of Human Subjects and Ethical Considerations</td>
<td>79</td>
</tr>
<tr>
<td>Conclusion</td>
<td>80</td>
</tr>
</tbody>
</table>

## CHAPTER IV: RESEARCH FINDINGS

<table>
<thead>
<tr>
<th>Section Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting of the Findings and Analysis</td>
<td>81</td>
</tr>
<tr>
<td>Study Context</td>
<td>81</td>
</tr>
<tr>
<td>Coding</td>
<td>82</td>
</tr>
<tr>
<td>Findings and Analysis: The WSU Program’s Effect on Self-Efficacy</td>
<td>85</td>
</tr>
<tr>
<td>and Teacher Efficacy</td>
<td></td>
</tr>
<tr>
<td>Survey Results</td>
<td>86</td>
</tr>
<tr>
<td>Focus Group and Interview Results</td>
<td>113</td>
</tr>
<tr>
<td>Summary</td>
<td>140</td>
</tr>
<tr>
<td>Findings and Analysis: The Relationship Between the WSU Program and Persistence</td>
<td>143</td>
</tr>
<tr>
<td>Survey Results</td>
<td>143</td>
</tr>
<tr>
<td>Focus Group and Interview Results</td>
<td>148</td>
</tr>
<tr>
<td>Summary</td>
<td>184</td>
</tr>
<tr>
<td>Findings and Analysis Related to the Logic Model</td>
<td>187</td>
</tr>
<tr>
<td>Evidence of Short-Term Outcomes</td>
<td>188</td>
</tr>
</tbody>
</table>
Evidence of Teacher Efficacy and Self-Efficacy Outcomes............................ 196
The Outcome of Persistence in the Teaching Profession.......................... 206
Summary of the Findings........................................................................... 208

CHAPTER V: DISCUSSION OF THE RESEARCH FINDINGS.............................. 210
Summary of the Problem........................................................................... 210
Review of the Methodology...................................................................... 212
Summary of the Findings........................................................................... 213
Discussion of the Findings in Relation to the Theoretical Framework......... 217
  Professional Development Theory and Adult Learning Theory.............. 217
  Self-Efficacy Theory............................................................................. 220
  Summary of the Theoretical Framework in Relation to the Findings...... 223
Discussion of the Findings in Relation to the Literature Review.............. 224
  Causes of Teacher Attrition................................................................. 225
  Types of Teacher Preparation Programs and the Benefits of PDS’s........ 227
  Summary of the Literature Review in Relation to the Findings............ 230
Validity and Limitations.......................................................................... 231
Conclusion............................................................................................... 233
  Significance of the Study in the Field.................................................. 236
Final Words.............................................................................................. 237
Next Steps............................................................................................... 237

References............................................................................................... 239

Appendices............................................................................................... 252
  Appendix A........................................................................................... 252
  Appendix B........................................................................................... 253
  Appendix C........................................................................................... 259
  Appendix D........................................................................................... 261
  Appendix E........................................................................................... 263
  Appendix F........................................................................................... 266
  Appendix G........................................................................................... 269
  Appendix H........................................................................................... 270
  Appendix I........................................................................................... 271
  Appendix J........................................................................................... 272
  Appendix K........................................................................................... 273
  Appendix L........................................................................................... 274
  Appendix M........................................................................................... 275
  Appendix N........................................................................................... 276
  Appendix O........................................................................................... 277
# LIST OF TABLES

Table 1: Ages of Persisters........................................................................................................ 87
Table 2: Graduation Years of Persisters.................................................................................... 87
Table 3: Teacher Efficacy Results for Persisters................................................................. 89
Table 4: Collapsed Teacher Efficacy Results of Persisters.................................................. 91
Table 5: Self-Efficacy Results for Persisters........................................................................ 93
Table 6: Collapsed Self-Efficacy Results for Persisters....................................................... 94
Table 7: The Effect of Elements of the WSU Program on Teacher Efficacy According ...... 96
to Persisters
Table 8: Collapsed Responses of Persisters About the Effect Elements of the WSU........... 97

Program Have on Teacher Efficacy
Table 9: Ages of Non-Persisters............................................................................................ 98
Table 10: Year of Graduation of Non-Persisters................................................................... 99
Table 11: Teacher Efficacy Results of Non-Persisters....................................................... 100
Table 12: Collapsed Teacher Efficacy Results of Non-Persisters....................................... 102
Table 13: Self-Efficacy Results of Non-Persisters............................................................... 103
Table 14: Collapsed Self-Efficacy Results of Non-Persisters............................................. 104
Table 15: Responses of Non-Persisters About the Effect Elements of the WSU.............. 105

Program Have on Teacher Efficacy
Table 16: Collapsed Responses of Non-Persisters About the Effect Elements....................... 107

of the WSU Program Have on Teacher Efficacy
Table 17: Fisher Exact Test Comparisons of Responses on the Woolfolk & Hoy ............. 109

(1990) Teacher Efficacy Scale
Table 18: Fisher Exact Test Comparisons on the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001) 111

Table 19: Fisher Exact Test Comparisons of Survey Items Related to the Effect WSU Program Elements Have on Teacher Efficacy 111

Table 20: Quotes Related to the Importance of Feeling Prepared 120

Table 21: Quotes Related to Comparisons to Others 124

Table 22: Quotes Related to the Value of Feeling Supported 128

Table 23: Quotes Related to the Importance of Collaboration 133

Table 24: Quotes Related to the Effect of the PDS 138

Table 25: Reasons that Persisters Have Been Able to Stay in the Teaching Profession 145

Table 26: Reasons that Non-Persisters Have Left the Profession 146

Table 27: Quotes Related to the Effect of Professors on Persistence 155

Table 28: Quotes About the Importance of Practical Experiences 161

Table 29: Quotes About the Relationship Between the PDS and Persistence 167

Table 30: Quotes About the Relationship Between Self-Efficacy, Teacher Efficacy, and Persistence 173

Table 31: Connection Between Program Activities and Short-Term Outcomes 190

Table 32: Responses of Participants About the Effect Elements of the WSU Program Have on Teacher Efficacy 196

Table 33: Collapsed Responses of Participants About the Effect Elements of the WSU Program Have on Teacher Efficacy 197

Table 34: The Connection Between the Short-Term Outcomes and the Medium Outcomes 201
Chapter I: Introduction

Problem Statement

Teacher attrition in the beginning years of teaching has become a costly problem in the field of education. Every year, school districts experience the undying numbers of beginning teachers who give up on the teaching profession within a few years of entering the field of education. Numerous, well-trained educators seem to lose faith in a profession that is in desperate need of skilled innovators. The young and vibrant educators just entering the profession are more likely to leave the profession than their more experienced peers. (Luekens, Lyter, & Fox, 2004). Research has shown that up to 50 percent of teachers leave the profession within their first five years of teaching, and 11 percent leave within their first year (Henke, Chen, & Geis, 2000; Ingersoll, 2002).

The costs to school districts are immense. New teachers are trained and inducted into teaching by school districts only to leave within the first few years causing the school system to train new recruits who may opt to leave as well. The cycle goes on and on. Each time a new teacher leaves a school district in the United States, it costs the system approximately $12,000 (Alliance for Excellent Education, 2005).

In addition to the monetary costs is the sacrifice in teacher effectiveness. Beginning teachers lack the institutional knowledge of teachers who have more experience. Also, beginning teachers need time to develop the skills necessary to instruct young students, maintain and manage a classroom, etc. It can take up to seven years for a new teacher to develop the skills of a veteran teacher (Fletcher, Strong, & Villar, 2004). If each year, new teachers leave only to be replaced by more new teachers, the skill level of the teachers within each school does not progress. Therefore, teacher attrition leads to a lack of advancement in the teacher workforce.
Until recently, efforts aimed at retaining beginning teachers have focused mainly on recruitment instead of the retention of teachers. Historically, traditional teacher preparation programs have not considered themselves part of the solution to the attrition problem. However, since the 1990’s, research has begun to redirect its focus toward finding comprehensive solutions to the attrition problem that include teacher preparation programs as a central component (Ingersoll & Smith, 2004). This new focus has forced teacher preparation programs to evaluate how they can help alleviate the exodus of beginning teachers from the profession. Teacher preparation models such as the Professional Development Schools Model (PDS) have been initiated as a result. More research needs to be conducted to analyze the effects of such models on the retention of beginning teachers.

Due to the field of education’s inability to retain new and often innovative educators, schools are plagued by constant turnover. Classrooms often have revolving doors that new teachers walk through at least once a year. Sometimes, a classroom can have more than one teacher in a year. The effects on the education of students, district budgets, and the advancement of the teacher work force are immense. More must be done to analyze the role that teacher preparation programs can play in spearheading these issues.

**Significance of the Problem**

The problem with the retention of new teachers is a costly predicament nationally and for individual school districts. International data indicates that beginning teacher attrition is also a global phenomenon (MacDonald, 1999). In fact, there is significant concern about worldwide attrition rates and the future supply of teachers globally. The consequences of not responding to the problem of retaining beginning teachers are enormous and could influence the supply and
quality of teachers world-wide, therefore affecting the overall level of education being offered. In addition, the monetary costs are colossal.

Most educational researchers and educators agree that one of the most important factors that influence student achievement is the quality of teachers (Darling-Hammond, 2000). The attrition of beginning teachers has a profound effect on the quality of the teacher workforce. It takes a new teacher three to seven years before they perform at a similar level to that of their more experienced peers (Fletcher, Strong, & Villar, 2004). It is therefore imperative that the problem of retaining new teachers is alleviated to assure that there is a consistent supply of high-quality teachers in schools.

The significance of the teacher attrition problem is magnified in high poverty school districts where the teacher attrition rates far exceed those in other districts. Some estimate that the attrition rates in high-poverty districts are 50 percent higher than the rates in low-poverty districts (Ingersoll, 2001). Because this is true, the effects of teacher attrition are hitting high-need districts and the most disadvantaged students the hardest, making it difficult for these school districts and students to get ahead.

Attrition of beginning teachers not only affects teacher quality but also causes financial burdens to schools, cities, towns, states, and countries. The National Center for Education estimates that in the United States the number of teachers who leave the profession is 174,000 per year, costing $2.2 billion dollars a year (Alliance for Excellent Education, 2005). The same study also indicates that the annual total cost is approximately $5,000,000,000 when the numbers of teachers who leave the profession are combined with teachers who transfer schools, a total estimated at 375,000 teachers. On a more local level, the Commonwealth of Massachusetts loses a total of 8,300 teachers to attrition and transfer each year costing the state and local school
districts approximately $116,000,000 (Alliance for Excellent Education, 2005). This is based on the Department of Labor’s estimate that it costs an employer 30 percent of the employee’s salary when they leave. It is clear that finding a way to lessen the number of teachers who leave the profession will save taxpayers money, money that could be used to improve other areas of education and schooling.

Retention of beginning teachers is a major concern locally, nationally, and globally. Researchers must continue to investigate the problem to try to find ways to reduce the number of beginning teachers who leave the profession.

**Intellectual Goals**

Maxwell (2005) offers five possible intellectual goals for qualitative studies. They are to understand the meaning of events, situations, experiences, and actions, to understand a particular context, to identify unanticipated phenomena, to understand the process by which events or actions take place, and to develop causal explanations. One of the major goals of this study will involve exploration of a causal relationship. Maxwell (2005) argues that causal relationships can justifiably be explored through the use of either quantitative or qualitative methods. Therefore, this study was conducted using both quantitative and qualitative methods to analyze the relationship between the elements of the Worcester State University (WSU) teacher preparation program in elementary education and self-efficacy, teacher efficacy, and persistence/retention in the teaching profession. In this study, the main intellectual goal was to ask to what extent the components of the Professional Development Schools (PDS) Model of teacher preparation at Worcester State University may contribute to the self-efficacy, teacher efficacy, and persistence in the teaching profession of participants in the program.
As part of the exploration of the aforementioned relationship between the Professional Development Schools Model at WSU and teacher persistence, a specific analysis was carried out. In this analysis, this study considered which elements of the WSU teacher preparation program were perceived by its graduates as having contributed to their retention as teachers. Furthermore, this study explored what other factors and reasons recent graduates of the WSU program identify as those that caused them to persist in the teaching profession or leave the profession. Lastly, the degree to which self-efficacy and/or teacher efficacy played a role in the decisions of beginning teachers to remain in the teaching profession or leave the profession was considered.

**Practical Goals**

The practical goals for this study were directly related to the improvement of the teacher preparation program at Worcester State University. This study analyzed the components of the teacher preparation program at WSU in order to realize what aspects of the program have an effect on beginning teacher retention. Quantitative and qualitative data collection and analysis efforts of this study will help WSU staff to consider which aspects of the WSU program might have contributed to new teachers’ decisions to remain in the teaching profession or to leave the profession. The data that has been collected and analyzed can be used to make improvements to the program in order to try to increase the retention rates of the program’s graduates.

**Document Organization**

In this Doctoral Thesis, the theoretical framework that is applied to the problem of practice for this study is outlined. In addition a literature review is presented as well as a discussion of the research design of the study, including research questions, methodology, information about the site and participants, data collection methods, and data analysis. Next, the findings of the study are presented along with a discussion of these findings.
Theoretical Framework

Two theories inform the problem of practice related to this study, professional development theory and self-efficacy theory. Professional development theory examines effective practices in professional development, contexts for professional development, models of professional development, and their effects. Self-efficacy theory concerns how individuals perceive their own competency to effectively and successfully engage in tasks and the degree to which this perception contributes to the success or ability to persist at a task.

Professional Development Theory/Adult Learning Theory

Specific to the topic of beginning teacher attrition, professional development theory establishes a link between the amount and quality of teacher preparation a teacher has experienced to the likelihood that teachers will leave the profession (Connelly & Graham, 2009; Darling-Hammond, 2003). Professional development theory has contributed greatly to research in the area of teacher preparation. Researchers within professional development theory have identified effective components of teacher preparation models that are not only successful at training new teachers but also retaining them in the profession (Oja, 1980; Evertson et al, 1984; Darling-Hammond, 1992; Goodlad, 1994; Loughran, 2002; Darling-Hammond, 2007).

Professional development theory is a subset of adult learning theory and therefore it is important to understand the main concepts that make up adult learning theory before looking more specifically at professional development theory. The father of modern adult learning theory is generally known to be Malcolm Knowles who laid the foundation of the theory starting in 1950. Knowles (1975) proposed five concepts that indicate a difference between the learning of children and the learning of adults. First, adults’ self-concepts become less dependent on others and more self-directed as an adult. Second, an adult has a wealth of experience that essentially
becomes a resource for learning. In fact Knowles believed that experience was the true
foundation for learning. Third, adults have more complicated social roles that cause more
urgency for learning and cause adults to be more ready to learn. Adults’ orientation to learning
also changes from one of content-centered to problem-centered because of the need to learn in
order to readily apply new knowledge and skills. Lastly, Knowles believed that adults are
internally motivated to learn.

Knowles (1975) also made a distinction between two types of learning; proactive learning
and reactive learning. Knowles believed that deep learning takes place in adults when they are
involved in proactive experiences that force them to apply knowledge rather than sit passively
while they learn. He stated that proactive learners are more motivated and retain more than
passive learners (Knowles, 1975). Knowles’ ideas are important to college and university
programs and specifically to teacher preparation programs, because college-aged students are
making the transition from being child learners to being adult learners. Knowing the difference
between how each group learns could aid in the instruction of these students and the
development of curricula. The goal of college and university programs could be to help students
to make the leap from child learner to adult learner by exhibiting the five concepts mentioned
previously. If one were to apply Knowles ideas to teacher preparation, the model that would be
developed would be one full of realistic experiences that involve problem solving and involve
proactive activities.

Knowles (1975) was one of the first to place an emphasis on experiential learning. Other
adult learning theorists have followed suit. For example, Brookfield (1983) proposed that in
order for real learning to take place that adults must have a direct encounter with the
phenomenon that is being learned. In other words, the adult must experience what is being
learned instead of learning it in a passive sense. Similarly, Kolb (1984) postulated that simply learning content is not deep learning and does not transform someone. Instead, an adult must be engaged in an experience in order to be transformed. Merriam and Caffarella (1999) say that there are three keys to adult learning: experience, critical reflection, and development. Argote, McEvily, and Reagans (2003) also indicate that experience plays a major role in the learning of adults and how well they are able to retain and transfer knowledge. The idea that experience is the foundation of adult learning has existed in the literature since the founding of the theory.

Another adult learning theorist, Sharon Nodie Oja (1980), considered the ideas of adult learning theory as they apply to professional development. Oja (1980) looked specifically at teacher in-service training. She proposed four ingredients for successful adult learning:

1. Use of concrete experiences
2. Continuous supervision and advising
3. Encouragement of adults
4. Use of support and feedback

Oja’s (1980) work is related to the work of other adult learning theorists that emphasize experiential learning (Knolwes, 1975; Brookfield, 1983; Kolb, 1984), but adds the notions of support and encouragement. Oja continued her work by connecting these concepts to professional development and specifically to teacher education (Oja, Chamberlain, Moran, & Struck, 1997; Oja, 1994). Oja’s ideas are an example of how adult learning theory was used in the forming of professional development theory. Other theorists, similar to Oja, have also connected adult learning theory to professional development theory (Broad & Newstrom, 1992; Lawler, 2003; Cranton & King, 2003).
Professional development theory proposes ideas about how learners in a work environment can effectively learn ideas and concepts. Much of professional learning theory is centered on teacher in-service and pre-service training. Professional development theorists have found that there are shared characteristics amongst teacher preparation programs that thoroughly prepare teachers for the workforce and contribute to the retention of beginning teachers (Evertson et al, 1984; Darling-Hammond, 1992; Goodlad, 1994; Loughran, 2002; Darling-Hammond, 2007). Many researchers of professional development and teacher preparation have found that effective teacher preparation programs are those that provide pre-service teachers with opportunities to connect theory to practice through experiences in school settings, allow pre-service teachers to learn from and talk with experienced teachers, encourage reflection, and maintain partnerships with K-12 schools (Darling-Hammond, 1992; Goodlad, 1994; Loughran, 2002; Darling-Hammond, 2007). For example, in a study cited in much of the professional development theory literature, Evertson et al (1984) analyzed existing research regarding teacher preparation. They found that the use of “recurrent and episodic” practice teaching that is embedded in coursework and spread throughout the teacher preparation program as contributing to eventual teacher effectiveness. Evertson et al (1984) also suggest providing frequent feedback to pre-service teachers and consistent data collection regarding each education students’ practice in order to identify strengths and weaknesses as well as track improvement. Evertson et al (1984) point out that pre-service teachers can learn much from veteran teachers when given the opportunity to but also suggests that training cooperating teachers improves the effectiveness of pre-service teachers. Professional development theory focuses on developing ideas such as those presented in Evertson et al (1984) that suggest professional development practices that may contribute to the effective training of teachers.
Other professional development theorists, such as Linda Darling-Hammond and John Goodlad, two renowned researchers of professional development theory, have made similar claims to Evertson et al. (1984). Linda Darling-Hammond, a leading scholar in the areas of school restructuring and teacher preparation, has looked extensively at the most effective elements of teacher preparation programs. She believes that teacher preparation programs must “incorporate more deep and wide-ranging exposure to knowledge about teaching, learning, and the social contexts of education, along with more opportunities to learn to apply that knowledge under supervision and guided practice” (Darling-Hammond, 1992, p. 10). Darling-Hammond (1992) points out that there is a disjuncture between what is learned in schools of education and the realities of schools. According to Darling-Hammond (1992), the type of learning that pre-service teachers need to be exposed to does not exist solely within schools of education but must extend outside of it in order to help pre-service teachers translate knowledge into skill. In order to make this kind of learning a reality, teacher preparation programs should partner with K-12 schools and focus on providing pre-service teachers with the opportunities to apply their knowledge and hone their skill. In other research Darling-Hammond recommends that teacher preparation programs include inquiry-based learning, reflection, collaboration, and modeling of teaching practices as well as coaching for future teachers (Darling-Hammond & McLaughlin, 1995; Darling-Hammond, 2007).

John Goodlad, director of the National Network for Educational Renewal, has also extensively researched the connection between educational reform and teacher preparation. Goodlad (1994) emphasizes inquiry-based learning, opportunities for pre-service teachers to be socialized into the teaching world, and the use of quality feedback, reflection, and follow-up in teacher preparation programs. Similar to Darling-Hammond, he recommends school-university
partnerships that include “centers of pedagogy” where K-12 schools, university departments of education, and departments in the arts and sciences work together to train future educators (Goodlad, 1994).

The emphasis on quality classroom teaching experiences for pre-service teachers is repeated in other research as well. Loughran (2002) emphasizes the inclusion of classroom experiences for pre-service teachers that also incorporate authentic reflection that allows the pre-service teacher to analyze and make meaning of their experiences. Other professional development research recommends an increase in content-based courses, more experiences for pre-service teachers where they engage in reflective dialogue with “master teachers,” and instruction about how to negotiate the culture of teaching (Maloch et al, 2003). In summary, professional development theory emphasizes the effectiveness of teacher preparation programs that partner with K-12 schools and include opportunities for pre-service teachers to engage in authentic reflection, place an emphasis on consistent and continuous apprenticeship opportunities that are associated with coursework, and make connections between theory and practice.

In addition to the findings of the researchers mentioned above, the National Council for Accreditation of Teacher Education (NCATE) has defined four major elements of teacher preparation programs of which most colleges and universities employ in their teacher preparation programs (NCATE, 1995). NCATE has a large influence on teacher preparation in colleges and universities because they are frequently the organization that accredits teacher preparation programs. The four elements defined by NCATE (1995) are (1) general studies, or the study of matters that are of value to all, (2) content studies, or the study of academic content that the pre-service teacher will likely teach to students, (3) professional and pedagogical studies, or the
study of what teachers should know about teaching and learning, and (4) *integrative studies*, which generally means applying knowledge through clinical experiences and practica.

**Self-Efficacy Theory**

In addition to professional development theory, self-efficacy theory also informs the problem of practice related to this study. Self-efficacy theory claims that a strong sense of self-efficacy enhances accomplishment, allows a person to overcome obstacles, face challenges, and persist in their efforts to reach a goal. Self-efficacy determines a person’s ability to cope, how much effort they will put forth, and how long he/she will continue to expend such effort (Bandura, 1977, 1986). Certainly, beginning teachers will be faced with obstacles and challenges as they enter the profession and continue through their first few years of teaching. According to self-efficacy theory, their ability to persist will be strongly influenced by their level of self-efficacy. Self-efficacy, or what people think, believe, and feel, strongly influences their actions, according to self-efficacy theorists (Bandura, 1986). Self-efficacy theory would predict that student teachers or beginning teachers who have strong, positive beliefs about their capabilities are likely to persist in the teaching profession. Those who are highly capable but do not believe they are capable are likely to leave the profession even though they are quite competent.

It therefore is important to consider if the ideas of self-efficacy theorists, such as Albert Bandura, should be integrated into programs that prepare new teachers for the workforce. Bandura (1986, 1994), for example, explains that there are four sources of efficacy. The first source of efficacy, mastery experiences, is where people succeed at a task and use their success to build a sense of confidence to succeed again. According to Bandura (1986), mastery experiences are the most powerful source in the formulation of self-efficacy. This suggests then that academic programs, especially those for pre-service teachers, might benefit from
incorporating authentic mastery experiences that enhance not only competence but also confidence. The second source of efficacy according to Bandura (1986) is vicarious experience where a person may witness someone in a similar situation or who has similar characteristics succeed at a task. Self-efficacy theorists emphasize the use of role models of similar backgrounds as evidence of accomplishment. Because a model may be similar to oneself, one may realize one’s own potential causing persistence and increased performance (Schunk, 1981, 1983). This portion of self-efficacy theory suggests that the use of mentors and peer-models might bolster a pre-service teacher’s confidence and in turn cause him/her to perform better and persist longer in the profession (Schunk, 1983). The third source of efficacy, according to Bandura (1986) is social persuasion, when a person is told they are capable of accomplishing a task. For social persuasion to be successful at improving a person’s self-efficacy, a person must be convinced of their capabilities and placed in a position to succeed (Bandura, 1986). This suggests that teacher preparation programs could benefit by incorporating moments of praise accompanied by tasks that are designed to assure attainable success by pre-service teachers. By doing so, teacher preparation programs can contribute to the pre-service teachers’ self-efficacy and hopefully to their persistence in the field of education. Lastly, the final source of efficacy according to Bandura (1986) is efficacy that is generated when people learn to interpret their own physical and emotional states in a positive way. People have reactions to the experiences they encounter. They may feel a strong negative feeling before attempting a task or feel increased anxiety. Self-efficacy theorists explain that emotions and physical reactions to situations are often predictors of the level of success or failure a person may experience when attempting to complete a task. Self-efficacy theorists thus might encourage teacher preparation programs to be in tune with the reactions of pre-service teachers as they experience new tasks as
educators. Teacher preparation programs should prepare new teachers to handle anxiety, stress, and other barriers to persistence and success before they enter their first year of teaching.

Because self-efficacy is vital in order for new teachers to persist in the field, teacher preparation programs should consider if future teachers in their programs are being exposed to Bandura’s sources of self-efficacy. Self-efficacy theorists, such as Bandura, would say that if new teachers do not believe that they are capable of being effective educators, they would have no motivation to persevere through the adversity they will undoubtedly face in their first few years of teaching. Research on self-efficacy as it relates to life transitions suggests that strong self-efficacy is a determinant of one’s ability to adapt to changes (Jerusalem & Mittag, 1995). Pre-service teachers exiting teacher preparation programs and entering the world of teaching certainly will face a major life transition. Therefore, cultivating self-efficacy in pre-service teachers in teacher preparation programs is crucial.

Additional research in the field of self-efficacy theory establishes a connection between self-efficacy and work-related performance and persistence (Stajkovic & Luthans, 1998; Comings, Panella, & Soricone, 2000; Gibson & Dembo, 1984). Stajkovic and Luthans (1998) established a correlation between self-efficacy and work related performance, and Comings, Panella, and Soricone (2000) applied self-efficacy theory as it relates to academic performance. They theorized that in order for adults to persist in academic programs, they must develop a strong sense of self-efficacy and belief that they are capable of reaching their goals. Gibson and Gembo (1984) were one of the first to conceptualize the term “teacher efficacy” and consider self-efficacy theory as it relates to the job performance of teachers. They analyzed teachers and the effect teacher efficacy has on their persistence at tasks and their ability to attend to their duties as teachers and found that positive teacher efficacy led to persistence and also caused
teachers to attend to challenging tasks longer than their peers who had negative feelings of teacher efficacy. There is a clear connection in the self-efficacy theory literature between self-efficacy, work related performance, and persistence.

Summary

Professional development theory and self-efficacy theory comprise the theoretical framework for investigating the problem of practice of this study and has led to a greater understanding of how WSC’s professional development schools program contributes to beginning teachers’ self-efficacy, teacher efficacy, and persistence in the teaching profession. Professional development theory addresses the components of an effective teacher preparation program and even analyzes specific models for teacher preparation such as the Professional Development Schools Model, the model explored in this study. Self-efficacy theory supports the idea that in order for beginning teachers to persist in the profession they must develop a sense of self-efficacy that will help them reach their goals and overcome obstacles. Both theories supported this analysis of beginning teacher persistence as it relates to the components of the Professional Development Schools Model of teacher preparation.

Chapter II: Literature Review

Literature Review Questions

The following questions are based on the previously mentioned theories and lead into a discussion of the bodies of literature that inform the problem of practice of this study.

1. What does the literature say about why beginning teachers leave the profession and in particular, the effect teachers’ self-efficacy and teacher efficacy has on persistence and retention?
2. What teacher preparation models exist and how have they contributed to beginning teachers’ self-efficacy, teacher efficacy, and persistence/retention in the profession?

3. What does the literature say about the impact of professional development schools?

The first question relates to self-efficacy theory because it will lead to answers about what causes people to be able to persist through difficulty and hardship and how self-efficacy is related to persistence, questions often explored by self-efficacy theorists such as Albert Bandura. The second question relates to professional development theory and its focus on the kind of training, teachers, specifically new teachers, need in order persist in the profession. The third question addresses a specific model of teacher preparation that stems from many of the principles of professional development theory.

There are three bodies of literature that further investigate the answers to the literature review questions. The three bodies of literature focus on causes of beginning teacher attrition, models of teacher preparation, and professional development schools. By investigating the causes of beginning teacher attrition, the answer to the first literature review question about why beginning teachers do not persist in the teaching profession will be explored. This body of literature will also lead to an examination of self-efficacy theory. Additionally, by researching literature about the various models of teacher preparation, the answer to the second literature review question will become more apparent and the connection between models of teacher preparation, self-efficacy, teacher efficacy, and persistence/retention will be investigated. The third body of literature to be explored will focus on the research about professional development schools. Professional development theory will be utilized in the exploration of the second and third bodies of literature.

**Causes of Beginning Teacher Attrition**
The causes of beginning teacher attrition are varied, but a number of studies point to similar reasons for the phenomenon. Some of the reasons that beginning teachers leave the profession can be linked to issues with confidence, preparedness, or emotion. Other reasons are based on more practical reasons such as pregnancy or a need for a larger salary. According to the NCES (The National Center for Education Statistics), the top five reasons that beginning teachers leave the profession are to pursue another career, for a better salary or benefits, to take courses in or out of the teaching profession, pregnancy/child rearing, and dissatisfaction with a job description or responsibilities (Luekens, Lytner, & Fox, 2004). Other research has cited a lack of administrative support, feelings of isolation, a lack of preparation, and lack of self-efficacy as reasons for the attrition of beginning teachers (Quinn & Andrews, 2004; Schlichte, Yssel, & Merbler, 2005; Yost, 2006).

New teachers often experience a shock as they face the realities of teaching and therefore question their choice to become or remain a teacher (Inman & Marlow, 2004). There is often a disparity between what new teachers expect as they enter their first year of teaching and the realities of being in the classroom (Nahal, 2010). As a result, new and often young teachers tend to list frustration and isolation as reasons for leaving the profession (Alliance for Excellent Education, 2004; Easley, 2000). New teachers can feel abandoned in their first year of teaching due to a lack of support, assistance, and training (Ingersoll, 2001). Neophyte teachers, who are already anxiety ridden from the adjustment into the field, find it extremely difficult to keep their heads above water when there is a lack of support and poor working conditions.

Yost (2006) interviewed teaching candidates who had graduated from a teacher preparation program at a small university. She found that strong student teaching and field experiences improve self-efficacy in new teachers and that problem solving and self-reflection
during teacher preparation helps students to face the challenges of the first few years of teaching. Yost (2006) concluded that there is a vital link between teacher preparation and self-efficacy and that the likelihood that novice teachers will persist in the profession is strongly related to teacher efficacy (Yost, 2006). Research about self-efficacy supports Yost’s (2006) idea that self-efficacy is linked to persistence. Those who obtain a strong sense of self-efficacy will predictably persist at a task because those who have such confidence tend to expend more effort causing persistence (Bandura, 1982). Based on this assumption, one could predict that beginning teachers who have a strong sense of self-efficacy will be more likely to persist in the teaching profession. It is not always the most intelligent and knowledgeable new teachers who persist in the profession. Often, new teachers who demonstrate the most self-efficacy are the ones who are retained (Yost, 2006). Research has shown that resilience cannot always be predicted by the knowledge that a person possesses or even the skills that they exhibit. Instead, the more important quality for a person to possess in order to perform well and persevere is self-efficacy and a belief that they are capable of performing (Pajares, 1996). Therefore, new teachers who have not developed a strong sense of teacher efficacy will likely not persist in the profession even if they have a vast knowledge base and are highly skilled. Yost (2006) points out that self-efficacy in young teachers that has been established early on in teacher training will lead to the successful retention of beginning teachers. Therefore, efforts made to prevent beginning teacher attrition must start in teacher preparation programs where teacher efficacy can be enhanced through successful student teaching and field experiences and opportunities for pre-service teachers to experience success.

Other researchers take the idea of self-efficacy, performance, and persistence a step further and relate the theory to teacher preparation and the retention of beginning teachers. Darling-Hammond, Chung, & Frelow (2002) found that teachers who felt that they were well-
prepared for teaching had a greater sense of teacher efficacy and as a result were more likely to persist in the profession. Similarly, Coladarci (1992) linked self-efficacy in teachers and commitment to teaching, and Glickman and Tomachiro (1982) found that teacher attrition is related to teachers’ beliefs that they have or do not have an influence on student learning. Furthermore, in a case study of a teacher who persisted through many “crisis” situations over her many years of teaching, Milner (2002) connects Bandura’s (1986) sources of efficacy to why the teacher remained in the teaching profession. Milner (2002) credits mostly social persuasion and mastery experiences as the reasons for the teacher’s persistence. It is clear that the research supports a link between self-efficacy theory, teacher preparation, and teacher retention.

**Types of Teacher Preparation Programs**

The causes of beginning teacher attrition lead to questions about whether certain types of teacher preparation programs contribute to or alleviate the problem of beginning teacher persistence. Research has shown that those teachers who lack adequate preparation are likely to leave the profession (Darling-Hammond, 2003). Current research implies that beginning teachers who have been trained through programs that provide opportunities to improve competence as well as confidence are most effective at assuring the retention of their future teachers (Yost, 2006). The same research also supports a move toward designing teacher preparation programs that offer many practical field experiences and student teaching experiences, allowing future teachers a number of opportunities to succeed in the classroom during their training. In fact, there is research that shows that the amount of time pre-service teachers spend in practical classroom experiences has a direct effect on the likelihood that they will remain in the profession past their first year of teaching. Those who student teach for less than ten weeks are more likely
to leave the profession than those who student teach for at least ten weeks (Connelly & Graham, 2009).

Future teachers must also be given opportunities to reflect on their experiences so that they become more self-aware and more intuitively consider their own strengths and weaknesses. Beginning teachers have pointed out that teacher preparation programs that help students to make clear connections between theory and practice, utilize inquiry and reflection in coursework, who explicitly teach survival skills applicable to the first years of teaching, and do so through partnerships with K-12 schools are more likely to contribute to the retention of beginning teachers (Nahal, 2010). These practices in teacher preparation programs will lead to more resilient teachers who can problem solve, reflect, and feel confident about their abilities and who will ultimately remain in the profession (Yost, 2006). Some teacher preparation programs exist that incorporate the previously mentioned, research-based components and some teacher preparation programs offer only some of these components. Therefore, the contributions of teacher preparation programs to the self-efficacy, teacher efficacy, and retention of beginning teachers are varied. Three types of teacher preparation programs and their components will be explored in order to determine the effect the various models of teacher preparation have on the self-efficacy, teacher efficacy, and persistence/retention of beginning teachers.

There are three major types of teacher preparation programs. The first is a traditional or standard model. A traditional teacher preparation program is a college or university-based program that consists of coursework pertaining to theoretical knowledge and pedagogy and involves a teaching practicum that is usually fulfilled at the conclusion of the program (Darling-Hammond, 2005). In addition to traditional programs, there are many alternative preparation programs that exist. Alternative programs usually allow students the opportunity to become
licensed or certified to teach by taking a path that is generally much shorter than a traditional route. Alternative teacher preparation programs take many forms. Some alternative programs require that future teachers simply complete a few months of coursework. Some require that future teachers only carry out a teaching practicum. The general philosophy of most alternative teacher preparation programs is that the specialized training that is part of a traditional program in teaching, such as those at colleges and universities, is not necessary to be an effective teacher (U.S. Department of Education, 2002). Some colleges and universities in the United States also utilize a third model of teacher preparation. In response to the need for teacher preparation programs that improve teacher quality and the retention rates of beginning teachers, some colleges and universities have adopted a professional development schools model of teacher preparation. This model includes some of the elements of a traditional model but also incorporates a community of learning through university/school partnerships. When future teachers are trained via the professional development schools model, they are embedded in the school environment more frequently and are supported by the university and the school that is considered a professional development school. Each of the three types of teacher preparation models has an effect, either positively or negatively, on the self-efficacy, teacher efficacy, and persistence/retention of beginning teachers. There is much research that explores each of these models of teacher preparation and their influence on the confidence of beginning teachers and their ability to persist in the teaching profession.

**Traditional models of teacher preparation and persistence.** Traditional teacher preparation programs are those that offer pre-service teachers coursework in theory and pedagogy and also require that these future teachers practice teaching in a practicum or internship. The coursework in traditional programs often consists of two parts, the first being
coursework in foundational knowledge and the second being coursework about methods and pedagogy related to teaching. Sometimes there is fieldwork associated with these courses and sometimes there is not, and almost all traditional preparation programs require a student teaching component.

Traditional teacher preparation programs have been the mainstay in teacher training for decades. In the 1980’s and 1990’s, however, policy makers and school districts began to look at teacher preparation as an avenue for reform and began to analyze the effectiveness of such programs in preparing future educators and retaining them in the profession. Then, in 2002, the Secretary of Education of the United States, Roderick Paige published a scathing report about teacher preparation in the United States claiming that teacher preparation programs had not been effective at producing “highly-qualified” teaching candidates (United States Department of Education, 2002). The secretary went so far as to say that the attrition rates for alternative route program graduates were lower than those who graduated from traditional teacher preparation programs. In reality, attrition rates for beginning teachers from all types of programs are quite high. Some claim that the rate of attrition for all beginning teachers is as high as 50 percent (Henke, Chen, & Geis, 2000). Although the secretary’s claims were refuted and data produced that showed that beginning teachers from alternative route programs actually had higher attrition rates than those from traditional programs (Darling-Hammond, Chung, & Frelow, 2002), traditional programs still maintain levels of attrition that are high enough to cause concern.

Researchers have found that although traditional teacher preparation programs are not the perfect solution to alleviating the attrition of beginning teachers in the United States, there may be some aspects of these programs that can contribute to retention of beginning teachers. Almost all traditional teacher preparation programs include a teaching practice or student teaching
component in the program. Pre-service teachers who participate in student teaching have a much lower attrition rate than those who do not complete student teaching (Henke, Chen, Geis, & Knepper, 2000). An NCES (National Center for Educational Statistics, 2000) report indicates that 29 percent of new teachers who had not student taught left the profession within the first five years of teaching compared to only 15 percent of those whom had student taught. According to this research, student teaching should be an important component of any program that hopes to contribute to the retention of beginning teachers.

There is evidence to support the inclusion of foundational and methods courses in teacher preparation programs as well. Various types of coursework can be linked to attrition rates. Pre-service teachers who take courses about learning theory and child development are more likely to stay in the teaching profession than those who do not. (Henke, Chen, & Geis, 2000). Methods courses have also been found to have a positive impact on the achievement of students who have teachers who have taken these courses (Monk, 1994). Therefore, the coursework that is part of most traditional teacher preparation programs is a vital component if these programs hope to contribute to the retention of future teachers.

Traditional teacher preparation programs, self-efficacy, and teacher efficacy. Although there is evidence to suggest that incorporating methods, foundational courses, and student teaching into teacher preparation programs is beneficial to teacher retention, there are some who suggest that traditional teacher preparation programs are often disjointed, lacking a real connection between coursework, fieldwork experiences, and student teaching (Darling-Hammond, 2006). Research has shown that the teaching efficacy of student teachers drops once they enter their practicum and are faced with many of the realities of teaching (Hoy & Woolfolk, 1990). When there is a lack of connectivity between coursework and fieldwork and the realities
of teaching, pre-service teachers feel less prepared and are more likely to leave the profession (Hoy & Woolfolk, 1990). In order to increase teacher efficacy, Tschannen-Moran, Hoy, & Hoy (1998, p. 235-236) suggest that, “Teacher preparation programs need to give pre-service teachers more opportunities for actual experiences with instructing and managing children in a variety of contexts with increasing levels of complexity and challenge to provide mastery experiences and specific feedback.” Pre-service teachers need to be provided with “efficacy-enhancing opportunities” through field experiences and student teaching because self-efficacy and teacher efficacy increase with experience (Fives, Hamman, & Olivarez, 2006, p. 930). The more experience pre-service teachers get through field experiences and internships, the greater their sense of teacher efficacy. Traditional programs generally require that potential teachers complete some fieldwork before student teaching in addition to a full semester of student teaching. Some require more and some require less. The research supports the importance of realistic classroom experiences for pre-service teachers in order to increase self-efficacy and teacher efficacy.

Evans and Tribble (1986) compared the concerns and anxieties of pre-service and beginning teachers and found discrepancies between these concerns indicating that what pre-service teachers expect when they enter the workforce and the realities of the classroom are actually quite different. Evans and Tribble (1986) suggest that the internship portion of traditional teacher preparation programs is vital and often beneficial but that more practical experiences, such as completing tasks related to communicating with parents and assessing students, should be incorporated into the internship. They also suggest that teacher preparation programs add more focus on teacher efficacy through the use of “self-confrontation and reflection experiences” in order to address issues with teacher attrition (Evans & Tribble, 1986, p. 85). Such research would indicate that more needs to be done in traditional programs to help pre-
service teachers to make connections to the realities of teaching in order to increase their level of self-efficacy and teacher efficacy.

Traditional teacher preparation programs often fail to offer necessary support to their pre-service teachers. Research indicates that pre-service and beginning teachers require much support while making the transition to become a licensed teacher (Hoy, 2000). Such support has been linked to increased levels of self-efficacy for teachers in the early years of teaching (Hoy, 2000; Hall, Burley, Villeme, & Brockmeier, 1992). Fives, Hamman & Olivarez (2006) found that student teachers that experienced higher levels of guidance from their cooperating teachers throughout their student teaching also had higher levels of self-efficacy than their peers who experienced lower levels of guidance. Therefore, teacher preparation programs that offer support for their neophyte teachers through supervision, peer sessions, and mentor teachers will likely contribute to increases in the teacher efficacy of participants. Traditional programs offer varying levels of support for their teacher candidates. Some seem to take a “sink or swim” approach while others have various levels of support in place for their students.

Some aspects of traditional teacher preparation programs can help participants to increase self-efficacy and teacher efficacy. The research supports traditional programs that maintain a high level of support for pre-service teachers, require coursework in teaching methods and theoretical concepts, as well as many realistic classroom experiences. All these components seem to contribute to increases in self-efficacy and teacher efficacy. However, the research also indicates that traditional programs are often disjointed and lack connectivity between the components, which can often cause pre-service teachers to experience decreases in self-efficacy and teacher efficacy.
Overall, traditional teacher preparation programs contain components that contribute to self-efficacy, teacher efficacy, and the retention of teachers, however attrition rates of graduates of traditional programs are still high. There is evidence to suggest that the individual components of the program may have a positive effect on beginning teacher retention but the lack of fusion between the parts of such programs may contribute to a lack of teacher efficacy and attrition. The research regarding traditional teacher preparation programs indicates that there are many redeemable components of such programs that can help alleviate the relatively high attrition rates of beginning teachers.

**Alternative teacher preparation programs and persistence.** The public often voices their dissatisfaction with traditional teacher preparation programs. Many believe that there is little training needed for teaching or that the type of training needed to be an effective teacher does not occur in a university setting and instead should take place “on the job.” These beliefs coupled by a shortage of teachers in some areas have lead to the creation of alternate route and alternative certification teacher preparation programs. Alternative certification or alternative route programs often are based on reduced standards that are minimal when compared to those found in traditional four or five year teacher preparation programs. Some may have similar expectations and standards for their candidates but differ from traditional programs because they do not exist in a college or university setting and often take less than four years to complete (Darling-Hammond, 1990). Many of the programs offer career-changers, or anyone who desires to teach, short-term training that will lead them into a career of teaching. The training offered by these programs can last as little as two to three weeks or as much as two to three years. The goal of these programs is to recruit teachers for fields, such as math or science, or areas, such as urban centers, that have a shortage of teachers. Alternative programs give potential teachers a shorter
path to gaining a teaching credential, making such programs appealing and attracting teacher candidates that may never have entered the profession if they had not had the choice of participating in an alternative program. Alternative programs exist based on the assumption that specific and extensive training in education is not necessary in order to be an effective teacher or that teacher preparation programs and teacher certification do not necessarily produce high-quality teachers (Walsh, 2001).

There has been much research about whether alternative route teacher preparation programs have a positive or negative effect on beginning teacher retention. There is overwhelming evidence to suggest that new teachers who have participated in alternative route programs are more likely to leave the field or express a lack commitment to the profession than those who participated in teacher preparation programs at a college or university. Participants in conventional university-based teacher preparation programs indicate after a year of teaching that they are more certain that they will remain in the profession than those who are trained in alternative programs (Lutz & Hutton, 1989). In addition, research has shown that those trained in university-based programs feel better prepared and exhibit a stronger sense of self-efficacy than those prepared in an alternative program. As a result, alternatively trained teacher candidates are more likely to leave the profession than conventionally trained candidates (Darling-Hammond, Chung, & Frelow, 2002).

A popular alternative route program in the United States is Teach for America (TFA). The Teach for America program recruits teacher candidates from select colleges and universities from across the United States. They seek candidates that have proven to be exceptional students and are willing to commit to two years of teaching in a hard-to-staff school district. The recruits participate in a summer program that includes coursework and some fieldwork and then begin
teaching in the fall by way of an emergency teaching permit or certification. Proponents of TFA believe that smart, intelligent people, most who have done exceptionally well in their undergraduate programs, need little or no training to be effective teachers (Darling-Hammond, Holzman, Gatlin, & Heilig, 2005).

There is conflicting research about the Teach for America program. Some of the research claims that new teachers who enter the teaching profession after being trained in the Teach for America program are less effective and are more likely to leave teaching than those who have participated in university-based programs (Darling-Hammond, Holzman, Gatlin, & Heilig, 2005). Darling-Hammond, Holzman, Gatlin, and Heilig (2005) examined the attrition rates of new teachers in Houston, Texas from the years 1996-1999. They found that the attrition rates of new teachers in Houston who had been trained by TFA ranged between 84.6 percent and 96.2 percent after three years compared to a range of 35.3 percent to 54.8 percent for non-TFA trained beginning teachers. Nearly all the beginning teachers trained by TFA had left the profession after three years.

Other research has indicated that TFA graduates are not necessarily more likely to leave the teaching profession (Decker, Mayer, & Glazerman, 2004; Raymond, Fletcher, & Luque, 2001). The studies that make this claim have analyzed attrition rates after one year of teaching and found that there is little or no difference in the attrition rates of TFA graduates and non-TFA graduates after one year (Decker, Mayer, & Glazerman, 2004; Raymond, Fletcher, & Luque, 2001). Raymond, Fletcher, & Glazerman (2004) claim that the increase in attrition rates of non-TFA graduates after their second year is due to the fact that these teacher candidates committed only to two years when they enrolled in the TFA program and actually were never expected to persevere after their first two years. This seems to be an indication that the TFA program, then,
should not be utilized to recruit teachers who will make teaching their career and should instead
be used to find temporary teachers who can fill gaps where needed for a few years (Darling-
Hammond, Holzman, Gatlin, & Heilig, 2005). The TFA website, however, claims that two-thirds
of TFA alumni remain in the field of education in some way after their commitment of two years
is complete and half of those TFA members remain classroom teachers (TFA Press Kit, 2009).
The high attrition rates of TFA graduates, whether it is caused by a lack of preparation or an
initial lack of commitment, can cost school districts financially due to the constant turnover. The
research on TFA leads one to believe that a few months of training is not nearly enough to
prepare future teachers who will remain in the profession beyond the first few years of teaching,
and although conventional teacher preparation programs are not perfect, they do contribute to the
retention of more teachers than the TFA program (Darling-Hammond, Holzman, Gatlin, &
Heilig, 2005).

There are reasons cited in the research to explain why beginning teachers from
conventional, university-based programs are more often retained in the teaching profession than
those who were trained in alternative programs. Darling-Hammond, Chung, and Frelow (2002)
cite a lack of fieldwork or clinical work in alternative programs. Without clinical experiences
during training, the inconsistencies that exist between future teachers’ experiences in teacher
preparation and the realities of teaching are augmented, and pre-service teachers who don’t
experience fieldwork do not have the opportunity to gain a sense of self-efficacy and confidence
about their ability to teach (Yost, 2006). In addition, alternative programs often lack the relevant
coursework that may contribute to successful and longstanding careers in classroom teaching.
Another reason for the high levels of attrition of teachers trained in alternative route programs
can be that some who seek alternative routes to certification often aren’t considering teaching as
a career goal. Instead it is a stepping-stone to another field or to another job within field of education. For example those enrolled in TFA often consider the experience a paid internship or public service stint rather than a professional commitment (Labaree, 2010). Therefore, alternative route program participants are less likely than traditional program participants to say that teaching is a long-term career goal (Rochkind et al, 2007).

The research about alternative route teacher preparation programs indicates that alternative route programs are generally not beneficial to the retention of beginning teachers. A teacher preparation program with the intentions of contributing to the retention of quality teachers in the teacher workforce may need to be more comprehensive and include fieldwork and additional relevant coursework. Alternative route programs are often marketed not only as a shorter path to certification but also, as in the case of TFA, as a peace-corps-type, short-term experience (Labaree, 2010). Therefore, alternative route programs cannot be considered viable solutions to the attrition problem that plagues beginning teachers.

Although there is evidence that some well-designed ACP’s [alternative certification programs] have strong outcomes, there is also evidence that programs and entry pathways that skirt the core features of teacher preparation produce recruits who consider themselves underprepared, are viewed as less competent by principals, are less effective with students, and have high rates of teacher attrition. (Darling-Hammond & Youngs, 2002)

**Alternative route programs, self-efficacy, and teacher efficacy.** There is some research to suggest that future teachers who are trained through alternative route programs are less confident than their peers who are trained in traditional programs (Jelmberg, 1996; Lutz & Hutton, 1989). However, there is also research that supports the contention that teachers who are
trained traditionally and those trained in alternative route programs have similar levels of self-efficacy and teacher efficacy (Guyton, Fox, & Sisk, 1991; Miller, McKenna, & McKenna, 1998). It is difficult to make a determination about the effect alternative route programs have on the teacher efficacy and self-efficacy of their students because alternative route programs are varied in their approaches and in their requirements. Linda Darling-Hammond (1992) suggests that the confidence of a teacher depends on his/her level of preparation. Therefore, an alternative program that adequately prepares future teachers for the true rigors of the workforce will produce confident teachers. Alternative programs that lack proper preparation will not. Longer preparation programs that include pedagogical training and field experiences are more likely to produce teachers who are confident, feel prepared, and remain in the teaching profession than programs that offer only short term training (Darling-Hammond, 1992). One can conclude, then, that alternative route programs that offer little training before sending their teacher candidates into the workforce will produce teachers who do not feel confident in their teaching.

The self-efficacy and teacher efficacy of alternatively trained teachers seems to be directly related to the components of such programs and the amount of time spent training before entering a classroom. The difference between alternative route programs and traditional programs is the amount of attention paid to methods courses, field experiences, supervision, and mentorship (Sindelar, Daunic, & Rennells, 2004). Alternative route programs that place more emphasis on these components tend to produce more confident and effective teachers (Sindelar, Daunic, & Rennells, 2004). In addition to these components, alternative route participants report that the support of classmates and colleagues can affect their confidence level. In one alternative route program in North Carolina, future teachers indicated that the cohort model used in their alternative route program had a positive effect on their feeling of support and therefore
confidence because there was an embedded support system in place as they began their teaching careers (Hawk & Schmidt, 1989). Kathleen Topolka Jorissen (2002) studied six alternatively trained beginning teachers who had participated in a program that required a yearlong internship that was accompanied by training that occurred concurrently to the internship. Jorissen (2002) found that immersing these teachers into a school setting during their pre-service training was vital to professional integration and confidence. Similarly, Humphrey, Weschler, & Hough (2005) measured the teacher efficacy of participants in alternative route programs that placed participants with varied levels of classroom experiences into classrooms. They found that participants who had some classroom experience had significantly higher teacher efficacy than those who had no classroom experience. Alternative route programs can positively affect the self-efficacy and teacher efficacy of their students if they include support systems for their participants, coursework in methods and pedagogy, field experiences, and a sufficiently long internship. However, many alternative route programs provide a limited amount of instruction in pedagogy or may not require field experiences or an internship. Therefore, the research about the effect alternative route programs have on self-efficacy and teacher efficacy is inconclusive.

An examination of alternative route programs highlights the fact that alternative route programs generally are less successful at retaining beginning teachers and are lacking components that prevent beginning teacher attrition. By analyzing what is missing in alternative programs, one can consider what components should be included in teacher preparation programs in order to improve retention rates.

**Professional development schools, self-efficacy, and teacher efficacy.** Recent research has focused on the Professional Development Schools (PDS) Model of teacher preparation and its effect on beginning teacher retention. Professional Development Schools Models are
collaborative models where a college or university partner with specific schools in order to train new teachers. The schools and the university share a common mission and work together to develop an educational community. The PDS Model encourages a collaborative and cooperative atmosphere amongst teachers, pre-service teachers, university faculty, and the community. Future teachers at the college-level become very familiar with the professional development schools that their university joins forces with and are more frequently involved in field experiences at the schools than in a traditional model. Professional development schools can be compared to teaching hospitals for medical students where the students are embedded in the day-to-day realistic work environment. The PDS Model provides pre-service teachers with more intensive and more practical field experiences than other models of teacher preparation. Traditional models of teacher preparation tend to abruptly place fledgling teachers into a classroom with little guidance or supervision which often forces teachers to “figure it out for themselves” (Darling-Hammond, 1994). The PDS model works to eliminate this disjointed and sudden transition into the classroom for pre-service teachers.

The Professional Development Schools Model has been found to cause pre-service teachers to have increased self-efficacy and to remain in the teaching profession beyond the beginning years of teaching. Linda Darling-Hammond (1994, 2002) argues that the PDS Model provides pre-service teachers the assistance and support needed to help them to become more successful through their teaching practice and causing them to feel more prepared, therefore increasing the self-efficacy of novice teachers and increasing their commitment to the teaching profession. In a PDS model, pre-service teachers are supported by university faculty and mentor teachers in the professional development schools that adhere to a common mission. The pre-service teachers become a part of the PDS community early on in their program and therefore
become familiar with the norms of teaching in a PDS and become comfortable with the staff in the PDS setting. Therefore, pre-service teachers often feel surrounded by support and feel a connection between their coursework and their work in the PDS (Larson & Goebel, 2008; Swars & Dooley, 2010). The support that is created for pre-service teachers in a PDS is based on a belief of the school staff that the training of the pre-service teacher is the responsibility of the entire school (Pasch & Pugach, 1990). Additionally, pre-service teachers often feel supported by other pre-service teachers within the PDS setting and mentors from the PDS (Teitel, 1992). This kind of environment leads pre-service teachers to feel better prepared for teaching and to maintain a high level of self-efficacy (Darling-Hammond, 1994, 2002; Larson & Goebel, 2008; Swars & Dooley, 2010).

**Professional development schools and persistence.** Some of the current research compares traditional models of teacher preparation and alternative route programs to the Professional Development Schools Model. Much of the research has found that the PDS Model contributes to higher retention rates of beginning teachers than traditional or alternative route programs. Capraro, Capraro, and Helfeldt (2010) found that new teachers who had been trained in a PDS setting felt more prepared for teaching than those who had been trained in a traditional setting. Fleener and Dahm (2007) found that attrition rates for new elementary school teachers who had been trained in traditional teacher preparation programs were significantly higher than those who had been trained through a Professional Development Schools Model of teacher preparation. Latham and Vogt (2007) had similar findings. They found that new teachers who were prepared through a PDS model were more likely to enter the field and remain in the field than their non-PDS trained peers even though they had similar skills.
The reasons that the PDS model contributes to greater retention of beginning teachers are related to greater levels of support, a sense of community, self-efficacy, and connections made between theory and practice. Ismat Abdal-Haqq (1998) concludes that new teachers who had been trained in a PDS were more confident in their ability to teach and also experienced less “culture shock” as they begin teaching than their counterparts who were not trained in a PDS. He also found that PDS trained beginning teachers used a larger variety of teaching methods and felt better prepared to instruct a diverse student population. The level of confidence and preparedness in new teachers who had been prepared in a PDS, Abdal-Haqq (1998) concludes, leads to a higher retention rate of beginning, PDS trained teachers when compared to beginning, non-PDS trained teachers.

Although the majority of research indicates that the PDS model contributes greatly to the retention of beginning teachers, there is research that refutes the success of the PDS model. Reynold, Ross, and Rakow (2002) compared PDS graduates with non-PDS graduates at George Mason University in Virginia and found that there was no difference between the attrition rates of PDS graduates when compared to non-PDS graduates. They did find that PDS graduates were more satisfied with their teacher preparation than non-PDS graduates, better at reflecting on their practice, working with a diverse population, and balancing the demands of teaching, but these findings apparently didn’t contribute to the graduates’ decisions to either remain in the teaching profession or leave. In fact, the retention rates of the all the graduates, both PDS and non-PDS were quite high. Reynolds, Ross, and Rakow (2002, p 302), although finding no difference in attrition rates of PDS trained and non-PDS trained teachers, agree, “The scale is tipped slightly toward PDS as the better program for preparing beginning teachers.”

The Benefits of Professional Development Schools
There has been a specific emphasis on the use of professional development schools in the literature about teacher preparation since the 1990’s. Many researchers consider the Professional Development Schools Model of teacher preparation as an avenue to reform in our schools and a way to comprehensively prepare future educators (Abdal-Haqq, 1998; Darling-Hammond, 1994, Teitel, 2003, Goodlad, 1994, The Holmes Group, 1990). Marsha Levine, the senior consultant for professional development schools for the National Council for Accreditation of Teacher Education (NCATE), describes PDS’s as, “innovative institutions formed through partnerships between professional education programs and PreK-12 schools. They have a fourfold mission: the preparation of new teachers, faculty development, inquiry directed at the improvement of practice, and enhanced student achievement” (in Teitel, 2003, p. xiii). Linda Darling-Hammond (1994) defines a professional development school as

an undertaking of schools and schools of education to create places in which entering teachers can combine theory and practice in a setting organized to support their learning; veteran teachers can renew their own professional development and assume new roles as mentors, university adjuncts, and teacher leaders; and school and university educators together can engage in research and rethinking of practice. (p. vii)

Because there is a direct partnership between the teacher preparation program and the K-12 setting in a PDS, there is an obvious bridge between the two environments and a link between theory and practice as well as a shared mission amongst all the partners. In a PDS, all the stakeholders “blend their expertise and resources to meet their shared goals” (NCATE, 2001). One of the ultimate goals of a PDS program is the “cross-fertilization between the school of education and the school site” (Darling-Hammond, 1992, p. 21).
Professional development theorists and researchers have pinpointed the benefits of PDS’s for pre-service teachers. Teachers trained in a PDS setting “not only become strong teachers from their first days in the classroom, they also become change agents in the schools they enter” (Darling-Hammond, 1994, p. ix). Research that has surveyed administrators and employers says that teachers trained in a PDS are viewed as much better prepared than others (Darling-Hammond, 1994; Clark, 1999). Pre-service teachers who have been trained in a PDS are shown to be more effective at maintaining classroom discipline, using technology, and reflecting on their teaching when compared to those in a traditional setting (Neubert & Binko, 1998). The benefits are not limited to prospective teachers. Veteran teachers in a PDS often find that working in an environment that is based on innovation and collaboration leads to a change in their own practice and in turn improvements to the school (Darling-Hammond, 1994). Use of the professional development schools model has also been tied to an increase in student achievement (Frey, 2002, Clark, 1999). Another perceived benefit of the use of PDS’s in teacher preparation programs is an increase in the retention of beginning teachers who have been trained in a PDS (Darling-Hammond, 2007). The retention of these teachers is related to the fact that pre-service teachers who are being trained in a PDS show increases in self-efficacy (Larson & Goebel, 2008).

Influenced by the research mentioned previously, in 2001, NCATE decided that professional development schools were an important element of teacher preparation programs and developed standards for professional development schools (NCATE, 2001). There were five overarching standards identified by NCATE: learning community, accountability and quality assurance, collaboration, equity and diversity, and structures, resources, and roles. NCATE (2001) placed a large focus on the use of inquiry to improve the practice of both pre-service and in-service teachers, learning in the context of practice, blending the resources of both the school
and university, and the development of a learning community with a common mission.

According to NCATE, professional development schools, if developed and assessed based on these standards, can be beneficial to university faculty, pre-service teachers, in-service teachers, and K-12 students.

Although there is much research that endorses the Professional Development Schools Model of teacher preparation, some feel that there is little empirical research or evidence that any one model of teacher preparation is effective. Michael Allen (2003) suggests that there is little research to show that subject matter courses about pedagogy, pre-service field experiences, or the use of professional development schools contribute to being an effective teacher even though all those components are the foundation of teacher preparation programs today. The research regarding professional development schools is therefore somewhat inconclusive.

An exploration of the causes of beginning teacher attrition coupled with an in depth look at various models of teacher preparation led this researcher to investigate what aspects of the Professional Development School Model at WSU affect the retention of beginning teachers and whether self-efficacy contributes to new teachers’ decisions to persist or not persist in the teaching profession. These bodies of literature brought structure to the analysis of the problem of practice.

Chapter III: Methodology

Research Questions

1. To what degree do program graduates from the WSU teacher preparation program in elementary education attribute the program and the various elements of the Professional Development School Model to their sense of self-efficacy and teaching efficacy?
2. To what degree do program graduates of the WSU teacher preparation program in elementary education attribute the program and the various elements of the Professional Development Schools Model to their persistence/retention or lack of persistence in the teaching profession and attribute a sense of self-efficacy and teacher efficacy to their persistence/retention or lack of persistence in the teaching profession?

The first question is linked to self-efficacy theory. Self-efficacy theory offers explanations for why people persist at certain tasks and claims that persistence is associated with self-efficacy (Bandura, 1986). This study investigated this claim as it relates to the persistence of Worcester State University graduates in the teaching profession. The various components of the WSU elementary education program were explored in order to consider the degree to which these components may have contributed to the self-efficacy of students enrolled in the program and therefore to their persistence and retention in the teaching profession.

The second question is related to professional development theory and adult learning theory. Various professional development theorists have linked teacher preparation to the likelihood that teachers will persist in the teaching profession. When pre-service teachers are properly trained, they feel more prepared for the realities of teaching and therefore experience less “culture shock” as they enter the workforce and an increased sense of efficacy. (Connelly & Graham, 2009; Darling-Hammond, 2003). The current study emerges out of this existing literature investigating the claim that the components of a teacher preparation program that positively contribute to beginning teachers’ self-efficacy and teacher efficacy will increase new teachers’ persistence or retention in the field. Therefore, this study assessed the various elements of the teacher preparation program at Worcester State University utilizing the Professional Schools Model to determine how much the various elements of the program actually contributed to the persistence
and retention of teachers who graduated from the program, and the degree to which beginning teachers’ perceived sense of self-efficacy and teacher efficacy contributed to that persistence.

**Use of the WSU Teacher Preparation Logic Model**

In an attempt to analyze the extent to which graduates of the WSU elementary education program attribute the elements of the program to their teacher efficacy, self-efficacy, and persistence in the teaching profession, both quantitative and qualitative methods were used. A logic model, co-constructed by the investigator and WSU leadership, was employed to inform the data collection instruments, activities, and analysis of the study, by identifying particular components of the WSU program that program leadership and staff believed could positively contribute to the outcomes of increased self efficacy, teacher efficacy, and persistence in the teaching profession. An explanation of this logic model is given in the “data collection” section of this document and is depicted in Appendix A.

The methods used throughout this study attempted to assess the degree to which the program elements, as identified in the logic model, were perceived by program graduates to have contributed to their perceived self-efficacy, teacher efficacy, and persistence/retention in the teaching profession. A survey was first used across several graduates to inform the two research questions, and then focus groups and interviews with targeted participants were used to further the analysis of participants’ perceptions in relationship to the two questions.

**Rationale for a Mixed Methods Design**

A sequential explanatory mixed methods design was used where the “initial quantitative results inform the secondary qualitative data collection” (Creswell, 2009). In this case, a survey (Appendix B) comprised the first stage of data collection in the study, which then informed the make-up of focus group and interview participants.
The design of this mixed-methods study can be considered primarily a sequential explanatory design because the qualitative data was analyzed after the quantitative data was analyzed (Creswell, 2009). The following is a visual model of the sequential explanatory design that was utilized:

```
| Quan Data Collection (Survey) | Quan Data Analysis | Qual Data Collection Focus Groups | Qual Data Analysis | Interpretation of entire analysis |
```

Figure 1

In Figure 1, the steps in the mixed methods approach that was utilized are depicted. “Qual” is shown in capital letters and in bold to show that the emphasis of this study is on the qualitative analysis. As seen in Figure 1, the study was carried out in sequential steps. What is learned in the first stage of data analysis determined what qualitative data was collected during focus groups and interviews, during the second stage of data collection.

The data gathered from the quantitative questions in the survey regarding the participants’ beliefs about specific elements of the WSU program and their effect on self-efficacy, teacher efficacy, and persistence in the teaching profession, provided preliminary, statistical data. Through focus groups and interviews, it was possible to explore the results of the quantitative analysis more thoroughly. Richard A. Krueger (1994, p.30), a leading author in the planning and implementation of focus groups, suggests, “Focus groups can follow quantitative procedures. Questionnaires typically yield a sizable amount of data, and focused interviews can provide insights about the meaning and interpretation of the results.”
Green et al. (1989) defined five advantages of using a mixed methods design including triangulation, complementarily, development, initiation, and expansion. First, triangulation of data is inherent in mixed methods studies. The data from one stage of the study can test the consistency of the data from another stage of the study. The data from one method of the study also complements the other method by clarifying what was found and refining results. For example, in the current study, focus groups and interviews helped clarify the results of the survey data. One stage of a study can also lead to the development of a subsequent stage where the results found through the use of one method lead to the shaping of the next stage and the use of another method. This was true in the current study. The quantitative survey data aided in the development of focus groups as well as focus group questions in the subsequent qualitative stage of the study. Another advantage to a mixed methods design is what Green et al. (1989) call “initiation.” This means that the use of more than one method can lead to further insights and possibly even further questions related to the study. In the current study, the focus group and interviews sessions provided insights and more in-depth understandings about participants’ perceptions about the degree to which elements of the WSU teacher preparation program contributed to self-efficacy, teacher efficacy, and persistence/retention in the teaching profession. The qualitative stage of the study, “allowed for … greater insight into why certain opinions are held” (Krueger, 1994). “Expansion” is the last advantage to conducting a mixed methods study as defined by Green et al. (1989). Mixed methods studies are expansive because they contain much detail and richness that can only be accomplished through the use of both quantitative and qualitative means. The richness and thoroughness gained through the use of a mixed methods design was vital to understanding of the elements of the WSU teacher preparation program and
these elements’ relation to participants’ self-efficacy, teacher efficacy, and persistence/retention in the teaching profession.

The most logical design for the current study was a sequential explanatory mixed methods design that began with preliminary quantitative data collection to gain a basic understanding of participants’ perceptions about just how much various elements of the WSU program have contributed to their self-efficacy, teacher efficacy, and persistence in the teaching profession. Deeper understandings were pursued through the collection and analysis of qualitative data obtained in focus groups and interviews. Therefore, this study utilized both quantitative and qualitative methods.

**Survey.** In the first part of the study, quantitative methods were used. A survey (Appendix B) was utilized to gather data about graduates’ perceptions of the various elements of the program. Some of the questions from the survey were directly derived from the logic model (Appendix A). Most of the questions were designed to be answered using a Likert scale allowing for a statistical analysis of the results. These quantitative questions primarily allowed participants to rate the degree to which they feel that various elements of the WSU teacher preparation program have contributed to their sense of self-efficacy, teacher efficacy, and persistence in the teaching profession. The participants’ teacher efficacy and self-efficacy were also measured as part of the survey through the use of two pre-established instruments, the Woolfolk and Hoy (1990) Teacher Efficacy Scale and the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001). Descriptive statistics from the survey also provided information to the researcher concerning the number and percentage of WSU program graduates who have remained in the teaching profession and how many have not. There were also questions that used
a “checklist” format for responses. These questions ask participants to choose from a number of possible responses or “check all that apply.”

The survey was analyzed through descriptive statistics and also allowed for a comparison of two groups, graduates who have persisted in the teaching profession for three or more years after their graduation from WSU and continue to work as classroom teachers (persisters) and graduates who left the profession within three years of their graduation (non-persisters). The purpose of this comparison was to consider if both groups had similar or contrasting opinions about the elements of the WSU program and the extent to which these elements contributed to their self-efficacy, teacher efficacy, and decision to stay in or leave the teaching profession. If both groups believed that the program effectively contributed to their self-efficacy and teacher efficacy but that these factors had nothing to do with their decision to stay in or leave the teaching profession, then the assumption that these are significant factors in the relationship between beginning teachers’ preparation and persistence would be challenged. However, if persistent and non-persistent teachers’ answers were very different from one another, for example, non-persistent teachers felt that the program did not contribute to their self-efficacy and teacher efficacy, which ultimately contributed to their leaving the profession, then the assumptions as identified in the logic model would have to be questioned. Alternatively, if those who have left the profession said that they believe the program did lead to increased teacher efficacy but it wasn’t the reason that they chose to leave the profession, it would challenge the assumption that increased teacher efficacy through the WSU program directly contributed to teacher persistence and retention.

In addition to these comparisons, the self-efficacy and teacher efficacy of the participants were measured and compared. Through these comparisons, possible connections were made
between self-efficacy, teacher efficacy, and persistence/retention in the teaching profession. Beyond comparisons of the two groups, individual survey items were also compared and correlated in order to look for similarities and associations in responses.

**Focus Groups.** In order to gain a deeper understanding of the answers to the research questions, focus groups were conducted in addition to the survey. Through the focus groups, it was the intent of the researcher to gain further understandings of “the world as it is experienced and reported by participants” (Locke, Silverman, & Spirduso, 2010, p. 179).

There are many benefits to using focus groups. Mainly, focus groups provide a way to gain an understanding of “why things are the way they are and how they got to be that way” (Morgan, 1998a, p. 12). For example, in the current study, focus groups were conducted after the gathering and analysis of survey data to dive deeper into how the WSU program affected self-efficacy and teacher efficacy in its students and affected graduates’ persistence in the teaching profession. Not only did the study reveal whether or not graduates remain in the teaching profession, but through focus groups, the researcher discovered why they did or did not remain in the teaching profession and whether they attributed the WSU program with their ability to persist in the profession or not. It would be difficult to collect such data through simply using a survey. Focus groups are unique because, unlike one-on-one interviews, the discussions and interactions of the participants “create a process of sharing and comparing” that can only exist in a group interview (Morgan, 1998a, p. 12). Through this “sharing and comparing” the participants often explored topics and questions with more depth than in one-on-one interviews.

Morgan (1998a) mentions that focus groups should be considered when the researcher wants to understand diversity or the differences between groups. In this study there were two focus groups, both comprised of graduates of the WSU elementary teacher preparation program
who have persisted in the teaching profession. Due to the small number of participants who had not persisted in the teaching profession, individual interviews were conducted with these participants. By grouping participants accordingly, themes were exposed within the groups and between the groups that provided valuable information about what aspects of the WSU program contributed to self-efficacy, teacher efficacy, and persistence/retention in the teaching profession.

By interviewing graduates who had left the teaching profession or not entered the teaching profession, the reasons for these graduates’ lack of persistence were revealed. This kind of exploration was necessary to fully analyze whether the WSU program and its elements actually had an effect on these graduates’ decisions to leave the profession. It was important to consider the alternate explanations for this phenomenon in order to fully evaluate the program’s effect on persistence as well as self-efficacy and teacher efficacy.

The focus groups and interviews for this study were moderately structured where there was a determined set of questions that were be asked, but participants were also allowed to comment on their own interests as they related to the topic (Morgan, 1998b). The idea was to be structured without being so structured that the participants didn’t have the opportunity to express all of their thoughts and ideas.

The focus group/interview questions were sorted into five categories based on Richard A. Krueger’s (1998a) categories of questions for focus group interviews. The five categories are opening questions, introductory questions, transitioning questions, key questions, and ending questions. These categories were meant to provide a sequential structure for the focus group/interview questions. The opening question was a question that was answered quickly by all participants and was intended to make participants feel comfortable and established a sense of community amongst participants who participated in the focus groups (Krueger, 1998a). It was
important to focus on the commonalities of the participants rather than the differences when phrasing the opening question. (Please see Appendix C for a list of focus group/interview questions). The introductory questions were open-ended questions that allowed the participants to express how they are connected to or understood the phenomenon that was being explored. The intent of these questions was to give the researcher a peak into the participants’ reality (Krueger, 1998a). Therefore, the researcher asked a very general question about the participants’ experience with the elementary education program at WSU. Next, the researcher posed transition questions that made a direct connection between the participants and the topic at hand. The researcher’s focus during the transition questions was to gain a general understanding of what the participants perceive as the strengths and weaknesses of the elementary education program. After asking transition questions, the researcher posed key questions that were focused on the core inquiries of the study. These are the questions that took the majority of the time during the focus groups and interviews. While posing the key questions the researcher asked the participants to consider how the elementary education program at WSU affected their self-efficacy, teacher efficacy, and persistence/retention in the teaching profession. The final key question tied these constructs together and asked the participants to explain how they felt their self-efficacy and teacher efficacy contributed to their persistence or lack of persistence in the profession. The researcher then posed ending questions to bring closure to the discussion. One of the ending questions asked participants to choose specific aspects of the elementary education program that had the most impact on their ability to persist in the teaching profession. This gave the researcher an idea of what elements of the program were perceived as most valuable. The last ending question asked for suggestions from the groups. The focus group/interview questions for this study were directly related to the research questions of this study.
The Study’s Relationship to an Outcome Evaluation

Lincoln and Guba (1986, p. 550) define evaluation as, “a type of disciplined inquiry undertaken to determine the value (merit and/or worth) of some entity…in order to improve or refine the evaluand or to assess its impact.” This definition is applicable to the current study. In this study, the researcher determined the perceived value of the various components of the WSU teacher preparation program in elementary education and the impact they have on the self-efficacy and teacher efficacy of participants in the program as well as the impact the elements of the program have on participants’ persistence and retention in the teaching profession. As a result of the study, the researcher hopes that the education department at WSU has learned what elements of the WSU elementary education program actually contribute to the self-efficacy, teacher efficacy, and retention of teachers and in turn make improvements to the program.

Evaluations are intended to provide useful information to stakeholders that may lead to program improvements and/or changes (Rossi, Freeman, & Lipsey, 1999). This is what separates evaluation research from other types of research. While other forms of research intend to test a theory or develop a theory, the intent in evaluation research is to utilize procedures and methodologies that provide information that is useful to the decision-makers (Rossi, Freeman, & Lipsey, 1999). The researcher chose to implement an evaluation because of the paradigm’s practicality and usefulness to the stakeholders, the administration, faculty, and students of the WSU teacher preparation program.

There are many types of evaluation research. The mixed methods design of this study comes closest to an outcome evaluation. Outcomes are changes or benefits that are a result of a program. Therefore, an outcome evaluation analyzes these changes and benefits and to what degree the program actually contributes to changes in participants or to what degree the program
benefits participants (Hoggarth & Comfort, 2010). The goal is to show a causal link between inputs, outputs, and outcomes. Outcome evaluations can have a number of purposes (Taylor-Powell & Henert, 2008). Outcome evaluations can be used to determine what the outcomes of a program actually are, consider whether a program had an impact on participants when compared to participants who were not in a program, to look at specific policies to determine equity and efficiency of such policies, or to determine the extent to which a program meets its goals and objectives (Schalock, 2001). For the purposes of this study, the researcher will consider the extent to which a program, the WSU teacher preparation program in elementary education, meets specific goals. These goals are to have a positive effect on participants’ sense of self-efficacy and teacher efficacy and to contribute to the retention or the persistence of graduates of the program in the teaching profession. The study was best carried out as an outcome evaluation because the researcher hoped to discover whether the WSU program and its various elements contribute to these goals, and an outcome evaluation can be used to determine the extent to which a program or its elements meet goals or objectives (Schalock, 2001). There is no other research strategy that allows for this kind of inquiry especially with the kind of depth that this study has undertaken.

**Site and Participants**

This study was conducted with graduates from Worcester State University, a small public university in Central Massachusetts of approximately 5,500 students. Worcester State University is located in Worcester, Massachusetts, the second largest city in New England. WSU offers 25 undergraduate programs and 26 graduate and certificate programs. This study looked at specifically the undergraduate program in elementary education that leads to an initial license in elementary education in the Commonwealth of Massachusetts.
The elementary education program at WSU consists of three main stages. In stage one, elementary education students take four introductory and foundational courses. In stage two, these students move on to methods courses where they learn about pedagogy and methodology related to the various elementary subject areas. The third stage in the program is when elementary education students complete their teaching practicum or student teaching. The elementary education program at WSU has also adopted a professional development schools (PDS) model that includes partnerships between the education department at WSU and six local elementary schools. This model has been in place at WSU since 1995, beginning with a partnership with just one school and eventually expanding to partnerships with six elementary schools.

The WSU education department’s *Educator Preparation Program Approval Document* (Worcester State College, 2003) lists five components of the Worcester State College (now Worcester State University) Professional Development Schools Program; the clinical professor, pre-practicum work, an elementary science course, professional development day programs, and a student teaching seminar. The first component, the clinical professor position, is filled by a classroom teacher from one of the professional development schools. This teacher takes a sabbatical of sorts from their classroom teaching position to fulfill the duties of the clinical professor. As clinical professor, the teacher is housed within the education department at WSU and is considered a full-time member of the education faculty. This person has many responsibilities including acting as a liaison between the WSU education department and the various PDS’s, monitoring the pre-practicum placements of students at the PDS’s, supervising student teachers at the PDS’s, and conducting a student teaching seminar once a week.
The second component of the PDS program at WSU involves the completion of pre-practicum work. All students in the elementary education program must complete 85 pre-practicum hours in an elementary school. Most students in the elementary education program complete all or most of their pre-practicum hours at the PDS’s. Students often become very familiar with these schools and get to know many of the teachers, administrators, and staff within the schools.

The third component of the program, as identified by the *WSU Educator Preparation Program Approval Document* (Worcester State College, 2003), is an elementary science methods course that is held in the library of one of the PDS’s. Students enrolled in this course receive instruction about the various methods used to teach science concepts. This instruction takes place within the professional development school. Soon after the instruction, the students implement lessons in the elementary classrooms in the PDS in order to practice the techniques in which they were just introduced. Students enrolled in this course have access to the facilities and resources within the PDS, receive instant feedback from their professor and teachers at the school, and are making connections between theory and practice. Recently, the education department has adopted this format in other methods courses as well, including a math methods course and English language arts methods course.

The fourth component of the WSU professional development schools program includes professional development day programs for student teachers. During their teaching practicum, student teachers that are placed in the PDS’s participate in weekly professional development days. These professional development workshops are based on the medical model of “Rounds.” During these half-day programs, students are engaged in pre-rounds instruction, demonstrations, and discussion around distinct topics such as, classroom management, assessment, or integrating
technology. These workshops are sponsored and presented at the various PDS’s. After the presentation and discussion, the student teachers visit classrooms within the PDS and regroup to discuss what they saw.

The fifth and final component of the program involves a student teaching seminar that accompanies the student teaching experience for students in the elementary education program. This seminar is a three-credit course offered through WSU. The seminar offers opportunities to student teachers to voice concerns, problems, and triumphs during their student teaching and to support one another through the student teaching experience. The clinical professor manages the seminar and offers presentations about a number of topics during the weekly seminar. This is yet another opportunity for the student teachers in the professional development schools to interact with the clinical professor who also acts as these student teachers’ supervisor and contributes to the weekly professional development workshops held at the PDS. Therefore, those who student teach in the PDS’s frequently interact with the clinical professor, seeing him/her at least twice a week.

The PDS program at WSU has many purposes. First, the program offers pre-service elementary education teachers frequent opportunities to engage in practical experiences in the PDS’s through pre-practicum work, coursework conducted within the PDS, and student teaching. The goal of these experiences is to help pre-service teachers to make connections between theory and practice and to become familiar with the norms and climates within the PDS’s. Through the PDS program, students are intensely supervised by their professors and PDS personnel in their methods courses and by the clinical professor and PDS teachers and administration during their student teaching. There are also many support systems in place for these pre-service teachers. The cohort of students that develops while working within the PDS gives students opportunities
to support one another, and the clinical professor, who is frequently available and present, is often another means of support. Through the PDS program at WSU, the education department hopes to produce competent and confident educators (Worcester State College, 2003).

Currently, there are 152 students enrolled in the elementary education program at WSU. However, the target population for this study was participants of the undergraduate program in elementary education at WSU who graduated from the program between 2003 and 2008. This range of years was chosen because although the Professional Development Schools Model has been in place at WSU since 1995, the current professional development schools were not all included in the program until 2003. Therefore, in order to get the most accurate picture of the PDS model at WSU, as it functions today, graduates after the year 2003 were used. Also, 2008 was chosen as the last year in the range so that the participants could be identified as either graduates who have persisted beyond three years or graduates who have not.

The sampling strategy used for both the survey and focus group and interview portions of the study was criterion sampling. During the first portion of data collection, surveys were sent out to all the graduates of the WSU undergraduate elementary education program from 2003-2008, a total of approximately 120 students, and forty of these former students answered the survey. As a follow-up, those who participated in the survey portion of the study were invited to partake in focus groups or interviews. The focus groups were devised based on the survey data. There were two focus groups made up of graduates of the WSU program who entered and had remained in the teaching profession with a total of seven participants, and there were four individual interviews conducted with graduates of the WSU program who had either left the profession or never entered the profession. (Participants who have persisted in the profession will
be referred to as “persisters,” and participants who have either left the teaching profession or never entered it will be referred to as “non-persisters” for the remainder of this report).

Worcester State University was chosen as the site of this study because of convenience and the interest of the researcher. The researcher currently works as an assistant professor within the elementary education program at WSU and has acted as the clinical professor for the program in the past. Therefore, the researcher has previously established relationships with some of the participants. An internal evaluation was chosen because the researcher had a personal interest in analyzing the elements of the program at WSU. The information that has been gathered through this study will be exceedingly beneficial to the program administrators, as well as the faculty and staff within the program who are constantly trying to make improvements.

**Data Collection**

Data collection for this study consisted of two parts, informed by a logic model of the WSU program: (1) implementation of a survey to collect quantitative data, and (2) the conducting of focus groups and interviews to collect qualitative data.

**Use of the logic model.** A logic model is a visual representation of the relationship between the inputs, processes, outputs, and outcomes of a program (Schalock & Bonham, 2003). Such models represent the “underlying assumptions upon which an activity is expected to lead to a specific result” (McCawley, n.d., p. 1). It can also be thought of as a representation of “the sequence of events thought to bring about benefits or change over time” (Taylor-Powell & Henert, 2002). Some claim that the development of a logic model is the first step to any evaluation (Taylor-Powell & Henert, 2002). Therefore, before starting to evaluate the WSU elementary teacher preparation program, a logic model was created to identify how the various program elements may beneficially contribute to graduates’ self-efficacy, teacher efficacy, and
persistence/retention in the profession. This model was developed by the investigator in communication and collaboration with the Dean of Education at WSU. By completing the logic model, elements of the elementary teacher preparation program at WSU that were believed to have a causal relationship to the three topics of this study increased self-efficacy, increased teacher efficacy, and persistence/retention in the teaching profession were identified.

There are a number of benefits to developing a logic model at the start of an evaluation, many of which are relevant to this study. The process of developing a logic model can often expose opportunities for the improvement of a program and reveal factors that may impact the success of the program (Holm-Hansen, 2006). Logic models can also “clarify the sequence of events from inputs through outputs through outcomes” (Holm-Hansen, 2006, p. 4).

Because this study intended to seek out opportunities for improvement of the WSU elementary education program by determining factors that impact certain outcomes, a logic model was an obvious starting point. “It makes evaluation much more focused because the intended outcomes have been clearly defined at the beginning of the process” (Hoggarth & Comfort, 2010). Through development of the logic model, the components of the program assumed to impact the focus of this study were clearly identified and informed the researcher’s development of survey items and focus group/interview questions (See Appendices A, B, & C). The logic model also contributed to the data analysis.

The format for the logic model as constructed is based on the framework suggested by the University of Wisconsin-Extension Program Development and Evaluation Program and is depicted below in Figure 2 (Taylor-Powell & Henert, 2008).
Figure 2

The University of Wisconsin-Extension Logic Model Framework is composed of three major parts; inputs, outputs, and outcomes. The inputs are the resources that are invested. The outputs are activities that are conducted within the program that potentially lead to outcomes, and outcomes are changes or benefits to the participants of the program. These main components were also the core of the logic model developed for this study, which can be seen in Appendix A.

Survey Data Collection. Using the logic model of the WSU program (Appendix A) as a guide, a survey was developed that asked participants to consider to what extent the elements of the WSU elementary education program had an effect on their teacher efficacy. The survey also includes sections that measured the teacher efficacy and self-efficacy of participants (See Appendix B).

The survey started with questions that asked for basic demographic information that helped during the analysis of the data. By collecting this data, the researcher learned the
participants’ ages, gender, and whether or not they student taught in a professional development school. Other information related to the participants’ teaching experience was collected later in the survey.

The next part of the survey asked participants to consider what elements of the WSU program affected their teacher efficacy. This portion of the survey was devised of survey questions that utilized a 5-point Likert scale. There is much evidence to support a 5-point Likert scale in order to gain optimal reliability and validity (Birkett, 1986; Givon & Shapira, 1984; Marsden & Wright, 2010). A sixth option was offered to participants who would like to answer “not applicable” to any of the survey questions in this section. This was offered because some of the participants may not have experienced certain aspects of the program. For example, WSU students who choose to student teach in a professional development school attend weekly workshops on Fridays. There was a survey question about these workshops, but the question was only relevant to those WSU student teachers that student taught in a PDS. This portion of the survey allowed the researcher to gain insight about the participants’ perceptions of the elements of the WSU program and their affect on teacher efficacy.

The next part of the survey was made up of a well-known teacher efficacy scale. This teacher efficacy instrument was developed by Woolfolk and Hoy (1990) and is based on a teacher efficacy scale developed by Gibson and Dembo (1984). When Woolfolk and Hoy developed this new teacher efficacy instrument, they used 20 out of 30 of the items from the Gibson and Dembo (1984) scale. These items were chosen because they had acceptable reliability and were relevant to the population they intended to study, pre-service and in-service teachers who experienced a particular teacher preparation program (a similar population to the current study). Two additional items were added to the instrument from a list of questions used
in two studies conducted by the RAND Corporation regarding teacher efficacy (Armour et al., 1976; Berman et al., 1977). These studies are often touted as the first studies to introduce the construct of teacher efficacy along with Gibson and Dembo (1984).

The Gibson and Dembo (1984) teacher efficacy scale is widely used and is generally known to contain two dimensions of teacher efficacy, personal efficacy and teaching efficacy. These two dimensions are evidence of Gibson and Dembos’s (1984) belief that teacher efficacy is based not only on a personal belief in one’s ability to help students achieve (personal efficacy) but also feelings of having or not having control over the political and bureaucratic situation of teaching (teaching efficacy). Because the Woolfolk and Hoy (1990) teacher efficacy scale is derived from the Gibson and Dembo (1984) scale, it is also based on these two factors. Woolfolk & Hoy (1990) recommend that the two factors in the teacher efficacy instrument be evaluated as separate yet related entities. For the purposes of this study, the researcher will be analyzing only what Gibson and Dembo (1984) call personal efficacy. There are twelve questions from Woolfolk and Hoy’s (1990) teacher efficacy scale related to personal efficacy. These twelve questions were used in the survey devised for this study in order to measure the teacher efficacy (personal efficacy) of the participants. Woolfolk and Hoy (1990) found the Chronbach’s alpha for the personal efficacy portion of their teacher efficacy scale to be 0.82.

Questions related to general self-efficacy followed the section regarding teacher efficacy. This section measured the participants’ general self-efficacy or belief in one’s ability to “meet given situational demands” (Wood & Bandura, 1989, p. 408). The “New General Self-Efficacy Scale” (NGSE scale) made up the eight items in this part of the survey (Chen, Gully, & Eden, 2001). The NGSE scale was developed by Chen, Gully, and Eden (2001) ($\alpha = .86$) to improve upon the reliability of the “Sherer General Self-Efficacy Scale” (SGSE scale) created by Sherer
et al. (1982). Chen, Gully, & Eden (2001) indicate that the NGSE is a superior measure of
general self-efficacy because it is one-dimensional whereas the SGSE is multi-dimensional.
Scherbaum, Cohen-Charash, & Kern (2006) supported this claim and indicate that the NGSE
scale “has a slight advantage over other measures” (p. 1047). Therefore, the NGSE scale was
chosen as part of the survey and was used in the current study in order to measure the general
self-efficacy of participants.

The final section of the survey asked general questions of participants regarding their
teaching experience. These questions were intended to gather information about the participants’
years of experience as well as their reasons for either persisting in or leaving the teaching
profession. The first few questions simply asked for the participants’ years of graduation and
whether they were currently a classroom teacher or not. This allowed the researcher to identify
graduates who had remained in the profession and those who have left. The participants were
then asked to answer different questions based on whether they were currently teaching or not.
Initially, participants were asked how long they had been teaching or, for those who are not
teaching, if they ever had any experience teaching. Then, the participants were asked why they
left the profession or why they felt they were able to persist. These survey questions were
formatted so that participants could choose all the appropriate responses that apply to their
experiences. For example, one question asked participants, “For what reason(s) did you choose
to leave the teaching profession? Check all that apply” (See Appendix B). The question was
followed by a series of choices that may answer the question. The choices were derived from a
number of research articles about the causes of teacher attrition (Marvel et al., 2006; Leukens,
Lytner, & Fox, 2004; Quinn & Andrews, 2004; Schlichte, Yssel, & Merbler, 2005; Yost, 2006;
Ingersoll, 2001; Inman & Marlow, 2004). The teachers who were currently teaching were asked,
“Which of the following factors contributed to your persistence in the teaching profession? Check all that apply.” The possible responses for this question were derived from both the logic model and research about teacher retention and its connection to teacher preparation (Hoy & Woolfolk, 1990; Darling-Hammond, 1994, 2002, 2003; Abdal-Haqq, 1998; Yost, 2006; Inman & Marlow, 2004). For all the questions in this section of the survey, participants were given the opportunity to write in a response to a question if there was no item that matched their answer to the question.

As suggested by Czaja and Blair (2005), the survey was pre-tested both informally and formally. Initially, during the development of the survey, the individual questions were reviewed by education professors at WSU, the Dean of Education at WSU, and a communications and research associate and a senior research analyst in the office of Institutional Research and Planning at Quinsigamond Community College. In order to gain feedback about the survey questions, interviews of each reviewer were conducted and appropriate revisions were made. After this initial review, the survey was formally pre-tested with a group of 25 graduate students in master’s programs in education at WSU or in teacher licensure programs at WSU.

When completed, the survey was distributed using Survey Monkey, an online survey tool. This online tool allowed the researcher to invite all potential participants to fill out the survey, with an appropriate description and indication of consent as put forth by Northeastern University’s Institutional Review Board. The results of the survey were then downloaded from the internet for appropriate analysis given the focus of this study.

**Focus Groups and Interviews.** The focus group and interview portion of this study built on what was learned through the survey data. Focus group and interview sessions were guided by the researcher with the hopes of gaining rich understandings of participants’ thoughts,
experiences, and beliefs (Morgan, 1998a). There were two focus group sessions and four interview sessions during which the conversations were recorded using audio recording technology. The recordings were then be transcribed in order to prepare the data for analysis.

**Data Analysis**

The data analysis portion of this study consisted of two major parts, the quantitative analysis and the qualitative analysis. Each analysis contributed to answering the research questions of this study.

**Quantitative analysis.** As part of the quantitative portion of this study, various types of analyses were conducted. First, descriptive statistics were collected that provided a general portrayal of the perceptions of all of the participants. Measures of central tendency and measures of dispersion were used to analyze the trends of persisters and non-persisters.

Another function of the quantitative portion of this study was to determine if both persisters and non-persisters who were graduates of the WSU program, had similar opinions about the degree to which the elements of the WSU program affected their teacher efficacy. Demonstrating that both groups do not have significantly different opinions about this topic would defend the idea that graduates of the program believe that the various elements of the WSU program that are present in the logic model of this study (Appendix A) do in fact lead to perceived teacher efficacy, self-efficacy, and persistence and retention in the teaching profession. The teacher efficacy and self-efficacy of each group were also compared based on the results of the Woolfolk and Hoy Teacher Efficacy Scale (Woolfolk & Hoy, 1990) and the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001) that have been embedded in the survey for this study. The researcher analyzed the results based on these instruments and determined whether there is a connection between persistence in the teaching profession and teacher efficacy and
self-efficacy. Comparisons were made using a Fisher Exact Test to test for significant differences on survey items across the persistent and non-persistent teacher populations.

The quantitative analysis of this study involved comparing graduates of the WSU elementary program who persisted in the teaching profession to those who left the profession or never entered the profession in order to realize if there were differences in their levels of teacher efficacy, self-efficacy, and in their beliefs about whether the WSU program contributed to their sense of teacher efficacy. The analysis of this quantitative data will lead to a qualitative analysis that will allow the research to dive deeper into the perceptions of the participants.

**Qualitative Analysis.** The goal of the qualitative analysis of this study was to gain deeper understanding of the results of the quantitative portion of the study and to allow the participants to further explain their perceptions of the WSU program in elementary education and what parts of the program affected their teacher efficacy, self-efficacy, and persistence/retention in the teaching profession. The data collected during the qualitative portion was also assessed against components in the logic model (Appendix A) that proposed causal links between the WSU program from its inputs to its outputs (increased teacher efficacy and persistence in the teaching profession).

The analysis of the qualitative data that was collected during the focus group sessions of this study consisted of many parts. The first part of the process included ongoing review of the data and the composition of memos to help reflect on the data and decipher meaning. The second part of the analysis consisted of a detailed coding process where the data was categorized and analyzed. The third component of the analysis included the use of connecting strategies to analyze the relationships between the data and themes that were found.
**Ongoing review of the data.** The first step in the qualitative analysis of this study involved the ongoing, general review and contemplation of the data that was collected. Maxwell (2005, p. 95) suggests that a researcher, “Begins data analysis immediately after finishing the first interview or observation, and continues to analyze the data as long as he or she is working on research, stopping briefly to write reports and papers.” This implies that analysis is continuous during the research process and isn’t an activity that simply follows data collection, but instead occurs simultaneously. During this continuous initial stage of analysis, the researcher listened to audio recordings of the focus group and interview sessions and read and organized any notes taken during these sessions. The researcher wrote memos to develop ideas and categories about the data and consider possible relationships. The use of memos was vital at this stage of the research. “Memos not only capture your analytic thinking about your data, but also facilitate such thinking, stimulating analytical insights” (Maxwell, 2005, p. 96).

**Coding.** The next step in the qualitative analysis included a system of coding the data. This system was derived from the suggestions of Miles and Huberman (1994) and Saldana (2009). Miles and Huberman (1994) suggest the use of descriptive codes in qualitative analysis, and Saldana (2009) recommends the use of evaluation codes, in vivo codes, and magnitude codes, especially in evaluation research. The researcher used a combination of these types of codes in the analysis of the qualitative data. These coding strategies were progressive in nature, building on each other as the researcher advanced further and further into the data collection and analysis processes.

Descriptive codes are codes that involve little interpretation or reliance on the context of the research. According to Miles and Huberman (1994), descriptive codes can be developed before data collection, during data collection, or during the analysis. In this study descriptive
codes were used in the initial phase of analysis during the preliminary review of the transcribed data. During this stage in the analysis process, the researcher used words or phrases to describe or summarize portions of the data. In vivo coding (Saldana, 2009) was used at times during this initial iteration of coding and throughout the coding process to capture the words of the participants. After descriptive codes were applied to the data for each focus group or interview session, a memo was composed to record the thoughts of the researcher about possible themes, categories, and patterns in the data.

Evaluation codes (Saldana, 2009) were also used to organize data and begin to develop themes. Evaluation codes were developed based on application of the context to the various ideas and constructs of the research (Saldana, 2009). These evaluation codes evolved from the descriptive codes developed in earlier phases of analysis and also from the research questions and logic model of this study. Again, after this secondary phase of coding, the researcher wrote a memo in order to continue to capture thoughts about possible themes and patterns in the data and to begin to compare the responses from the focus groups and interview participants.

Lastly, magnitude codes (Saldana, 2009) were attached to the descriptive and evaluation codes to indicate whether the various pieces of data included a positive or negative statement about the WSU elementary education program. An additional magnitude code (REC) was used to indicate when a recommendation appeared in the data. Once again, after this phase of coding, a memo was composed to consider what elements of the WSU program continuously appeared in the data and were spoken of positively or negatively.

After the coding process was complete for each focus group or interview session, the data was reorganized in many ways. First, the evaluation codes were categorized into positive codes, negative codes, and recommendations. Then, these evaluation codes were restructured into the
various elements of the WSU elementary education program. This allowed the researcher to analyze each element to consider if positive or negative comments frequently appeared in the transcriptions regarding each element. In addition, the evaluation codes were categorized based on the research questions of this study. After the reorganization of codes for each focus group or interview transcription, another memo was composed to address possible trends that were evident during the reorganization process and to consider any similarities and differences between the focus groups or interviews.

**Connecting strategies.** Connecting strategies are used to attempt to understand the data in context (Maxwell, 2005). Qualitative analysis requires that the researcher collects the data, pulls it apart to analyze it, and then puts it back together in a way that logically and meaningfully connects the data. This process uses the various codes to piece the data together and consider relationships between the data. The coding process, which may somewhat strip the data of meaning, must be used in conjunction with connecting strategies to fully analyze the data.

In this study, connecting strategies began after coding was complete. The researcher reviewed the codes, categories, and themes, and made further connections within the data. The researcher looked specifically for connections related to the logic model (Appendix A) as well as the original themes and relationships that emerged from the data. These connecting ideas were reported in the form of memos as suggested by Miles and Huberman (1994) and Maxwell (2005). The memos that were written in this stage of analysis served to illustrate the relationships that were common through much of the data as reported by the focus group and interview participants.

The qualitative analysis of this study led to deeper understandings of the components of the WSU elementary education program and how they contributed to self-efficacy, teacher
efficacy, and persistence and retention in the teaching profession as perceived by graduates of the program. Through an analysis of the data collected during focus group and interview sessions, the researcher also considered if the logic model (Appendix A) was a valid representation of how the program contributes to teacher efficacy, self-efficacy, and persistence/retention in the teaching profession. Other themes, insights, and explanations evolved from the analysis of the qualitative data and provided alternative views to the predictions made by the researcher at the start of the study. However, through a deep qualitative analysis, the extent to which the WSU program led to the outcomes of teacher efficacy, self-efficacy, and persistence/retention in the teaching profession became more clear.

Finally, a summary analysis from the survey data and focus group analysis was reviewed in relationship to (1) self-efficacy and professional development theories, and (2) the literature review.

**Trustworthiness and Validity**

According to Lincoln and Guba (1985), there are four conditions that contribute to the trustworthiness of research. These four conditions are what Lincoln and Guba (1985, p. 290) call “truth value, applicability, consistency, and neutrality.” These terms are also known as internal validity, external validity, reliability, and objectivity. Each of these topics must be considered in relation to this study.

**Truth Value/Internal validity**

Campbell and Stanley (1963) suggest that there are eight possible threats to internal validity in research. Of the eight identified, one is particularly relevant to this study. One threat to internal validity in this study is the possibility of maturation. Maturation is related to “processes operating within the respondents as a function of the passage of time” (Lincoln &
In this study, years had past in the careers and lives of the participants since their involvement in the WSU elementary education program. The memories that the participants had of their personal experiences with the WSU program may be distorted due to the passage of time. It is likely that the participants had significant changes in their lives and careers since their graduation from the program. These new experiences could have affected the way in which the participants recalled their experience in the WSU program.

The WSU program in elementary education has also been affected by some external factors that caused the program to change and therefore affected the outcomes of the program. On the logic model diagram used as a foundation for this study (See Appendix A) some of these external factors are identified. Unfortunately, funding has diminished over time for the Professional Development Schools Program at WSU. The program had originally been funded by a grant and is now funded by Worcester State University and the Worcester Public Schools. These changes in funding may have affected the program from year to year, and any future changes in funding will surely change the operations of the program. Other factors within the program include staffing changes. There has been some turnover of teachers, administrators, and faculty both within the PDS’s and at WSU over the years. Certainly, these external factors can affect how the program is implemented and how much of an effect the program has on teacher efficacy, self-efficacy, and persistence/retention in the teaching profession. These factors were uncontrollable by the researcher. However, these external factors are a reality in the education world today, and are often anticipated by those involved in the WSU program. Therefore, the integrity of the WSU elementary program remains intact even though expenditures for materials, etc. have decreased. It is unlikely that the outcomes of the program have changed significantly.
To deal with possible threats to internal validity, many attempts were made to determine if external factors may affect the outcomes of the WSU program in elementary education. The researcher was aware that the self-efficacy and teacher efficacy of individual participants can be affected by factors other than the individual elements of the WSU program. However, by using a mixed methods design and collecting survey data and qualitative focus group and interview data, the researcher was able to distinguish between factors that were related to the WSU program and factors that were not. This method of triangulation contributed to the credibility of the findings of the study (Lincoln & Guba, 1985). The design of the study included multiple methods of data collection and the interpretations of many participants. If these methods produced similar results and the many participants reported similar perceptions of the WSU program, then one can assume that there is some validity in the results.

Personal factors may have also affected whether a participant persisted in the teaching profession. The WSU program may have had little to no bearing on a graduate’s decision to remain in or leave the profession. For example, a graduate may have had children and decide to not to work at all and therefore decided to leave the teaching profession. The survey asked questions to determine if external factors affected whether the participants left the profession or not. Also, there were two groups established in this study. One group included graduates of the WSU program who have remained in the teaching profession, and the other group included those who left the profession or never entered the profession. The responses to the survey were compared based on these two groups in order to determine similarities and differences in their responses. If both groups have statistically similar responses, it would reveal that the program elements that are identified as affecting the self-efficacy, teacher efficacy, and persistence/retention in the teaching profession are valid. The focus groups and interviews were
conducted in a similar manner. There were two groups, focus groups made up of persisters and a group of non-persisters that were interviewed. This allowed the researcher to explore the reasons why certain graduates left the profession and gain in-depth understanding of these graduates’ perceptions of the program and its elements. If even those who have left the teaching profession claimed that the program increased their self-efficacy and teacher efficacy and that the program didn’t have an effect on their decision to leave the profession, then it is reasonable to assume that the program is still meeting the goal of increasing self-efficacy and teacher efficacy. The purpose of studying both those who have left the profession and those who have persisted was to explore the external factors that may affect the outcomes of the program. In doing so, the researcher increased the credibility and trustworthiness of the study.

Member checking is an additional strategy that was used to assure credibility. Member checking, or the testing of “data, analytic categories, interpretations, and conclusions” using the groups from which the data originated, is “the most crucial technique for establishing credibility” (Lincoln & Guba, 1985, p. 314). This technique was used during the qualitative stage of the study. After focus groups and interview sessions were transcribed and reported, the information gathered was presented to some of the individuals from the groups to validate the data that was collected. This assured that the data was an authentic representation of the perceptions of the participants. Although there were some threats to the internal validity of this study, many of these threats were alleviated through the use of triangulation and member checking.

Applicability/External validity

External validity is related to the level to which we can infer that the results of a study or the relationships within a study can be generalized across different settings, persons, and times (Lincoln & Guba, 1985). Generalizability is usually related to a randomized sample within a...
study. In this study, a very specific sample was used in order to analyze the WSU elementary education program. Therefore, the findings of this study are only generalizable to graduates of the WSU elementary education program and are not necessarily representative of a larger population. The intent of the study was to provide useful information specifically to the education department at WSU regarding the elementary education program. Therefore, it is appropriate that the results are uniquely applicable to this program.

**Consistency/Reliability**

Reliability and consistency in research is evident in research that is stable and predictable and is often demonstrated through replication (Lincoln & Guba, 1985). In order to alleviate any problems with consistency and reliability in this study, the survey and focus group/interview questions were reviewed by a number of qualified people. After developing the focus group/interview questions (Appendix C), they were examined by the Dean of Education at WSU as well as a communications and research associate in the office of Institutional Research and Planning at Quinsigamond Community College. The researcher then discussed possible revisions to the questions with each of the examiners and then made appropriate changes to the questions.

Similar measures were taken to increase the reliability of the survey (Appendix B) that is used in the quantitative portion of this study. The survey was revised a number of times. The editing process was quite rigorous. Before each revision, the survey was analyzed by a communications and research associate and a senior research analyst in the Office of Institutional Research and Planning at Quinsigamond Community College as well as the Dean of Education at WSU. The researcher interviewed each reviewer to gather feedback about the design of the survey and made relevant changes as a result. After an acceptable draft was established, the survey was piloted using a group of graduate students from WSU. The graduate students
submitted their surveys and then the researcher debriefed the group in order to gather information about the structure of the survey, the language used in the questions, etc.

**Neutrality/Objectivity**

Within this study, one must consider the potential biases of the researcher. The researcher has a pre-determined relationship with some of the participants either as their instructor or their student teaching supervisor. This relationship, as stated previously, could have potentially been affected by the power structure of a student/teacher relationship. The participants may have answered questions according to the way in which they believed the researcher would like them to due to this pre-established relationship. This issue was addressed in a verbal discussion at the start of the focus groups and interviews. The survey data was not affected by this phenomenon because the survey was anonymous.

In order to eliminate any potential bias placed on data after it was collected, direct transcriptions of the focus group and interview discussions were developed in addition to field notes. Sometimes when note taking is the only form of record keeping during focus groups or interviews, the moderator’s biases seep into what has been recorded. Therefore, raw data should be recorded in addition to notes (Krueger, 1998b). In this study, the focus group and interview sessions were audio recorded in order to maintain the integrity of what was said during the sessions. Additionally, member checks were conducted to assure that data was being reported consistently with the ideas of the participants.

As an employee of WSU, the researcher may have already had feelings about the success and failures of the WSU program in elementary education, therefore causing bias on the part of the researcher. The procedures mentioned previously, such as using evaluators to review the
instruments being utilized and transcribing raw data from the focus groups and interviews should have minimized the bias that is inflicted on the study.

**Protection of Human Subjects and Ethical Considerations**

Mertens (2006, p. 33) states that, “Ethics in research should be an integral part of the research planning and implementation process.” Ethics and the protection of human subjects was assured throughout the research process of this study. The researcher participated in and passed the National Institutes of Health’s (NIH) online course entitled, “Protecting Human Research Subjects” offered through the Northeastern University Institutional Review Board (IRB).

The NIH’s “Basic Ethical Principles” documented in the Belmont Report (1979) were used as a guide for this study. The report offers three ethical principles for research, respect for persons, beneficence, and justice. These principles were implemented through a number of procedures during this research study. In order to respect the participants of the study, the participants voluntarily entered the study by choosing to fill out the survey or opting to participate in the focus groups or interviews. All participants were also given adequate information about the research procedure, the purpose of the research, the risks and benefits through unsigned consent documents as well as a signed informed consent form (See Appendices D, E, and F), and were given the opportunity to ask questions about the research.

The subjects who were involved in the study were chosen solely based on their relevance to the problem of practice being studied. Unique social groups were not intentionally singled out for the purposes of this study. The researcher guaranteed confidentiality to the participants throughout the study, meaning that “identifying information will be gathered, but it will be carefully protected” (Morgan, 1998a). Therefore, the researcher was the only person who had access to the personal information of the participants and the recordings of the focus group and
interview discussions (after transcription was complete). The participants were only referred to
by first names during focus group discussions, and names and other identifying information were
left out of the transcriptions of the discussions. All data, including survey data, audio recordings,
and transcriptions were stored on the home computer of the researcher. In addition, the
participants were assured that members of the Worcester State University Education Department
would not have access to identifying information or comments that were made during focus
group or interview sessions.

Because members of focus groups reveal information to each other during the sessions,
Morgan (1998a) suggests that, when utilizing focus groups in research, the researcher must take
into consideration issues of privacy and over-disclosure. These issues were addressed at the start
of each focus group and interview. Although total privacy cannot be guaranteed due to the
participants’ exposure to each other during focus group sessions, privacy and boundaries were
discussed at the start of each session to minimize potential problems.

One additional ethical consideration for this study was the fact there were some
participants in the study who had a previous relationship with the researcher. This relationship
was a student/teacher relationship where the researcher had formerly acted as a supervisor or
instructor to some participants. Creswell (2009, p.90) suggests that, “In some situations, power
can easily be abused and participants can be coerced into a project.” There was no intended
abuse of power by the researcher in this study. The researcher treated all participants as equals.
All participants, regardless of their previous relationship to the researcher, were given the
opportunity to decline participation in the study.

IRB applications were submitted, reviewed, and approved at Northeastern University.

Conclusion
There is a long-standing problem with teacher attrition in the field of education, one that is costly to school districts and has an effect on teacher quality. Existing theory and research has established a connection between self-efficacy, teacher efficacy, and persistence/retention in the teaching profession. Therefore, teacher preparation programs across the United States have begun to evaluate how they can contribute to solving the teacher attrition problem in the United States through attention to these factors. Many have explored ways to increase the teacher efficacy and self-efficacy of their pre-service teachers before they enter the teaching profession in an effort to promote persistence in the profession.

Worcester State University has adopted a model of teacher preparation – the Professional Development School – that some claim alleviates teacher attrition in the beginning years of teaching (Darling-Hammond, 1994, 2002). It was the purpose of this study to evaluate the elementary education program at WSU in order to reveal the extent to which the activities within the program actually contribute to teacher efficacy, self-efficacy, and persistence and retention in the teaching profession. This mixed-methods evaluation of the WSU elementary education program, using both quantitative and qualitative methods, was conducted to reveal what components of the program graduates believed to contribute to these outcomes. This information can be utilized by both the education department at WSU and other teacher preparation programs to help improve the programs in a way that will alleviate the attrition rates of their graduates.

**Chapter IV: Research Findings**

**Reporting of the Findings and Analysis**

Chapter IV presents the findings and analysis of this study, starting with a description of the study’s context, including a portrait of the participants of the study, followed by an in depth presentation of the findings. The two research questions of the study were as follows:
3. To what degree do program graduates of the WSU teacher preparation program in elementary education attribute the program and the various elements of the Professional Development Schools Model to their sense of self-efficacy and teaching efficacy?

4. To what degree do program graduates from the WSU teacher preparation program in elementary education attribute the program and the various elements of the Professional Development School Model to their persistence/retention or lack of persistence in the teaching profession and attribute a sense of self-efficacy and teacher efficacy to their persistence/retention or lack of persistence in the teaching profession?

Focus group, interview, and survey data will be presented for each research question, along with this researcher’s analysis of this data as it pertains to each research question. Finally, the logic model representing the articulated inputs, outputs, and expected outcomes of the Worcester State Elementary Education Program will be revisited to consider if the data collected in this study supports the projected expectations of the program as defined by program staff.

**Study Context**

The purpose of this study was to consider what elements of the WSU elementary education program are perceived by its graduates to have affected their self-efficacy, teacher efficacy, and persistence in the teaching profession. The relationship between self-efficacy, teacher efficacy, and persistence in the teaching profession was also explored. This mixed-methods study was conducted in the form of an outcome evaluation. Participants were first asked to complete a survey to answer questions about what aspects of the elementary education program at WSU had an effect on their self-efficacy, teacher efficacy, and persistence. Upon completion of the survey, graduates of the elementary education program from the years 2003 to 2008 were invited to participate in focus groups and interviewed individually in order to gather
rich, in depth data and descriptions of the participants’ perspectives regarding the WSU elementary education program and its effect on self-efficacy, teacher efficacy, and persistence in the teaching profession. The focus groups consisted of graduates of the program who had remained in the teaching profession. Interviews were also conducted with participants who persisted in the teaching profession and those who did not. Focus group and interview participants were asked about the strengths and weaknesses of the elementary education program at WSU, aspects of the program they believe affected their self-efficacy, teacher efficacy, and persistence, and the degree to which they thought self-efficacy and teacher efficacy impacted their persistence or lack of persistence.

**Survey participants.** There were 40 participants in the survey portion of this study. All survey respondents graduated from WSU between 2003 and 2008, were overwhelmingly female (94.9 percent) and representative of the student body at that time, and mostly between the ages of 26 and 30 (56.4 percent). Approximately 36 percent (35.9 percent) were older than 30 and approximately eight percent (7.7 percent) were between 20 and 25 years old. Approximately sixty-five percent (64.7 percent) of the respondents were still teaching after at least three years, and thirty-five percent (35.3 percent) had left the profession or had never entered the profession at all.

**Interview and focus groups.** Survey respondents were subsequently invited to participate in a focus group or interview. Seven persisters and four non-persisters agreed to participate. Of the seven persisters, four of them were teaching in an urban school district, including two participants who were teaching in one of WSU’s professional development schools. One of the participants is teaching second grade, two are teaching third grade, one is teaching fourth grade, one is teaching fifth grade, and two are teaching in areas in which they are
not licensed. One of these participants is teaching high school special education and the other is teaching seventh grade English.

Interviews were conducted with four non-persisters. One of these participants had left the teaching profession before the end of her first year teaching due to struggles with classroom management and feeling as though the morale amongst teachers was quite low, as presented by her. The other three participants in this group had never entered the teaching profession. Two of these participants had been unable to find classroom teaching jobs and the other had been prevented from getting his elementary teaching license because he had not passed one section of the Massachusetts Test of Educator Licensure (MTEL).

Coding

In order to analyze the qualitative data collected through interviews and focus groups, a number of coding strategies were used. After transcribing each audio recording of the interviews and focus groups, the researcher wrote memos expressing thoughts, comparisons, and general ideas related to the data. After completing these memos, the researcher reviewed the transcribed data and applied descriptive coding strategies as part of the initial coding of the text. During this phase of coding the researcher used words or phrases to describe and summarize the basic topics as perceived by the researcher in the transcripts. In vivo coding (Saldana, 2009) was also used to capture the actual language of the focus group and interview participants. Again, after the initial coding of each interview or focus group session, the researcher composed a memo describing possible themes and words and phrases that appear frequently.

After the initial coding, the researcher reviewed the transcripts again and this time utilized evaluation coding (Saldana, 2009) strategies. Through this process, the researcher assigned either a descriptive code related to various elements of the WSU elementary education
program (sometimes with a subcode) and/or an in vivo code to parts of the transcription. Once the descriptive code or in vivo code was assigned, the researcher then assigned magnitude codes (+, -, or REC; Saldana, 2009) to each descriptive or in vivo code to indicate whether the section of transcription included a positive comment about the WSU elementary education program, a negative comment, or a recommendation. After utilizing these evaluation coding strategies, the researcher composed another memo, this time reflecting on the research questions and indicating potential themes related to the research questions.

After this first iteration of coding, initial evaluation codes were reorganized into the categories of positive codes, negative codes, and recommendations. The evaluation codes were then restructured into the various program elements mentioned in the focus groups and interviews. This allowed the researcher to analyze elements of the program and whether certain elements of the program were described positively or negatively. Additionally, the evaluation codes were categorized into groups according to the two research questions of this study. A memo was once again composed after this last reorganization of codes to reflect on trends and overall themes in each interview or focus group and to indicate any similarities and differences between groups of participants.

**Findings and Analysis: The WSU Program’s Effect on Self-Efficacy and Teacher Efficacy**

The first research question of this study asks participants about the degree to which various elements of the WSU elementary education program impacted their self-efficacy and teacher efficacy, as perceived by them:

1. To what degree do program graduates of the WSU teacher preparation program in elementary education attribute the program and the various elements of the Professional Development Schools Model to their sense of self-efficacy and teaching efficacy?
Both survey data and focus group and interview data were gathered for this question.

The survey data revealed a broad view of what aspects of the WSU program graduates perceived as being factors in increasing or decreasing their self-efficacy and teacher efficacy. A self-efficacy scale and a teacher efficacy scale were used to assess participants’ self-efficacy and teacher efficacy. Comparisons between graduates who gained employment as teachers and persisted and graduates who did not were explored between the groups’ perceptions and/or levels of self-efficacy and teacher efficacy. In addition descriptive statistics as collected via the survey are presented.

To acquire further explanations of the survey results, focus groups and interviews were also conducted. Participants were asked to describe their perceptions of the WSU elementary education program and those elements of the program they felt had an impact on their sense of self-efficacy and teacher efficacy. This allowed for a more thorough analysis of the research question and rich descriptions of the participants’ thoughts and perceptions. Interview and focus group data was organized into common themes among the two groups, persisters and non-persisters. Conflicting themes were then also explored.

After analyzing the data for themes, the stories of the non-persisters are also presented. This biographical information lead to an understanding of the participants’ reasons for leaving the teaching profession. After both the survey data and interview and focus group data are presented, a summary of the findings is presented.

**Survey results.** The results of the survey are the foundation of this study. They reveal participants’ impressions of the WSU program and how it impacted their sense of self-efficacy and teacher efficacy. Particularly important in the survey was the Woolfolk and Hoy (1990)
Teacher Efficacy Scale and the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001), which were embedded in the survey.

**Survey results of persisters.** There were a total of 22 respondents to the survey who had persisted in the teaching profession. Of these respondents, 95.5 percent were female and ranged in age from 20 to over 40 (See Table 1).

Table 1

*Ages of Persisters*

<table>
<thead>
<tr>
<th>Age$^a$</th>
<th>Percent of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-25</td>
<td>13.6%</td>
</tr>
<tr>
<td>26-30</td>
<td>63.6%</td>
</tr>
<tr>
<td>31-35</td>
<td>9.1%</td>
</tr>
<tr>
<td>36-40</td>
<td>4.5%</td>
</tr>
<tr>
<td>41-45</td>
<td>4.5%</td>
</tr>
<tr>
<td>Over 45</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

*a*n=22

Table 2 presents when these students graduated.

Table 2

*Graduation Years of Persisters*

<table>
<thead>
<tr>
<th>Year of Graduation$^a$</th>
<th>Percent of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>0.0%</td>
</tr>
<tr>
<td>2004</td>
<td>9.1%</td>
</tr>
<tr>
<td>2005</td>
<td>18.1%</td>
</tr>
<tr>
<td>2006</td>
<td>9.1%</td>
</tr>
<tr>
<td>2007</td>
<td>50.0%</td>
</tr>
<tr>
<td>2008</td>
<td>9.1%</td>
</tr>
<tr>
<td>Didn’t Respond</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

*a*n=22
All of the persisters are currently working as classroom teachers. Ninety-one percent (90.9 percent) of the persisters completed their student teaching in a professional development school and 9.1 percent did not.

According to the results of the Woolfolk and Hoy (1990) Teacher Efficacy Scale, the survey respondents who have persisted have a fairly positive sense of teacher efficacy (see Table 3). (Answer to agree items are considered more positive than disagree items.)

Of the twelve items included in the scale, 100 percent of the persisters responded positively (the majority indicating moderately agree or strongly agree) to seven of the 12 items regarding teacher efficacy (see Table 4). The other five items yielded fairly positive responses as well (the majority of persisters indicating at least slightly agree). Overall, persisters – as indicated by the results of the survey – have at least a somewhat if not strong sense of teacher efficacy.
### Table 3

**Teacher Efficacy Results for Persisters**

<table>
<thead>
<tr>
<th>Items on the Woolfolk and Hoy (1990) Teacher Efficacy Scale&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Strongly disagree</th>
<th>Moderately disagree</th>
<th>Disagree slightly more than agree</th>
<th>Agree slightly more than disagree</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When a student does better than usual, many times it is because I exert a little extra effort.</td>
<td>0%</td>
<td>0%</td>
<td>13.6%</td>
<td>31.8%</td>
<td>50.0%</td>
<td>4.5%</td>
</tr>
<tr>
<td>I have enough training to deal with almost any learning problem.</td>
<td>0%</td>
<td>13.6%</td>
<td>9.1%</td>
<td>18.2%</td>
<td>50.0%</td>
<td>9.1%</td>
</tr>
<tr>
<td>When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>45.5%</td>
<td>54.5%</td>
</tr>
<tr>
<td>When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>18.2%</td>
<td>59.1%</td>
<td>22.7%</td>
</tr>
<tr>
<td>When I really try, I can get through to the most difficult students.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>22.7%</td>
<td>22.7%</td>
<td>54.5%</td>
</tr>
<tr>
<td>When the grades of my students improve it is usually because I found more effective approaches.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>4.5%</td>
<td>50%</td>
<td>40.9%</td>
</tr>
<tr>
<td>If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that</td>
<td>0%</td>
<td>0%</td>
<td>4.5%</td>
<td>18.2%</td>
<td>50%</td>
<td>27.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.</td>
<td>0%</td>
<td>0%</td>
<td>4.5%</td>
<td>27.3%</td>
<td>50%</td>
<td>18.2%</td>
</tr>
<tr>
<td>If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>4.5%</td>
<td>50%</td>
<td>45.5%</td>
</tr>
<tr>
<td>If one of my students couldn’t do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>4.5%</td>
<td>50%</td>
<td>45.5%</td>
</tr>
<tr>
<td>If I really try hard, I can get through to even the most difficult or unmotivated students.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>18.2%</td>
<td>54.5%</td>
<td>27.3%</td>
</tr>
<tr>
<td>My teacher training program and/or experience has given me the necessary skills to be an effective teacher.</td>
<td>4.5%</td>
<td>4.5%</td>
<td>0%</td>
<td>9.1%</td>
<td>40.9%</td>
<td>40.9%</td>
</tr>
</tbody>
</table>

^n=22
### Table 4

**Collapsed Teacher Efficacy Results of Persisters**

<table>
<thead>
<tr>
<th>Items on the Woolfolk and Hoy (1990) Teacher Efficacy Scale&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Percent who Slightly to Strongly Disagree</th>
<th>Percent who Slightly to Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When a student does better than usual, many times it is because I exert a little extra effort.</td>
<td>13.6%</td>
<td>86.3%</td>
</tr>
<tr>
<td>I have enough training to deal with almost any learning problem.</td>
<td>22.7%</td>
<td>77.3%</td>
</tr>
<tr>
<td>When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>When I really try, I can get through to the most difficult students.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>When the grades of my students improve it is usually because I found more effective approaches.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that concept.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>If I really try hard, I can get through to even the most difficult or unmotivated students.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>My teacher training program and/or experience has given me the necessary skills to be an effective teacher.</td>
<td>9.0%</td>
<td>90.9%</td>
</tr>
</tbody>
</table>

<sup>a</sup><i>n = 22</i>

In addition to measuring the participants’ sense of teacher efficacy, self-efficacy was also assessed using the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001). The self-efficacy scale revealed that persisters seem to maintain high levels of self-efficacy. The New
General Self-Efficacy Scale (Chen, Gully, & Eden, 2001) uses a five-point Likert scale with possible responses of strongly agree, agree, undecided, disagree, and strongly disagree. At least 90 percent of the persisters who responded chose either agree or strongly agree to every item on the scale indicating that, as a group, the persisters have high levels of self-efficacy. The results of the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001) are displayed in Table 5 and a collapsed version of the results is presented in Table 6.
Table 5

*Self-Efficacy Results for Persisters*

<table>
<thead>
<tr>
<th>Items on the New General Self-Efficacy Scale (Chen, Gully, &amp; Eden, 2001)(^a)</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will be able to achieve most of the goals I have set for myself.</td>
<td>0.0%</td>
<td>4.5%</td>
<td>0.0%</td>
<td>27.3%</td>
<td>68.2%</td>
</tr>
<tr>
<td>When facing difficult tasks, I am certain that I will accomplish them.</td>
<td>4.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>36.4%</td>
<td>59.1%</td>
</tr>
<tr>
<td>In general, I think that I can obtain outcomes that are important to me.</td>
<td>4.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>31.8%</td>
<td>63.6%</td>
</tr>
<tr>
<td>I believe I can succeed at most any endeavor to which I set my mind.</td>
<td>4.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>31.8%</td>
<td>63.6%</td>
</tr>
<tr>
<td>I will be able to successfully overcome many challenges.</td>
<td>4.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>54.5%</td>
<td>40.9%</td>
</tr>
<tr>
<td>I am confident that I can perform effectively on many different tasks.</td>
<td>4.5%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>36.4%</td>
<td>59.1%</td>
</tr>
<tr>
<td>When compared to other people, I can do most tasks very well. (n=21)</td>
<td>0.0%</td>
<td>4.8%</td>
<td>4.8%</td>
<td>42.9%</td>
<td>47.6%</td>
</tr>
<tr>
<td>Even when things are tough, I can perform quite well.</td>
<td>0.0%</td>
<td>4.5%</td>
<td>0.0%</td>
<td>40.9%</td>
<td>54.5%</td>
</tr>
</tbody>
</table>

\(^a\) n=22
Table 6

**Collapsed Self-efficacy Results ofPersisters**

<table>
<thead>
<tr>
<th>Items on the New General Self-Efficacy Scale (Chen, Gully, &amp; Eden, 2001)(^a)</th>
<th>Percent of Respondents who Disagree, Strongly Disagree, or are Undecided</th>
<th>Percent of Respondents who Agree or Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will be able to achieve most of the goals I have set for myself.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>When facing difficult tasks, I am certain that I will accomplish them.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>In general, I think that I can obtain outcomes that are important to me.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>I believe I can succeed at most any endeavor to which I set my mind.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>I will be able to successfully overcome many challenges.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>I am confident that I can perform effectively on many different tasks.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
<tr>
<td>When compared to other people, I can do most tasks very well. (n = 21)</td>
<td>9.6%</td>
<td>90.5%</td>
</tr>
<tr>
<td>Even when things are tough, I can perform quite well.</td>
<td>4.5%</td>
<td>95.5%</td>
</tr>
</tbody>
</table>

\(^a\)n = 22

As part of the survey the participants were also asked to indicate the degree to which various aspects of the WSU elementary education program increased or decreased their teacher efficacy or whether it didn’t affect it at all. Table 8 displays the collapsed data to show the total percentages of persisters who felt the program elements either increased their teacher efficacy or didn’t increase their teacher efficacy. The data shows that the persistent participants generally claimed that all the program elements had a positive effect on their teacher efficacy. Table 7 shows the same data however the data is unpacked. While analyzing this data, it is particularly evident that the persisters feel strongly about the effect their student teaching experience had on
their teacher efficacy. Almost all of the respondents (90.9 percent) indicated that student teaching increased their teacher efficacy to some extent, and approximately 86 percent indicated that student teaching significantly increased their confidence. The respondents also highlighted three other elements of the WSU elementary education program as having increased their confidence in their teaching ability. These elements include fieldwork, the methods courses, and the college supervisor. Only a small percentage of participants indicated that some of the elements of the program had decreased their sense of teacher efficacy. In fact, no more than 9 percent of the participants indicated that any one element decreased confidence in their ability to teach.
Table 7

The Effect of Elements of the WSU Program on Teacher Efficacy According to Persisters

<table>
<thead>
<tr>
<th>WSU Program Elements(^a)</th>
<th>Significantly decreased confidence</th>
<th>Somewhat decreased confidence</th>
<th>Didn't affect confidence</th>
<th>Somewhat increased confidence</th>
<th>Significantly increased confidence</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fieldwork</td>
<td>4.5%</td>
<td>0.0%</td>
<td>4.5%</td>
<td>54.5%</td>
<td>36.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Methods courses</td>
<td>0.0%</td>
<td>0.0%</td>
<td>9.1%</td>
<td>77.3%</td>
<td>13.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student teaching</td>
<td>0.0%</td>
<td>4.5%</td>
<td>0.0%</td>
<td>4.5%</td>
<td>86.4%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Cooperating teacher</td>
<td>0.0%</td>
<td>4.5%</td>
<td>13.6%</td>
<td>13.6%</td>
<td>68.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>College supervisor</td>
<td>0.0%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>27.3%</td>
<td>63.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student teaching seminar</td>
<td>0.0%</td>
<td>4.5%</td>
<td>9.1%</td>
<td>27.3%</td>
<td>59.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>The clinical professor</td>
<td>4.5%</td>
<td>4.5%</td>
<td>13.6%</td>
<td>18.2%</td>
<td>45.5%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Friday workshops at the professional development schools</td>
<td>0.0%</td>
<td>0.0%</td>
<td>13.6%</td>
<td>36.4%</td>
<td>18.2%</td>
<td>31.8%</td>
</tr>
<tr>
<td>The support of other student teachers</td>
<td>4.5%</td>
<td>0.0%</td>
<td>9.1%</td>
<td>36.4%</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Working with the professional development schools</td>
<td>4.5%</td>
<td>0.0%</td>
<td>9.1%</td>
<td>31.8%</td>
<td>40.9%</td>
<td>13.6%</td>
</tr>
</tbody>
</table>

\(^a\)n=22
Table 8

**Collapsed Responses of Persisters About the Effect Elements of the WSU Program have on Teacher Efficacy**

<table>
<thead>
<tr>
<th>WSU Program Elements&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Percent of non-persisters who reported element significantly or somewhat decreased confidence or didn’t affect confidence</th>
<th>Percent of non-persisters who reported element significantly or somewhat increased confidence</th>
<th>Percent of non-persisters who chose N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fieldwork</strong></td>
<td>9.1%</td>
<td>90.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Methods courses</strong></td>
<td>9.1%</td>
<td>90.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Student teaching</strong></td>
<td>4.5%</td>
<td>90.9%</td>
<td>4.5%</td>
</tr>
<tr>
<td><strong>Cooperating teacher</strong></td>
<td>18.2%</td>
<td>81.8%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>College supervisor</strong></td>
<td>9.1%</td>
<td>90.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Student teaching seminar</strong></td>
<td>13.6%</td>
<td>86.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>The clinical professor</strong></td>
<td>22.7%</td>
<td>63.7%</td>
<td>13.6%</td>
</tr>
<tr>
<td><strong>Friday workshops at the professional development schools</strong></td>
<td>13.6%</td>
<td>54.6%</td>
<td>31.8%</td>
</tr>
<tr>
<td><strong>The support of other student teachers</strong></td>
<td>13.6%</td>
<td>86.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Working with the professional development schools</strong></td>
<td>13.6%</td>
<td>72.7%</td>
<td>13.6%</td>
</tr>
</tbody>
</table>

<sup>a</sup><sub>n = 22</sub>

After analyzing the survey results for participants who have persisted in the teaching profession, there is evidence to indicate that persisters who are graduates of the WSU elementary education program have high levels of teacher efficacy and self-efficacy and attribute their confidence to various elements of the WSU program. Specifically, the student teaching experience is an element of the program that almost all of the participants identified as having...
significantly increased their confidence in their teaching. Additionally, the methods courses, fieldwork, and the college supervisor were identified as key factors in increasing teacher efficacy. The survey results indicate that, generally, persisters do not feel that any of the elements of the program decreased their teacher efficacy.

Survey results of non-persisters. Characteristics of the non-persistent survey respondents were similar to those of persisters. The non-persisters were primarily female (91.7 percent), and between the ages of twenty-six and thirty (41.7 percent). None were between twenty and twenty-five, and 58.3 percent were more than 30 years old (see Table 9).

Table 9

* Ages of Non-Persisters

<table>
<thead>
<tr>
<th>Age*</th>
<th>Percent of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-25</td>
<td>0.0%</td>
</tr>
<tr>
<td>26-30</td>
<td>41.7%</td>
</tr>
<tr>
<td>31-35</td>
<td>25.0%</td>
</tr>
<tr>
<td>36-40</td>
<td>8.3%</td>
</tr>
<tr>
<td>41-45</td>
<td>8.3%</td>
</tr>
<tr>
<td>Over 45</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

*n=12

Many of the participants graduated from the WSU elementary education program in 2007 (41.7 percent), with about 41.6 percent graduating before 2007 and 16.7 percent graduating in 2008 (See Table 10).
Table 10

*Year of Graduation of Non-Persisters*

<table>
<thead>
<tr>
<th>Age(^a)</th>
<th>Percent of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>8.3%</td>
</tr>
<tr>
<td>2004</td>
<td>8.3%</td>
</tr>
<tr>
<td>2005</td>
<td>8.3%</td>
</tr>
<tr>
<td>2006</td>
<td>16.7%</td>
</tr>
<tr>
<td>2007</td>
<td>41.7%</td>
</tr>
<tr>
<td>2008</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

\(^a\)n=12

Non-persisters responded positively to all of the items on the Woolfolk and Hoy (1990) Teacher Efficacy Scale. Table 11 reports the responses of non-persisters to the teacher efficacy scale. Table 12 depicts the collapsed data to show the percentages of non-persisters who either agreed or disagreed with each statement in the teacher efficacy scale. At least 83.3 percent of the respondents agreed to some degree on all the items on the teacher efficacy scale. Only six of the twelve items on the scale yielded any negative responses, and no more than 16.7 percent answered negatively on any of the items. This overwhelmingly positive reaction to all of the items on the scale indicates that the group of non-persisters, like the persisters, also has a very positive sense of teacher efficacy and has confidence in their own ability to teach.
### Table 11

**Teacher Efficacy Results of Non-Persisters**

<table>
<thead>
<tr>
<th>Items on the Woolfolk and Hoy (1990) Teacher Efficacy Scale&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Strongly disagree</th>
<th>Moderately disagree</th>
<th>Disagree slightly more than agree</th>
<th>Agree slightly more than disagree</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When a student does better than usual, many times it is because I exert a little extra effort.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>16.7%</td>
<td>66.7%</td>
<td>16.7%</td>
</tr>
<tr>
<td>I have enough training to deal with almost any learning problem.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>16.7%</td>
<td>25.0%</td>
<td>50.0%</td>
<td>8.3%</td>
</tr>
<tr>
<td>When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.3%</td>
<td>0.0%</td>
<td>25.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.3%</td>
<td>66.7%</td>
<td>25.0%</td>
</tr>
<tr>
<td>When I really try, I can get through to the most difficult students.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.3%</td>
<td>25.0%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>When the grades of my students improve it is usually because I found more effective approaches.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>16.7%</td>
<td>41.7%</td>
<td>41.7%</td>
</tr>
<tr>
<td>If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.3%</td>
<td>8.3%</td>
<td>50.0%</td>
<td>33.3%</td>
</tr>
</tbody>
</table>
If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.  

|        | 0.0% | 0.0% | 8.3% | 8.3% | 33.3% | 41.7% |

If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.  

|        | 0.0% | 0.0% | 0.0% | 16.7% | 33.3% | 50.0% |

If one of my students couldn’t do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.  

|        | 0.0% | 0.0% | 0.0% | 16.7% | 33.3% | 50.0% |

If I really try hard, I can get through to even the most difficult or unmotivated students.  

|        | 0.0% | 0.0% | 8.3% | 16.7% | 50.0% | 25.0% |

My teacher training program and/or experience has given me the necessary skills to be an effective teacher.  

|        | 0.0% | 0.0% | 0.0% | 0.0% | 33.3% | 66.7% |

\(n = 12\)
### Table 12

**Collapsed Teacher Efficacy Results of Non-Persisters**

<table>
<thead>
<tr>
<th>Items on the Woolfolk and Hoy (1990) Teacher Efficacy Scale&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Percent who Slightly to Strongly Disagree</th>
<th>Percent who Slightly to Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When a student does better than usual, many times it is because I exert a little extra effort.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>I have enough training to deal with almost any learning problem.</td>
<td>16.7%</td>
<td>83.3%</td>
</tr>
<tr>
<td>When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.</td>
<td>8.3%</td>
<td>91.7%</td>
</tr>
<tr>
<td>When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>When I really try, I can get through to the most difficult students.</td>
<td>8.3%</td>
<td>91.7%</td>
</tr>
<tr>
<td>When the grades of my students improve it is usually because I found more effective approaches.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that concept.</td>
<td>8.3%</td>
<td>91.7%</td>
</tr>
<tr>
<td>If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.</td>
<td>8.3%</td>
<td>91.7%</td>
</tr>
<tr>
<td>If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>If I really try hard, I can get through to even the most difficult or unmotivated students.</td>
<td>8.3%</td>
<td>91.7%</td>
</tr>
<tr>
<td>My teacher training program and/or experience has given me the necessary skills to be an effective teacher.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

<sup>a</sup>n = 12

Non-persisters also yielded positive results on the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001). Once again the respondents answered positively to almost all of the items on the self-efficacy scale (see Table 14 for collapsed results). Only one item, “I will be
able to achieve most of the goals I have set for myself,” produced any negative responses, with just 8.3 percent of the respondents disagreeing with the statement and 16.7 percent indicating that they are undecided about the statement (see Table 13). All of the other items in the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001), yielded 100 percent positive responses from the participants. This is an indication that the non-persisters have a strong sense of self-efficacy.

Table 13

*Self-efficacy Results of Non-Persisters*

<table>
<thead>
<tr>
<th>Items on the New General Self-Efficacy Scale (Chen, Gully, &amp; Eden, 2001)*a</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will be able to achieve most of the goals I have set for myself.</td>
<td>0.0%</td>
<td>8.3%</td>
<td>16.7%</td>
<td>41.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>When facing difficult tasks, I am certain that I will accomplish them.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>66.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>In general, I think that I can obtain outcomes that are important to me.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>58.3%</td>
<td>41.7%</td>
</tr>
<tr>
<td>I believe I can succeed at most any endeavor to which I set my mind.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>50.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>I will be able to successfully overcome many challenges.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>58.3%</td>
<td>41.7%</td>
</tr>
<tr>
<td>I am confident that I can perform effectively on many different tasks.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>50.0%</td>
<td>50.0%</td>
</tr>
<tr>
<td>When compared to other people, I can do most tasks very well.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>66.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Even when things are tough, I can perform quite well.</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>50.0%</td>
<td>50.0%</td>
</tr>
</tbody>
</table>

*a n = 12*
Table 14

Collapsed Self-Efficacy Results of Non-Persisters

<table>
<thead>
<tr>
<th>Items on the New General Self-Efficacy Scale (Chen, Gully, &amp; Eden, 2001)(^a)</th>
<th>Percent of Respondents who Disagree, Strongly Disagree, or are Undecided</th>
<th>Percent of Respondents who Agree or Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will be able to achieve most of the goals I have set for myself.</td>
<td>25.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td>When facing difficult tasks, I am certain that I will accomplish them.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>In general, I think that I can obtain outcomes that are important to me.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>I believe I can succeed at most any endeavor to which I set my mind.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>I will be able to successfully overcome many challenges.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>I am confident that I can perform effectively on many different tasks.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>When compared to other people, I can do most tasks very well.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Even when things are tough, I can perform quite well.</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

\(^a\)\(n = 12\)

Table 15 shows the degree to which non-persisters believe that the various elements of the WSU program affect teacher efficacy. According to the results of the survey, non-persisters felt that most aspects of the WSU elementary education program increased confidence in their teaching. At least 50 percent of the respondents indicated that their confidence in their teaching ability either somewhat increased or significantly increased as a result of each of the elements of the WSU elementary program (see Table 16 for collapsed results). Five elements of the program were highlighted by the participants as the most beneficial to their sense of teacher efficacy. At least 91.7 percent of the non-persistent respondents indicated that their confidence in their
teaching ability increased as a result of fieldwork, the methods courses, student teaching, the college supervisor, and the student teaching seminar.

Only one aspect of the program did not yield positive results according to the responses of non-persisters. Non-persisters did not feel that the Friday workshops at the professional development schools increased confidence in their teaching. Only 33.3 percent of these participants indicated that the Friday workshops increased confidence in their teaching. However, a third of the respondents chose “not applicable” as a response. This could be because a third of the non-persisters also did not participate in the Friday workshops because they did not student teach in a professional development school. It is important to note that this item on the survey did not result in any negative responses.

Table 15

*Responses of Non-Persisters About the Effect Elements of the WSU Program have on Teacher Efficacy*

<table>
<thead>
<tr>
<th>WSU Program Elements</th>
<th>Significantly decreased confidence</th>
<th>Somewhat decreased confidence</th>
<th>Didn't affect confidence</th>
<th>Somewhat increased confidence</th>
<th>Significantly increased confidence</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fieldwork</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>41.7%</td>
<td>58.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Methods courses</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>33.3%</td>
<td>66.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student teaching</td>
<td>8.3%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>91.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cooperating teacher</td>
<td>8.3%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>16.7%</td>
<td>66.7%</td>
<td>8.3%</td>
</tr>
<tr>
<td>College supervisor</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.3%</td>
<td>8.3%</td>
<td>83.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student teaching seminar</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.3%</td>
<td>41.7%</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>The clinical professor</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>8.3%</td>
<td>66.7%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Service</td>
<td>0.0%</td>
<td>0.0%</td>
<td>33.3%</td>
<td>16.7%</td>
<td>16.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Friday workshops at the professional development schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The support of other student teachers</td>
<td>0.0%</td>
<td>0.0%</td>
<td>16.7%</td>
<td>58.3%</td>
<td>25.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Working with the professional development schools</td>
<td>0.0%</td>
<td>8.3%</td>
<td>8.3%</td>
<td>16.7%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

\[ n = 12 \]
Table 16

Collapsed Responses of Non-Persisters About the Effect Elements of the WSU Program have on Teacher Efficacy

<table>
<thead>
<tr>
<th>WSU Program Elements(^a)</th>
<th>Percent of non-persisters who reported element significantly or somewhat decreased confidence or didn’t affect confidence</th>
<th>Percent of non-persisters who reported element significantly or somewhat increased confidence</th>
<th>Percent of non-persisters who chose N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fieldwork</td>
<td>0.0%</td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Methods courses</td>
<td>0.0%</td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student teaching</td>
<td>8.3%</td>
<td>91.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cooperating teacher</td>
<td>8.3%</td>
<td>83.4%</td>
<td>8.3%</td>
</tr>
<tr>
<td>College supervisor</td>
<td>8.3%</td>
<td>91.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student teaching seminar</td>
<td>8.3%</td>
<td>91.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>The clinical professor</td>
<td>0.0%</td>
<td>75.0%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Friday workshops at the professional development schools</td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
</tr>
<tr>
<td>The support of other student teachers</td>
<td>16.7%</td>
<td>83.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Working with the professional development schools</td>
<td>16.7%</td>
<td>50.0%</td>
<td>33.3%</td>
</tr>
</tbody>
</table>

\(^a\)n = 12

According to the survey results, non-persisters reported having high levels of teacher efficacy and self-efficacy. They also indicated that various aspects of the WSU program have contributed to a positive sense of teacher efficacy. In fact, these participants indicated that almost all the aspects of the WSU elementary education program either somewhat increased or significantly increased confidence in their teaching.
Comparison of the persisters and non-persisters. In order to compare the survey results of the persisters and non-persisters, a Fisher Exact Test was used to compare individual items in the survey. Comparisons were made on items on the Woolfolk and Hoy (1990) Teacher Efficacy Scale, the General Self-Efficacy Scale (Chen, Gully, & Eden, 2001), and survey items related to the effect WSU program elements have on teacher efficacy. After comparing the two groups by using a one-tailed Fisher Exact Test for each item, it was found that there was no significant difference between the two groups on any of the items (p < 0.05; see Tables 17, 18, and 19). This noteworthy lack of a statistical difference between the two groups indicates that both groups possess a similar, positive sense of self-efficacy and teacher efficacy and that both groups attribute elements of the WSU elementary education program to their positive sense of teacher efficacy. Additionally, there is agreement between the groups about which aspects of the WSU program increase teacher efficacy. These results may signify that the WSU elementary education program may in fact increase self-efficacy and teacher efficacy in its pre-service teachers and that graduates of the program maintain this positive sense of teacher efficacy and self-efficacy as they move into their first years of teaching.
Table 17

*Fisher Exact Test Comparison of Responses on the Woolfolk & Hoy (1990) Teacher Efficacy Scale*

<table>
<thead>
<tr>
<th>Item</th>
<th>%Persisters vs. Non-Persisters Agree</th>
<th>%Persisters vs. Non-Persisters Disagree</th>
<th>Fisher Exact Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1: When a student does better than usual, many times it is because I exert a little extra effort</td>
<td>19 (86%) vs. 12 (100%)</td>
<td>3 (14%) vs. 0 (0%)</td>
<td>p = 0.26</td>
</tr>
<tr>
<td>Item 2: I have enough training to deal with almost any learning problem.</td>
<td>17 (77.3%) vs. 10 (83.3%)</td>
<td>5 (22.7%) vs 2 (16.7%)</td>
<td>p = 0.52</td>
</tr>
<tr>
<td>Item 3: When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.</td>
<td>22 (100.0%) vs. 11 (91.7%)</td>
<td>0 (0.0%) vs 1 (8.3%)</td>
<td>p = 0.35</td>
</tr>
<tr>
<td>Item 4: When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.</td>
<td>22 (100.0%) vs. 12 (100.0%)</td>
<td>0 (0.0%) vs 0 (0.0%)</td>
<td>p = 1.0</td>
</tr>
<tr>
<td>Item 5: When I really try, I can get through to the most difficult students.</td>
<td>22 (100.0%) vs. 11 (91.7%)</td>
<td>0 (0.0%) vs 1 (8.3%)</td>
<td>p = 0.35</td>
</tr>
<tr>
<td>Item 6: When the grades of my students improve it is usually because I found more effective approaches.</td>
<td>22 (100.0%) vs 12 (100.0%)</td>
<td>0 (0.0%) vs 0 (0.0%)</td>
<td>p = 1.0</td>
</tr>
<tr>
<td>Item 7: If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching</td>
<td>21 (95.5%) vs. 11 (91.7%)</td>
<td>1 (4.5%) vs 1 (8.3%)</td>
<td>p = 0.59</td>
</tr>
</tbody>
</table>
that concept.

<table>
<thead>
<tr>
<th>Item 8: If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.</th>
<th>21 (95.5%) vs. 10 (90.9%)</th>
<th>1 (4.5%) vs. 1 (9.1%)</th>
<th>p = 0.56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 9: If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.</td>
<td>22 (100.0%) vs. 12 (100.0%)</td>
<td>0 (0.0%) vs. 0 (0.0%)</td>
<td>p = 1.0</td>
</tr>
<tr>
<td>Item 10: If one of my students couldn’t do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.</td>
<td>22 (100.0%) vs. 12 (100.0%)</td>
<td>0 (0.0%) vs. 0 (0.0%)</td>
<td>p = 1.0</td>
</tr>
<tr>
<td>Item 11: If I really try hard, I can get through to even the most difficult or unmotivated students.</td>
<td>22 (100.0%) vs. 11 (91.7%)</td>
<td>0 (0.0%) vs. 1 (8.3%)</td>
<td>p = 0.35</td>
</tr>
<tr>
<td>Item 12: My teacher training program and/or experience has given me the necessary skills to be an effective teacher.</td>
<td>20 (90.9%) vs. 12 (100.0%)</td>
<td>2 (9.1%) vs. 0 (0.0%)</td>
<td>p = 0.41</td>
</tr>
</tbody>
</table>
Table 18

*Fisher Exact Test Comparison of Responses on the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001)*

<table>
<thead>
<tr>
<th>Item</th>
<th>% Persisters vs. Non-Persisters Agree</th>
<th>% Persisters vs. Non-Persisters Disagree</th>
<th>Fisher Exact Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item 1:</strong> I will be able to achieve most of the goals I have set for myself.</td>
<td>21 (95.5%) vs. 9 (75.0%)</td>
<td>1 (4.5%) vs. 3 (25.0%)</td>
<td>p = 0.12</td>
</tr>
<tr>
<td><strong>Item 2:</strong> When facing difficult tasks, I am certain that I will accomplish them.</td>
<td>21 (95.5%) vs. 12 (100.0%)</td>
<td>1 (4.5%) vs 0 (0.0%)</td>
<td>p = 0.65</td>
</tr>
<tr>
<td><strong>Item 3:</strong> In general, I think that I can obtain outcomes that are important to me.</td>
<td>21 (95.5%) vs. 12 (100.0%)</td>
<td>1 (4.5%) vs 0 (0.0%)</td>
<td>p = 0.65</td>
</tr>
<tr>
<td><strong>Item 4:</strong> I believe I can succeed at most any endeavor to which I set my mind.</td>
<td>21 (95.5%) vs. 12 (100.0%)</td>
<td>1 (4.5%) vs 0 (0.0%)</td>
<td>p = 0.65</td>
</tr>
<tr>
<td><strong>Item 5:</strong> I will be able to successfully overcome many challenges.</td>
<td>21 (95.5%) vs. 12 (100.0%)</td>
<td>1 (4.5%) vs 0 (0.0%)</td>
<td>p = 0.65</td>
</tr>
<tr>
<td><strong>Item 6:</strong> I am confident that I can perform effectively on many different tasks.</td>
<td>21 (95.5%) vs. 12 (100.0%)</td>
<td>1 (4.5%) vs 0 (0.0%)</td>
<td>p = 0.65</td>
</tr>
<tr>
<td><strong>Item 7:</strong> When compared to other people, I can do most tasks very well.</td>
<td>19 (90.5%) vs. 12 (100.0%)</td>
<td>2 (9.5%) vs 0 (0.0%)</td>
<td>p = 0.39</td>
</tr>
<tr>
<td><strong>Item 8:</strong> Even when things are tough, I can perform quite well.</td>
<td>21 (95.5%) vs. 12 (100.0%)</td>
<td>1 (4.5%) vs 0 (0.0%)</td>
<td>p = 0.65</td>
</tr>
</tbody>
</table>

Table 19
Fisher Exact Test Comparisons on Survey Items Related to the Effect WSU Program Elements Have on Teacher Efficacy

<table>
<thead>
<tr>
<th>Item</th>
<th>%Persisters vs. Non-Persisters</th>
<th>%Persisters vs. Non-Persisters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increased Teacher-Efficacy</td>
<td>Did Not Increase Teacher-Efficacy</td>
</tr>
<tr>
<td>Fieldwork</td>
<td>20 (90.9%) vs. 12 (100.0%)</td>
<td>2 (9.1%) vs. 0 (0.0%)</td>
</tr>
<tr>
<td>Methods courses</td>
<td>20 (90.9%) vs. 12 (100.0%)</td>
<td>2 (9.1%) vs. 0 (0.0%)</td>
</tr>
<tr>
<td>Student teaching</td>
<td>20 (95.2%) vs. 11 (91.7%)</td>
<td>1 (4.8%) vs 1 (8.3%)</td>
</tr>
<tr>
<td>Cooperating teacher</td>
<td>18 (81.8%) vs. 10 (90.9%)</td>
<td>4 (18.2%) vs 1 (9.1%)</td>
</tr>
<tr>
<td>College supervisor</td>
<td>20 (90.9%) vs. 11 (91.7%)</td>
<td>2 (9.1%) vs 1 (8.3%)</td>
</tr>
<tr>
<td>Student teaching seminar</td>
<td>19 (86.4%) vs. 11 (91.7%)</td>
<td>3 (13.6%) vs 1 (8.3%)</td>
</tr>
<tr>
<td>The clinical professor</td>
<td>14 (73.7%) vs. 9 (100.0%)</td>
<td>5 (26.3%) vs 0 (0.0%)</td>
</tr>
<tr>
<td>Friday workshops at the professional</td>
<td>12 (80.0%) vs. 4 (50.0%)</td>
<td>3 (20.0%) vs 4 (50.0%)</td>
</tr>
<tr>
<td>development schools</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The support of other student teachers</td>
<td>19 (86.4%) vs. 10 (83.3%)</td>
<td>3 (13.6%) vs. 2 (16.7%)</td>
</tr>
<tr>
<td>Working with the professional development schools</td>
<td>16 (84.2) vs. 6 (75.0%)</td>
<td>3 (15.8%) vs. 2 (25.0%)</td>
</tr>
</tbody>
</table>

Note: Respondents who responded with “not applicable” are not included in this table.

The consistency of the results for both groups of graduates provides support for the notion that the various elements of the WSU elementary education program increase self-efficacy and teacher efficacy in its pre-service teachers, even for non-persisters. All the participants had high levels of teacher efficacy and self-efficacy. Although the group of non-persisters has left the profession for some reason, even they maintain high levels of teacher efficacy and self-efficacy and indicate that various elements of the WSU program increased their teacher efficacy. If the program increased their teacher efficacy, and these participants feel confident in their ability to teach, were self-efficacy and teacher efficacy factors in their decision to leave the profession? This question will be explored in the subsequent sections of this chapter.

**Focus group and interview results.** The focus group and interview sessions revealed significant details about the participants’ perspectives regarding how the WSU elementary education program affected their self-efficacy and teacher efficacy. All of the participants, even the non-persisters, indicated that their self-efficacy and teacher efficacy increased while they were enrolled in the WSU program. Many of the participants discussed how the program helped increase their teacher efficacy through numerous practical experiences, collaborative opportunities, and learning experiences. The participants clearly expressed their belief that they gained a great deal of confidence in their teaching ability throughout the program. One comment that expresses such an opinion was made by a graduate who isn’t currently teaching who said, “I thought that toward the end, I felt much more confident with my abilities to teach.” Another graduate who is currently teaching said, “I learned so much I was comfortable when I started
teaching.” The participants also indicated that not only did their teacher efficacy increase, but their self-efficacy did as well. More than one participant described a progression of being shy or reserved when they entered the WSU elementary education program and becoming confident and secure by the end of the program. One of these graduates stated that she grew “not only as an educator but as a person as well.” Another explained the effect the program had on her self-efficacy, “It helped me with my confidence. I never spoke up. I was very quiet. I just sat there. When I was in school, I just sat there and never said anything, and now I can talk in front of a crowd and everything, public speaking-wise. So, I think it has helped me.”

*Common themes of persisters and non-persisters.* A number of themes related to teacher efficacy and self-efficacy emerged during the focus group and interview sessions. The participants attributed an increase in self-efficacy and teacher efficacy to the WSU elementary program for many reasons. According to the eleven participants interviewed, the positive effect the WSU elementary education program had on their self-efficacy and teacher efficacy was the result of being supported throughout the program, being able to collaborate with others, training within the PDS, and feeling that they were well-prepared when compared to students in other teacher preparation programs. Throughout the analysis of the survey and interview data the following themes were apparent:

1. The importance of feeling prepared
2. Comparisons to others
3. The value of feeling supported
4. The importance of collaboration
5. The effect of the PDS
The importance of feeling prepared. As pre-service teachers enter the workforce they are faced with many challenges including implementing a vast curriculum, working with colleagues and administration, knowing how and when to use certain instructional techniques, etc. Teacher preparation programs have the power to help new teachers to feel prepared for these challenges. The participants in this study from the WSU elementary education program indicated that not only did they feel prepared as they entered the teacher workforce, but that their feelings of preparedness contributed to positive self-efficacy and teacher efficacy. Nine of the eleven participants, all of the non-persisters and five of the seven persisters, connected their feelings of preparedness to their self-efficacy and teacher efficacy. The participants discussed feeling a general sense of preparedness to teach at a variety of grade levels and feeling prepared for other aspects of teaching as well. There was a large emphasis on the methods courses that are part of the WSU elementary program and how those courses contributed to the participants’ sense of preparedness and confidence in their teaching ability.

Persisters claimed that the WSU program prepared them directly for many of the challenges they face in their current teaching situations and that they felt confident because they felt prepared. One of the participants who is currently teaching second grade explained how he felt when he started his first teaching job, “I thought I have all this information from Worcester State. I should be able to do a good job.” He was confident that he had learned what he needed at WSU to perform well in his first teaching position. Another graduate who is currently teaching expressed similar ideas about the program. She said, “I think I was prepared as much as any college could have prepared me.” Because these graduates felt prepared, they were able to enter the workforce with a high level of confidence in their ability to teach.
Surprisingly, all of the participants who had not persisted in the teaching profession felt as though the WSU program prepared them to teach as well. These participants claimed to have felt prepared at the end of their teacher preparation program. Those who taught for some time maintain that they felt well prepared for most aspects of teaching, although one participant did explain that she was not prepared to deal with behavioral issues. It is important to note that this participant initially got a job in a school for behaviorally challenged students. She explains her thoughts about her level of preparedness as she entered the workforce, “I went out and taught in a behavioral school, and I was like, ‘Oh my God.’ I was prepared to educate. I wasn’t prepared to deal with the behaviors that were thrown at me.” This graduate did feel like she was prepared to teach, but was unprepared for the unique position she was in her first year of teaching. Another graduate who has not yet obtained a teaching position reflects on the confidence he felt during his student teaching experience,

I knew what I was talking about and confidently expressed those opinions or information. Not to be an egomaniac, but I was like, ‘Man, I know this.’ That’s a great feeling and to see that little light go off in their heads knowing that you have done your job is an even larger part of it. Then, you are totally confident and you can do it again.

The participants who have not persisted in the teaching profession are able to connect their level of preparedness to feeling confident in their teaching.

One idea that was mentioned by a number of participants was that the WSU elementary education program prepared them to teach at a variety of grade levels. According to the participants, this was vital to feeling confident as a new teacher because new teachers are often placed in positions that are not optimal or not their first choice. Many of the participants discussed teaching in a grade level that they wouldn’t have chosen for themselves as they entered
the workforce, thus the importance of feeling prepared and confident to teach any grade at the elementary level. The participants claimed to have felt confident no matter what grade they ended up teaching. For example one participant described her experience teaching a number of grade levels within her first three years of teaching,

I taught sixth grade, first grade, and now fourth grade, and every time I switched whether I switched from sixth grade in the middle of the year to a first grade room and then after a couple of years to a fourth grade, I felt confident on day one walking in the door knowing what I was going to be teaching at each grade level because we were forced to do some hours in both.

This participant was confident in her teaching ability at all grade levels because at WSU she was required to complete pre-practicum and practicum hours in a range of grade levels. Her preparation was directly related to her confidence and teacher efficacy. Other participants felt the same. One of the graduates who had taught as a long-term substitute but has since been struggling to find a teaching position felt that she was prepared to teach at any level,

Having to see a lot of different grade levels was good because I mean I was comfortable with [grades] four, five, and six, and I took a long term sub position in kindergarten. You know there was the nervousness but I walked in knowing what to do.

Others who have been teaching also expressed similar feelings. One such participant said,

I think what made me feel really confident was learning generally speaking what each age of children need to know. That way no matter what grade you got your job in you had some general idea. I think we learned a lot of that here with every single subject.

Another discussed her feelings about searching for teaching positions at any grade level, “I sort of thought, ‘Anything is fine. I’ll do it. I’ll be able to do it because I’ve seen it all and I’ve been
These feelings of preparation and confidence were beneficial to these graduates as they stepped into the workforce and were faced with the possibility of obtaining a teaching position in any of the elementary grades.

The participants also attributed the WSU methods courses to feeling prepared to teach the various content areas. One of the participants explains that taking the methods courses was a turning point for her. She was not very confident before taking these courses, and was even a bit afraid of working with elementary students for the first time. She explained her progression from being scared initially to discovering that she was knowledgeable,

They push you to do things you are scared of and don’t give you that choice, like even taking the methods classes, you know, some of us were thinking to ourselves, “What? I have to work with the kids?” But that was really the difference between feeling like you went in knowing what you were doing when you got out there to teach.

This participant felt that the methods courses gave her the confidence she needed to become a teacher. The methods courses seemed to give other participants the opportunity to build their confidence as well. One graduate said, “The methods courses taught me a lot so I was very confident going in and teaching these kids what they needed to know.” Another participant talked specifically about the math methods course, “I used a lot of the stuff I learned from the math methods class when I was actually just doing math with the students. I think whatever I learned made me secure.” The participants discussed learning useful content in the methods courses and getting practical experience as part of these courses as well, which both led to them feeling prepared to teach and increased their confidence levels.

The participants of this study felt that the WSU program prepared them to teach and educate children, but they also claimed that the program prepared them in other ways. The
participants felt prepared to engage in intelligent conversations about education. As one teacher stated,

I was able to have a conversation with the people who were interviewing me, principals, vice-principals, teachers, and have a conversation that was intelligent and use teacher jargon, and I learned that and I felt more comfortable being fluent in it from my student teaching experience.

Another former student commented on how the program helped her to face her performance evaluation with more confidence due to her experiences in the WSU program. In her words, she said,

I think the observations while I was student teaching by my supervisor are very similar to the observations we are going through as teachers now with our principals, and I think that helped me feel more confident and more comfortable not being observed to get a written report but to be observed to get useful feedback.

Another graduate explained that the rigors of the program prepared her to manage her time appropriately. She stated,

I have such better time management because Worcester State required so much of me that I was forced to create a good sense of time management from the start. And that’s really what has made me have an effective use of my time as a teacher.

In their own words, the WSU program prepared these graduates to manage the responsibilities of teaching, feeling confident in their ability to teach and therefore were more able to face the challenges of teaching.
Overall, the participants, both persisters and non-persisters, felt that the WSU program prepared them for the many challenges of teaching and seemed to make a connection between how well prepared they felt and their self-efficacy and teacher efficacy (See Table 20).

Table 20

Quotes Related to the Importance of Feeling Prepared

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>• I thought I have all this information from Worcester State. I should be able to do a good job.</td>
<td>• I went out and taught in a behavioral school, and I was like, ‘Oh my God.’ I was prepared to educate. I wasn’t prepared to deal with the behaviors that were thrown at me… At that point, I felt like I was a bad teacher.</td>
</tr>
<tr>
<td>• I taught sixth grade, first grade, and now fourth grade, and every time I switched whether I switched from sixth grade in the middle of the year to a first grade room and then after a couple of years to a fourth grade, I felt confident on day one walking in the door knowing what I was going to be teaching each grade level because we were forced to do some hours in both.</td>
<td>• I think Worcester State did a good job at actually teaching how to go out there and work with students. I think my confidence wasn’t the highest but I wasn’t totally scared to go out and do something.</td>
</tr>
<tr>
<td>• I think I was prepared as much as any college could have prepared me.</td>
<td>• I knew what I was talking about and confidently expressed those opinions or information. Not to be an egomaniac, but I was like, ‘Man, I know this.’ That’s a great feeling and to see that little light go off in their heads knowing that you have done your job is an even larger part of it. Then, you are totally confident and you can do it again.</td>
</tr>
<tr>
<td>• I think what made me feel really confident was learning generally speaking what each age of children need to know. That way no matter what grade you got your job in you had some general idea. I think we learned a lot of that here with every single subject.</td>
<td>• Having to see a lot of different grade levels was good because I mean I was comfortable with [grades] four, five, and six, and I took a long-term sub position in kindergarten. You know there was the nervousness but I walked in knowing what to do.</td>
</tr>
<tr>
<td>• I sort of thought, ‘anything is fine. I’ll do it. I’ll be able to do it because I’ve seen it all and I’ve been a part of all of it.</td>
<td>• They push you to do things you are scared of and don’t give you that choice, like even taking the methods classes, you know, some of us were thinking to ourselves, ‘What? I have to work with the kids?’ But that was really the difference between feeling like you went in knowing what you were doing when you got out there to teach.</td>
</tr>
<tr>
<td>• I was able to have a conversation with the people who were interviewing me, principals, vice-principals, teachers, and have a conversation that was intelligent and use teacher jargon and I learned that and I felt more comfortable being fluent in it from my student teaching experience.</td>
<td>• I think the observations while I was student teaching by my supervisor is very similar to</td>
</tr>
</tbody>
</table>
the observations we are going through as teachers now with our principals, and I think that helped me feel more confident and more comfortable not being observed to get a written report but to be observed to get useful feedback.

- I have such better time management because Worcester State required so much of me that I was forced to create a good sense of time management from the start. And that’s really what has made me have an effective use of my time as a teacher.

- The methods courses taught me a lot so I was very confident going in and teaching these kids what they needed to know.

- I used a lot of the stuff I learned from the math methods class when I was actually just doing math with the students. I think whatever I learned made me secure.

**Comparisons to others.** The participants of this study stated that that they gained a positive sense of self-efficacy and teacher efficacy when comparing themselves to others. In one of the focus groups and some of the interview sessions, the participants discussed the fact that they felt like they had experienced a more rigorous and thorough teacher preparation program than graduates of other teacher preparation programs at other universities. This idea that the WSU program is more rigorous than other programs may or may not be valid, but the participants believed so and used that opinion to bolster their self-efficacy and teacher efficacy. Seven of the participants made comparisons between the WSU program and other teacher preparation programs.

The participants of this study often compared their own experiences at WSU to those of their friends and colleagues at other universities. Overall the participants felt that the requirements in the WSU program were more strenuous than at other programs, trained them better for the realities of teaching, and prepared them more for the MTEL (Massachusetts Test for Educator Licensure). The participants explained that their self-efficacy and teacher efficacy increased because they felt like they were doing more than other students who were also preparing to become teachers. They felt they had worked harder and had experienced more real-
world teaching scenarios than their counterparts at other universities. One participant felt strongly about this idea, she claimed, “I felt really confident because compared to some of my friends who went elsewhere, I always felt like I was doing more than them, which made me feel better.” The same participant referred to the amount of pre-practicum work that she did at WSU in comparison to her friends at other schools,

I actually did feel more confident when I was observing and my friends had never stepped foot in a classroom and it was their third year and I had already been in a classroom for, what, like, 50-something hours by then. You know, I definitely felt more confident and I was helping them with their work.

Similarly, another participant felt that the type of pre-practicum work that she experienced at WSU was superior to students at other universities,

People I know that went through other programs and went into the classroom, their only seeing one school or one grade level or one teaching style and Worcester State really encouraged you to go into all different grade levels at a variety of different schools within the city and within the suburbs and a lot of different teachers even within a building and you saw a lot of wide ranging teaching styles.

Other participants mentioned feeling more prepared to take the MTEL than their counterparts at other universities,

I tutor now for some of the MTEL’s and a lot the people I see who are taking the MTEL’s have no clue and have not been prepared as well as I was and I tell them that all the time that I feel very lucky to have the experience I did from WSU.

Another participant felt the same,
I felt like I was really prepared to take the MTEL’s from the classes that I took here. I know many people from other schools who did not pass them and felt like they never had any information that would help them learn unless they took an MTEL prep class. Most of us at Worcester State did not take an MTEL prep course. We passed it on the first try, and I think it can be attributed to the education that we got here.

There was one participant who had transferred from another college and had first-hand experience in another teacher preparation program to use as a comparison. She actually considered leaving the teaching profession while she was a part of the teacher preparation program at this other college. Her ideas about teaching changed however when she transferred to WSU. In her interview, she stated,

I think my self efficacy and teacher efficacy increased. I didn’t start the program here. I started at [another college] and I hated that school. So, I transferred here and I think they did a better job here at boosting my confidence than at [the other college]. I was there for two years that I didn’t like. I had only taken a few education classes [there], but I was like I don’t think I want to be a teacher anymore, but when I came here, the professors were more open and I felt like you could talk to them and they would help you through whatever.

Her confidence increased as a result of her move to the WSU elementary education program and the support she received once she arrived.

The participants of this study indicate that their self-efficacy and teacher efficacy increased while they were in the WSU program because when they compare themselves to their counterparts in other teacher preparation programs, they feel better prepared and more rigorously trained. Both the persisters and non-persisters compared themselves to others and as a result had
increased levels of self-efficacy and teacher efficacy (See Table 21). The participants claimed that the WSU program more thoroughly prepared them to teach a variety of grade levels and to face the challenges of teaching, and many of the participants attributed this to an increase in self-efficacy and teacher efficacy.

Table 21

*Quotes Related to Comparisons to Others*

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>• I felt really confident because compared to some of my friends who went elsewhere, I always felt like I was doing more than them, which made me feel better.</td>
<td>• I tutor now for some of the MTEL’s and a lot the people I see who are taking the MTEL’s have no clue and have not been prepared as well as I was and I tell them that all the time that I feel very lucky to have the experience I did from WSU.</td>
</tr>
<tr>
<td>• I actually did feel more confident when I was observing and my friends had never stepped foot in a classroom and it was their third year and I had already been in a classroom for, what, like, 50-something hours by then. You know, I definitely felt more confident and I was helping them with their work.</td>
<td>• I think my self efficacy and teacher efficacy increased. I didn’t start the program here. I started at [another college] and I hated that school. So, I transferred here and I think they did a better job here at boosting my confidence than at [the other college]. I was there for two years that I didn’t like. I had only taken a few education classes [there], but I was like I don’t think I want to be a teacher anymore, but when I came here, the professors were more open and I felt like you could talk to them and they would help you through whatever.</td>
</tr>
<tr>
<td>• People I know that went through other programs and went into the classroom, their only seeing one school or one grade level or one teaching style and Worcester State really encouraged you to go into all different grade levels at a variety of different schools within the city and within the suburbs and a lot of different teachers even within a building and you saw a lot of wide ranging teaching styles.</td>
<td>• I got a pretty good deal of confidence during my student teaching because I had a really difficult school and a difficult classroom compared to everyone else and I felt like and many people said to me, ‘If you can handle that, you’re golden, you’re set.”</td>
</tr>
<tr>
<td>• I felt like I was really prepared to take the MTEL’s from the classes that I took here. I know many people from other schools who did not pass them and felt like they never had any information that would help them learn unless they took an MTEL prep class. Most of us at Worcester State did not take an MTEL prep course. We passed it on the first try, and I think it can be attributed to</td>
<td></td>
</tr>
</tbody>
</table>
the education that we got here.

- I think the seminar was really beneficial...just being able to compare to other people. I think that was really helpful.
- I know some of my friends and some of my co-workers, who have taught far longer than me, who had their grades switched around recently had no clue what the difference was between fourth grade and second grade, for example. And I was like oh, this is what they are learning now and they just had no idea. I really felt like I knew the frameworks really well from our classes, and I appreciate that now.
- One thing that I thought was particularly beneficial was that almost every class required observation or teaching hours as opposed to some programs, which didn’t. So some of my friends had far less experience and knowledge than I feel like I did or any of my friends from WSU did. I felt like I was better prepared because of that.
- It helped to know that other people at that time were having the same struggles and the same second guessing that I was having so I didn’t feel like I was alone in being like, ‘Oh my God, I am ruining these children.” So, I think it was nice. That helped with my self-esteem because I knew I wasn’t the only one.
- In seminar, we could come in and vent for the first twenty minutes of it. It helps to know that you’re not the only one experiencing it, and whatever we were having issues with, we were able to talk it out and get suggestions for.
- I realize that it’s not just me that gets frustrated or it’s not just me that has the kids who can be a pain sometimes. So, that helps me to push through it to know that others see the same thing.
The value of feeling supported. Throughout the focus group and interview sessions it was clear that both graduates who had persisted in the profession and graduates who had not, felt that there was a lot of support from professors, education department staffers, teachers in the community, and other education students throughout the program (see Table 22). The participants connected this support to their self-efficacy and teacher efficacy. Because there was always someone to go to within the program that could help or offer support, the participants felt like they couldn’t fail. One of the participants who is currently teaching explained,

I think that Worcester State doesn’t really let you fall behind or fail so you knew you were going to get the support you needed if it came to that. So, you were self-driven and you did your best but if that didn’t work then there was going to be somebody there to catch you. So, I don’t know, I just think that that was just a comforting sort of option to have.

The participants indicated that they felt as though they had a group of people at WSU that acted as a security net to pick them up when they needed help. Nine of the eleven participants connected this kind of support to their feelings of self-efficacy and teacher efficacy.

The participants in this study mentioned three groups of people they received support from throughout the program. First, the participants connected the support from the professors with increased self-efficacy and teacher efficacy. Most of what the participants said about the professors is related to feeling that the professors were always available to help and made their students feel as if they would support them even as they struggled. One participant who has been teaching for four years reflected on her experiences with the WSU program,
I knew if I didn’t understand something or if I needed clarification or even if something was due and I was struggling, I could always get help and I never felt that I needed to just push through…I always felt that I could go to someone and get clarification for it.

Another group that the participants felt supported by was the teachers in the community who they worked with during their pre-practica or student teaching experience. One of the participants who left the profession spoke of the most beneficial aspect to her, “The best things about the program that would help with that were the people… the professors and the teachers out in the community.” Another participant who did not persist in the profession discussed how the support she received from her cooperating teacher was connected to her self-efficacy, “I loved the teacher I had [in student teaching] and she helped me through a lot. So, I feel if you have someone good to work with one on one, my confidence got boosted.”

Lastly, the participants gained a lot of support from other students in the WSU program. The program is designed to offer many opportunities for the students in the program to work together and offer one another support either through group work done as part of a course, during the seminar class, or during the Friday workshops that are part of the PDS student teaching experience. This kind of support allowed the participants to feel as though they could make mistakes and they could get help from their classmates. The participants claim that having such a support system in place increased their self-efficacy while they were enrolled in the program. This idea was expressed by one of the non-persisters. He said, “Having support from other people even other students that I was with made me feel like okay I can mess up but I can still go back and do that now because I got help from other people.”

According to the participants of this study, the WSU elementary program provides considerable support to the pre-service teachers from the professors, the teachers in the
community, and other students while they were in the program. Because of this support, the participants felt that they were able to practice teaching and learn about teaching without feeling like they were going to fail. They felt that they had people that they could go to for help if necessary.

Table 22

Quotes Related to the Value of Feeling Supported

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>• I think that Worcester State doesn’t really let you fall behind or fail so you knew you were going to get the support you needed if it came to that. So, you were self-driven and you did your best but if that didn’t work then there was going to be somebody there to catch you. So, I don’t know, I just think that that was just a comforting sort of option to have.</td>
<td>• The best things about the program that would help with that were the people… the professors and the teachers out in the community.</td>
</tr>
<tr>
<td>• I knew if I didn’t understand something or if I needed clarification or even if something was due and I was struggling, I could always get help and I never felt that I needed to just push through…I always felt that I could go to someone and get clarification for it.</td>
<td>• I loved the teacher I had [in student teaching] and she helped me through a lot. So, I feel if you have someone good to work with one on one, my confidence got boosted.</td>
</tr>
<tr>
<td>• A strength of the program is being able to sit down with anyone in the offices and you could go and ask them questions and they are always willing to help you.</td>
<td>• Having support from other people even other students that I was with made me feel like okay I can mess up but I can still go back and do that now because I got help from other people.</td>
</tr>
<tr>
<td>• The cooperating teacher… They were always there whether it was you needed help or good job. That really sticks out in my head, the student teaching experience.</td>
<td>• After student teaching, we spent a half hour with someone in the office going through the paperwork and things. I think that aspect, the above and beyond from the administration aspect I think was pretty cool.</td>
</tr>
<tr>
<td>• I feel like it gave me resources and people I could go to ask for help. If I ever needed help I had mostly other teachers…I feel like even the professors I could go back and ask them.</td>
<td>• There was tons of encouragement while being here as a student.</td>
</tr>
<tr>
<td>• My point is that I really feed off of positive energy and with Worcester State I always</td>
<td>• The professors were more open and I felt like you could talk to them and they would help you through whatever.</td>
</tr>
</tbody>
</table>
had people who worked with me positively.

- Well, I came back to WSU. I could have gone to a different school. I knew all the teachers and people I could go to for help. That’s where I got all the support for the teacher’s test. Even people that had never had me before, they were great. I can’t say enough good things.
- We would walk in and say, “Oh this day was so bad and I can’t do this. I’m never going to be a teacher.” But everyone else felt that way, and the clinical professor said, “It’ll be fine.” It was just supportive.

*The importance of collaboration.* According to the participants of this study, being able to collaborate with fellow students throughout a teacher preparation program was a key factor in increasing self-efficacy and teacher efficacy. Collaboration, according to the participants, gave pre-service teachers the opportunity to share ideas, to lean on one another for support, and to reflect together about what techniques work and don’t work. This collaboration that is embedded in the WSU program helps students to feel more confident in themselves and their abilities to teach. Eight of the eleven participants talked about collaborating with other students as part of the methods courses, in seminar class, and during the Friday workshops in the PDS. Six of the participants who linked collaboration to their sense of self-efficacy and teacher efficacy were persisters and two of the participants who discussed collaboration were non-persisters.

The most discussed element of the WSU program that provided opportunities for pre-service teachers to collaborate was the methods courses. During the methods courses students often worked in groups to design and implement lessons in classrooms within the PDS. The graduates remembered learning a concept in class, designing a lesson based on that concept, implementing it in an elementary classroom as a group, and then reflecting on the lesson together.
The participants identified this kind of collaboration as a vital part of the program and an element of the program that increased their self-efficacy and teacher efficacy. The group work that they were a part of in the methods courses seemed to make the participants feel like they had support from their classmates and gave them an avenue through which to share ideas, problem solve, and think critically about their own teaching. The collaboration that takes place leads to increased confidence, according to the participants. One of the participants who is currently teaching described this process,

I think that some of that confidence comes from the methods classes when we were in the schools and working with a group. I remember working with my group in science at [one of the PDS’s] and feeling like today was a really off day for me, but I know you have my back, and next week I will be able to do this because I am more confident with this unit and they’ll chime in and we can kind of debrief after and talk about what worked and what didn't and what do we need to change so that we all do a better job next time.

The support this participant received from her group members in her methods class allowed her realize when she was struggling and to talk about it with others. She felt supported by her classmates, which in turn increased her confidence in her teaching. Another participant who did not persist in the profession repeats this same idea,

I think the fieldwork in the methods courses kind of boosted it [self-efficacy] not because it always worked but because you were always able to bounce ideas back and forth about how it should have worked and ways in which it could have worked better, could have been presented better, which in turn I think at least gives you the confidence to go back and do it again.
Again, this participant felt that he gained suggestions and support from his classmates during the methods classes that gave him confidence to fail and then still go on and teach again.

The seminar class that accompanies student teaching was another element of the WSU program that the participants identified as one that provided opportunities to collaborate. Student teaching is often a difficult time for pre-service teachers who are adjusting to working in a classroom full-time. Many of the participants discussed collaborating during seminar class and valued that part of the program because it helped them to feel supported and as if they were not alone in their struggles. Similar to the methods courses, seminar provides pre-service teachers a chance to discuss their teaching, reflect on it with others, and get suggestions and support from others. A participant explained how he felt about the seminar, “I think having the seminar, which is essentially a sit down and vent session, is phenomenal. You can bounce ideas off everyone else and see what everyone else is doing, what is and isn’t working.” This participant discussed gaining support from his classmates that often helped him through the difficult times during student teaching. Participants often realized that many of their fellow student teachers were going through difficulties as well. This helped the pre-service teachers to feel that it isn’t unusual to feel frustrated, stressed, or bewildered. One of the participants explained,

In seminar, we could come in and vent for the first twenty minutes of it. It helps to know that you’re not the only one experiencing it, and whatever we were having issues with, we were able to talk it out and get suggestions…I realize that it’s not just me that gets frustrated or it’s not just me that has the kids who can be a pain sometimes. So, that helps me to push through it to know that others see the same thing.

The participants also explained that they seek out collaboration in their current teaching situations because they learned to teach through the use of collaboration as part of the WSU
program. To these participants, collaboration is a natural part of teaching. One participant explained how collaborating in seminar class has influenced the way she works now,

I think we learned to fall back on each other and during that seminar class that was a great time to collaborate…I think that taught me that you need to meet with teachers and you need to talk to teachers and you need to collaborate to design great lessons and to keep your sanity. When you get a teaching job you sort of seek out those other people on your team and you depend on them, and I think that’s a big piece of being confident.

The seminar was touted by the participants of this study as a time for collaboration that helped them to gain confidence in their teaching ability while they were student teaching.

Another part of the WSU program that provides students with the opportunity to collaborate is the Friday workshops at the PDS. Student teachers who are placed at the PDS participate in workshops at the various PDS’s on Fridays throughout their semester of student teaching. The workshops are fairly informal and not only serve as a medium for learning about a particular concept such as classroom management or assessment, but also serve as a meeting place where student teachers can discuss their experiences with each other and practitioners from the PDS’s. It is another chance for the student teachers to discuss the topic of the workshop and also other thoughts that they were having about their student teaching experience. One participant discussed the benefit of collaborating at the Friday workshops,

Those Fridays when we used to do the professional development with student teaching…I think those were fun because it gave us a chance to get together with the other student teachers and see their schools but also learn about certain things. I thought that was helpful.
The participants seemed to think that the Friday workshops helped them to feel like a cohort of student teachers who were working together and supporting one another. It was another avenue of support for the student teachers and another way to increase self-efficacy.

In summary, the WSU elementary education program provides its pre-service teachers with many opportunities to collaborate (see Table 23). The participants of this study feel that through collaboration in the methods courses, in seminar class, and during the Friday workshops they were able to gain the support they needed to increase their sense of self-efficacy and teacher efficacy.

Table 23

Quotes Related to the Importance of Collaboration

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Because working in a group and carefully planning it, reflecting on it, it was great practice.</td>
<td>• I think having the seminar, which is essentially a sit down and vent session, is phenomenal. You can bounce ideas off everyone else and see what everyone else is doing, what is and isn’t working.</td>
</tr>
<tr>
<td>• I think that some of that confidence comes from the methods classes when we were in the schools and working with a group. I remember working with my group in science at Chandler Magnet and feeling like today was a really off day for me, but I know you have my back and next week I will be able to do this because I am more confident with this unit and they’ll chime in and we can kind of debrief after and talk about what worked and what didn’t and what do we need to change so that we all do a better job next time.</td>
<td>• I think the fieldwork during the methods classes kind of boosted it [self-efficacy] not because it always worked but because you were always able to bounce ideas back and forth about how it should have worked and ways in which it could have worked better, could have been presented better, which in turn I think at least gives you the confidence to go back and do it again.</td>
</tr>
<tr>
<td>• The collaboration [during methods classes fieldwork] made me feel really confident.</td>
<td>• Part of the process, not necessarily in your student teaching, but even when you were required in your methods courses and your observations to step in or plan a single lesson and come back and reflect upon that with others, with people who were in the same boat, even if you failed, totally gives you the confidence to go back.</td>
</tr>
<tr>
<td>• I think it was student teaching and coming back on Wednesdays and sitting with all the student teachers and just...most of the time we were able to talk about all the things that were happening and see all the different experiences and see what you might face</td>
<td>• I mean the fact that you are going through it with other people who are in the same spot.</td>
</tr>
</tbody>
</table>
made you really aware of everything so that you were able to persist.

- I think we learned to fall back on each other and during that seminar class that was a great time to collaborate...I think that taught me that you need to meet with teachers and you need to talk to teachers and you need to collaborate to design great lessons and to keep your sanity. When you get a teaching job you sort of seek out those other people on your team and you depend on them and I think that’s a big piece of being confident.
- I think the seminar part was really beneficial...just being able to compare with other people. I think that was really helpful.
- In seminar, we could come in and vent for the first twenty minutes of it. It helps to know that you’re not the only one experiencing it, and whatever we were having issues with, we were able to talk it out and get suggestions for... I realize that it’s not just me that gets frustrated or it’s not just me that has the kids who can be a pain sometimes. So, that helps me to push through it to know that others see the same thing.
- We did a lot of group work. That made me more confident because that’s one thing, if I don’t have positive people around me, I can get very not confident about what I am doing. I really feed off positive energy, and with Worcester State I always had people who worked with me positively. So, it was a positive experience. I would have quit if it wasn’t.

is a lot more beneficial.

- I like the idea of the methods courses. You got to work in groups so you got to learn from others what their thoughts and feelings were when they were in whatever they were doing. We got to learn different aspects of what they encountered. So, the collaboration was important.
- In student teaching, there were other student teachers in your school, so you didn’t feel like you were alone.

**The effect of the PDS.** The participants of this study consistently mentioned the professional development school partnerships (see Table 24). The participants felt there was a strong connection between their work in the PDS and their levels of self-efficacy and teacher efficacy. They claimed this is due to the fact that they encountered the PDS throughout the WSU program starting with their fieldwork in the early stages of the program, into the methods courses
that are held in the PDS buildings, and end the program there in their student teaching experience.

All of the participants in the focus group and interview sessions had completed at least some of their fieldwork in the PDS’s and had student taught in a PDS. Nine of the eleven participants discussed a link between the PDS and increased levels of self-efficacy and teacher efficacy. They claimed this is because as they worked their way through the program, they became more and more familiar and comfortable with the PDS and therefore more confident as they entered each stage of the program. When they began student teaching in a PDS, they already had many experiences in the PDS. Similarly, the staff, students, and even parents of the PDS also became familiar with the WSU program and the WSU elementary education students, and they too, became more comfortable and familiar with the expectations for the WSU students and how to help them to progress as teachers. Additionally, the participants of this study claimed that because they were frequently working within the PDS, they felt as though they were a part of a community at the PDS’s, and this caused the WSU students to feel valued as teachers.

The participants of this study associate their familiarity and comfort with the PDS to increased levels of self-efficacy and teacher efficacy throughout the WSU program. Many of the participants discussed the idea that they understood the climate and environment in the PDS by the time they made it to their student teaching because they had completed methods course at the PDS and completed some of their fieldwork there. This familiarity helped the participants to feel confident as they started their student teaching experiences. They didn’t need to take time to become familiar with the school environment. They knew the teachers, the staff, the administration, and the students already. They could simply start student teaching. One of the participants explained,
You were learning in these schools already in your methods courses and other things so even if you had gone to one PDS and you had done some pre-prac work in another PDS let’s say, you still had some knowledge of what it was going to be like when you student taught there.

The participants claimed that they were at an advantage because they often knew their cooperating teacher before starting their student teaching and sometimes even chose their cooperating teacher based on previous experiences. For example, one participant said, “If you jump off not knowing the teacher you’re working with, I feel like it would be much more difficult.” The familiarity the participants felt as they began student teaching gave them a head start as they faced the unknown of student teaching. The level of comfort they felt with the PDS provided them with confidence that would have been lacking if they had not been familiar with the school where they were completing their practicum. As one participant explained, “I was pretty confident in student teaching, but I was really comfortable in the setting I was in.”

The participants also agreed that the teachers, staff, and administration in the PDS were familiar with the expectations for the students who were training to be teachers from WSU. Because the people within the PDS were used to having students from WSU in their classrooms, they were well-versed in how to coach these pre-service teachers and work with them to improve. One participant explained that he felt that the people within the PDS where he student taught were familiar and comfortable with having a student teacher from WSU, “I also think the level of comfort with you being there, kind of gives you a leg up as well.” Most of the participants agree that the staff in the PDS know how to train beginning teachers and help pre-service teachers to feel comfortable teaching. The graduates explained that there is a step that they can skip over when they are training in a PDS because the teachers and administrators don’t have to become
acquainted with the WSU program. This allows the pre-service teachers and the staff in the PDS to more freely and easily work together. A participant explained this idea,

I think going into those schools is helpful because they know what the expectations are to helping us… I feel like when you walk into a school like that they know what is being expected of us so they are more willing to help us.

Another participant explained her experience as she began student teaching in a PDS and compared it to her friends in other teacher preparation programs,

I think it’s because they are so used to having you that they really grew accustomed to how to be an effective leader for you, and I felt when I entered in that second grade student teaching it was like, “This is what you are doing. Here’s your desk. Get right into it. You’re teaching this today.” Some people who student taught in other towns with teachers with less experience…I don’t mean less experienced teachers, but I mean teachers with less experience having a student teacher, it was different. I know for some of my friends, they were like, “I don’t even have a spot to put my stuff, and they won’t let me teach.”

Yet another participant who started student teaching in a school that was not a PDS and then switched to a PDS had an interesting perspective on the differences,

Even when I went to [a neighboring town] and did my student teaching. Remember that awful experience? Well, it was because she [the cooperating teacher] had never had a student teacher. She was so focused on their school. She didn’t know how to open up her classroom to me… With the PDS, those teachers have had people from Worcester State so often that they just know what to expect.
The participants truly felt that the people within the PDS had an understanding of the expectations placed on the WSU students. This familiarity created an environment within the PDS where the WSU students felt welcomed and more comfortable and therefore more confident in their teaching while they were in those schools. They built on this confidence as they worked their way through the WSU program.

The graduates of the WSU elementary education program also thought that training within the PDS helped them to feel as if they were part of a community and to feel valued as a teacher. The participants indicated that the administration, staff, and faculty at the PDS welcomed them into the schools as if they were part of the staff. As one participant said, “They didn’t treat you like a student teacher.” This level of hospitality allowed the participants to feel as though they were valued early on in their careers as teachers. Feeling valued by others in such a way led them to feel more confident in their abilities to teach. One participant explained how she felt as she began student teaching in a PDS, “I felt like I was a part of the community right off the bat…I think was a huge piece of it, just feeling really valued.”

The participants clearly appreciated their interactions with the PDS. The familiarity between the PDS and the pre-service teachers from WSU gave the pre-service teachers an advantage as they trained to be teachers. They felt comfortable in the environment in which they were training and welcomed by the people within that environment. They claimed to have felt valued as teachers and not just teachers-in-training. This increased the self-efficacy and teacher efficacy of the participants of this study while they trained to be teachers at WSU.

Table 24

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
</table>

Quotes Related to the Effect of the PDS
• They didn’t treat you like a student teacher.
• I think it’s because they are so used to having you that they really grew accustomed to how to be an effective leader for you. And I felt when I entered in that second grade student teaching it was like “This is what you are doing. Here’s your desk. Get right into it. You’re teaching this today.” You just…you went in…Some people who student taught in other towns with teachers with less experience…I don’t mean less experienced teachers, but I mean teachers with less experience having a student teacher, it was different. I know for some of my friends, they were like, “I don’t even have a spot to put my stuff.” And they won’t let me teach.
• My cooperating practitioner was very comfortable with…”I’ve always had a student teacher. This is what I expect you to do.”
• I felt like I was a part of the community right off the bat…I think was a huge piece of it, just feeling really valued.
• Because you were so involved at the PDS, when you got your job, you knew what the expectation was. It wasn’t anything. You knew what all the meetings were like, what IEP meetings were like, what staff meetings were like, what the expectations were for professional development.
• I was pretty confident in student teaching, but I was really comfortable in the setting I was in.
• I think it was because my supervisor knew everyone at the PDS so it was kind of fun when she came in and it made it more comfortable and everyone knew her so when I walked in the first day the principal knew her so we had a conversation. So, it was like comfortable.
• You were learning in these schools already in your methods courses and other things so even if you had gone to one PDS and you had done some pre-prac work in another PDS let’s say, you still had some knowledge

• If you jump off not knowing the teacher you’re working with, I feel like it would be much more difficult.
• The school, the students, the staff, the faculty, are totally used to having college kids coming through and parents even.
• I also think the level of comfort with you being there, kind of gives you a leg up as well.
• They understand what you are going through. They aren’t going, “What do you have to do this week?” or “do I have to sign something?”
• I think the fact that the PDS are used to you coming and going and actually they have a really good relationship with the school as well. I was really lucky to be placed there.
• I was like, “I’ve been here before.” They were like, “Good to see you.”
• I think going into those schools is helpful because they know what the expectations are to helping us. I’ve been to [a number of PDS’s]. I feel like when you walk into a school like that they know what is being expected of us so they are more willing to help us.
• I feel like the teachers in the professional development schools are more caring and open to help us when we walk in. It’s like nothing new to them.
• When you go in to do your fieldwork in those schools, the teachers would be pulling things out and saying, “Hey, you can do this with them next week.” They were caring. They didn’t make you come up with it on your own.
of what it was going to be like when you student taught there.

- I actually ended up student teaching with the teacher that I did my math work for pre-practicum classes. I chose her because I had done the math with her and she was so great.
- I think the familiarity was helpful and I also really liked the principal and just being in the school and seeing other teachers pop in and how when they would pop in and see that we were there, they wouldn’t just walk out. They would come in and say, “Oh what are you guys learning?” or “What are they teaching?” So, they seemed, even though it wasn’t their classroom, they seemed interested in what was going on with us being there also.
- When we were at the PDS, they would put you in a classroom and you would teach a lesson and I felt that was more effective than doing it outside of the PDS.
- Even when I went to [a neighboring town] and did my student teaching. Remember that awful experience I had? Well, it was because she had never had a student teacher. She was so focused on their school. She didn’t know how to open up her classroom to me…With the PDS, those teachers have had people from Worcester State so often that they just know what to expect.

**Summary.** The survey questions related to teacher-efficacy and self-efficacy reveal that both persisters and non-persisters who graduated from the WSU program have high levels of self-efficacy and teacher efficacy. There was no significant difference between the two groups on any of the items on the self-efficacy scale or the teacher efficacy scale proving that both groups have similar levels of teacher efficacy and self-efficacy. Both groups also attribute these high levels to various elements of the WSU program. In fact, when asked which elements of the WSU program have an effect on teacher efficacy, both groups had similar responses. The
greatest percentage of participants from each group chose student teaching, fieldwork, the college supervisor, and the methods courses as elements that affected their teacher efficacy. The survey data reveals that the WSU program has an effect on teacher efficacy and self-efficacy through these elements of the program.

The focus group and interview data supports what was found in the survey data. Through interviews and focus groups, the persistent and non-persistent participants, again indicated that they have high levels of teacher efficacy and self-efficacy. Even though some of the participants have not persisted in the teaching profession, they still feel as though they are capable teachers and feel confident in their abilities. The participants in the focus groups and interviews also mentioned many of the same elements of the WSU program that were indicated in the survey as elements that increase levels of teacher efficacy and self-efficacy. The methods courses were discussed at length in the focus groups and interview sessions as related to increased self-efficacy and teacher efficacy. Student teaching and the college supervisor were also mentioned. However, there was more emphasis placed on the seminar class and the Friday workshops at the PDS during the focus groups and interviews than in the survey portion of this study. Overall, the focus group and interview sessions provided support for the survey results related to the effects of the WSU program on self-efficacy and teacher efficacy.

The focus group and interview data also provides deeper understandings of how the WSU program affects teacher efficacy and self-efficacy. The participants indicated that through various elements of the program their teacher efficacy and self-efficacy increased because they felt supported by their professors and other students in the program, they were provided with many opportunities to collaborate, they were comfortable with and valued the PDS experience, and they felt superior when compared to others. The participants indicated that they felt as
though they could make mistakes and even struggle while they were in the WSU program because there was always someone to go to for help and support. Most often the professors in the program provided the support, but support also came from other students in the program. The participants valued the many opportunities they had to collaborate with their classmates either as part of their methods classes or during student teaching in the seminar class or the Friday workshops at the PDS. This collaboration increased self-efficacy and teacher efficacy because as pre-service teachers the participants were able to “bounce ideas” off one another and reflect on their practice with other practitioners in similar situations. The participants also identified the PDS experience as a contributor to increased levels of self-efficacy and teacher efficacy. They explained that they became familiar and comfortable with the PDS due to the frequent exposure to these schools, and the faculty, staff, and administration within the PDS also were familiar with the students from WSU and the expectations for these students. This allowed for a level of comfort that helped the participants to feel confident while they practiced teaching within the PDS. Lastly, the focus group and interview participants felt that, in comparison with their counterparts in other teacher preparation programs, they had experienced a more rigorous and thorough program. They felt more prepared than their colleagues, and they gained confidence in their teaching ability by comparing themselves to others.

Overall, the graduates of the WSU elementary education program in this study have high levels of teacher efficacy and self-efficacy, even those who have not persisted in the teaching profession. All the participants in this study attribute the various elements of the WSU program with increased levels of teacher efficacy and self-efficacy. Participants in the focus groups and interview sessions indicated that they have high levels of teacher efficacy and self-efficacy because the WSU program provided them with support throughout the program, gave them many
opportunities to collaborate with others, and offered them the opportunity to train within the professional development schools. Additionally, the participants felt more confident in their ability to teach because they felt that they had experienced a more intense, thorough, and practical program than their counterparts at other universities.

**Findings and Analysis: The Relationship Between the WSU Program and Persistence**

**Survey results.** The survey portion of this study was utilized as a way to discover why graduates of the WSU elementary program who have left the profession chose to leave and why those who have persisted in the profession have been able to stay. Specific questions were asked of WSU graduates who have persisted in the teaching profession and those who have not. The questions were designed so that respondents could choose from a list of possible responses or write in an answer. Possible responses to each of the questions included those related to self-efficacy and teacher efficacy. This will allow for an analysis of the degree to which the respondents in each group felt that self-efficacy and teacher efficacy affected their persistence or lack of persistence.

**Survey results of persisters.** To be included in the group of participants who have persisted, survey respondents had to indicate that they were currently teaching. All of these respondents graduated from WSU between 2003 and 2008, so they have potentially worked as a teacher for at least three years. Most of the respondents to the survey who were currently teaching have persisted in the teaching profession for at least three years. Only 9.1 percent of those who are currently teaching have been teaching for less than three years, and all of those participants have been teaching for at least two years.

As part of the survey used in this study, the persisters were asked about why they feel they have persisted in the teaching profession. The possible responses to this question include
having a strong sense of self-efficacy and being confident in their own teaching ability. Other potential responses were taken from the logic model (see Appendix A) included as part of this study as well as research related to teacher retention and teacher preparation (Hoy & Woolfolk, 1990; Darling-Hammond, 1994, 2002, 2003; AbdalHaqq, 1998; Yost, 2006; Inman & Marlow, 2004).

Responses to the survey item that asked respondents why they have been able to persist in teaching varied (see Table 25). However, through an analysis of the responses to this survey item, certain factors stand out as reasons that these new teachers have been able to persist. The highest percentage of respondents (86.4 percent) chose “confidence in teaching ability” as one of the most relevant factors that has contributed to their persistence in the profession. “Support from colleagues” was the second most commonly chosen response (72.7 percent), and a “strong sense of self-efficacy/belief in one’s self” (63.6 percent) was also identified as an important factor that contributed to their ability to persist in the profession. The only other response that was chosen by over half of the respondents was a “strong sense of preparedness” (59.1 percent).

These results indicate that thepersisters who responded to the survey feel that self-efficacy, teacher efficacy, support from others, and a sense of preparedness are vital to their ability to persist in the teaching profession. These factors are related to teacher preparation in many ways. As mentioned earlier in this report, the self-efficacy and teacher efficacy scales that were used in this survey revealed that these same participants have a positive sense of self-efficacy and teacher efficacy, and the respondents have linked certain aspects of the WSU program to these feelings. This part of the survey now links these feelings of self-efficacy and teacher efficacy to the participants’ ability to persist. Therefore, the perceptions of graduates of the WSU program who have persisted in the teaching profession are that their high levels of self-
efficacy and teacher efficacy, which can be attributed to the WSU program, have led them to be able to persist in the teaching profession.

Table 25

*Reasons That Persisters Have Been Able to Stay in the Teaching Profession*

<table>
<thead>
<tr>
<th>Reasons for Persistence^a</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Confidence in teaching ability</strong></td>
<td>86.4%</td>
</tr>
<tr>
<td><strong>Support from colleagues</strong></td>
<td>72.7%</td>
</tr>
<tr>
<td><strong>Strong sense of self-efficacy/belief in one's self</strong></td>
<td>63.6%</td>
</tr>
<tr>
<td><strong>Strong sense of preparedness</strong></td>
<td>59.1%</td>
</tr>
<tr>
<td><strong>Support from administration</strong></td>
<td>36.4%</td>
</tr>
<tr>
<td><strong>Salary</strong></td>
<td>9.1%</td>
</tr>
<tr>
<td><strong>The induction program in my school system helped me to get acclimated to teaching</strong></td>
<td>9.1%</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>9.1%</td>
</tr>
<tr>
<td><strong>Job security</strong></td>
<td>4.5%</td>
</tr>
</tbody>
</table>

^a n = 22

*Survey results of non-persisters.* The group of non-persisters are graduates of the WSU program who have left the profession or have never entered the teaching profession. Of these participants, 75 percent had been classroom teachers at some point in their career. A quarter of the non-persistent respondents never entered the profession at all.

The non-persisters were asked to indicate the most relevant reasons that they left the teaching profession. The possible responses for this survey item were derived from research about the causes of teacher attrition (Marvel et al. 2006; Leukens, Lytner, & Fox, 2004; Quinn & Andrews, 2004; Schlichte, Yssel, & Merbler, 2005; Yost, 2006; Ingersoll, 2001; Inman & Marlow, 2004). The responses to this question were varied (see Table 26). In fact, no more than 16.7 percent of the respondents chose any one answer. Nearly, sixty-seven percent (66.7 percent) chose “Other” as a response and wrote in their reasons for leaving the profession, but none of these responses were the same. It is noteworthy, however, that none of the respondents
indicated that a lack of confidence in their teaching abilities or a lack of preparation were the reasons that they had left the profession. These participants have left the profession, but it’s not due to a negative sense of teacher efficacy or because they don’t feel like they are prepared to be a teacher. Instead it is due to a number of other reasons.

Table 26

*Reasons That Non-Persisters Have Left the Profession*

<table>
<thead>
<tr>
<th>Reasons for a Lack of Persistence</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other (please specify)</td>
<td>66.7%</td>
</tr>
<tr>
<td>To pursue a position other than that of a K-12 teacher</td>
<td>16.7%</td>
</tr>
<tr>
<td>Lack of administrative support</td>
<td>16.7%</td>
</tr>
<tr>
<td>Poor working conditions</td>
<td>16.7%</td>
</tr>
<tr>
<td>Pregnancy or child rearing</td>
<td>8.3%</td>
</tr>
<tr>
<td>School staffing action (reduction-in-force, lay-off, school closing, etc.)</td>
<td>8.3%</td>
</tr>
<tr>
<td>Frustration with the realities of teaching</td>
<td>8.3%</td>
</tr>
<tr>
<td>To take courses in or out of teaching</td>
<td>8.3%</td>
</tr>
<tr>
<td>Dissatisfied with teaching as a career</td>
<td>8.3%</td>
</tr>
<tr>
<td>Dissatisfied with previous school or teaching assignment</td>
<td>8.3%</td>
</tr>
<tr>
<td>Lack of confidence in teaching abilities</td>
<td>0.0%</td>
</tr>
<tr>
<td>Lack of preparation</td>
<td>0.0%</td>
</tr>
<tr>
<td>Better salary or benefits</td>
<td>0.0%</td>
</tr>
<tr>
<td>Feelings of isolation</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other family or personal reasons</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

*a n = 12

*Comparison of the persisters and non-persisters.* When comparing the survey results of persistent and non-persistent survey respondents, one major difference is evident. Those who have persisted in the profession claimed that self-efficacy, teacher efficacy, and feeling prepared were factors in why they have been able to remain in the teaching profession. However, those who left the profession did not indicate any of these factors as important in their decisions to leave the profession.
As stated in earlier sections of this report, the non-persisters have a positive sense of self-efficacy and teacher efficacy, similar to their peers who have remained in the teaching profession. Both groups also indicate that the WSU elementary program affected their self-efficacy and teacher efficacy. This last survey item, which asks the participants who have left the profession why they left, supports the idea that these participants maintain high levels of teacher efficacy and self-efficacy because they don’t identify these factors as reasons why they have left the profession. That would only be true if they had low levels of teacher efficacy and self-efficacy. Self-efficacy and teacher efficacy, according to the survey results, were not factors that have affected the decisions of the non-persisters to abandon the teaching profession.

On the other hand, the persisters identified self-efficacy and teacher efficacy as reasons why they have been able to remain in the teaching profession. They too, like the non-persisters, have high levels of teacher efficacy and self-efficacy. According to the survey results, these high levels contribute to their ability to persist.

Both groups, the persisters and non-persisters, seem to have high levels of self-efficacy and teacher efficacy. These high levels of teacher efficacy and self-efficacy that the participants attribute to the WSU program contribute to the persistence of those who have remained in the teaching profession, but were not factors in why some graduates have left the profession. An analysis of these survey results indicates that elements of the WSU program have a positive affect on teacher-efficacy and self-efficacy, and most graduates maintain a positive sense of self-efficacy and teacher efficacy, even those who leave the profession. The reasons that some of the graduates have left the profession are outlying factors unrelated to teacher efficacy and self-efficacy.
Focus group and interview results. In order to gain a deeper understanding of graduates’ perspectives of the various components of the WSU elementary education program and the degree to which they affected their persistence in the teaching profession, focus groups and interviews were conducted. Participants discussed both how the entire program and components of the program contributed to their persistence in teaching. Most of the participants, even those who were not currently teaching, felt that they wanted to continue to pursue a career in classroom teaching. Seven of the eleven participants are still teaching after at least three years in the profession and four of the participants were not currently teaching. Only one of those participants who was not teaching had left the profession with no intentions of seeking out a career in elementary education. The other three participants who were not teaching still aspire to teach in an elementary setting. So, ten out of the eleven participants interviewed for this study either persisted in the profession or will continue to pursue the teaching profession, and all ten attributed the WSU elementary education program in some way to their desire to continue to move forward in their careers as teachers. Even the one participant who left the profession and doesn’t want to return claimed that there were aspects of the program that helped her to feel like she may be able to persist. Every participant felt that the program had some positive influence on his or her ability to persist.

Common themes of persisters and non-persisters. Throughout the interviews and focus groups conducted as part of this study, there were a number of common themes that arose that are related to the participants’ persistence in the teaching profession. The persisters connected their persistence in many ways to the elementary education program at WSU. The non-persisters felt that the program and its elements had an effect on persistence as well. These participants generally felt that what they had learned in the elementary program at WSU had caused them to
want to continue to pursue a career in education even though they have had to overcome many obstacles. For example, a graduate of 2007 stated that although he has been confronted with many challenges after graduation, he still wants to teach and it’s the WSU program that has made him feel that way. This graduate had a difficult time passing the MTEL (Massachusetts Test for Educator License) and once he did pass was told by the state licensing agency that he had other requirements to complete because too much time had passed since his graduation. Since graduation, he has been a bartender and manager of a restaurant and claims it has been quite lucrative for him. Although he can amply support himself through the job he currently holds, he claimed,

What I learned here [at WSU] has stuck with me and it’s totally been a part of what I want to do in the future…After the issues with failing the test and then finally passing and deciding I was pissed for a bit, I realized I really did enjoy myself and I really was good at it. Knowing that it is still an option and that it’s not too late, getting back into it [teaching] is totally something I want to do.

Other graduates of the program have had similar experiences. A graduate of 2008 who has been unable to find a job said, “I got into a slump this year because I couldn’t find anything, but I am still looking and trying my hardest so obviously I had to have learned something here that makes me want to continue.” Another graduate of the WSU elementary education program that has not yet entered the profession summed it up nicely. She said that the program, “Instilled in me to never give up on the field.”

The participants who have been teaching for at least three years suggest that the program instilled in them a commitment to the profession. Many of these persistent graduates claimed that their passion for the profession grew throughout the program and that they often refer back
to the program and what they learned in the program when they are in a bind or unsure of how to handle a situation in their classroom. This helps them to persist because they have a foundation to lean on which allows them to avoid high levels of stress. One of these graduates stated when asked about what has helped her to persist in the profession, “I think it’s just the passion I have for teaching. I had it at the beginning…but it grew based on my experience in the education program.” Another graduate who is currently teaching discussed how she is able to reduce her stress levels by thinking back to what she learned at WSU in order to deal with issues that arise in her classroom. She said, “I try to pull back and remember what I’ve learned about how to deal with it and it helps me to not be stressed all the time.” The persisters and non-persisters have similar opinions about the effect the WSU elementary education program has on persistence. They each claimed that certain elements of the program instilled a sense of perseverance and passion. There are many common themes that arose in the discussions with both the persisters and non-persisters.

After analyzing the data produced by focus groups and interviews of both the persisters and non-persisters, four major themes emerged that are related to the WSU elementary education program and persistence in the teaching profession. These four themes are:

1. The support and expertise of the professors
2. The importance of practical experiences
3. The relationship between the PDS and persistence
4. The relationship between self-efficacy, teacher efficacy, and persistence

*The support and expertise of the professors.* When asked about what aspects of the elementary education program at WSU had an effect on their persistence in teaching profession, nine out of the eleven participants discussed the professors in the education department at WSU.
All four of the graduates who were not teaching talked about the professors as having a major influence on persistence. Even though these participants have not been able to enter the profession or have left the profession all together, they still had extremely positive comments about the professors they encountered in the elementary education program and the effect the professors had on their desire to teach. The comments of both the persistent participants and those who were not teaching can be categorized into three topics. First, many of the participants connected the professors’ passion to their own passion for teaching and therefore persistence in the profession. Second, many of the participants thought that the professors’ practical experience in elementary schools made the professors more relatable, and lastly, most of the participants felt that the availability and support of the professors had led them to feel like they could move forward in their careers.

Graduates of the WSU elementary education program described a domino effect related to their persistence in the teaching profession. The graduates claimed that their professors had considerable passion for teaching and that such passion was passed down to them as undergraduate students and was carried with them into the teaching profession. One participant who has persisted in the profession said, “Seeing them have such a passion for it made me have that too.” Similarly, another current teacher claimed, “I think seeing the amount of caring that the staff has for the program and education instills that in the people who finish the program.” The participants suggested that the passion they saw in their professors made them want to exhibit the same kind of enthusiasm and passion for their elementary students. One participant explained, “I think the amount of caring that they [the professors] showed towards me makes me want to do that for my students.” The graduates also linked passion for teaching with their ability to persist in the profession. They claimed that the more passion one has the less likely one is to give up,
and they attribute the professors in the WSU program with instilling a passion for teaching in them.

The non-persisters had similar ideas about the professors in the elementary education program at WSU. They felt that the professors were passionate as well and that this passion could be attributed to the persistence of those graduates who had remained in the teaching profession. One of the non-persisters explained,

The biggest point I want to make is that the better the professor is at instilling thoughts and ideas of positive attitudes and excitement in their work, the more interested students are in what they are doing. If there is any reason why graduates haven’t left the profession that could be the reason.

He continued to say, “It’s all about enthusiasm. It’s all what you as a professor here instill within the walls of your own classroom into each individual student. Baring some unforeseen circumstance, that enthusiasm is something that students in the education program find themselves infatuated with.” Both graduates who have persisted and those who have not, connect the professors’ passion with graduates’ ability to persist in the profession. Based on the participants’ comments, it seems that the WSU elementary education program instills a passion for teaching in its students. The professors who teach in the program exhibit passion for teaching and the field of education that gets passed on to the pre-service teachers in the program. The passion that the pre-service teachers gain throughout their time in the program is carried with them as they enter the teaching profession and helps them to persist in the profession.

Many of the participants also mentioned that the professors were relatable due to the fact that most of the professors had taught in an elementary setting before. Both the persisters and non-persisters agreed that the professors’ knowledge of the real world of teaching was beneficial
to pre-service teachers as they enter the workforce. The participants described experiences with professors in the program that involved the sharing of stories from the professors’ days teaching in elementary schools. Listening to these stories seems to have caused the participants to become excited about teaching and also to feel that their professors understood what they were going through as pre-service teachers. One of the persisters explained,

I think the passion of the professors in the sense of them sharing their personal experiences actually teaching in elementary schools really provided me with the strength to want to teach…to think I could have those same experiences…I remember their stories…all that information, that’s what really made me have the longevity that made me realize that is what I want to do for the rest of my life.

The participants also seemed to feel that the professors’ elementary teaching experience added to the professors’ expertise and qualifications as education professors, which in turn made the participants feel more prepared and ready to teach. A graduate who has been teaching for five years said,

I would say pretty much that the strengths were the professors. I think they were very experienced. Most of them taught elementary school, which I thought was very helpful. I think with anything when you go into a professor, if they have done it, they can put themselves in our situation and prepare you for what you will be exposed to…They’ve been there, they’ve done it, and they can teach you to be a good teacher.

A participant who is not currently teaching offered similar sentiments, “The professors here were field experts if you will. Not only have they done it, they know how to do it, and they know how to teach it.” The participants felt that their professors could relate to what they were going through as new teachers because the professors had experience teaching in elementary school.
This helped these new teachers to feel that they had somewhere to turn when they were feeling like they couldn’t go forward. Also, the anecdotes that professors shared with their students caused these pre-service teachers to realize the excitement and positive aspects of teaching. This caused these new teachers to want to continue on in the teaching profession.

Many of the participants also attribute their persistence to the professors’ supportive nature and their availability. Most of the participants described feeling connected to their professors and felt that they always had a support system if they were struggling. For example a graduate who is struggling to find a teaching job said, “The professors were more open and I felt like you could talk to them and they would help you through whatever.” A current elementary teacher said, “I always felt like I had someone in my corner… I think the personalities of the staff and just being able to sit down with anyone in the offices and you could go and sit and ask them questions and they were always willing to help you.” Other participants mentioned the professors’ dedication. One exclaimed, “The dedication of the staff was huge!” Another participant explained, “I went back to a professor for help after I had him and he worked with me. I mean that’s a lot of dedication to your students. He went above and beyond for his students.”

The participants were in agreement that they had a strong support system in the professors in the elementary education program. They formed relationships with their professors and these strong relationships helped the participants to feel like they had knowledgeable and available people to go to for help, which in turn allowed them to feel that they could take risks and continue on even when they were struggling.

Some of the participants described times when they thought of quitting, but chose not to due to the support from the professors in the WSU program. One participant who had matriculated in the program at WSU for some time and then quit for a few years eventually came
back knowing that the professors would support her and help her through. She explained, “I feel like it really helped me to have great professors who believed in me, and they made it so I wanted to finish. All the professors supported me. I know I achieved it [becoming a teacher] based on them believing in me and working with me.” This participant has now been teaching for five years.

Some key factors related to the participants’ persistence in the teaching profession, as described by the participants of this study, are the passion of the professors, the ability of the professors to relate to the students, and the supportive nature of the professors in the program (See Table 27). The WSU elementary program has professors in place who help their students to feel supported and able to persist in the profession. The relationships between the professors and the students in the program are vital to encouraging persistence in the new teachers who graduate from the program.

Table 27

Quotes Related to the Effect of Professors on Persistence

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
</table>
| • I always felt like I had someone in my corner.  
• Everyone here in the Worcester State Program has been nothing but helpful and courteous.  
• You could talk to your professor or you could talk to a professor who wasn’t your professor but was part of the education department.  
• I think the personalities of the staff and just being able to sit down with anyone in the offices and you could go and sit and ask them questions and they were always willing to help you.  
• I think seeing the amount of caring that the staff has for the program and education | • The dedication of the staff was huge!  
• Everyone is always readily available…You guys are always here…I think it was a huge benefit too. It built relationships between student and professor.  
• The professors were like, “We’ll help you with your work, but guess what, I’m not running away, I’m going to be right here too because I’m not going anywhere.”  
• The professors here were field experts if you will. Not only have they done it, they know how to do it, and they know how to teach it.  
• The relationships we built when we were working together and the experience I had, what you guys taught me totally stuck. |
instills that in the people who finish the program.
• I think the passion of the professors in the sense of them sharing their personal experiences actually teaching in elementary schools really provided me with the strength to want to teach...to think I could have those same experiences...I remember their stories...all that information, that’s what really made me have the longevity that made me realize that is what I want to do for the rest of my life.
• Seeing them have such a passion for it really made me have that too.
• I think it goes back to the professors. We were fortunate to have instructors that we really liked.
• The professors I think were just very understanding. They understood. They had been through it. I didn’t always feel pressured. I knew if I didn’t understand something or if I needed clarification or even if something was due and I was struggling, I could always get help...I always felt that I could go to someone and get clarification for it.
• I would say pretty much that the strengths were the professors. I think they were very experienced. Most of them taught elementary school, which I thought was very helpful. I think with anything when you go into a professor, if they have done it, they can put themselves in our situation and prepare you for what you will be exposed to.
• I went back to a professor for help after I had him and he worked with me. I mean that’s a lot of dedication to your students. He went above and beyond for his students.
• They’ve been there, they’ve done it, and they can teach you to be a good teacher.
• I feel like it really helped me to have great professors who believed in me and they made it so I wanted to finish. All the professors supported me. I know I achieved it [becoming a teacher] based on them believing in me and working with me.

• Because the faculty prepared us for what we were going to do, there would have been some kind of outlying circumstance for someone to not want to teach anymore.
• It’s all about enthusiasm. It’s all what you as a professor here instill within the walls of your own classroom into each individual student. Baring some unforeseen circumstance, that enthusiasm is something that students in the education program find themselves infatuated with.
• The biggest point I want to make is that the better the professor is at instilling thoughts and ideas of positive attitudes and excitement in their work, the more interested students are in what they are doing. If there is any reason why graduates haven’t left the profession that could be the reason.
• For me, definitely most of the professors were very knowledgeable and passionate about teaching and education.
• The first thing that comes to mind is the professors, the teachers and their encouragement. I often thought when I wasn’t feeling like I was going to persist, “Oh God, if my professors knew about this they would be really disappointed.
• The professors were more open and I felt like you could talk to them and they would help you through whatever.
The importance of practical experiences. Throughout the interviews and focus group sessions, it became clear that the participants greatly valued the practical experiences they encountered while in the teacher preparation program at WSU. The participants seemed to feel that the practical, hands-on experiences in the program were vital to their persistence in the profession. Even those who were not currently teaching claimed that these practical experiences helped them greatly. One non-persister said, “Going out into the field, you have that much more under your belt. It’s almost like building cellular memory of what to do. ‘Oh this happened to me before, so I know how to handle it.’” She felt that the practical experiences made her feel more prepared for what she would face in the classroom. Another participant had similar ideas, “I think the fieldwork and the student teaching had the biggest impact on my persistence…that was my best experience in the classroom because it was hands on. You are actually seeing what it is actually like to be a teacher.” Ten out of the eleven participants connected practical experiences to persistence in the teaching profession.

There was much discussion about the methods courses and the fieldwork that accompanied the methods courses, specifically the fact that some methods courses convened within a professional development school where the pre-service students could practice what they learned in class. WSU uses its unique partnerships with neighboring professional development schools to help students who are enrolled in methods courses to learn the pedagogy related to the various content areas. Some methods courses that are offered as a part of the elementary education program at WSU are held at a neighboring professional development school. The classes often take place in the library of the elementary school, where the WSU
elementary education students are exposed to content and pedagogy. They then practice what they learned that same day in the classrooms of the elementary school. This unique arrangement was touted by the participants of this study as being highly beneficial. They also identified it as a factor in their ability to persist in the profession. One participant said, “We also went into some of the schools. You know, for science we actually went into a school and did our work and the same with math…actually going into the school with your methods class and teaching each day was really beneficial.” When the participants discussed the fact that the methods classes were embedded in the PDS, they described a connection between theory and practice. They talked about the fact that applying what they learned in a realistic classroom setting is far more beneficial than learning it on a college campus. One participant explained,

In the methods classes when we would go next door to do math or across the street to do science, I just think it’s helpful. I mean you can just sit there and listen to people lecture, but unless you get in the classroom and see what this kind of child looks like, how are you going to learn how to deal with that child? I mean you’re not going to pull out your book and say, ‘Let me see how to handle this.’ You have to kind of be there and see it. So, I think being able to go into the other schools helped to put things into perspective and reinforce the teaching on it.

Another participant who is not currently teaching felt the same. He described his experience in his math methods course, “[In math methods class], he [the professor] effectively taught us things and then taught us how to implement them in a classroom.”

The participants who were classroom teachers were able to connect the methods classes to their current teaching practice and techniques. One of these participants said, “I felt that methods classes…were huge helps because I’ve noticed even now, even if it's a different grade
that I’m teaching, I’m using a lot of those resources and just adapting them…and those were probably the most helpful in developing my classroom now.” The participants made direct connections to their current teaching practice and explained that the methods classes made them feel like they had a repertoire of techniques to pull from in their teaching. This helped them to persist because it made them feel that they were prepared to teach the various subject areas.

The student teaching experience was also mentioned by most of the participants as having a major effect on their ability to persist. Both persisters and non-persisters described the student teaching experience positively. Most of the participants explained that student teaching provided them with exposure to the realities of teaching. By being exposed to these realities, they felt they were ready and prepared to face teaching on their own. For example when asked what aspects of the WSU program contributed to her ability to persist, one participant explained, “For me, I think it was student teaching….all the different experiences and seeing what you might face made you really aware of everything so that you were able to persist.” Many of the participants describe an experience where, throughout their student teaching experience, they accumulated more and more responsibility and felt more comfortable teaching as a result. One participant reported, “I liked the way that it was laid out. Because by the time the two weeks came you didn’t feel like, ‘Oh my God,’ because it was almost like you had been doing it.” The participants found this progression to be beneficial and tied it to their persistence. One participant claimed that without the student teaching experience and particularly the two weeks when she took over the classroom, she probably would have left the profession, “Because if you’re just thrown in there and you say, ‘Okay teach for two weeks,’ I think I would leave education.”
In addition to the exposure that the student teaching experience provided for the participants, they also discussed their cooperating teachers as part of the reason why they were able to persist. The participants all described having positive relationships with their cooperating teachers. Some of the participants were still in touch with the teachers they worked with during student teaching. The participants felt that the cooperating teacher had a great effect on their ability to persist mainly because this person offered positive feedback and encouragement and also served as a model of an effective teacher. Some of the participants claimed that they think back to their student teaching experience when they face an obstacle in the classroom and think about what their cooperating teacher might do. One participant said, “I’ll think back to how my cooperating teacher handled students and it would kind of help me to handle the situation properly.” The participants also felt supported by their cooperating teachers either because the teacher provided positive feedback or because the cooperating teacher helped them through problems that arose during student teaching. When asked about what part of the program helped her to persist, one participant discussed her cooperating teacher, “I think the student teaching and just the cooperating teacher…they were always there whether it was you needed help or they told you good job. That really sticks out in my head, the student teaching experience.” Another offered a similar explanation, “I think getting positive feedback in student teaching from the teacher that you worked with, your cooperating teacher. I don’t know…just positive feedback knowing that what you were doing made a difference.” Each participant had positive comments about their relationships with their cooperating teachers and explained that their cooperating teachers had an effect on their teaching and their ability to persist. When asked about what aspects of the program may have had an effect on persistence, one of the participants who left the profession discussed her student teaching experience as being a positive factor. She said, “I truly
valued my student teaching experience because my cooperating teacher immediately threw me into the classroom and said, ‘Okay, you’re going to co-teach with me.’ The truly practical experiences had an impact on me.” The consensus of the participants was that student teaching had a positive effect on their ability to persist and their desire to teach. One participant summed it up nicely, “It [student teaching] was just a really nice segue into the teaching profession.”

Overall, the participants indicated that the practical, hands-on experiences they had in elementary school classrooms throughout the program had a positive effect on their ability to persist (see Table 28). Both persisters and non-persisters have similar opinions. Both indicate that the methods courses, particularly those that were held at the PDS, and the student teaching experience helped them to feel more prepared for the realities of teaching. This, in turn, helped the participants to feel as though they could work through the issues that they faced in their first years of teaching. The perceptions of the participants are that practical classroom experiences as part of methods courses and during student teaching are vital to beginning teacher persistence.

Table 28

Quotes about the importance of practical experiences

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>• One thing that I thought was particularly beneficial was that almost every class required observation or teaching hours.</td>
<td>• I felt enthralled [in the ELA methods class]. And knowing for the longest time that I’ve been very passionate about reading and writing, I got that light bulb that I can transfer this to kids. I think it was in [the ELA methods class] that I realized that.</td>
</tr>
<tr>
<td>• The methods classes were very hands on.</td>
<td>• [In a methods class], he effectively taught us things and then taught us how to implement them in a classroom.</td>
</tr>
<tr>
<td>• We also went into some of the schools. You know for science we actually went into a school and did our work and the same with math. We went into May Street and I think with science we went into Chandler Magnet but actually going into the school with your methods class and teaching each day was really beneficial.</td>
<td>• I truly valued my student teaching experience because my cooperating teacher immediately threw me into the classroom and said, “Okay, you’re going to co-teach with me.” The truly practical experiences</td>
</tr>
</tbody>
</table>
• For me, I think it was student teaching…all the different experiences and seeing what you might face made you really aware of everything so that you were able to persist.
• The student teaching was a great part of the program I thought. Just being able to go in the schools and teach and show what you have. And you learned also from the teacher.
• But I felt that methods classes…were huge helps because I’ve noticed even now, even if it’s a different grade that I’m teaching, I’m using a lot of those resources and just adapting them…and those were probably the most helpful in developing my classroom now.
• I know for science we were over across the street at [a PDS] and for the math class we were over [another PDS]. So, we got to learn something and then go into the classroom as a group and then teach it together. It was helpful.
• I think getting positive feedback in student teaching from the teacher that you worked with, your cooperating teacher. I don’t know…just positive feedback knowing that what you were doing made a difference.
• I’ll think back to how my cooperating teacher handled students and it would kind of help me to handle the situation properly.
• I think the student teaching and just the cooperating teacher…they were always there whether it was you needed help or told you good job. That really sticks out in my head, the student teaching experience.
• Having that full week, I think it was a whole week, where you taught by yourself…two weeks…that was beneficial.
• I liked the way that was laid out. Because by the time the two weeks came you didn’t feel like “Oh my God,” because it was almost like you had been doing it.
• Because if you’re just thrown in there and you say, “Okay teach for two weeks,” I think I would leave education.
• In the methods classes when we would go.
next door to do math or across the street to do science. I just think it’s helpful. I mean you can just sit there and listen to people lecture, but unless you get in the classroom and see what this kind of child looks like, how are you going to learn how to deal with that child? I mean you’re not going to pull out your book and say, “Let me see how to handle this.” You have to kind of be there and see it. So, I think being able to go into the other schools helped to put things into perspective and reinforce the teaching on it.

- The entire student teaching experience and the seminar too had the greatest impact on my ability to persist.
- I think the fieldwork and the student teaching had the biggest impact on my persistence...that was my best experience in the classroom because it was hands on. You are actually seeing what it is actually like to be a teacher.

**The relationship between the PDS and persistence.** As mentioned previously in this report, the partnerships between the professional development schools and WSU provide unique opportunities for elementary education students at WSU. The unique aspects of the professional development schools model include Friday workshops for student teachers during their student teaching experience, methods courses that are held at the PDS, and a “clinical professor” who works on campus at WSU but maintains his/her status as a public school teacher from the PDS. All eleven of the participants in this study completed their student teaching in a professional development school and also completed some of their fieldwork in a PDS. When asked about how their experiences in the PDS affected their persistence in the teaching profession, all of the participants described their experience with the PDS positively. The participants agreed that the PDS prepared them for the realities of teaching due to the urban setting they were exposed to in the PDS. They also felt that the Friday workshops that they were part of during their student
teaching allowed them to see many different schools, learn from actual practitioners, and learn practical information they may not have learned through their coursework. The participants also mentioned the “clinical professor” as a valuable asset to the professional development schools model. The participants found it beneficial that the clinical professor was actually a teacher from the PDS. These aspects of the PDS contributed to the participants’ ability to persist in the profession.

WSU partners with six urban elementary schools in the city of Worcester, Massachusetts as professional development schools in order to help train future teachers. Some of the participants of the focus groups and interview sessions identified the exposure to an urban school district as one of the elements of the PDS that contributed to their persistence in the profession. One of the participants, who was hired by one of the PDS after graduation from WSU, explained his perception,

I think WSU is in a unique position within the city of Worcester. I don’t know how many of the teachers work within the city once they graduate from here, but I know for me working in the city and having that exposure to the different PDS schools in the city, the population, that was helpful.

Some of the participants felt that the PDS provided them with exposure to experiences that they may not have had at other schools. That exposure prepared them to face a wide array of challenges as they entered the teaching profession. A participant who is teaching in an urban district outside of Worcester explained, “Just being in the city is totally different than teaching in the towns so I think you’re exposed to more in the city and in the PDS and get a better experience.” These participants felt that if they had been trained outside of the PDS, they may
not have been exposed to the myriad of circumstances and challenges that they did in the PDS and therefore felt more prepared to face the challenges of the first few years of teaching.

The professional development schools model utilized at WSU also involves the presentation of workshops for student teachers in the PDS on most Fridays. The workshops are developed and presented by faculty, staff, and administrators from the PDS and range in topics from classroom management to instructional strategies for teaching English language learners. The members of the focus groups and interview sessions, both persisters and non-persisters, claimed that these workshops were valuable to them as they moved through their student teaching and into the teaching profession. Some even said that they learned more in these workshops than in some of their classes. One participant who is currently teaching said,

The IEP one…was the most information I think I got in the entire program. It was so good because you don’t learn how to read through an IEP and even going into a job they aren’t holding your hand showing you what to do. So, to know that going into it is very beneficial.

Even the participants who are not currently teaching found the workshops to be valuable. One of the non-persisters explained, “I really enjoyed a lot of those because you learn different aspects of how school functions…Those Friday workshops…you got to actually go back and apply it to what you were doing. I felt like those were very helpful.” The participants also liked that the workshops were somewhat informal and gave them a chance to talk to other student teachers and actual practitioners from the PDS. Because it was more relaxed than being in a classroom or in a meeting, the WSU graduates felt that they could talk openly with the teachers and administrators from the PDS and ask pertinent questions that they may not ever have the chance to ask otherwise, as one of the participants explained, “At the Friday workshops, there
was time to talk and then I did feel like whoever was presenting for that professional development we could talk about things and they could help us.” The participants felt that they could make connections to the staff at the PDS through these workshops and felt more confident in their ability to interact with actual practitioners while also gaining valuable practical information. Overall, the participants felt that the Friday workshops contributed to their ability to persist because the workshops provided practical information and gave them a chance to ask questions and interact with their peers and actual practitioners. The information and confidence gained during these workshops was carried into the graduates’ first few years of teaching therefore allowing them to persist.

Another aspect of the professional development schools model that the participants felt had an effect on their ability to persist in the profession was the existence of the clinical professor. The clinical professor is hired by WSU to act as a liaison between the education department and the PDS. This person maintains his/her status as a public school employee while working on the WSU campus. He/she is responsible for supervising the student teachers in the PDS, teaching the weekly seminar class for student teachers, placing pre-practicum students, and organizing the Friday workshops with the PDS. When asked about what aspects of the WSU elementary program affected their ability to persist in the profession, both persisters and non-persisters identified the clinical professor as a key contributor. The participants discussed the fact that the clinical professor was relatable and offered much support as they worked their way through student teaching. The support and comfort the participants felt from the clinical professor led them to feel as though they could persist. One participant described her perception, “The clinical professor made us feel really comfortable and that made me persist because I was like if she did it and I feel really comfortable with her…that’s really helped me in the long run I
think.” Other participants mentioned the support that the clinical professor gave as their supervisor or during seminar class. One participant stated, “The clinical professor...just hearing her stories and being like, ‘it’ll be fine.’ It was just supportive.” This support increased the participants’ self-efficacy and teacher efficacy. This increase in self-efficacy and teacher efficacy can be linked to the graduates’ feelings that they are capable of persisting in the profession. The participants in this study indicate that the clinical professor has a great effect on graduates’ beliefs that they can persist in the profession.

Overall, the professional development schools are considered by participants in this study to be a major influence on their ability to persist in the teaching profession (see Table 29). Even those who have not persisted consider their interactions with the PDS to be positive and to have helped them move forward in their teaching careers. The participants identified three aspects of the PDS that had the greatest effect on their ability to persist, the exposure to an urban school setting, the Friday workshops, and the clinical professor.

Table 29

Quotes About the Relationship Between the PDS and Persistence

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>• We did things in the cooperating schools [the PDS] that my friends in other schools didn’t do, like going to meetings was something that at the cooperating schools we definitely did. And then you knew when you got your job, you knew what the expectation was. It wasn’t anything. You knew what all the meetings were like, what IEP meetings were like, what staff meetings were like, what the expectations were for professional development.</td>
<td></td>
</tr>
<tr>
<td>• I think WSU is in a unique position within the city of Worcester. I don’t know how many of the teachers work within the city</td>
<td>• Definitely the Friday workshops going to the different schools, I enjoyed that. At times the Friday workshops just seemed like the tip of the iceberg of a topic. The way they were presented, it was not enough to really get a full comprehensive knowledge around it, but it was still helpful.</td>
</tr>
<tr>
<td></td>
<td>• I really enjoyed a lot of those because you learn different aspects of how school functions...Those Friday workshops...you got to actually go back and apply it to what you were doing. I felt like those were very helpful.</td>
</tr>
</tbody>
</table>
once they graduate from here, but I know for me working in the city and having that exposure to the different PDS schools in the city, the population, that was helpful.

• The clinical professor made us feel really comfortable and that made me persist because I was like if she did it and I feel really comfortable with her and I can talk with everyone here and that’s really helped me in the long run I think.

• The IEP one at [a PDS]…[The principal] did it with us…was the most information I think I got in the entire program. It was so good because you don’t learn how to read through an IEP and even going into a job they aren’t holding your hand showing you what to do. Or even snapshots, they don’t tell you what that is. So, to know that going into it is very beneficial.

• Those Fridays when we used to do the professional development with student teaching because we were able to get a lot of resources. I remember we did do some on IEP’s during one of those professional developments. So, I think those were fun too because it gave us a chance to get together with the other student teachers and see their schools but also learn about certain things. I thought that was helpful.

• I think it was because my supervisor [the clinical professor] knew everyone at the PDS so it was kind of fun when she came in and it made it more comfortable, and everyone knew her so when I walked in the first day the principal knew her so we had a conversation. So, it was comfortable.

• At the Friday workshops, there was time to talk and then I did feel like whoever was presenting for that professional development we could talk about those things and they could help us.

• Also, just being in the city is totally different than teaching in the towns so I think you’re exposed to more in the city and in the PDS and get a better experience kind of.
The clinical professor helped us if there was an issue. She would clarify, and even if she said, “Ugh, I know, I’ve been there.” It helps to know that you’re not the only one experiencing it, and whatever we were having issues with, we were able to talk it out and get suggestions for.

The clinical professor...just hearing her stories and being like, “it’ll be fine.” It was just supportive.

The relationship between self-efficacy, teacher efficacy, and persistence. The participants of this study have connected the WSU elementary program with increased levels of self-efficacy and teacher efficacy. During focus group discussions and interviews, the participants also explained that self-efficacy and teacher efficacy affected their ability to persist in the teaching profession. If the participants claim that the program increased their self-efficacy and teacher efficacy and they are able to connect those concepts to persistence, then the program may also be improving persistence by increasing self-efficacy and teacher efficacy in its pre-service teachers. All but two of the eleven participants connected their self-efficacy and teacher efficacy to their ability to persist. The participants connected self-efficacy and teacher efficacy to persistence in the teaching profession in two ways. First, they claimed that having positive self-efficacy and teacher efficacy causes one to enjoy one’s job as a teacher and that this positive feeling also trickles down to students, causing the students to perform better and making the teacher feel more confident. This cycle causes the teacher to connect positive feelings to their job and therefore is more likely to stay in the profession. Second, the participants link high levels of self-efficacy and teacher efficacy to an ability to overcome obstacles, a vital skill when first entering the teacher workforce.
The focus group and interview participants described self-efficacy and teacher efficacy as deep, positive feelings that have a great effect on their teaching and on their desire to continue on in the teaching profession. These participants explained that having confidence in one’s self and in one’s teaching ability causes enjoyment, which makes one crave that feeling more and more. The participants explained that they attribute their persistence to their own confidence because that confidence leads to more enjoyment in their teaching and therefore causes their elementary students to be more confident and enjoy school more. Because of this, their elementary students tend to achieve more and be more successful, which in turn, makes them, their teachers, feel more confident. The participants stated that their confidence builds and becomes stronger because of this phenomenon and then fuels their persistence. The participants explained that they left the WSU program as confident teachers, and then that confidence bred more confidence. One participant who is currently teaching explained,

Once you feel comfortable and confident teaching something, you like it more, you want to do it more and that is really transparent to the kids. If you show that you love reading and you love teaching reading because you are confident teaching reading, then the kids take that energy and internalize it.

Another participant, who is a second grade teacher, described a similar domino effect,

I think the confidence that you get through the program here at Worcester State is attributed to you staying in the profession because the confidence that you get here you are instilling in your students and when you see that confidence in your students, it makes you want to stay. I mean if you’re put into a position where you don’t have a lot of confidence in what you’re doing, your students aren’t going to have a lot of confidence in
what they’re doing and then after a while you’re going to burn out and want to leave whereas if you come in with that confidence and instill that confidence, it’s different.

The perception of many of the participants was that when a teacher has confidence, the teacher’s students also will have confidence, and when the students and the teacher are confident in a classroom, the students achieve more making everyone even more confident. This process causes the students and the teacher to enjoy school and also to want to persist in the classroom.

Another way that self-efficacy and teacher efficacy are related to persistence, according to the participants of this study, is that self-efficacy and teacher efficacy can have an effect on one’s ability to overcome obstacles. In the beginning years of teaching, there are many hardships that arise that can often be difficult to overcome for new teachers. The participants of this study claim that when a person has high levels of self-efficacy and teacher efficacy, they are able to more easily overcome adversity. This idea is particularly evident in some of the participants who have not been able to get a start in the profession. One of these graduates began the elementary education program at WSU and then left the program because she struggled to pass the MTEL (Massachusetts Test for Educator Licensure). She re-entered the program a few years later, finished her coursework, and proceeded to have a difficult student teaching experience. She was forced to cut her student teaching experience short, but she picked herself up and redid student teaching in another school and was highly successful. She faced a number of obstacles on her path to becoming a teacher, but she always continued to pursue the profession, and she has been successful at teaching for the last five years. When asked why she was able to continue she explained that her confidence helped her through, “I would never give up because first of all, I worked too hard to get here. I worked through a lot of difficulties. That made me confident. It is so much work. You have to love it.” She also explained that she lost some
confidence when she first couldn’t pass the MTEL but that she decided to come back to WSU because she knew she would get the support she needed. That support gave her confidence to persist. She says,

When I left, it was mainly because of the teacher’s test. Again, I lost confidence. “Okay, I can’t pass the test. I give up.” I feel like it was the school and the teachers and my determination that brought me back. I wasn’t giving up…I could have gone to a different school, but I knew all the teachers and people I could go to for help. That’s where I got all the support. Even people that had never had me before, they were great. I can’t say enough good things.

This participant makes a clear connection between her confidence levels and her ability to persist in the profession. She attributes increased levels of self-efficacy and teacher efficacy to the WSU elementary program and claims that these increased levels helped her to continue in the profession even as she faced obstacles.

Similarly, another graduate of the WSU elementary program who graduated from WSU five years ago has faced many obstacles while trying to obtain his license to teach in Massachusetts. When he graduated from WSU in 2007, he completed all the requirements for licensure in Massachusetts except for one part of the MTEL. He took it six times before passing only to be told that during the time that he was concentrating on passing that part of the MTEL, Massachusetts had developed a new math subtest that he would now have to take. This participant explained that when he received this news, he thought he would just quit, but he knew that he really wanted to teach, and he felt that he was good at it. He connected his self-efficacy and teacher efficacy to his desire to continue to pursue the teaching profession. He said,
I definitely think that my confidence level has made me want to continue to try to teach.

I think I’m a perfect example of that because it is something that I really want to do. Had I not really cared after the third of fourth fail of the Foundations of Reading test, I might have been like screw all of this.

In summary, graduates of the WSU elementary program link their ability to persist in the teaching profession to self-efficacy and teacher efficacy (see Table 30). Participants who have persisted in the teaching profession claimed that self-efficacy and teacher efficacy caused them to enjoy their jobs as teachers, which in turn, made them want to continue on as teachers. Other participants who have persisted in the profession and some who have not entered the profession described the obstacles they have faced, and claimed that high levels of self-efficacy and teacher efficacy have helped them to face these challenges and therefore caused them to be able to continue teaching or to continue to pursue teaching as a profession. Because the WSU elementary education program contributes to increased levels of self-efficacy and teacher efficacy, it is likely that it also contributes to a greater ability to persist in its graduates.

Table 30

Quotes About the Relationship Between Self-Efficacy, Teacher Efficacy, and Persistence.

<table>
<thead>
<tr>
<th>Quotes from participants who have persisted</th>
<th>Quotes from participants who have not persisted</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Once you feel comfortable and confident teaching something, you like it more, you want to do it more and that is really transparent to the kids. If you show that you love reading and you love teaching reading because you are confident teaching reading, then the kids take that energy and internalize it.</td>
<td>• I definitely think that my confidence level has made me want to continue to try to teach. I think I’m a perfect example of that because it is something that I really want to do. Had I not really cared after the 3rd of 4th fail of the Foundations of Reading test, I might have been like screw all of this.</td>
</tr>
<tr>
<td>• I think the confidence that you get through the program here at Worcester State is attributed to you staying in the profession because the confidence that you get here</td>
<td>• Teaching for a month in that setting, in that environment, with very little support, in a very chaotic and disorganized system and essentially being fired from that job because I wasn’t doing what I needed to be doing.</td>
</tr>
</tbody>
</table>
you are instilling in your students and when you see that confidence in your students, it makes you want to stay. I mean if you’re put into a position where you don’t have a lot of confidence in what you’re doing, your students aren’t going to have a lot of confidence in what they’re doing and then after a while you’re going to burn out and want to leave whereas if you come in with that confidence and instill that confidence, it’s different.

- I would never give up because first of all, I worked too hard to get here. I worked through a lot of difficulties. That made me confident. It is so much work. You have to love it.

- When I left, it was mainly because of the teacher’s test. Again, I lost confidence. Okay, I can’t pass the test. I give up…I feel like it was the school and the teachers and my determination that brought me back. I wasn’t giving up…I could have gone to a different school, but I knew all the teachers and people I could go to for help. That’s where I got all the support. Even people that had never had me before, they were great. I can’t say enough good things.

- I think at times when you are teaching, if you’re not confident in your teaching, you’re constantly going to go home everyday and say, “What am I doing?” and if you continuously second guess and question yourself, you’re going to drive yourself crazy. I think being confident with your students, with the faculty, with the parents definitely helps because when you’re confident, you’re whole presence...Personally, if I’m confident, my whole attitude is different. I like being there. Even now if I go in on something that I don’t fully prepared for and I’m not all that confident, I’m like, ugh, and I feel like I’m not doing the best I can so I think that the confidence has definitely helped in my experience being able to stay in the profession.

My classroom wasn’t under control basically. Ya, that was a huge low point. I basically lost all confidence. I don’t think I was applying for teaching positions after that happened.

- I think if I had felt like I was doing a really great job and reaching a lot of kids...if I actually felt like I was teaching, I think I would have stuck with it, but my experience in the profession, for the short time that I stayed in it was that I wasn't teaching, I was managing, and that’s not what I love to do.

- If I didn’t like what I was doing and felt like I wasn’t doing a good job at it, I would probably be like, “I’m done.” I would go to another profession.
Differing themes between persisters and non-persisters. The most glaring difference between the persisters and non-persisters is related to the recommendations they offered to improve the WSU elementary education program. Two themes that arose when non-persisters were asked about what WSU could do to improve the program was a need for support after graduation and a need for coursework regarding classroom management. Themes that were apparent with the participants who had persisted in the profession were a need for help searching for a teaching position and a need for instruction related to interview skills.

The need for support after graduation. Some of the participants who had not persisted in the teaching profession indicated that the program should have a post-graduation element. They reported feeling somewhat abandoned as they left WSU. All of the non-persisters said that the WSU program offered much support while they were enrolled in the program. However, some felt that after graduation the support ended. For example, one participant who left the profession said, “There was tons of encouragement while being here as a student, but it’s the after that’s lacking.” Some of the participants mentioned that they have informal contact with some of their former professors, but that a more formal support system would be beneficial. One participant discussed her desire for more interaction after graduation,

No one really keeps tabs on you after you graduate. No one is checking in to see what you are doing and how you’re doing…There’s no post-graduation. There’s no group way to come together to discuss how you’ve been doing…If there was some sort of program built in, that would be helpful.

This idea of collaboration and reflection was indicated by most of the focus group and interview participants as a strength of the WSU program. Collaboration and reflection are
embedded in many aspects of the WSU elementary education program. It is no wonder that the graduates of the program crave the same type of collaboration after they graduate. These same participants discussed the benefits of feeling supported by others throughout their tenure in the WSU program. The participants who left the profession seem to feel that the program is infused with this collaborative and supportive environment, but that it is non-existent after they leave the program. The kind of support that was so beneficial while they navigated their way through the elementary education program would also be helpful as they begin their careers and could potentially contribute to their persistence in the profession.

*The need for instruction about classroom management.* Although some of the participants who had not persisted in the profession never obtained a classroom teaching position, many taught in other capacities after they graduated and therefore have some experience on which to reflect as they offer suggestions for the program to improve. Three of the four participants who did not persist mentioned that more instruction regarding classroom management would be helpful. Currently, there is not a course offered through the education department at WSU that addresses classroom management. Any instruction that is offered to students on this topic is a part of other courses. One of the participants who left the teaching profession indicates that her struggles with classroom management were part of the reason that she left the teaching profession. She articulated her thoughts about the lack of classroom management instruction in the WSU program, “After graduating and actually being out in the field, I think that there were some areas that maybe didn’t get covered as part of the program. It seems like it’s at a point where we really might need a course in classroom management.” The same graduate described her feelings when she started teaching at a school for behaviorally challenged children and then a first grade in a public school when she said,
I went and taught at a behavioral school. I was like, “oh my God.” I was prepared to educate. I wasn’t prepared to deal with the behaviors that were thrown at me. Then, I was thrown in a first grade classroom…and I had a lot of issues with behavior there as well. At that point I felt really underprepared.

Another participant who has not obtained a classroom teaching position but has been a long-term substitute and a teaching assistant had similar sentiments. She described her experiences when she was a long term substitute and why a course about classroom management should be added to the program,

I really think that needs to be added as a class because going in to school, I sometimes didn’t even want to go back the next day. I felt like the kids didn’t care. I didn’t know how to get them to care. I think it would be a positive class to add. Then, my confidence would boost even more walking into the classroom if I actually knew how to manage the students.

These participants felt strongly about the need for a classroom management course as part of the WSU elementary education program. They link their lack of persistence and often sense of confidence to their lack of skill in classroom management. Therefore, a course in classroom management may decrease the attrition rate of the graduates of the elementary program at WSU.

The need for instruction about job search and interview skills. Five out of the seven focus group participants who have persisted in the teaching profession recommended that the program include more instruction about searching for jobs and interviewing. Although, all of these participants have obtained classroom teaching positions, they described a long road to finding a permanent position usually involving around twenty to thirty interviews and accepting
positions as assistant teachers, tutors, or substitute teachers before finding a position that was more desirable. Many of the participants thought that the difficulty of this process could be alleviated if they had been directly taught interview skills and had help searching for teaching positions. For example one of the participants explains,

That [instruction regarding interviewing] would make me feel more confident because I did get a job right out of school, luckily, but I did go on like twenty interviews that summer, and I feel like the first ten I tanked. Then, when I realized what I was doing wrong, I got a job. I think I maybe could have avoided some of that.

Other participants suggested offering workshops to help pre-service teachers prepare for interviews and demonstration lessons that are often part of the interview process. Some also recommended providing mock interviews for teaching candidates by inviting principals from the surrounding school districts to campus. One participant suggested, “You could have principals from the PDS come in and a principal from somewhere outside of Worcester come in and actually give mock interviews.” Some of the participants of this study who have not persisted in the profession have struggled to find a permanent teaching position. This idea of teaching teacher candidates specific interview and job search skills would benefit all of the graduates of the program, but certainly could help the graduates who have been unable to obtain a classroom teaching position. This could lower the rate of graduates who leave the teaching profession as a result of not being able to find a job.

*Stories of interviewees who have not persisted in the profession.* While analyzing the qualitative data, the stories of the participants who did not persist in the teaching profession became infused with the data. The stories of these participants reveal the underlying reasons that they have not persisted in the teaching profession. Therefore, it is imperative that their stories be
told as part of the findings and analyses of this study. The unique progression of each of the four participants who have not persisted in the profession from pre-service teacher into the beginning stages of their careers is outlined in the subsequent paragraphs.

Participant #1. Participant #1 graduated from WSU in 2007. He did not graduate, however, with his elementary education degree. Instead, he graduated with a degree in his second major. He had completed the entire program including all the coursework, pre-practicum requirements, and student teaching, but he had not passed one of the required portions of the Massachusetts Test for Educator Licensure (MTEL). In order to graduate at WSU with an elementary education degree, one must pass three parts of the MTEL, the communication and literacy test, the general curriculum test, and the foundations of reading test. Participant #1 had not passed the foundations of reading portion of the exam. After he graduated, he took a position as a restaurant manager, a job he saw as highly lucrative in comparison to other positions he could have pursued in education without a license to teach.

Participant #1 continued to retake the foundations of reading MTEL. After several attempts to pass, he finally passed four years after he took the initial test. He then submitted the necessary paperwork in order to receive his elementary teaching license, but the Massachusetts Department of Elementary and Secondary Education (DESE) explained that the general curriculum portion of the MTEL had changed since he last took that part of the exam. It had a new math subtest, and the state of Massachusetts required that everyone seeking a new license would need to take it and pass it, including him. At this point, participant #1 became extremely frustrated with the process to become a teacher and decided that he was satisfied with being a restaurant manager. He thought he would never become a teacher and decided not to take the math subtest at that time.
Even though participant #1 endured years of setbacks in his path to becoming a teacher, he recently decided to take the math subtest and passed the test on the first try. He explained that he was discouraged for some time and thought he would never pursue a teaching career again, but he realized his love for the profession and decided to try again. He attributes his resilience and love for the profession to his experience with the WSU elementary program. He explained, I had issues with the test and then finally passed, and I decided I was pissed for a bit. Then, I realized I really did enjoy myself. I was really good at it [teaching]. Knowing that it is still an option and it’s not too late, getting back into it is something I really want to do. If I had had a lousy experience [at WSU], I would have said, “Screw it, I’m going to be a bartender for the rest of my life.” I think that because I had such a good experience, it totally stuck. Because of the success I had here, it is something I want to get back into.

Participant #1 has faced many obstacles in his pursuit of becoming a teacher. He has given up on the profession at times, but has never completely abandoned it, and he attributes the WSU program with his persistence in the face of adversity.

Participants #2 and #3. Participant #2 and participant #3 are both graduates of the WSU program who have not taught in an elementary classroom. Unlike, participant #1, both participants #2 and #3 did pass all the required parts of the MTEL but have been unable to find a classroom teaching position at the elementary level. Participant #2 graduated in 2008, and participant #3 graduated in 2007 with degrees from WSU in elementary education and received their licenses to teach elementary school from the Commonwealth of Massachusetts soon after graduation. Since graduation, participant #2 has taken jobs in the education field including being an MTEL tutor for those trying to get their license to teach, being a long-term substitute in a
kindergarten classroom, and being a day-to-day sub for various school districts. Participant #3 has been a supervisor at a local pharmacy, but has also served as a teaching assistant and long-term substitute in a public school district. Both participants have also started taking graduate level courses recently. Since graduating from WSU, both participant #2 and participant #3 have been on a number of interviews for classroom teaching positions, but have been unable to obtain a position.

Although participants #2 and #3 have been unable to find teaching positions, they are both still committed to pursuing a teaching career. Like participant #1, participant #2 and #3 have had moments when they wanted to give up on the profession, but they currently continue to strive for a teaching career. Participant #2 attributes this persistence to the WSU program and the confidence and love for teaching that was instilled in her while she was enrolled in the program. She discussed how a love for teaching was engrained in her at WSU,

Coming from someone who hasn’t found a position yet who on some of her cranky days would love to give up, I know I never could. I know that after working so closely with some of my professors and seeing with them that that [teaching] was my passion…That was instilled in me to never give up on the field.

Participant #2, like participant #1, has faced some hurdles in her pursuit of a teaching career, but has not given up due to ideals instilled in her while she was part of the WSU elementary program.

Similarly, participant #3 also feels that the WSU program contributed to her persistence. She explained her feelings about continuing to pursue the teaching profession,

I got into a slump this year because I couldn’t find anything, but I am still looking and trying my hardest so obviously I had to have learned something from here [WSU] that makes me want to continue, I guess my connections with people here. I’m not going to
stop what I want to do. Just because I don’t have a job doesn’t mean I’m going to stop looking. Something here made me feel like I want to continue. I love working with kids and maybe the teachers I worked with showed me that. They would always boost me up when I didn’t feel like I could find anything.

Participant #3 described a similar experience to that of participants #1 and #2. They all have hit significant lows in their path to becoming a classroom teacher, but have never completely given up on the profession. All three of these participants attribute their persistence to the WSU elementary education program.

**Participant #4.** Participant #4 has a very different story to the other three participants who are not currently teaching. She entered the profession as a teacher and has had more than one classroom teaching position but has decided that she no longer wants to teach. After graduating from WSU in 2008, participant #4 got a job as a classroom teacher at an alternative school for behaviorally disordered students where she taught for a year. While teaching at the alternative school, participant #4 felt that she “wasn’t prepared to deal with the behaviors that were thrown at” her. She decided to search for other teaching positions, and the following year, she got a job as a long-term substitute in a first grade classroom in an urban school district. She again felt underprepared for this position. She admittedly saw many of the same behaviors she had experienced at the alternative school and felt that she didn’t have enough experience at the first grade level to effectively teach. She claimed to have had many problems with classroom management and therefore decided that teaching at that level was not optimal. In regards to confidence, teacher efficacy, and self-efficacy, this was when participant #4 was at her lowest point.
Participant #4 decided to stop applying for teaching positions, but she received a phone call from a school district she had applied to previously for an assistant teaching position. She was offered the position, and she took it. What she found as she taught as an assistant teacher was that many of the teachers she worked with were unhappy, and the morale of the school was quite low. Participant #4 finally decided that teaching in schools was not going to make her happy, and she left the profession to pursue the teaching of yoga. She explained,

For me, I was, on one hand pursuing yoga teaching and building health and building vibrancy and on the other hand I was in these situations in this [teaching] profession where that was just plummeting. I just chose to pursue what was making me happy instead of what I saw was making other people miserable.

Although participant #4 had a grueling experience during her first few years of teaching, she has found ways to continue to play a role in the world of education. She continues to teach, not in a traditional school setting, but instead by teaching yoga. She has also offered professional development workshops for local school districts about how to incorporate yoga into the school day and into physical education classes. She also claims that classroom teaching is still an option for her in the future and that she has not totally ruled it out just yet.

It is interesting to point out that participant #4 maintains a positive attitude about the WSU elementary education program. She explained that her self-efficacy and teacher efficacy were quite high when she finished the program and while she was in the program, but that it plummeted due to the teaching positions she held post-graduation. She claimed that she “doesn’t know how it could have been different.” She felt that “there was tons of encouragement” while in the WSU program, and she realized as she completed the program that she might not obtain a desired position right away. She indicates that the program made her feel as though she wanted
to continue. She said, “We were encouraged to keep going.” She often wonders if she burned out as a result of her first position as a teacher in an alternative school. She wasn’t trained to teach in an alternative setting, and she wonders if “that experience snowballed afterwards,” meaning that it led to her feeling more and more discouraged over time. So, although participant #4 has left the teaching profession, she believes that the WSU program contributed to increased teacher efficacy and self-efficacy. She does suggest that more should be done for graduates after leaving WSU so that the encouragement and positive environment that is experienced while matriculated in the WSU program carries over into graduates’ transition into the profession. She explained, “There was tons of encouragement while being here as a student, but it’s the after that is lacking.”

Summary analysis of non-persistent graduates’ stories. The stories of the non-persisters reveal the true reasons that they have not persisted. In three of the cases, the participants maintain a desire to teach. Only one has left the profession due to feelings related to a lack of teacher efficacy or self-efficacy. The three participants that still desire to teach have not given up on the profession and feel prepared to teach. These three participants have experienced ups and downs in their journeys to becoming a teacher but have persevered and not given up. Their reasons for not being teachers are often outside their control. They either have struggled to pass the MTEL or have been unable to find a position. Although they are not teaching at the moment, they continue to work toward the goal of becoming classroom teachers.

Summary. The survey data and focus group and interview data from this study indicate that various elements of the WSU elementary education program can be linked to the persistence of its graduates. The graduates of the program leave the program with high levels of self-efficacy and teacher efficacy, which persisters identify as reasons that they have been able to
remain in the teaching profession. This was evident in the survey data when 86.4 percent of the participants who had persisted in the profession claimed that confidence in their teaching ability has led to their persistence, and 63.6 percent of the same participants indicated that a strong sense of self-efficacy contributed to their ability to persist. However, when non-persisters were asked why they have left the profession, none of them chose a lack of self-efficacy or a lack of confidence in their teaching ability as a response. Their reasons for leaving the profession were extremely varied and ranged from taking graduate courses to poor working conditions. It is clear that the participants who have not persisted do not attribute their lack of persistence to a lack of self-efficacy or teacher efficacy. This makes sense, however, since the self-efficacy and teacher efficacy scales indicated that these participants maintained high levels of teacher efficacy and self-efficacy. A lack of teacher efficacy and self-efficacy cannot be factors in why these participants left the profession if their self-efficacy and teacher efficacy are not in fact lacking. The reasons that these participants have left the profession are related to other factors, such as starting a family, not being able to get a job, or being laid-off. A lack of self-efficacy and teacher efficacy did not cause them to leave. High levels of teacher efficacy and self-efficacy seemed to help those who have persisted to remain in the profession, but when there are outlying factors, such as those indicated by those who left, often these beginning teachers will choose to leave the profession or be forced to leave.

The focus group and interview data also supports these claims. The stories of the non-persisters are an indication that outlying factors are often the cause for graduates of the WSU program to leave the profession. Three of the four participants who did not persist in the profession actually never began their careers. Two of them have been unable to find a classroom teaching position and one has just recently passed the MTEL and become licensed to teach.
These three participants explained that they are confident in their teaching ability and feel that the WSU program increased their self-efficacy and teacher efficacy. All three have a strong desire to teach at the elementary level, but there are outlying factors that have prevented them from being able to teach. They have high levels of teacher efficacy and self-efficacy, but have not persisted due to other factors. A lack of teacher efficacy and self-efficacy are not reasons that they have not persisted in the profession. The fourth participant who has left the profession indicates that the WSU program contributed to increased levels of teacher efficacy and self-efficacy, but these levels decreased as she experienced the realities of teaching. She does indicate that diminished levels of teacher efficacy and self-efficacy somewhat contributed to her decision to leave the profession, but the main reason she left, according to her interview, was because she felt that the morale in the teaching profession was quite low, and she thought she could be happier teaching yoga than teaching in an elementary classroom. Overall, the stories of participants who have not persisted indicate that a lack of self-efficacy and teacher efficacy have not been major factors related to their lack of persistence. Instead, there are other factors that have come into play.

The focus group and interview data also allows for a more in depth look at the perceptions of the participants related to how the WSU elementary program contributes to the persistence of its graduates. All the participants, even those who have not persisted in the profession, feel that the program has a positive effect on persistence. The focus group and interview participants felt that the program influences the persistence of its graduates due to the support and expertise of the professors in the program, the many practical experiences that are part of the program, the experiences that pre-service teachers have with the PDS, and due to the
fact that students in the program usually experience an increase in self-efficacy and teacher efficacy while in the program.

Although the participants generally feel that the WSU program has a positive effect on persistence, both groups of participants offered suggestions to increase teacher retention levels of graduates of the WSU program. The participants who have not persisted in the profession suggested that WSU add a post-graduation component to the program that will offer support to graduates as they transition into the teaching profession. They also recommended that a course regarding classroom management be added to the program due to the fact that this was the aspect of teaching that they seemed to feel the least confident in as they entered the workforce. The persisters suggested that the WSU program needs to offer support to pre-service teachers transitioning into the teaching profession with interview and job search skills. Many of these participants, although they eventually found a teaching position, found the process of finding a job to be grueling. They thought that WSU could help alleviate some of the stress related to that process. In conclusion, according to the data, the WSU elementary education program contributes to the persistence of its graduates in the teaching profession, but there are ways to increase the retention rates of its graduates in the teaching profession.

**Findings and Analysis Related to the Logic Model**

The logic model of this study was created in order to represent “the sequence of events thought to bring about benefits or change over time” (Taylor-Powell & Henert, 2002). Specific to this study, the logic model represents the sequence of events that take place in the WSU elementary education program that lead to the desired outcomes of increased self-efficacy, increased teacher efficacy, and ultimately persistence in the teaching profession (See Appendix A). The logic model for this study presents a number of activities that take place within the
WSU elementary program that may ultimately lead to some short-term outcomes. These short-term outcomes should then lead to “medium” outcomes. These “medium” outcomes, for the purposes of this study, are that graduates of the WSU program will have high levels of self-efficacy and high levels of teacher efficacy after they complete the WSU program. The final outcome or “long” outcome as projected by the logic model of this study is that graduates of the program will remain in the teaching profession for at least three years. This final analysis will explore the path projected by the logic model of this study and determine if the data support this path. This part of the analysis will begin with a determination of whether the activities of the WSU program lead to the short-term outcomes in the logic model. Then, the data will be examined to consider whether the activities and short term outcomes lead to the medium outcomes. Finally, the connection between the medium outcomes and the long-term outcome will be scrutinized.

**Evidence of short-term outcomes.** The “activities” that are listed as part of the logic model and lead to outcomes in the model are actual elements of the WSU program. These elements, according to the logic model will lead to the short-term outcomes listed in the logic model. The activities encompass the major elements of the WSU program that have already been discussed in this report and include the fieldwork that students in the program must complete, the methods courses, the student teaching experience, and the weekly seminar during student teaching. The activities also include the unique components of the PDS model such as the Friday workshops that student teachers attend when they student teach in a PDS, the clinical professor who oversees the students’ interactions with the PDS, the cooperating teachers in the PDS, and the cohort of students that is created through the PDS model. These elements are expected by the logic model to result in the following short-term outcomes:
1. Participants practice and apply knowledge that has been learned through coursework

2. Participants become familiar with the staff and administration of the PDS

3. Participants connect theory and practice by the end of the program

4. Participants learn the realities of teaching throughout the program

5. Participants become familiar with the norms and climate of elementary schools

6. Participants witness model/mentor teachers throughout the program

7. Participants gain support from classmates and a consistent supervisor/instructor

8. Participants learn the realities of teaching from knowledgeable school personnel who are embedded in the schools

9. Student teachers have a consistent instructor/supervisor during student teaching

10. Elementary education students experience consistency and support throughout the program.

Evidence regarding these expectations was collected through interviews and focus groups. Participants in the focus groups and interviews often discussed how the elements of the program led to these short-term outcomes. Table 31 displays the “activities” of the program and the short-term outcomes from the logic model along with evidence that the activities actually lead to the short-term outcomes. The evidence is presented as quotes from the focus group and interview participants.
### Table 31

**Connection Between Program Activities and Short-Term Outcomes**

<table>
<thead>
<tr>
<th>Activities</th>
<th>LEAD TO</th>
<th>Short Outcomes</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Elementary education majors complete fieldwork that accompany all coursework in elementary education.</td>
<td>1. Participants practice and apply knowledge that has been learned through coursework</td>
<td>“One thing I thought was particularly beneficial was that every class required observation or teaching hours…I feel like I was better prepared because of that”</td>
<td>“One other thing that I thought was really beneficial that Worcester State provided for me was the observation hours. I think that truly made me understand the difference in teaching styles and learning styles of students and demographics and how all of that can play in.”</td>
</tr>
<tr>
<td></td>
<td>3. Participants connect theory and practice by the end of the program</td>
<td></td>
<td>“Going out into the field, you would have that much more under your belt. It’s almost like building cellular memory of what to do. ‘Oh this happened to me before, so I know how to handle it.’”</td>
</tr>
<tr>
<td></td>
<td>4. Participants learn the realities of teaching throughout the program</td>
<td></td>
<td>“I think the fieldwork…they get you in there. They were like, ‘Okay, teach a lesson.’ They really throw you in.”</td>
</tr>
<tr>
<td></td>
<td>5. Participants become familiar with the norms and climate of elementary schools</td>
<td></td>
<td>“We also went into some of the schools. You know, for science, we actually went into a school and did our work, but actually going into a school with your methods class and teaching each day was really beneficial.”</td>
</tr>
<tr>
<td></td>
<td>6. Participants witness model/mentor teachers throughout the program</td>
<td></td>
<td>“I think some of that confidence comes from the methods classes when we were in the schools and working with a group.”</td>
</tr>
<tr>
<td></td>
<td>8. Participants learn the realities of teaching from knowledgeable school personnel who are embedded in the schools</td>
<td></td>
<td>“I would say the classes that I found to be the most beneficial were the methods classes that I took. I felt the methods class…were huge helps because I’m using a lot of the resources and those were probably the most helpful in developing my classroom now.”</td>
</tr>
<tr>
<td>2. Some methods courses are taught on site at the PDS so class and fieldwork can be done together.</td>
<td>1. Participants practice and apply knowledge that has been learned through coursework</td>
<td>“I know for science we were across the street at [the PDS school] and for the math class we were over at [another PDS school]. So, we got to learn something and then go and teach it together. It was helpful.”</td>
<td>“When we would go next door to do...”</td>
</tr>
</tbody>
</table>
math or across the street to do science, I just think it’s helpful. I mean you can sit there and listen to people lecture, but unless you get in the classroom and see what this kind of child looks like, how are you going to learn how to deal with that child? I mean you’re not going to pull out your book and say, ‘Let me see how to handle this.’ You have to be there and see it.”

“You were learning in these schools [PDS schools] already in your methods courses and other things…you still had some knowledge of what it was going to be like.”

“I actually ended up student teaching with the teacher that I did my math work for pre-practicum [methods] classes [in a PDS]. I chose her because I had done math with her and she was so great…I think it was helpful and I also really liked the principal and just being there and seeing the other teachers.”

 “[In math methods class], he effectively taught us things and then taught us how to implement them in a class…[The professor] was like, ‘Let’s understand this first and bring it into the classroom.’”

“In your last year, you did methods course. That was my best experience in the classroom because it was hands on. You are actually seeing what it is actually like to be a teacher.”

“I think the observations while I was student teaching by my supervisor is very similar to the observations we are going through as teachers now with our principals.”

“It [student teaching] was a really nice segue into the teaching profession.”

“Student teaching was a great program I thought. Just being in the schools and teaching and showing what you have, and you also learned from the teacher.”

“I was able to have a conversation that was intelligent and use teacher jargon, and I learned that and I felt more comfortable being fluent in it from my student teaching experience.”

“At times, I’ll think back to how my cooperating teacher handled students and it would kind of help me.”

3. All elementary education majors complete a 300 hour practicum (student teaching).

1. Participants practice and apply knowledge that has been learned through coursework

3. Participants connect theory and practice by the end of the program

4. Participants learn the realities of teaching throughout the program

5. Participants become familiar with the norms and climate of elementary schools

6. Participants witness model/mentor teachers throughout the program

8. Participants learn the realities of teaching from knowledgeable school personnel who are embedded in the schools

2. Participants practice and apply knowledge that has been learned through coursework

4. Participants learn the realities of teaching throughout the program

6. Participants witness model/mentor teachers throughout the program

8. Participants learn the realities of teaching from knowledgeable school personnel who are embedded in the schools

“[In math methods class], he effectively taught us things and then taught us how to implement them in a class…[The professor] was like, ‘Let’s understand this first and bring it into the classroom.’”

“In your last year, you did methods course. That was my best experience in the classroom because it was hands on. You are actually seeing what it is actually like to be a teacher.”

“I think the observations while I was student teaching by my supervisor is very similar to the observations we are going through as teachers now with our principals.”

“It [student teaching] was a really nice segue into the teaching profession.”

“Student teaching was a great program I thought. Just being in the schools and teaching and showing what you have, and you also learned from the teacher.”

“I was able to have a conversation that was intelligent and use teacher jargon, and I learned that and I felt more comfortable being fluent in it from my student teaching experience.”

“At times, I’ll think back to how my cooperating teacher handled students and it would kind of help me.”

2. Participants practice and apply knowledge that has been learned through coursework

4. Participants learn the realities of teaching throughout the program

6. Participants witness model/mentor teachers throughout the program

8. Participants learn the realities of teaching from knowledgeable school personnel who are embedded in the schools
4. Most elementary education majors complete their student teaching in the PDS.

2. Participants become familiar with the staff and administration of the PDS

“The support, they [the cooperating teacher] were always there whether you needed help or ‘good job.’ That really sticks out in my head, the student teaching experience.”

“I really valued my student teaching experience because [my cooperating teacher] immediately threw me into the classroom and said, ‘Okay, you’re going to co-teach with me.’”

“I loved the teacher I had over at [the PDS school] for student teaching, and she helped me through a lot.”

“I think the entire staff at [the PDS school] was phenomenal. They didn’t make you feel like you were a student teacher.”

“They were so used to having you that they really grew accustomed to how to be an effective leader for you…Some people who student taught in other towns with teachers with less experience… I don’t mean less experienced teachers, but I mean teachers with less experience having a student teacher, it was different.”

“I was at [a PDS school] and my cooperating practitioner was very comfortable with, ‘I’ve always had a student teacher. This is what I expect you to do.’ I think that was a huge piece of feeling valued.”

“You were learning in these schools [PDS schools] already in your methods courses and other things…you still had some knowledge of what it was going to be like.”

“I actually ended up student teaching with the teacher that I did my math work for pre-practicum [methods] classes [in a PDS]. I chose her because I had done math with her and she was so great…I think it was helpful and I also really liked the principal and just being there and seeing the other teachers.”

“It is beneficial to be placed in a school [for student teaching] like that where the school, the students, the staff, the faculty, are totally used to having college kids coming through and parents even.”

“I think being over there with them [in the PDS] being used to you coming and going, there are relationships that develop.”
5. Student teachers in the PDS participate in Friday workshops where they learn from PDS teacher and administrators.

6. Participants witness model/mentor teachers throughout the program

8. Participants learn the realities of teaching from knowledgeable school personnel who are embedded in the schools

I walked in [to the PDS for student teaching]. I was like ‘I’ve been here before.’ They were like, ‘Good to see you.’”

“With the PDS, those teachers have had people from Worcester State so often that they just know what to expect, and they know what a new teacher is going to do.”

“Well, I think going to those schools is helpful because they know what the expectations are to helping us. I feel like when you walk into a school like that they know what is being expected of us so they are more willing to help us…So, I feel like the teachers in the professional development schools are more caring and open to help us when we walk in. It’s nothing new to them.”

Those Friday when we used to go to do professional development with student teaching…it gave us a chance to get together with the other student teachers and see their schools but also learn about certain things. I thought that was helpful.”

“The IEP one at [a PDS school], [the principal] did it with us, was the most information I got in the whole program. It was so good.”

“There was time to talk and then I did feel like whoever was presenting for the professional development [at the Friday workshops], we could talk about those things and they could help us.”

“The Friday workshops, going to the different schools, I enjoyed that. At times the Friday workshops just seemed like the tip of the iceberg of a topic, but it was still helpful.”

“The Friday workshops I really enjoyed a lot of those because you learn different aspects of how a school functions. Those Friday workshops, you got to actually go back and apply it to what you were doing. I felt like those were really helpful.”

6. Student teachers attend a weekly seminar taught by the clinical professor, an employee of the PDS school district.

6. Participants witness model/mentor teachers throughout the program

7. Participants gain support from classmates and a consistent supervisor/instructor

“Coming back on Wednesdays and just…most of the time we were able to talk about all the things that were happening and see all the different experiences and see what you might face made you really aware of everything, and having someone as your professor who actually was a teacher and be able to
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Student teachers in the PDS are supervised by the clinical professor.</td>
<td>Participants gain support from classmates and a consistent supervisor/instructor.</td>
</tr>
<tr>
<td>8.</td>
<td>Student teachers in the PDS are mentored by a cooperating teacher who is familiar with the WSU program.</td>
<td>Participants have a consistent instructor/supervisor during student teaching.</td>
</tr>
<tr>
<td>9.</td>
<td>Participants have a consistent instructor/supervisor during student teaching.</td>
<td>share your experiences…made us feel really comfortable.”</td>
</tr>
<tr>
<td>10.</td>
<td>Elem. Ed. students experience consistency and support throughout the program.</td>
<td>“I think we learned to fall back on each other during that seminar class. That was a great time to collaborate and just sort of, I don’t know if I want to call it venting because it wasn’t bad. I think that taught me that you need to meet with teachers and you need to talk to teachers and you need to collaborate.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I think the seminar part was really beneficial…just being able to compare with the other people. I think that was really helpful.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I know in our seminar, we would come in and vent for the first twenty minutes of it. Whether it was us talking to each other or [the clinical professor] talking to us…she helped us if there was an issue. She would clarify, and even if she said, ‘Ugh, I know, I’ve been there,’ it helps to know that you’re not the only one experiencing it, and whatever we were having an issue with, we were able to talk it out and get suggestions.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“We would walk in [to seminar] and say, ‘Oh this day was so bad and I can’t do this. I’m never going to be a teacher,’ but everyone else felt that way, and your supervisor, clinical professor, she used to be…just hearing her stories and being like, ‘It’ll be fine.’ It was supportive.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“The fact that she [the clinical professor] was a teacher made a really big difference.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I think having seminar, which essentially is a sit down and vent session, is phenomenal. You can bounce ideas off everyone else and see what everyone else is doing, what is and isn’t working.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“I felt confident in student teaching, but I was really comfortable in the setting I was in…I think it was because my supervisor [the clinical professor] knew everyone at [the PDS] so it was kind of fun when she came in and it made it more comfortable…the principal knew her so we had a conversation. So, it was comfortable.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“They were so used to having you that they really grew accustomed to how to be an effective leader for you…Some people who student taught in other towns with</td>
</tr>
</tbody>
</table>
teachers with less experience...I don’t mean less experienced teachers, but I mean teachers with less experience having a student teacher, it was different.”

“I was at [a PDS school] and my cooperating practitioner was very comfortable with, ‘I’ve always had a student teacher. This is what I expect you to do.’ I think that was a huge piece of feeling valued.”

“It is beneficial to be placed in a school [for student teaching] like that where the school, the students, the staff, the faculty, are totally used to having college kids coming through and parents even.”

“I think being over there with them [in the PDS] being used to you coming and going, there are relationships that develop.”

“With the PDS, those teachers have had people from Worcester State so often that they just know what to expect, and they know what a new teacher is going to do.”

“Well, I think going to those schools is helpful because they know what the expectations are to helping us. I feel like when you walk into a school like that they know what is being expected of us so they are more willing to help us...So, I feel like the teachers in the professional development schools are more caring and open to help us when we walk in. It’s nothing new to them.”

9. All student teachers in the PDS form a cohort.

7. Participants gain support from classmates and a consistent supervisor/instructor

10. Elem. Ed. students experience consistency and support throughout the program.

“In student teaching, there was one other person. We had a great time. You didn’t feel like you were alone.”

“[Being in a PDS for student teaching] made me more comfortable. It helped to know that other people at that time were having the same struggles and the same second guessing that I was having so I didn’t feel like I was alone in being like, ‘Oh my God, I am ruining these children.’ So, I think it was nice having other student teachers.”
There is clear evidence to support the fact that the activities of the WSU elementary education program lead to the short-term outcomes presented on the logic model for this study.

**Evidence of teacher efficacy and self-efficacy outcomes.** There is also evidence that the activities and short-term outcomes lead to the “medium” outcomes of teacher efficacy and self-efficacy. Data from the survey for this study provides evidence that graduates of the WSU program from 2003 to 2008 believe that the activities or elements of the WSU elementary education program in fact caused them to have increased teacher efficacy. The survey asked participants to rate how strongly they feel the elements of the WSU elementary education program affected their confidence in their own teaching. Table 32 displays each activity or element of the WSU program and the percentages of participants who agreed or disagreed that these elements increased their teacher efficacy and to what extent they agreed or disagreed. Table 33 displays the same data but it is collapsed to show the overall percentages of participants who agreed or disagreed that the elements increased their teacher efficacy. The elements of the program that are included in this survey item correspond with the “activities” listed on the logic model.

Table 32

*Responses of Participants About the Effect Elements of the WSU Program have on Teacher Efficacy*

<table>
<thead>
<tr>
<th>WSU Program Elements</th>
<th>Significantly decreased confidence</th>
<th>Somewhat decreased confidence</th>
<th>Didn't affect confidence</th>
<th>Somewhat increased confidence</th>
<th>Significantly increased confidence</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fieldwork n = 37</td>
<td>2.7%</td>
<td>0</td>
<td>2.7%</td>
<td>48.6%</td>
<td>45.9%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Methods courses n = 37</td>
<td>0.0%</td>
<td>0.0%</td>
<td>5.4%</td>
<td>64.9%</td>
<td>29.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Student</td>
<td>2.7%</td>
<td>2.7%</td>
<td>0.0%</td>
<td>2.7%</td>
<td>89.2%</td>
<td>2.7%</td>
</tr>
<tr>
<td>WSU Program Elements</td>
<td>Percent of non-persisters who reported element significantly or somewhat increased confidence</td>
<td>Percent of non-persisters who reported element significantly or somewhat decreased confidence or didn’t affect confidence</td>
<td>Percent of non-persisters who chose N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperating teacher</td>
<td>2.8%</td>
<td>8.3%</td>
<td>13.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College supervisor</td>
<td>0.0%</td>
<td>5.6%</td>
<td>22.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student teaching seminar</td>
<td>0.0%</td>
<td>13.9%</td>
<td>30.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The clinical professor</td>
<td>2.8%</td>
<td>8.3%</td>
<td>13.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday workshops at the professional development schools</td>
<td>0.0%</td>
<td>22.2%</td>
<td>27.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The support of other student teachers</td>
<td>2.8%</td>
<td>11.1%</td>
<td>44.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with the professional development schools</td>
<td>2.8%</td>
<td>8.3%</td>
<td>27.8%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 33

Collapsed Responses of Participants About the Effect Elements of the WSU Program have on Teacher Efficacy
<table>
<thead>
<tr>
<th>Fieldwork</th>
<th>94.5%</th>
<th>5.4%</th>
<th>0.0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = 37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methods courses</td>
<td>94.5%</td>
<td>5.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>n = 37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student teaching</td>
<td>91.9%</td>
<td>5.4%</td>
<td>2.7%</td>
</tr>
<tr>
<td>n = 37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College supervisor</td>
<td>91.6%</td>
<td>8.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>n = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student teaching seminar</td>
<td>83.4%</td>
<td>16.7%</td>
<td>0.0%</td>
</tr>
<tr>
<td>n = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The support of other student teachers</td>
<td>83.3%</td>
<td>13.9%</td>
<td>2.8%</td>
</tr>
<tr>
<td>n = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperating teacher</td>
<td>83.3%</td>
<td>13.9%</td>
<td>2.8%</td>
</tr>
<tr>
<td>n = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The clinical professor</td>
<td>66.7%</td>
<td>13.9%</td>
<td>19.4%</td>
</tr>
<tr>
<td>n = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with the professional development schools</td>
<td>63.7%</td>
<td>13.9%</td>
<td>22.2%</td>
</tr>
<tr>
<td>n = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday workshops at the professional development schools</td>
<td>44.5%</td>
<td>22.2%</td>
<td>33.3%</td>
</tr>
<tr>
<td>n = 36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Evidence from survey responses.* The results of the survey indicate that graduates of the WSU elementary program link many of the elements of the program with increases in teacher efficacy. More than 50 percent of the participants chose either “somewhat increased confidence” or “significantly increased confidence” to rate the effect almost all of the elements of the WSU program had on their teacher efficacy. Only 44.5 percent of the participants felt that the Friday workshops at the professional development schools increased their teacher efficacy. However, 33.3 percent of the participants chose N/A as a response to this item. The participants who did not student teach in a PDS would not have participated in the Friday workshops so there are some who would have chosen N/A for this item. Overall, the participants link almost all the
elements of the WSU elementary program with the “medium” outcome, increased teacher efficacy, presented on the logic model for this study.

_Evidence from the interviews and focus group._ Data from focus groups and interviews provides further evidence that the activities and short term outcomes listed on the logic model are linked to self-efficacy and teacher efficacy. Much of the data presented in earlier portions of this report demonstrated the relationship between the short-term outcomes and the “medium” outcomes on the logic model. In fact, the themes that were derived from the data collected in focus group and interview sessions connect the short-term and “medium” outcomes. Many of the short-term outcomes are related to students applying practical knowledge in a classroom setting and making connections between theory and practice. When the participants in this study were asked about what elements of the WSU program contributed to increases in self-efficacy and teacher efficacy, they discussed the importance of feeling prepared and how practical experiences through fieldwork, the methods classes, and student teaching helped them to feel more confident in themselves and in their own teaching. In addition, many of the short-term outcomes deal with feeling supported by others. A theme that developed in the focus group and interview data related to self-efficacy and teacher efficacy was “the importance of feeling supported.” The participants in this study clearly linked increases in self-efficacy and teacher efficacy to being supported by professors, teachers in the PDS, the clinical professor, and other students throughout the program. Additionally, they valued collaborating with and learning from other students and teachers and related this collaboration to increases in self-efficacy and teacher efficacy. This shows a connection between some of the short-term outcomes and self-efficacy and teacher efficacy. Lastly, the participants noticeably linked their experiences with the PDS to their self-efficacy and teacher efficacy. They site a level of comfort and familiarity with the PDS
as being a contributor to increased levels of confidence. They also mention learning from practitioners within the PDS who understand the expectations of WSU as well as learning from the clinical professor who is also a teacher in the PDS. The participants valued the practical knowledge gained from these people and the consistency and support. There is much data that links the short-term outcomes to the “medium” outcomes depicted on the logic model (See Table 34).
Table 34

The Connection Between the Short-Term Outcomes and the Medium Outcomes

<table>
<thead>
<tr>
<th>Short-Term Outcomes</th>
<th>Evidence the Short-Term Outcome is Related to Increases in Self-Efficacy and Teacher Efficacy</th>
</tr>
</thead>
</table>
| 1. Participants practice and apply knowledge that has been learned through coursework | “Going out into the field, you would have that much more under your belt. It’s almost like building cellular memory of what to do. ‘Oh this happened to me before, so I know how to handle it.’

“I know for science we were across the street at [the PDS school] and for the math class we were over at [another PDS school]. So, we got to learn something and then go and teach it together. It was helpful.”

“When we would go next door to do math or across the street to do science, I just think it’s helpful. I mean you can sit there and listen to people lecture, but unless you get in the classroom and see what this kind of child looks like, how are you going to learn how to deal with that child? I mean you’re not going to pull out your book and say, ‘Let me see how to handle this.’ You have to be there and see it.”

“I think some of that confidence comes from the methods classes when we were in the schools and working with a group.” |
| 2. Participants become familiar with the staff and administration of the PDS.       | “You were learning in these schools [PDS schools] already in your methods courses and other things…you still had some knowledge of what it was going to be like.”

“I actually ended up student teaching with the teacher that I did my math work for pre-practicum [methods] classes [in a PDS]. I chose her because I had done math with her and she was so great…I think it was helpful and I also really liked the principal and just being there and seeing the other teachers.”

“I think being over there with them [in the PDS] being used to you coming and going, there are relationships that develop.”

“I walked in [to the PDS for student teaching]. I was
like ‘I’ve been here before.’ They were like, ‘Good to see you.’”

“Well, I think going to those schools is helpful because they know what the expectations are to helping us. I feel like when you walk into a school like that they know what is being expected of us so they are more willing to help us…So, I feel like the teachers in the professional development schools are more caring and open to help us when we walk in. It’s nothing new to them.”

“I felt confident in student teaching, but I was really comfortable in the setting I was in…I think it was because my supervisor [the clinical professor] knew everyone at [the PDS] so it was kind of fun when she came in and it made it more comfortable…the principal knew her so we had a conversation. So, it was comfortable.”

3. Participants connect theory and practice by the end of the program.

“[In math methods class], he [the professor] effectively taught us things and then taught us how to implement them in a classroom.”

“I felt that methods classes…were huge helps because I’ve noticed even now, even if it's a different grade that I’m teaching, I’m using a lot of those resources and just adapting them…and those were probably the most helpful in developing my classroom now.”

4. Participants learn the realities of teaching throughout the program.

“You knew when you got your job, you knew what the expectation was. It wasn’t anything. You knew what all the meetings were like, what IEP meetings were like, what staff meetings were like, what the expectations were.”

“I think the observations while I was student teaching by my supervisor is very similar to the observations we are going through as teachers now with our principals, and I think that helped me feel more confident.”

“I feel like I learned so much that I was so comfortable starting teaching that I was always confident to voice my opinion whether it was to students or to faculty or to parents because I felt that what I was voicing was knowledgeable from my undergrad program.”

“I was able to have a conversation that was intelligent
and use teacher jargon and I learned that I felt more comfortable being fluent in it from my student teaching experience.”

“In your last year you did methods courses…That was my best experience in the classroom because it was hands on. You are seeing what it is actually like to be a teacher.”

5. Participants become familiar with the norms and climates of elementary schools.

“I felt confident on day one walking in the door knowing that I was going to be teaching each grade level because we were forced to do some hours in both.”

“You knew when you got your job, you knew what the expectation was. It wasn’t anything. You knew what all the meetings were like, what IEP meetings were like, what staff meetings were like, what the expectations were.”

6. Participants witness model/mentor teachers throughout the program.

“I felt better having taught all of them [the content areas]…to see all the teachers’ different styles was beneficial.”

“I really valued my student teaching experience because [my cooperating teacher] immediately threw me into the classroom and said, ‘Okay, you’re going to co-teach with me.’”

7. Participants gain support from classmates and consistent supervisor/instructor.

“I think some of that confidence comes from the methods classes when we were in the schools and working with a group. I remember working with my group…and feeling like today was a really off day for me, but I know you have my back and next week I will be able to do this because I am more confident.”

“Coming back on Wednesdays and just…most of the time we were able to talk about all the things that were happening and see all the different experiences and see what you might face made you really aware of everything, and having someone as your professor who actually was a teacher and be able to share your experiences…made us feel really comfortable.”

“We would walk in [to seminar] and say, ‘Oh this day was so bad and I can’t do this. I’m never going to be a teacher,’ but everyone else felt that way, and your supervisor, clinical professor, she used to be…just
hearing her stories and being like, ‘It’ll be fine.’ It was supportive.”

“I know in our seminar, we would come in and vent for the first twenty minutes of it. Whether it was us talking to each other or [the clinical professor] talking to us...she helped us if there was an issue. She would clarify, and even if she said, ‘Ugh, I know, I’ve been there,’ it helps to know that you’re not the only one experiencing it, and whatever we were having an issue with, we were able to talk it out and get suggestions.”

“[Being in a PDS for student teaching] made me more comfortable. It helped to know that other people at that time were having the same struggles and the same second guessing that I was having so I didn’t feel like I was alone in being like, ‘Oh my God, I am ruining these children.’ So, I think it was nice having other student teachers.”

“It helped to know that other people at the time were having the same struggles and the same second guessing that I was having so I didn’t feel alone...That helped with my self-esteem because I knew I wasn’t the only one.”

“We did a lot of group projects. I feel like everything was a positive experience. That made me more confident because that’s one thing, if I don’t have positive people around me, I can get very not confident about what I am doing.”

| 8. Participants learn the realities of teaching from knowledgeable school personnel who are embedded in the schools. | “There was time to talk and then I did feel like whoever was presenting for the professional development [at the Friday workshops], we could talk about those things and they could help us.”

“The IEP one at [a PDS school], [the principal] did it with us, was the most information I got in the whole program. It was so good.” |

| 9. Student teachers have a consistent instructor-supervisor during student teaching. | Insufficient qualitative data to support this claim |
| 10. Elementary education students experience consistency and support throughout the program. | “I think Worcester State doesn’t really let you fall behind or fail so you knew you were going to get the support you needed.”

“The support, they [the cooperating teachers] were always there whether you needed help or ‘good job.’ That really sticks out in my head”

“All those professors and teachers supported me…I know I achieved it based on them believing in me.”

“I feel like it [the WSU program] gave me resources and people I could go to ask for help. If I never needed help I had mostly other teachers. [The PDS] was a great school because I had so many teachers, but as far as the college, I feel like even the professors I could go back and ask them.”

“The professors were more open and I felt like you could talk to them and they would help you through whatever.” |
Summary of evidence. There is evidence from the survey data and focus group and interview data that links the short-term outcomes and activities to increased self-efficacy and teacher efficacy. The activities of the WSU elementary education program have been clearly connected by the data to increases in self-efficacy and teacher efficacy. Those activities are also related to the short-term outcomes as stated previously. Almost all the short-term outcomes can be linked to the “medium” outcomes through the focus group and survey data. There was a lack of evidence to support the fact that one short-term outcome, “Student teachers have a consistent instructor/supervisor during student teaching,” is linked to increases in self-efficacy and teacher efficacy. The participants didn’t indicate that having one professor act as their supervisor and instructor contributed to their self-efficacy or teacher efficacy. However, all the other short-term outcomes can be linked to self-efficacy and teacher efficacy through the data collected for this study.

The outcome of persistence in the teaching profession. The logic model suggests that the participants’ increased levels of self-efficacy and teacher efficacy should lead to persistence in the teaching profession for at least three years. The data collected for this study does support this idea in most cases, but not all cases. The participants in this study who have persisted in the profession do claim that self-efficacy and teacher efficacy have positively affected their ability to persist. Most of the participants (86.4 percent) who participated in the survey portion of this study and have persisted in the teaching profession chose confidence in their teaching ability as a reason that they have persisted in the teaching profession. Many of the same participants (63.6 percent) indicated that a strong sense of self-efficacy was a reason that they have persisted.

Focus group and interview data also indicates that those who have persisted in the profession feel that increased levels of self-efficacy and teacher efficacy related to the WSU
program has led to their ability to persist. Participants in the focus group and interview sessions clearly linked self-efficacy, teacher efficacy, and persistence in the profession. For example, one participant said,

Personally, if I’m confident, my whole attitude is different. I like being there. Even now if I go in on something that I don’t fully prepared for and I’m not all that confident, I’m like, ugh, and I feel like I’m not doing the best I can so I think that the confidence has definitely helped in my experience being able to stay in the profession.

Non-persisters explained that even they believe there is a link between self-efficacy, teacher efficacy, and persistence. One such participant explains how his confidence has led to his desire to continue to pursue the profession,

I definitely think that my confidence level has made me want to continue to try to teach. I think I’m a perfect example of that because it is something that I really want to do. Had I not really cared after the 3rd of 4th fail of the Foundations of Reading test, I might have been like screw all of this.

The participants in this study link the “medium” outcomes of teacher efficacy and self-efficacy to their ability to persist. However, some of the graduates of the WSU program did not persist in spite of having increased levels of teacher efficacy and self-efficacy. Therefore, for some graduates the final, long-term outcome of persistence in the profession has not been reached. The reasons that this path is interrupted are due to other factors unrelated to self-efficacy or teacher efficacy. Many of the graduates who do not reach this long-term goal indicate that there are outlying reasons that they have not been able to persist. These reasons are extremely diverse. Some indicate that they have not been able to find an elementary teaching position, others say
that they have decided to take graduate courses, some blame poor working conditions, and still others indicate that they left the profession to start a family.

The logic model for this study seems be valid in many cases but for some participants the path is disrupted after the “medium” outcomes are reached. About 35.3 percent of the graduates of the WSU elementary program never make it to the desired long-term outcome of persisting in the teaching profession for at least three years. Almost all of the graduates seem to obtain the “medium” level outcomes of having increased levels of teacher efficacy and self-efficacy. Even those graduates who do not persist in the profession reach these outcomes. However, outlying factors sometimes interfere with the path to the long-term outcome in the logic model. There is evidence to support that fact the WSU program makes strides toward achieving the long-term outcome. In fact, even the non-persistent graduates point out that the program may help with persistence, but the fact is that only 64.7 percent actually persist in the profession. So, the logic model is a true depiction of the outcomes of the program for only some of the graduates of the program.

Summary of Findings

The findings of this study indicate that various elements of the WSU elementary education program increased self-efficacy and teacher efficacy in its students, as perceived by them. Both groups of participants attributed their high levels of teacher efficacy and self-efficacy to various elements of the WSU elementary education program, and the participants from both groups who were a part of the focus groups and interviews indicated that they left the WSU program with increased levels of teacher efficacy and self-efficacy. Graduates of the program who have remained in the teaching profession attributed their ability to persist to high levels of self-efficacy and teacher efficacy. However, the participants who did not persist in the
teaching profession at the time of this study do not identify a lack of self-efficacy or teacher efficacy as factors that affected their decision to leave the profession, which is logical since these participants proved that they, too, have high levels of teacher efficacy and self-efficacy. This study indicates that almost all graduates of the WSU elementary education program leave the program with increased levels of teacher efficacy and self-efficacy. Those who persist in the profession, about 64.7 percent of the graduates, attribute their persistence to their high levels of teacher efficacy and self-efficacy. Therefore, for many graduates, the program contributes to their ability to persist in the teaching profession.

Approximately a third (35.3 percent) of the graduates of the WSU elementary education from 2003-2008, however, are not currently teaching. These graduates, according to this study, have high levels of teacher efficacy and self-efficacy similar to that of their peers who have persisted, but outlying factors have caused some of the graduates to not be able to persist. If a goal of the program is for its graduates to obtain a teaching position and remain in the teaching profession then 35.3 percent of its graduates have failed to meet that goal. As seen in the survey data, there are a multitude of reasons for this phenomenon. Some of the graduates left the profession to start a family, some didn’t feel supported by their administration, etc. Others, such as two of the participants in the qualitative portion of this study, could not find a teaching position. If the goal of the WSU program is for all its graduates to obtain a teaching position and remain in the profession, then these reasons must be explored further.

The participants in this study, both persisters and non-persisters, offer suggestions related to improving the program’s impact on graduates of the program after they have left the program that include helping graduates with interview and job search skills and offering support post-graduation. These suggestions may help the program decrease the attrition rates of the recent
graduates of the program. The data indicates that graduates of the program have high levels of
teacher efficacy and self-efficacy as a result of being part of the WSU program. These factors
were identified by most participants as reasons why they have been able to persist in the teaching
profession. So, if graduates of the WSU program are able to obtain a teaching position with the
help of the WSU program and their levels of self-efficacy and teacher efficacy are maintained
through support after graduation, graduates may be more likely to remain in the teaching
profession. As evidenced by this study, the WSU program incorporates program elements that
lead to self-efficacy, teacher efficacy, and sometimes persistence, but not all graduates of the
program persist. The additional elements that were suggested by the participants of the study, if
added to the program, may help improve the rate at which graduates persist.

Chapter V: Discussion of the Research Findings

This chapter will provide a summary and statement of significance for this study,
including a summary of the problem of practice, the methodology employed, possible limitations
of the study, the findings, and then an examination of the findings in relation to the theoretical
framework and literature review for this study.

Summary of the Problem

The attrition of beginning teachers is a severe and costly problem worldwide. When our
young and energetic teachers leave the profession, school districts lose financially and the
collective quality of teachers is diminished. It costs school districts to train and retrain teachers
for positions that were filled with other new teachers who were trained in previous years.
Because of the large numbers of new teachers who leave the profession, some estimate 50
percent of teachers leave in their first five years of teaching (Henke, Chen, & Geis, 2000)].
teacher attrition can be a particularly costly problem. In addition, new teachers lack the
experience and institutional knowledge of veteran teachers. When beginning teachers leave and are replaced with more new teachers, the experience and quality of the teaching workforce fails to advance.

For many years, school districts have tried to decrease the number of teachers who leave the profession by offering monetary incentives to recruit new teachers or by offering mentor or induction programs. Traditionally, teacher preparation programs were not a major part of the solution to the problem. However, it is important to explore how teacher preparation programs can contribute to solving the teacher attrition problem. In particular, the various elements of teacher preparation programs should be explored to consider if they contribute to the retention of new teachers.

In order to explore the effect teacher preparation programs may have on beginning teacher retention, this study set out to determine if the various elements of professional development schools model of teacher preparation used at Worcester State University contributes to the persistence of new teachers. The study also explored the idea that teacher efficacy and self-efficacy may have an effect on the ability of new teachers to persist in the profession. Therefore, the program was broken down and analyzed in order to determine if the elements of the program have an effect on teacher efficacy and self-efficacy and as a result have an effect on the persistence of beginning teachers. The perceptions of recent graduates of the WSU elementary education program were analyzed to help answer the following questions that were developed to guide this research:

1. To what degree do program graduates of the WSU teacher preparation program in elementary education attribute the program and the various elements of the Professional Development Schools Model to their sense of self-efficacy and teaching efficacy?
2. To what degree do program graduates from the WSU teacher preparation program in elementary education attribute the program and the various elements of the Professional Development School Model to their persistence/retention or lack of persistence in the teaching profession and attribute a sense of self-efficacy and teacher efficacy to their persistence/retention or lack of persistence in the teaching profession?

**Review of the Methodology**

This outcome evaluation involved the used of a mixed-methods methodology. The study began with the development of a logic model that depicted the inputs, activities, and potential outcomes of the WSU elementary education program. This path from inputs to long-term outcomes was tested using both quantitative and qualitative methods. Survey data from graduates of the WSU elementary education program from 2003 to 2008 was collected and analyzed for the quantitative portion of the study. The survey was used to reveal levels of self-efficacy and teacher efficacy in the participants and also to collect data regarding the participants’ reasons for remaining in or leaving the teaching profession. There were also survey items that asked the participants to indicate to what degree they thought various elements of the WSU elementary education program contributed to their teacher efficacy. Each survey item was analyzed using a Fisher Exact Test to determine if there was a significant difference between the responses for those who persisted in the teaching position versus those who did not.

In order to gain a deeper understanding of the survey results, focus groups and interviews were also conducted. Data was transcribed and analyzed. Coding strategies were employed to identify emerging themes. Then common themes and differentiating themes between participant groups were identified in response to each research question. The individual stories of the participants who did not persist in the teacher profession was also presented and analyzed. An
analysis of both the quantitative and qualitative data was then reviewed in relationship to the logic model to determine if the inputs and activities that are a part of the WSU elementary education program in fact lead to the outcomes of increased self-efficacy and teacher efficacy and eventually persistence in the teaching profession, as indicated in previous students’ responses.

**Summary of the Findings**

According to the results of this study, the WSU elementary education program increases the self-efficacy and teaching efficacy of its graduates. Both survey and focus group and interview data indicate that graduates of the WSU elementary education program from 2003 to 2008 have high levels of teacher efficacy and self-efficacy. The teacher efficacy and self-efficacy scales that were embedded in the survey and given to participants of this study show that both persistent and non-persistent graduates of the WSU program maintain high levels of teacher efficacy and self-efficacy. The participants in the interview and focus group sessions also indicated that they felt confident in themselves and in their teaching ability.

The survey data and data collected during the focus group and interview sessions show that graduates of the program attribute the program with their high levels of teacher efficacy and self-efficacy. Survey data and data from focus group and interview sessions reveal that graduates of the program believe that the student teaching experience and the methods courses, especially those held within the PDS, are related to increases in self-efficacy and teacher efficacy of teacher candidates in the program. The participants of the study also indicate that the 80 hours of fieldwork that they complete during the program and the people they encountered in the program, such as their supervisors during their student teaching experience, also contribute to positive feelings of teacher efficacy and self-efficacy. This study reveals that certain elements of
the WSU program, such as the student teaching experience, the methods courses, the fieldwork, and the college supervisor, contribute to positive feelings of self-efficacy and teacher efficacy in graduates of the WSU elementary education program.

In the focus groups and interviews, participants revealed their additional perceptions regarding what aspects of the WSU elementary education program have contributed to their positive sense of self-efficacy and teacher efficacy. These participants indicated that the support they received in the program from professors and their fellow classmates helped increase their self-efficacy and teacher efficacy. They also felt that the program gave them many opportunities to collaborate with others, and that when they collaborated with their classmates and fellow teachers, they learned from each other and gained support from other people, which in turn increased their confidence in their teaching and in themselves. The participants also indicated that they valued the experience they encountered in the PDS schools as they trained to be teachers. They felt the familiarity with these schools and the people within these schools helped them to gain a positive sense of teacher efficacy and self-efficacy. Lastly, many of the participants claimed that they gained confidence in themselves by comparing themselves to others, particularly students in other teacher preparation programs. The participants in this study indicated that they felt confident in their teaching ability because they felt that they had endured a more rigorous and thorough program than their counterparts at other colleges and universities. This study reveals that the levels of self-efficacy and teacher efficacy of graduates of the WSU elementary education program from 2003 to 2008 increased by the end of their participation in the program and that they maintain these high levels of teacher efficacy and self-efficacy. The graduates claimed that self-efficacy and teacher efficacy builds in students enrolled in the WSU program because of support from professors and other students in the program, opportunities to
collaborate, having experiences in the PDS, and comparing the WSU program to other teacher preparation programs.

Although almost all the participants in this study seemed to have positive feelings of self-efficacy and teacher efficacy, not every graduate of the WSU program persists in the teaching profession. While most of the participants (64.7 percent) in the survey portion of this study have obtained a teaching position and stayed in the teaching profession, the other participants (35.3 percent) had either left the profession or never entered the teaching profession. Although there are some participants who have not persisted in the teaching profession, most of the participants indicated that the WSU program does in fact possess elements that contribute to the persistence of its graduates. Even those who have not persisted claimed that the program contributes to persistence. Focus group and interview participants claimed that the support and expertise of the professors in the WSU program, the many practical experiences that are part of the program, experiences in the PDS, and the fact that the program increases self-efficacy and teacher efficacy all contribute to the persistence of graduates of the program.

Survey responses and interviews and focus group information collected for this study indicate that those who have persisted in the teaching profession have been able to persist in the profession due to confidence in their teaching and in themselves. Self-efficacy and teacher efficacy according to the participants who have persisted are major factors related to their ability to stay in the profession. However, those who have not persisted do not identify a lack of self-efficacy and teacher efficacy as reasons why they left the profession. In fact, the survey results reveal that none of the participants chose a lack of self-efficacy or a lack of confidence in their teaching as reasons why they left the profession. The reasons that the graduates who had not persisted gave for leaving the profession were extremely diverse, and none of the reasons were
related to teacher efficacy or self-efficacy. This is probably due to the fact that almost all these participants indicated that they had high levels of teacher efficacy and self-efficacy. Therefore, these factors could not negatively affect these participants’ decisions to leave the profession. Other factors such as starting a family, taking graduate courses, not being able to find a teaching position, or being laid off may have caused some graduates to leave the profession. Most graduates leave the program with high levels of teacher efficacy and self-efficacy, and these are factors that help graduates to persist in the profession. However, outlying factors can intervene and cause graduates to leave the profession in spite of high levels of teacher efficacy and self-efficacy.

The participants in this study offer recommendations for increasing the percentage of graduates of the program who remain in the teaching profession beyond three years. One suggestion was to offer a post-graduation program to new teachers who have graduated from the WSU elementary education program. The program would offer these new teachers a place to collaborate with others and discuss their experiences. This kind of collaboration and support was identified as valuable to the participants of this study while they were enrolled in the WSU program. Others also suggested that WSU provide more support to students completing the program and to alumni of the program as they search for teaching positions. Some of the participants, even those who already have teaching positions, felt that WSU could do more to aid them in their job search and teach the skills necessary to search for a job and interview successfully. Some of the non-persistent survey respondents (25 percent) indicated that they had not yet obtained any teaching position. Another 16.7 percent had found a teaching position but it was in an area other than elementary education. Therefore, 41.7 percent of the respondents to the survey who were not teaching at the elementary level could not find an elementary teaching
Offering help and support in finding an elementary teaching position may increase the rate of graduates from the program who enter and remain in the teaching profession.

**Discussion of the Findings in Relation to the Theoretical Framework**

**Professional Development Theory and Adult Learning Theory.** The findings of this study are directly related to professional development theory and adult learning theory. The foundation of adult learning theory centers on the idea of experiential learning. Adult learning theorists propose that practical experiences are the key to adult learning and that adults must apply knowledge in order for in depth learning to occur (Knowles, 1975; Brookfield, 1983; Kolb, 1984). According to adult learning theorists, direct interactions with the phenomenon being learned must take place in order for genuine and profound learning to transpire (Brookfield, 1983). Being involved in practical experiences while learning allows the adult learner to more readily retain knowledge and transfer it from the classroom to the real-world (Argote, McEvily, Reagans, 2003). Adults tend to be more readily able to transfer knowledge as a result of their need to apply knowledge and skills in the workforce (Knowles, 1975).

The idea that experience is vital to adult learning was evident in the findings of this study. The participants of this study perceived the practical experiences that are a part of the WSU elementary education program as essential to their training as teachers and felt these experiences contributed to their feelings of preparedness and confidence. In focus group and interview sessions, the participants of this study often mentioned the importance of gaining experience in the elementary classroom. As one of the participants so poignantly stated,

> You can just sit there and listen to people lecture, but unless you get in the classroom and see what this kind of child looks like, how are you going to deal with that child. I mean you’re not going to pull your book out and say, “Let me see how to handle this.”
This idea coincides with the ideas of adult learning theory that proactive learning, where learners apply knowledge, causes adult learners to be more motivated, retain more knowledge, and learn more deeply than when learners are passive (Knowles, 1975). The participants in this study continuously pointed out the value of the many practical experiences embedded in the WSU program. In fact they associated student teaching, the methods classes that were held at the PDS, and the fieldwork with high levels of teacher efficacy and self-efficacy. The participants also claimed that the practical experiences in the program contribute to the persistence of graduates of the program. They connected the practical experiences with feeling more prepared. The participants often described a connection between theory and practice. They felt that applying what they learned in a realistic classroom setting prepared them for the realities of teaching more than learning it in a college classroom. Adult learning theorists would agree with the participants of this study that authentic and powerful learning takes place through real-life, practical experiences (Knowles, 1975; Brookfield, 1983; Kolb, 1984; Argote, McEvily, & Reagans, 2003).

The ideas of adult learning theorist Sharon Nodie Oja (1980) directly coincide with the findings of this study. She builds on the ideas of Knowles (1975). She agrees that adults readily gain knowledge and skill through experiential learning, but she adds that supervision, advising, encouragement, and support are also essential ingredients for successful adult learning. The participants in this study considered these ideas continuously. The focus group and interview participants discussed the support of professors and other students as well as the value of collaboration. They explain that they needed the support of others in order to persist at times, and they needed to know that others were experiencing the same hurdles and problems that they were experiencing. They also explained that they learned from each other and feel more comfortable taking risks and making mistakes when they work with other students and
collaborate. Oja (1994) points out that adult learners and teachers in particular learn through situations where they are able to reflect with others, problem solve with others, and practice tasks with others. According to the participants of this study, that is exactly what the WSU elementary education program offers its pre-service teachers. Through methods classes that convene at the PDS, collaborative student teaching experiences, and fieldwork that is reflected upon by groups of students, the pre-service teachers in the WSU program grow as educators and gain deep understandings of the skills and knowledge necessary to be a teacher. These practices are directly related to the ideas of Sharon Nodie Oja (1980, 1994), and the opinions of the participants of this study validate these ideas.

Professional development theory is a subset of adult learning theory in that it shares the ideas of adult learning theory and applies them to learning in a work environment. Many professional development theorists have applied the ideas of adult learning theory and professional development theory to the training of teachers (Evertson et al, 1984; Darling-Hammond, 1992; Goodlad, 1994; Loughran, 2002; Darling-Hammond, 2007). These theorists postulate that there are common characteristics of effective teacher preparation programs. Similar to adult learning theory, professional development theory values experiential learning as vital to effectively training teachers. Many claim that through practical experiences in school settings, collaboration, reflection, and consistent partnerships with K-12 schools, pre-service teachers will make connections between theory and practice and that these practices will lead to deeper, more realistic understandings of teaching (Darling-Hammond, 1992; Goodlad, 1994; Loughran, 2002; Darling-Hammond, 2007). As mentioned previously, many of the participants in this study discussed how practical experiences, collaborative reflection and working within the PDS contributed to their confidence as teachers and made them feel as though they were
prepared to be teachers. They claimed that when they had experiences in an actual classroom, they gained “cellular memory” that they could rely on as they actually became teachers.

Some professional development theorists emphasize the social aspects of learning and community-based practices that contribute to learning in a work setting, particularly in a school setting. Linda Darling-Hammond (1992) and John Goodlad (1994) believe that pre-service teachers learn best in an environment where universities and schools work together to create “centers of pedagogy,” an idea that has been applied to the WSU elementary education program. The participants in this study discussed their experiences with the PDS as essential to their learning. They explained that there was a feeling that they were valued within the PDS and that there was a common mission and common expectations between WSU and the PDS. The sense of familiarity, according to the participants helped them to feel confident and able to learn. Because the participants had many experiences within the PDS throughout the WSU program, including engaging in methods classes held at the PDS, the participants claimed that they became aware of the climate of the school, became familiar with the people within the PDS, and eventually felt as though they were part of the PDS community. This sense of community allowed them to feel confident enough to take risks while they practiced teaching and as a result learned more than they would have had they not been a part of “centers of pedagogy.”

Self-Efficacy Theory. Self-efficacy theory claims that a person’s belief in oneself is related to whether or not a person will overcome obstacles and persist at a task (Bandura, 1977, 1986). Gibson and Gembo (1984) applied this idea to teachers and coined a term called “teacher efficacy,” meaning belief in one’s own teaching ability. Gibson and Gembo (1984) believed that teachers who had a strong sense of teacher efficacy were more likely to persist as teachers than those with a negative sense of teacher efficacy. In this study, the idea that self-efficacy, or belief
in one’s own ability, and teacher efficacy, or belief in one’s own teaching ability, are related to the persistence of beginning teachers was examined. Self-efficacy theorists would postulate that beginning teachers who have a strong sense of self-efficacy and teacher efficacy would persist in the teaching profession. The findings of this study support this claim to a degree. The persistent participants in this study view self-efficacy and teacher efficacy as crucial factors related to their ability to persist in the teaching profession. However, not every participant who had high levels of teacher efficacy and self-efficacy did in fact persist in the profession. There were other variables that affected their decisions to leave the teaching profession that were unrelated to self-efficacy and teacher efficacy. Nevertheless, when asked about the effect self-efficacy and teacher efficacy had on their ability to persist, all the participants were able to connect these concepts. Those who had persisted claimed it was an essential factor that contributed greatly to their persistence, and those who had not persisted indicated that self-efficacy and teacher efficacy does help one to persist in the profession if other factors such as losing a job or starting a family do not require that one leaves the profession.

Bandura’s (1986, 1994) four sources of efficacy were evident in much of what the participants discussed in focus group and interview sessions. Bandura (1986, 1994) suggests that in order for people to persist at something, they need to have mastery experiences or experiences where people succeed at a task and then are able to build on those successes. The participants in this study described having practical experiences while in the WSU program starting in their introduction to education course that progressively build throughout the program. They discussed going into actual elementary classrooms early on and frequently in the program therefore offering repeated opportunities for mastery experiences. The second source of efficacy, according to Bandura (1986, 1994), are vicarious experiences, or when a person witnesses
someone in a similar situation succeed at a task. These experiences are also a large part of the WSU program. Pre-service teachers witness veteran teachers and mentors during their fieldwork and during student teaching and often discuss these mentors as essential to their feelings of self-efficacy. The graduates of the WSU program also learned from professors who had been elementary school teachers, causing a sense of relatability between the pre-service teachers and their professors. Many of the participants discussed vicarious experiences during interview and focus group sessions. They often made comments such as, “I thought, if she can do it, so can I.” They also mentioned being motivated by stories that were told to them by their professors who had been elementary teachers. They felt if their professors had been teachers, had success, and had great passion for the profession, then so could they. The third source of efficacy is social persuasion, when someone is told they are capable of completing a task (Bandura, 1986, 1994). The participants of this study continuously mentioned the idea of social persuasion when they discussed the support they received from professors and mentor teachers in the program. One participant even claimed, “There was a ton of encouragement.” The fourth source of efficacy is efficacy that is generated when people learn to interpret their physical and emotional reactions to experiences. When people are able to deal with stress and anxiety in a positive way, they are able to persist more readily than those who let anxiety create a barrier to success. This source of efficacy isn’t related to this study as directly as the others. However, some of the participants did explain that they were placed in situations throughout the program where they were not confident at first and even felt anxiety about being in that situation. Eventually, they learned that they were capable of handling certain situations. For example, one participant mentioned “growing as a person” when she discussed being shy and finding it difficult when she first started
the program, but that as she navigated through the program she learned to hone in her anxiety and eventually flourished.

Self-efficacy theory shed a lot of light on this study. Self-efficacy theory claims that self-efficacy is related to one’s ability to persist at a task. In this study, it was determined that graduates of the WSU elementary education program have high levels of self-efficacy and teacher efficacy and that this positive sense of self-efficacy and teacher efficacy has an effect on the persistence of these graduates in the teaching profession as long as outlying factors unrelated to self-efficacy and teacher efficacy do not force or affect the graduates’ ability to remain in the teaching profession. All the participants in the focus groups or interview sessions related a positive sense of self-efficacy and teacher efficacy to being able to persist in the profession.

**Summary of the Theoretical Framework in Relation to the Findings.** The findings of this study support the ideas of adult learning theory, professional development theory, and self-efficacy theory. The information gathered in the survey and focus group and interview sessions overwhelmingly support the idea that practical experiences and experiential learning are essential to adult learning and in particular to the learning that takes place in teacher preparation programs. Adult learning theory and professional development theory propose that adults must be exposed to and interact with the phenomenon that is being learned in order to thoroughly and deeply understand said phenomenon. This is an important concept to consider when analyzing the effectiveness of teacher preparation programs. Programs that lack practical experiences, according to adult learning theory, would be less effective that those who offered the chance for pre-service teachers to gain experience in an elementary classroom as frequently as possible. The practical experiences that are part of the WSU program are perceived by the participants of this study as vital to the learning of the pre-service teachers in the program indicating that the
ideas of adult learning theorists such as Malcolm Knowles can contribute greatly to the effectiveness of teacher preparation programs such as the elementary education program at WSU.

Self-efficacy theory, and particularly the ideas of Albert Bandura, is supported by the findings of this study. Self-efficacy theory postulates that people are able to persist at a task more readily if they have high levels of self-efficacy and confidence in their abilities. This study found that graduates of the WSU elementary education program have high levels of self-efficacy and teacher efficacy and connect their self-efficacy and teacher efficacy to their ability to persist. Just as Bandura (1986) suggests, high levels of self-efficacy and teacher efficacy were directly related to an ability to persist in the teaching profession for many of the participants of this study. Even participants who did not persisted in the teaching profession indicated that self-efficacy and teacher efficacy contributed to a desire to remain in the teaching profession. However, according to the participants of this study, outlying factors could affect their decision as well, and high levels of self-efficacy and teacher efficacy didn’t guarantee that the participants would remain in the teaching profession. Nevertheless, the data indicates that self-efficacy and teacher efficacy are factors that help new teachers to persist, and this idea is directly related to self-efficacy theory. Teacher preparation programs must consider the idea that self-efficacy plays a role in new teachers’ persistence in the profession if they aim to be part of the solution to the teacher attrition problem the field of education faces currently.

**Discussion of the Findings in Relation to the Literature Review**

The findings of this study relate to the literature review presented previously. The literature review was broken down into three parts: (1) the causes of beginning teacher attrition; (2) types of teacher preparation programs and their effect on self-efficacy, teacher efficacy, and persistence; (3) the benefits of the professional development schools model.
The causes of beginning teacher attrition. The research regarding the causes of teacher attrition offers varying conclusions about why new teachers leave the teaching profession. The findings of this study also indicate that new teachers leave the profession for a variety of reasons. There are some similarities between what the research indicates and the findings of this study. One of the major studies, conducted by the National Center for Educational Statistics, about the causes of teacher attrition identified the top five reasons that new teachers leave the profession (Leukens, Lytner, & Fox, 2004). The top five reasons, according to the NCES, are to pursue another career, for a better salary or benefits, to take courses in or out of the teaching profession, pregnancy/child rearing, and dissatisfaction with a job description or responsibilities. Some of the participants in this study cited these factors as reasons why they left the profession, but many of them also indicated other reasons such as being laid off, poor working conditions, a lack of administrative support, frustration with the realities of teaching, or not being able to find a job in elementary education. There is research to support these reasons for teacher attrition as well (Quinn & Andrews, 2004; Schlichte, Yssel, & Merbler, 2005; Yost, 2006; Nahal, 2010). It is clear that the research and the findings of this study point to a number of reasons why new teachers leave the profession. There is no conclusive evidence that any one reason is the main reason why new teachers leave the teaching profession.

There was one major difference, however, between the findings of this study and some of the research about the causes of teacher attrition. None of the participants in the current study indicated that a lack of self-efficacy or teacher efficacy caused them to leave the teaching profession, but the literature about the causes of teacher attrition does in fact cite a lack of confidence or self-efficacy as a common reason that new teachers leave the profession (Quinn & Andrews, 2004; Yost, 2006). It is important to consider the characteristics of the participants in
this study, however. None of them had low levels of teacher efficacy or self-efficacy according to the self-efficacy and teacher efficacy scales that were used as part of the survey. Therefore, the participants of this study who did not persist in the teaching profession cannot point to a lack of self-efficacy or teacher efficacy as reasons why they left the profession. They do not, in fact, have low levels of teacher efficacy or self-efficacy. So, the participants may be different from participants in other studies due to the fact that even though they may have left the teaching profession, they still have confidence in themselves and in their abilities to teach. The data from the current study suggest that these high levels of self-efficacy and teacher efficacy can be attributed to the WSU elementary education program. Almost all graduates of the program, even those who have left the profession, have high levels of teacher efficacy and self-efficacy. Therefore, a lack of self-efficacy and teacher efficacy is not a reason that graduates of the WSU program leave the teaching profession.

Yost (2006) looked at why new teachers remain in the profession rather than why they may leave. She analyzed the connection between teacher preparation, self-efficacy, and the likelihood that new teachers would stay in the teaching profession. She found that student teaching and field experiences were connected to increased levels of self-efficacy and that when pre-service teachers where engaged in problem-solving and self-reflection during teacher preparation that they were more likely to remain in the teaching profession. Yost (2006) links teacher preparation to levels of self-efficacy and to teachers’ ability to persist. The findings of the current study mimic those of Yost (2006). The participants in this study identified the student teaching and field experiences as vital to developing a positive sense of self-efficacy and teacher efficacy and connected these experiences to their ability to persist in the teaching profession.
Types of teacher preparation programs and benefits of PDS’s. In the literature review, three types of teacher preparation programs were analyzed, traditional programs, alternative route programs, and professional development schools programs. The effect these programs have on teacher efficacy, self-efficacy, and teacher persistence were considered. The research indicates that the attrition rates of all new teachers is quite high, no matter what type of program they graduate from (Henke, Chen. & Geis, 2000). When comparing the three types of teacher preparation programs, the research about teacher attrition is somewhat inconclusive.

Much of the research does not favor alternative route programs as a means to beginning teacher retention. In fact, there is research to indicate that alternative route programs lead to higher attrition rates and lower levels of self-efficacy than traditional university-based programs (Lutz & Hutton, 1989; Darling-Hammond, Chung, & Frelow, 2002). Some of the research concludes that alternative route programs that have some of the elements of traditional programs such as, methods courses, field experiences, supervision, and mentorship, will produce teaching candidates who are more likely to remain in the teaching profession (Sindelar, Daunic, & Rennells, 2004; Darling-Hammond, 1992). The findings of the current study also link practical experiences, methods courses, and field experiences to teacher persistence and therefore support this research.

The research shows that traditional programs have elements that are beneficial to the retention of beginning teachers. Aspects of these programs that have been found to increase retention rates are student teaching and foundational and methods courses (Monk, 1994; Henke, Chen, Geis, & Knepper, 2000). Also, some traditional programs that offer many avenues for support through supervision, peer sessions, and mentor teachers contribute to the teacher candidates’ self-efficacy (Fives, Hamman, & Olivarez, 2006). However, the downfall of
traditional programs is that the programs tend to be disjointed. These programs do not offer opportunities for pre-service teachers to make connections between theory and practice (Darling-Hammond, 2006). In traditional programs teacher efficacy often plummets as pre-service teachers begin their student teaching practicum. This is due to a lack of connectivity between their coursework and the realities of teaching (Hoy & Woolfolk, 1990). Research suggests that pre-service teachers need to be provided with many practical experiences and opportunities to enhance their self-efficacy in order to help them feel confident in their teaching, which in turn causes them to feel as though they can persist in the teaching profession (Fives, Hamman, & Olivarez, 2006). The participants in the current study pointed out that they favored the many practical experiences they encountered in the WSU elementary program and valued the support they received from their peers, professors, and cooperating teachers. The participants discussed the importance of connecting theory and practice through methods classes that were held at the PDS where concepts could be learned and practiced in an authentic classroom setting. The findings of this study support the research related to the effect traditional teacher preparation programs have on self-efficacy and teacher persistence.

The disjointed nature of traditional teacher preparation programs has lead to the establishment of the professional development schools model of teacher preparation, the model used at WSU. According to the research, the PDS model addresses some of the problems of traditional programs by finding ways to connect theory to practice and provide pre-service teachers with many practical experiences in realistic school settings. Much of the research about the PDS model, self-efficacy, and teacher efficacy discusses the level of support offered through the PDS model and the sense of community between the PDS and the university setting. Linda Darling-Hammond’s (1994, 2002) research indicates that because the school and university share
a mission and offer collective support to teacher candidates, the self-efficacy of these pre-service teachers often increases while they are a part of the program, which in turn increases their commitment to teaching. The pre-service teachers feel as if they are a part of the PDS community and become familiar with the norms of the schools and the people within the schools which contributes to increases in self-efficacy, a phenomenon the participants of the current study discussed at length during focus group and interview sessions. In a PDS, teacher candidates often feel support from professors, teachers in the PDS, and other teacher candidates (Teital, 1992). The findings of this study indicate that support from professors and other teacher candidates in addition to the familiarity of working within the PDS lead to increased levels of teacher efficacy and self-efficacy in graduates of the WSU elementary education program.

Teacher candidates who prepare to teach through a PDS are often able to make connections between what they learn through their coursework and their work in the PDS (Larson & Goebel, 2008; Swars & Dooley, 2010). This study found that methods courses that were held at the PDS contributed to the participants’ perceptions that they were able to apply what they had learned in a realistic setting and therefore connect theory to practice. This led them to feel more prepared and more confident in their teaching. Graduates of the WSU program explained that this connection between theory and practice continued as they began their student teaching experience in the PDS.

New teachers who graduate from a teacher preparation program that utilized a PDS model have lower attrition rates than those who graduate from a traditional program (Fleener & Dahm, 2007; Latham & Voyt, 2007; Darling-Hammond, 2007). These lower attrition rates are attributed to greater levels of support, a sense of community, self-efficacy, and connections made between theory and practice (Abdal-Haqq, 1998; Larson & Goebel, 2008). Participants in the
current study discussed all of these causes for lower attrition rates amongst new teachers who graduate from a teacher preparation program that used a PDS model. Many of the themes that emerged from the focus group and interview data were related to these concepts.

**Summary of the literature review in relation to the findings.** The findings of the current study support much of the research that was presented in the literature review. This study found that graduates of the WSU elementary education program attribute the program with increased levels of teacher efficacy and self-efficacy. In particular, these graduates valued the student teaching experience, fieldwork, their college supervisor, and methods courses embedded in the PDS as elements of the program that increased their levels of self-efficacy and teacher efficacy. They also indicated that support from their professors and other students in the program, having opportunities to collaborate, and practical experiences in the PDS caused their self-efficacy and teacher efficacy to increase. These findings align with the research regarding the professional development schools model that says that teacher candidates that train within a PDS are offered support from a variety of sources, have more opportunities to gain practical experience, and are able to connect theory and practice and that these elements increase self-efficacy in teacher candidates.

The findings of the current study also indicate that graduates of the WSU elementary education program value their experiences in the PDS, especially the practical experiences such as student teaching and fieldwork related to their methods courses and that these experiences are related to their ability to persist in the teaching profession. There is much research to support the claim that practical experiences should be major part of any teacher preparation program because these experiences provide teacher candidates the opportunity to connect theory to practice (Darling-Hammond, 2006; Fives, Hamman, & Olivarez, 2006; Larson & Goebel, 2008; Swars &
Dooley, 2010). The findings of the current study support that claim as well. The participants in the current study who have remained in the teaching profession also connect increased levels of self-efficacy and teacher efficacy, which they attribute to the WSU program, to their ability to persist in the profession. The research also supports the idea that self-efficacy and teacher efficacy are linked to persistence (Bandura, 1986). However, the research also claims that a lack of self-efficacy will lead new teachers to leave the profession (Bandura, 1986). In the current study, that claim was unfounded because the participants in this study did not lack teacher efficacy or self-efficacy. Therefore, it was not one of the reasons that they left the profession. The findings of the current study coincide with the research related to the causes of teacher attrition, types of teacher preparation programs, and the professional development schools model.

**Validity and Limitations**

Potential issues with the validity for this study, including issues with internal validity, external validity, reliability, and objectivity, were addressed in chapter III. Maturation, or the possibility that the perceptions of participants of this study were affected by the passage of time, could be a problem for this study because the interactions that the participants had with the elementary education program at WSU occurred some years ago. Also, external factors, such as funding for the WSU program or staffing changes at WSU or in the PDS could cause the program to be different from year to year therefore causing the experiences of the various participants to be slightly different. This could affect their perceptions of the program. However, triangulating data and using a number of data sources addressed these issues of internal validity. Member checking was also used during the qualitative portion of this study to increase the credibility of the study.
Because of the limited number of participants for this study and the fact that a criterion sample of participants was utilized in this study, the results of this study are not representative of a larger population or other teacher preparation programs. This study was meant to provide information specific to the WSU elementary education program in order to elicit improvements in the program. Therefore, it is appropriate that the findings are relevant only to the WSU elementary education program.

In order to address possible issues with reliability, actions were taken during the instrument creation to assure reliability. The survey consisted of the Woolfolk and Hoy Teacher Efficacy Scale (1990) and the New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001). The reliability of these instruments is already established. The survey questions that were developed by the researcher were evaluated by the Dean of Education at WSU and by the Office of Institutional Research and Planning at Quinsigamond Community College in Worcester, MA in order to assure reliability. The same was done with the focus group and interview questions.

Objectivity could be an issue with this study because the researcher is an employee of Worcester State University and has worked as a supervisor for many of the participants in this study. The balance of power within a student/teacher relationship could be a concern. Participants may provide answers to questions in order to please the researcher due to the previous student/teacher relationship that existed between the researcher and the participants. Also, because the researcher is a professor for the WSU elementary education program, she may have biases related to the program. These issues were addressed in interviews and focus groups by using audio recordings and direct transcriptions of data in order to eliminate as much bias as possible. Such bias is not as prevalent in the survey data because the survey was completed anonymously.
The greatest limitation of this study is the small number of participants. Only forty graduates participated in the survey and only eleven graduates participated in focus group or interview sessions. The low number of participants should be noted and the data used accordingly. More data should be collected regarding the WSU elementary education program’s affect on teacher efficacy, self-efficacy, and persistence.

Conclusion

By assessing the perspectives of graduates of the WSU elementary education program, this study analyzed the degree to which graduates attribute their sense of self-efficacy and teacher efficacy to the WSU elementary education program. The findings of this study also addressed the degree to which graduates of the program attribute the program with their ability to persist in the teaching profession. Furthermore, this study found a link between graduates’ sense of teacher efficacy and self-efficacy and their ability to persist in the profession. Because this study used a mixed methods approach, the perceptions of graduates of the WSU program were documented and heard. Not only was survey data collected, but also the results of such data were further explained through the voices of those who had experienced the WSU program. Much has been learned from these graduates. They have explained that elements the WSU elementary education program do in fact increase self-efficacy and teacher efficacy and help graduates to persist in the teaching profession. In fact most of the graduates from the WSU program remain in the profession, but some do leave the profession or never enter it. Those who persisted in the profession cite a positive sense of self-efficacy and teacher efficacy as the top reasons that they have been able to persist in the teaching profession. However, through the data collected and the participants’ stories, it is evident that of those who did not persist in the profession, the reasons for their lack of persistence are diverse and in reality unrelated to their
sense of teacher efficacy or self-efficacy. This is an indication that the WSU program increases the self-efficacy and teacher efficacy of almost all its graduates, even those who eventually leave the profession. In spite of high levels of teacher efficacy and self-efficacy, these graduates leave the profession.

What does this tell us about the WSU elementary education program? First, the program is quite adept at increasing the self-efficacy and teacher efficacy of its pre-service teachers. There are a number of elements of the program that contribute to these increases in self-efficacy and teacher efficacy such as the student teaching experience and the methods classes held in the PDS. The experiences the pre-service teachers have within the PDS also contribute greatly to increasing self-efficacy and teacher efficacy. Because pre-service teachers from WSU are often engaged in fieldwork and courses within the PDS, they become familiar and comfortable with the climate and people within the PDS and feel supported while they work within the PDS. The consistency in expectations between the PDS and WSU are also factors that contribute to increases in self-efficacy and teacher efficacy. In addition to these elements of the WSU program, graduates of the program attribute increased levels of teacher efficacy and self-efficacy to the support from professors and other students in the program and the many opportunities to collaborate with others. Lastly, the program is perceived by graduates as being quite rigorous in comparison to other universities. This perception causes graduates to feel especially prepared in comparison to their colleagues, which causes them to have greater levels of self-efficacy. The WSU program increases pre-service teachers’ sense of teacher efficacy and self-efficacy through interactions with the PDS, methods classes, student teaching, support from professors and other students, using collaboration as a teaching tool, and maintaining a rigorous program.
Because the program increases self-efficacy and teacher efficacy in the pre-service teachers enrolled in the program, the program also has an effect on the persistence of graduates in the teaching profession. Once again, graduates of the program identified the many practical experiences of the WSU program, interactions with the PDS, and the support and expertise of the professors as factors related to their ability to persist in the profession. Those who had persisted in the profession linked their ability to persist with their high levels of teacher efficacy and self-efficacy. However, non-persisters did not identify a lack of self-efficacy or teacher efficacy as reasons that they left the profession. This indicates that the WSU program produces graduates with high levels of teacher efficacy and self-efficacy. Even those who didn’t persist in the profession have high levels of teacher efficacy and self-efficacy. Therefore, a lack of teacher efficacy and self-efficacy is not a reason that they left the profession. Instead, there are outlying factors, unrelated to self-efficacy or teacher efficacy, that have cause graduates if the WSU program to leave. This indicates that the WSU program increases self-efficacy and teacher efficacy in its graduates, which helps graduates to persist in the profession, but high levels of teacher efficacy and self-efficacy do not predict persistence in the teaching profession. They are factors that aid in retaining new teachers, but self-efficacy and teacher efficacy alone do not cause new teachers to stay in the profession. Factors such as not being able to find a teaching position or starting a family can also cause a new teacher to leave the profession or be unable to begin their careers. Many of the elements of the WSU program contribute to the persistence of graduates of the program in the teaching profession, but there are factors related to why some of these graduates leave the profession that must be explored further so that the WSU program can consider how to increase the number of graduates who remain in the teaching profession.
Significance of the Study in the Field. The effect teacher preparation programs have on the attrition of beginning teachers must be considered in the field of education. This study explored one teacher preparation program in order to discover what aspects of the program contribute to the persistence of new teachers in the teaching profession and if self-efficacy and teacher efficacy play a role in the persistence of new teachers. This study built on existing research that indicated that elements of the PDS model of teacher preparation, including those that increase teacher efficacy and self-efficacy, have a positive effect on the persistence of new teachers. This study supports such research. An analysis of teacher preparation programs must be conducted in order to realize how these programs can help alleviate the problem of beginning teacher attrition and learn what aspects of these programs should be utilized in teacher preparation programs. Once the elements of teacher preparation programs are identified that help solve this problem, these programs, including the WSU elementary education program, can make adjustments and changes that will hopefully increase the retention of new teachers in the teaching profession.

This study is also valuable in that it explores the stories and perceptions of graduates of the WSU program. Through this study, the WSU program, as well as other stakeholders in the area of teacher preparation, can learn what happens to graduates after they leave teacher preparation programs and the reasons that these graduates choose to leave the profession or what allows them to remain in the profession. Teacher preparation programs can learn a great deal from these stories. They can learn what areas of their programs should be enhanced based on why new teachers leave the profession and why others are able to stay in the profession. An exploration, similar to this study, has major implications in the field of education. If the problem of teacher attrition is alleviated through the proactive efforts of teacher preparation programs,
school districts will be able to save millions of dollars in funds that are currently being used to train and retrain new teachers. In addition to saving money, new teachers will remain in the profession long enough to gain the knowledge and expertise to become skilled, veteran teachers, and as a result the teacher workforce will progress and advance.

**Final Words**

In conclusion, the WSU elementary education program contributes to graduates’ self-efficacy, teacher efficacy, and persistence in the teaching profession. However, not every graduate of the program remains in the teaching profession in spite of having high levels of teacher efficacy and self-efficacy. Ways that the WSU program can intervene in order to help these graduates to remain in the profession need to be considered. Overall, the elements of the WSU elementary education program, especially those related to the PDS, have a positive effect on the confidence and persistence of graduates of the program. These elements are valuable and should be considered important aspects of the program that should be maintained. However, possible additions to the program should be considered in order to assure that more graduates persist in the teaching profession.

**Next Steps**

It may not be possible to assure that 100 percent of graduates of the WSU elementary education program persist in the teaching profession, but there are ways that the WSU program can improve in order to increase the number of graduates who do. The participants in this study offered suggestions based on their own experiences transitioning into the teaching profession from the WSU elementary education program. Some additions to the program should be considered. For example, the participants of the program mentioned that, unless they obtained a job in one of the PDS, they often felt abandoned by the WSU program after graduation. The
graduates seemed to crave the collaboration and “venting” that took place while they were students in the WSU program. They wanted to feel supported as they did while they were enrolled in the program. Therefore, the WSU program should consider adding a post-graduation program for its graduates transitioning into the teaching profession that includes support from familiar faces such as the professors within the program and fellow graduates who are encountering the same experiences.

In addition, many of the graduates of the WSU program who were not currently teaching had struggled to find a teaching position. Even those who were teaching indicated that searching for a job was a grueling process and that they actually felt like amateurs in interviews. WSU should add a component to the program that explicitly teaches interview skills and approaches for searching for a teaching position. There should be a hub within the education department or on the WSU campus for pre-service teachers and alumni to go to get help seeking out teaching positions. The relationships with the PDS should be utilized more resourcefully to help graduates of the WSU program to obtain jobs within the PDS. These partnerships could also be utilized to help train future teachers about interview skills by having administrators from these schools provide mock interview sessions for the future teachers in the WSU program. WSU should consider hosting an education job fair to help match graduates and pre-service teachers of the program with potential employers. In order to increase its influence on the persistence of its graduates, the program must help graduates to obtain teaching positions and support these graduates as they transition into the teaching profession.
References


Retrieved from Education Commission of the States website:


http://www.ncate.org/LinkClick.aspx?fileticket=FcHbf2B%2B670%3D&tabid=125


www.publicagenda.org


*Evaluation and Program Planning, 26*, 229-235.


Retrieved from the University of Wisconsin-Extension website:

http://www.uwex.edu/ces/lmcourse/

Retrieved from the University of Wisconsin-Extension website:

http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html


TFA Press Kit (2009). Retrieved from the Teach for America Website:

www.teachforamerica.org


The Holmes Group (1990), *Tomorrow’s schools: Principles for the design of PDS*. East Lansing, MI: Author


# Appendix A – Logic Model

## Worcester State University Elementary Education Program Logic Model

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities</th>
<th>Participation</th>
<th>Outputs -- Impact</th>
<th>Short</th>
<th>Medium</th>
<th>Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>1. Elementary ed. majors complete fieldwork that accompanies all coursework in elementary education.</td>
<td>Students of the elementary education program at WSU</td>
<td>Graduates report high levels of self-efficacy after program completion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Development Schools Partners</td>
<td>2. Some methods courses are taught on site at the PDS so class and fieldwork can be done together.</td>
<td></td>
<td>Graduates persist in the teaching profession beyond 3 years.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long term sub salary for clinical professor’s replacement</td>
<td>3. All elementary ed. majors complete a 300 hr. practicum (student teaching)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Most elementary ed. majors complete their student teaching in a PDS.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Student teachers in the PDS participate in Friday workshops where they learn from PDS teachers and administrators.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Student teachers attend a weekly seminar taught by the clinical professor, an employee of the PDS school district.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Student teachers in the PDS are supervised by the clinical professor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Student teachers in the PDS are mentored by a cooperating teacher who is familiar with the WSU program.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. All student teachers in the PDS form a cohort.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Assumptions
- ✓ Research indicates that a PDS model leads to the retention of beginning teachers.
- ✓ Supervising practitioners are authentically model teachers.
- ✓ Students are motivated and engaged in coursework and fieldwork.

### External Factors
- ✓ Staffing changes at PDS
- ✓ Staffing changes at WSU
- ✓ Funding changes

Research indicates that a PDS model leads to the retention of beginning teachers.

Supervising practitioners are authentically model teachers.

Students are motivated and engaged in coursework and fieldwork.

External Factors
- ✓ Staffing changes at PDS
- ✓ Staffing changes at WSU
- ✓ Funding changes

Graduates report high levels of self-efficacy after program completion

Graduates persist in the teaching profession beyond 3 years.
Appendix B – Survey

Northeastern University
College of Professional Studies

This survey’s purpose is to analyze the effect the Worcester State University Elementary Education Program has on self-efficacy, teacher efficacy, and teacher retention. Your responses to the survey will help the education department at WSU to learn about graduates’ perceptions of the program and help the education department to make improvements to the elementary program as a result. Your response to the survey will contribute to data collection for the purposes of a dissertation. The survey is anonymous and completely confidential. If you have any questions please contact Christina Bebas at (508) 929-8753 or email at bebas.c@husky.neu.edu. Thank you for your willingness to participate in this survey.

Instructions: Please answer all questions as honestly as possible. The survey should take approximately 15-20 minutes to complete.

1. What is your age? □ 20-25 □ 26-30 □ 30-35 □ 36-40 □ 40-45 □ over 45

2. What is your gender? □ M □ F

3. Did you student teach at one of WSU’s professional development schools [Chandler Magnet School, May Street School, Tatnuck Magnet School, Woodland Academy (aka the A.L.L. School), Belmont Street School, or Columbus Park School]? Yes □ No □

Questions about components of the WSU elementary education program

Please rate how strongly you feel the following elements of the WSU elementary program affected the confidence you have in your own teaching by circling the appropriate number. Select N/A if the statement is not relevant to your experiences in the elementary education program at WSU.

<table>
<thead>
<tr>
<th>1. Fieldwork (85 hours completed while completing coursework)</th>
<th>Significantly Increased Confidence</th>
<th>Somewhat Increased Confidence</th>
<th>Didn’t affect confidence</th>
<th>Somewhat Decreased Confidence</th>
<th>Significantly Decreased Confidence</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Methods courses</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>3. Student teaching</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4. Cooperating teacher</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5. College supervisor (faculty member who evaluated you during student teaching)</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Questions about teacher efficacy (taken from Woolfolk & Hoy, 1990)
Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Moderately Agree</th>
<th>Agree slightly more than disagree</th>
<th>Disagree slightly more than agree</th>
<th>Moderately Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>When a student does better than usual, many times it is because I exert a little extra effort.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>I have enough training to deal with almost any learning problem.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>When I really try, I can get through to most difficult students.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. When the grades of my students improve, it is usually because I found more effective approaches.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>7. If a student masters a new concept quickly, this might be because I knew the necessary steps in teaching that concept.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. If one of my students couldn't do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>11. If I really try hard, I can get through to even the most difficult or unmotivated students.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12. My teacher training program and/or experience has given me the necessary skills to be an effective teacher.</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Questions about self-efficacy (taken from Chen, Gully, & Eden, 2001)

Please indicate your personal opinion about each statement by circling the appropriate response at the right of each statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I will be able to achieve most of the goals I have set for myself.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. When facing difficult tasks, I am certain that I will accomplish them.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
General questions related to your teaching experience

1. What year did you graduate from the WSU elementary education program?
   - [ ] 2003
   - [ ] 2004
   - [ ] 2005
   - [ ] 2006
   - [ ] 2007
   - [ ] 2008

2. Are you currently a classroom teacher in grades 1-6 (not including an instructional assistant or teacher’s aid)?
   - [ ] Yes
   - [ ] No

Questions for participants who are currently teachers

1. For how many years have you been a classroom teacher?
   - [ ] Less than a year
   - [ ] 1 year
   - [ ] 2 years
   - [ ] 3 or more years

2. Check the most relevant reasons you feel you have persisted in the teaching profession (check all that apply)

   - [ ] Support from colleagues
   - [ ] Confidence in teaching ability
   - [ ] The induction program in my school system helped me to get acclimated to teaching.
   - [ ] Strong sense of preparedness
   - [ ] Support from administration
   - [ ] Job security
   - [ ] Salary
   - [ ] Strong sense of self-efficacy/belief in one’s self
   - [ ] Other
     ____________________________
     ____________________________
Questions for participants who are not currently teachers

1. If you are not a classroom teacher, were you ever a classroom teacher? (please do not count student teaching)  □ Yes  □ No

   For how many years?  □ Less than a year  □ 1 year  □ 2 years  □ 3 or more years

2. Check the most relevant reasons you left the teaching profession (check all that apply).

| □ Lack of confidence in teaching abilities | □ Better salary or benefits | □ Dissatisfied with teaching as a career |
| □ Pregnancy or child rearing | □ To pursue a position other than that of a K-12 teacher | □ Dissatisfied with previous school or teaching assignment |
| □ Lack of preparation | □ To take courses in or out of teaching | □ Other family or personal reasons |
| □ School staffing action (reduction-in-force, lay-off, school closing, etc.) | □ Feelings of isolation | □ Poor working conditions |
| □ Frustration with the realities of teaching | □ Lack of administrative support | □ Other |

Thank you for completing this survey!

As a follow-up to this survey, I hope to conduct focus groups to learn more about the topic of my research. If you decide to participate, you will be asked to partake in a group discussion about your experiences with the elementary education program at WSU and your transition into the teaching profession. In particular, you will be asked about the strengths and weaknesses of the WSU elementary education program, the effect the program had on your confidence as a teacher, and how the program helped you to persist in the teaching profession or why you may have left the profession. The session will take place at a time and place convenient to participants and should last about one hour.

During the focus group session, you will be talking with 5-7 other graduates of the WSU elementary education program. This discussion will be audio taped so that I can accurately reflect on what is discussed. I will be the only person reviewing the recordings. No one else will have access to them. After the study is complete the audio recordings and transcriptions will be destroyed. Please also be assured, that if you participate, you do not have to answer any questions that you don’t wish to.

Your participation is confidential. The information gathered from the group discussion will be kept at my home in a secure location, and your identity will not be revealed to others. Others in the group will hear what you say, and it is possible they could tell someone else. Because we will
be talking in a group, I cannot promise that what you say will remain completely private, but I will ask that you and all other group members respect the privacy of everyone in the group.

Taking part in the focus group is your decision. You do not have to be participate if you do not want to, and you may also quit being in the study at any time. Although you probably won’t benefit directly from participation in the focus group, it is hoped that the information gathered from this study may help improve teacher preparation programs, including the elementary education program at WSU.

Thank you or your consideration. If you would like to participate or have questions about this study, please email me at bebas.c@husky.neu.edu by October 25, 2011.

Thank you,

Christina Bebas
Doctoral Candidate, Northeastern University
College of Professional Studies
Assistant Professor of Elementary and Early Childhood Education
Worcester State University
Appendix C

Focus Group Questions/Interview Questions

The following questions are to be asked of focus groups.

**Opening Question:**

*Our purpose today is to discuss your perceptions of the WSU elementary education program so that the WSU education department can make improvements to its program. We will be specifically discussing how this program affected your self-efficacy and teacher-efficacy as well as your decision to remain in or leave the teaching profession.*

1. Tell us your name, what year you graduated from Worcester State University, and where you teach now or what your job is now.

**Introductory Question:**

2. Describe your experience with the WSU elementary education program?

**Transition Questions:**

3. During your time as a student, what would you say were the strengths of the WSU elementary education program?

4. Is there a particular weakness that stands out to you?

**Key Questions:**

5. How do you feel the WSU elementary education program affected your personal self-efficacy or confidence level? (Here I am asking about your personal self-confidence, not your confidence specifically as a teacher).

6. How do you feel the WSU elementary education program affected your feelings of teacher-efficacy or confidence in your teaching ability? (Now, I am asking you about the program’s effect on your confidence as a teacher).
7. In what ways did the WSU elementary education program affect your persistence in the teaching profession?

8. How do you think your feelings of self-efficacy and teacher efficacy have affected your ability to persist in the teaching profession?

Ending Questions:

9. What aspects of the WSU elementary education program that had the greatest impact on your ability to persist in the teaching profession?

10. Is there something specific that WSU could do, create, change, or offer that would help its elementary education graduates persist in the teaching profession?
Appendix D

Unsigned Consent Document For Online Survey

Northeastern University, College of Professional Studies

Investigator(s): Principal Investigator, Dr. Christopher Unger and Student Researcher, Christina Bebas

Title of Project: A Mixed Methods Study of a Teacher Preparation Program Using Professional Development Schools on Teacher Persistence

Request to Participate in Research:
I would like to invite you to participate in a web-based online survey. The survey is part of a research study whose purpose is to examine the effect the Worcester State University elementary education program has on self-efficacy, teacher efficacy, and teacher persistence. This survey should take about 15-20 minutes to complete.

I am asking you to participate in this study because you are a graduate of the Worcester State University elementary education program from the years 2003-2008. You must be 18 years old to take this survey.

The decision to participate in this research project is voluntary. You do not have to participate and you can refuse to answer any question. Even if you begin the online survey, you can stop at any time.

There are no foreseeable risks or discomforts for you for taking part in this study.

There are no direct benefits to you from participating in this study. However, your responses may help us learn more about the impact the Worcester State University elementary education program has on its graduates and the effect it has on self-efficacy, teacher efficacy, and teacher persistence.

You will not be paid for your participation in this study.

Your part in this study is anonymous to the researcher(s). However, because of the nature of web-based surveys, it is possible that respondents could be identified by the IP address or other electronic record associated with the response. Neither the researcher nor anyone involved with this survey will be capturing those data. Any reports or publications based on this research will use only group data and will not identify you or any individual as being affiliated with this project.

If you have any questions regarding electronic privacy, please feel free to contact Mark Nardone, IT Security Analyst via phone at 617-373-7901, or via email at privacy@neu.edu.

If you have any questions about this study, please feel free to contact Christina Bebas, the person mainly responsible for the research, by phone at 508-929-8753 or by email at bebas.c@husky.neu.edu.
You can also contact Dr. Christopher Unger by phone at 617-373-2400 or by email at c.unger@neu.edu.

If you have any questions regarding your rights as a research participant, please contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University, Boston, MA 02115. Tel: 617.373.7570, Email: irb@neu.edu. You may call anonymously if you wish.

Please complete this survey by October 18, 2011.

Please print out a copy of this consent form for your records.

Thank you for your time.
Appendix E

Unsigned Informed Consent Document for Focus Group Participants

Northeastern University, College of Professional Studies

Investigator’s Name: Christina Bebas

Title of Project: A Mixed Methods Study of a Teacher Education Program using Professional Development Schools on Teacher Persistence

You are being invited to take part in a research study. This form will tell you about the study, but the researcher will explain it to you first. You may ask this person any questions that you have. When you are ready to make a decision, you may tell the researcher if you want to participate or not. You do not have to participate if you do not want to.

Why are you being asked to take part in this research study?
You are being asked to participate in this research study because you are a graduate of the elementary education program at Worcester State University between the years 2003-2008. You must be 18 years old to participate.

Why is this research being done?
The purpose of this research is to gather information about what aspects of teacher preparation programs affect self-efficacy, teacher efficacy, and persistence in the teaching profession.

What will I be asked to do?
If you decide to take part in this study, you will be asked to participate in a focus group. The focus group will meet once to discuss the elementary education program at WSU and whether it had an effect on each person’s self-efficacy, teacher efficacy, and decision to remain in or leave the teaching profession. Your participation is voluntary, and you can opt to not participate in the focus groups. The session will be audio taped for transcription and analysis purposes only.

Where will this take place and how much time will it take?
Focus group sessions will last no longer than an hour and will be held on the WSU campus in a classroom or conference room in the education department in the evening.

Will there be any risk or discomfort to me?
There is no foreseeable risk or discomfort anticipated and there will be no affect on your services at WSU by participating in this study.

Will I benefit to being in this research?
There will be no direct benefit to you for taking part in the study. However, the information learned from this study may help teacher preparation programs, such as the elementary education program at WSU, to make improvements and increase teacher retention and sense of efficacy.

**Who will see the information about me?**
As a focus group participant, your part will be confidential. Only the researcher of this study will see the information about you. The other participants in your focus group will hear your ideas, but confidentiality will be discussed with all participants. No reports or publications will use information that can identify you, your school, or any individual in any way. The data collected for this study will be kept by the researcher, including audio tapes, and will not be shared with others. Only first names will be used during focus group sessions and in transcriptions. False names will be used in reports related to focus groups. All audio tapes will be destroyed following transcription.

In rare instances, authorized people may request to see research information about you and other people in this study. This is done only to be sure that the research is done properly. The researcher would only permit people who are authorized by organizations such as Northeastern University to see this information. No identifying information will ever be shared with people at Worcester State University.

**Can I stop my participation in this study?**
Your participation in this research is completely voluntary. You do not have to participate if you do not want to, and you can refuse to answer any question. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have.

**Who can I contact if I have questions or problems?**
Christina Bebas  
College of Professional Studies  
Northeastern University  
508-929-8753  
Email: bebas.c@husky.neu.edu

Dr. Christopher Unger  
College of Professional Studies  
50 Nightingale Hall  
Northeastern University  
Boston, MA  
Campus # 617-373-2400  
Email: c.unger@neu.edu

**Who can I contact about my rights as a participant?**
If you have any questions about your rights as a participant, you may contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University Boston, MA 02115 tel. 617-373-7570, email: irb@neu.edu. You may call anonymously if you wish.

**Will I be paid for my participation?**
There is no compensation for participation in this study.

**Will it cost me anything to participate?**
There is no cost to participate.
You may keep this form for yourself. Thank you for your participation.
Appendix F

Signed Informed Consent Document for Interview Participants

Northeastern University, College of Professional Studies

Investigator’s Name: Christina Bebas

Title of Project: A Mixed Methods Study of a Teacher Education Program using Professional Development Schools on Teacher Persistence

You are being invited to take part in a research study. This form will tell you about the study, but the researcher will explain it to you first. You may ask this person any questions that you have. When you are ready to make a decision, you may tell the researcher if you want to participate or not. You do not have to participate if you do not want to. If you decide to participate, the researcher will ask you to sign this statement and will give you a copy to keep.

Why are you being asked to take part in this research study?
You are being asked to participate in this research study because you are a graduate of the elementary education program at Worcester State University between the years 2003-2008. You must be 18 years old to participate.

Why is this research being done?
The purpose of this research is to gather information about what aspects of teacher preparation programs affect self-efficacy, teacher efficacy, and persistence in the teaching profession.

What will I be asked to do?
If you decide to take part in this study, you will be asked to participate in an interview. You will be interviewed once to discuss the elementary education program at WSU and whether it had an effect on each person’s self-efficacy, teacher efficacy, and decision to remain in or leave the teaching profession. Your participation is voluntary, and you can opt to not participate in the interview. The session will be audio taped and transcribed.

Where will this take place and how much time will it take?
Interviews will last no longer than an hour and will be held on the WSU campus in a classroom or conference room in the education department in the evening.

Will there be any risk or discomfort to me?
There is no foreseeable risk or discomfort anticipated and there will be no affect on your services at WSU by participating in this study.

Will I benefit to being in this research?
There will be no direct benefit to you for taking part in the study. However, the information learned from this study may help teacher preparation programs, such as the elementary education program at WSU, to make improvements.

**Who will see the information about me?**
As an interview participant, your part will be confidential. Only the researcher of this study will see the information about you. No reports or publications will use information that can identify you, your school, or any individual in any way. The data collected for this study will be kept by the researcher, including audio tapes, and will not be shared with others. Only first names will be used during interviews and in transcriptions. False names will be used in reports related to the interview. All audio tapes will be destroyed following transcription.

In rare instances, authorized people may request to see research information about you and other people in this study. This is done only to be sure that the research is done properly. The researcher would only permit people who are authorized by organizations such as Northeastern University to see this information. No identifying information will ever be shared with people at Worcester State University.

**Can I stop my participation in this study?**
Your participation in this research is completely voluntary. You do not have to participate if you do not want to, and you can refuse to answer any question. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have.

**Who can I contact if I have questions or problems?**
Christina Bebas
College of Professional Studies
Northeastern University
508-929-8753
Email: bebas.c@husky.neu.edu

Dr. Christopher Unger
College of Professional Studies
50 Nightingale Hall
Northeastern University
Boston, MA
Campus # 617-373-2400
Email: c.unger@neu.edu

**Who can I contact about my rights as a participant?**
If you have any questions about your rights as a participant, you may contact Nan C. Regina, Director, Human Subject Research Protection, 960 Renaissance Park, Northeastern University Boston, MA 02115 tel. 617-373-7570, email: irb@neu.edu. You may call anonymously if you wish.

**Will I be paid for my participation?**
There is no compensation for participation in this study.

**Will it cost me anything to participate?**
There is no cost to participate.

I agree to take part in this research.
Appendix G

Letter Requesting Permission to the Dean of Education

August 3, 2011

Dr. Tateronis:

As you know I am currently enrolled in a doctoral program at Northeastern University and am in the process of completing the dissertation stage of the program. My research is focused on the effect the elements of the Worcester State University (WSU) undergraduate program in elementary education have on graduates’ self-efficacy, teacher efficacy, and persistence in the teaching profession. The study is designed to use a mixed methods approach and requires that I collect survey data from graduates of the WSU elementary education program from 2003-2008 as well as conduct focus groups to gather qualitative data from some of the participants. Therefore, I am requesting permission to elicit the participation of these recent graduates of the elementary education program.

The study will be conducted as an outcome evaluation and will help determine if WSU’s elementary education program affects the self-efficacy, teacher efficacy, and persistence of its graduates. Through the analysis of survey data and focus group data, this research will consider the various elements of the WSU program and the extent to which these elements have an effect on graduates’ feelings of efficacy and how that affects their persistence in the teaching profession.

My intention is for this evaluation study to benefit the elementary education program at WSU and help the administration and faculty in the education department to realize the influence the program has on graduates’ ability to persist in the teaching profession.

If you have questions regarding this study, please contact me directly at (508) 414-6609 or email me at cbebas@worcester.edu. You may also contact the chairperson of my committee, Dr. Christopher Unger at Northeastern University, (617) 909-1360. Thank you for your consideration and time. I look forward to talking with you in the future about my research.

Sincerely,

Christina Bebas
Doctoral Candidate, College of Professional Studies
Northeastern University, Boston
Assistant Professor of Elementary and Early Childhood Education
Education Department, Worcester State University
Appendix H

August 8, 2011

Dear Christina:

Please consider this letter as formal notification of permission to elicit the participation of Worcester State University recent graduates of the Elementary Education Program for your intended research. You may contact these alumni via email to recruit them to participate in your survey and in the related focus groups.

This research is very timely and will yield some pertinent information regarding important issues surrounding self-efficacy, teacher efficacy and persistence in the field of teaching. As you know, the outcomes may yield some additional information to our concerns and understandings of teacher retention and/or lack thereof.

It is with a sense of pride that I write this letter, as you are a valued member of the Education Department and I have witnessed your commitment and perseverance to your Doctoral Program at Northeastern University. I am impressed not only by the topic of your research but also by the design and data analysis being proposed.

It is therefore without hesitation, that I write this letter of permission to conduct your research utilizing responses and student feedback from the Elementary Education Program. I ask only that you share your results with the department and university.

With Best Wishes,

Dr. Elaine G. Tatoronis, Dean,
School of Education, Health Sciences and Natural Sciences
Worcester State University

www.worcester.edu
Appendix I

Initial Email to Participants

October 4, 2011

Dear Graduates of the Worcester State University Elementary Education Program,

My name is Christina Bebas, and I am a doctoral candidate in the College of Professional Studies at Northeastern University and an assistant professor at Worcester State University (WSU). As part of my dissertation research, I am conducting a study about the effect teacher preparation programs have on self-efficacy, teacher efficacy, and teacher persistence.

In order to gather data about this research, I am inviting you to participate in my study by filling out a quick survey. The alumni affairs office at WSU has provided me with your email. You have been asked to participate in this survey because you are a graduate of the WSU elementary education program. The purpose of this survey is to analyze the effect teacher preparation programs have on self-efficacy, teacher efficacy, and teacher retention. Your responses to the survey may help me to learn about teachers’ perceptions of their teacher preparation programs and help teacher preparation programs, including the elementary education program at WSU, to make improvements as a result.

The survey will take approximately 15-20 minutes. At the start of the survey, you will be presented with a quick overview and description of the purpose of the survey. You will then be able to acknowledge your understanding of this information, consent to take the survey, and proceed to the actual survey questions. You will be asked some basic information about your year of graduation and your age. Then, you will respond to survey questions by choosing a number to indicate the extent of your feelings about certain statements.

Your participation in this survey is completely voluntary. There is no punitive action if you choose not to participate.

The survey is completely confidential. If you have any questions, please contact Christina Bebas at (508) 929-8753 or email at bebas.c@husky.neu.edu. Thank you for your consideration.

To participate, simply click the link below. Please complete the survey by October 18, 2011.

http://www.surveymonkey.com/s/FJ3DRR3

Thank you,

Christina Bebas
Doctoral Candidate, Northeastern University
College of Professional Studies
Assistant Professor of Elementary and Early Childhood Education
Worcester State University
October 11, 2011

Dear Graduate of the Worcester State University Elementary Education Program,

My name is Christina Bebas, and I am a doctoral candidate in the College of Professional Studies at Northeastern University and an assistant professor at Worcester State University (WSU). I am conducting research about the effect teacher preparation programs have on self-efficacy, teacher efficacy, and teacher persistence.

You received an email recently that contained a link to an online survey related to my research. For those of you who have not yet responded to the survey, I am sending this as a reminder. If you already filled out the survey, thank you so much for doing so! Your response to this survey will help me to gather data about teacher preparation programs and could help many teacher preparation programs, including the elementary education program at Worcester State University, to gather information that may lead to improvements to the program.

The survey will take approximately 15-20 minutes. This survey is completely voluntary. If you would like to participate, click on the link below. The survey must be completed by October 18, 2011.

http://www.surveymonkey.com/s/FJ3DRR3

Thank you for your time and consideration.

Sincerely,

Christina Bebas
Doctoral Candidate, Northeastern University
College of Professional Studies
Assistant Professor of Elementary and Early Childhood Education
Worcester State University
Appendix K

Focus Group Participation Email Reminder

October 21, 2011

Dear Graduate of the Worcester State University Elementary Education Program,

First, thank you so much for completing the survey related to my research about the effect that teacher preparation programs have on self-efficacy, teacher efficacy, and teacher persistence if you did so. It is hoped that your participation will contribute to research that will help analyze teacher preparation programs and help make changes to these programs in order to help future teachers.

Some of you are aware of an opportunity to participate in focus group sessions that are related to this research. Those of you who are unaware of this opportunity, I would like to invite you to participate. I would like to remind those of you who are interested in participating in a focus group to be sure to email me about participating within the next three days at bebas.c@husky.neu.edu. If you decide to participate, you will be asked to partake in a group discussion with 5-7 other graduates of the Worcester State University elementary education program about your experiences with the elementary education program at WSU and your transition into the teaching profession. In particular, you will be asked about the strengths and weaknesses of the WSU elementary education program, the effect the program had on your confidence as a teacher, and how the program helped you to persist in the teaching profession or why you may have left the profession. The session will take place at WSU, in the education department and in the evening and should last about one hour.

Taking part in this study is your decision. You do not have to be in this study if you do not want to. However, if you would like to participate, please contact me at bebas.c@husky.neu.edu.

Thank you,

Christina Bebas
Doctoral Candidate, Northeastern University
College of Professional Studies
Assistant Professor of Elementary and Early Childhood Education
Worcester State University
Appendix L

Facebook Status Update

As many of you know, I am a doctoral candidate in the College of Professional Studies at Northeastern University and an assistant professor at Worcester State University (WSU). I am conducting research about the effect teacher preparation programs have on self-efficacy, teacher efficacy, and teacher persistence. I am looking for graduates of the elementary education program at WSU from 2003-2008 who might be willing to participate in focus groups or interviews. If you are interested in participating, please message me on Facebook or email me at bebas.c@husky.neu.edu.
Appendix M

Facebook Message

Dear Graduate of the Worcester State University Elementary Education Program,

I am a doctoral candidate in the College of Professional Studies at Northeastern University and an assistant professor at Worcester State University (WSU). I am conducting research about the effect teacher preparation programs have on self-efficacy, teacher efficacy, and teacher persistence. I am messaging you because you graduated from the elementary education program at WSU between 2003 and 2008. I am looking for participants for focus groups and interviews.

If you decide to participate, you will be asked to participate in a group discussion or an individual interview. Group discussions will include 5-7 other graduates of the Worcester State University elementary education program. Individual interviews will be conducted as one-on-one discussions with the researcher. In either case, you will be asked about your experiences with the elementary education program at WSU and your transition into the teaching profession. In particular, you will be asked about the strengths and weaknesses of the WSU elementary education program, the effect the program had on your confidence as a teacher, and how the program helped you to persist in the teaching profession or why you may have left the profession. The session will take place at WSU, in the education department and in the evening and should last about one hour.

Taking part in this study is your decision. You do not have to be in this study if you do not want to. However, if you would like to participate, please reply to this message or email me at bebas.c@husky.neu.edu.

Thank you,

Christina Bebas
Doctoral Candidate, Northeastern University
College of Professional Studies
Assistant Professor of Elementary and Early Childhood Education
Worcester State University
Appendix N

IRB Approval

NOTIFICATION OF IRB ACTION
Date: September 8, 2011  IRB #: 11-08-16
Principal Investigator(s): Christopher Unger
Christina Bebas
Department: Doctor of Education Program
College of Professional Studies
Address: 42 Belvidere
Northeastern University
Title of Project: A Mixed Methods Study of a Teacher Preparation Program Using Professional Development Schools on Teacher Persistence
Participating Sites: Worcester State University – permission letter received
DHHS Review Category: Expedited #6, #7
Informed Consents: One (1) unsigned consent form as preface to online survey
One (1) unsigned consent form for focus group
Monitoring Interval: 12 months
APPROVAL EXPIRATION DATE: SEPTEMBER 7, 2012
Investigator’s Responsibilities:
1. The informed consent form bearing the IRB approval stamp must be used when recruiting participants into the study.
2. The investigator must notify IRB immediately of unexpected adverse reactions, or new information that may alter our perception of the benefit-risk ratio.
3. Study procedures and files are subject to audit any time.
4. Any modifications of the protocol or the informed consent as the study progresses must be reviewed and approved by this committee prior to being instituted.
5. Continuing Review Approval for the proposal should be requested at least one month prior to the expiration date above.
6. This approval applies to the protection of human subjects only. It does not apply to any other university approvals that may be necessary.

C. Randall Colvin, Ph.D., Chair
Northeastern University Institutional Review Board

Nan C. Regina, Director
Human Subject Research Protection

Northeastern University FWA #4630
Appendix O

IRB Approval of Modifications

Northeastern University

Notification of IRB Action
Modification

Date: January 5, 2012
IRB #: 11-08-16
Principal Investigator(s):
Christopher Unger
Christina Bebas
Department:
College of Professional Studies/Education
Address:
50 Nightingale Hall
Northeastern University
Title of Project:
A Mixed Method Study of a Teacher Preparation Program Using Professional Development Schools on Teacher Persistence
Modification:
a) addition of interviews in addition to previously-approved focus groups; b) potential recruitment via Facebook
Participating Sites:
Worcester State University – approval received
DHHS Review Category:
Expedited #6, #7
Original (or Continued)
Protocol Approved:
September 8, 2011
Informed Consents:
One (1) unsigned consent as preface to online survey
One (1) unsigned consent form for focus groups
One (1) signed consent for interviews

As per CFR 45 46.117(c)(2) signed consent is being waived as the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required.

Monitoring Interval:
12 months
Approval Expiration Date:
MAY 31, 2012

Investigator’s Responsibilities:
1. The informed consent form bearing the IRB approval stamp must be used when recruiting participants into the study.
2. The investigator must notify IRB immediately of unexpected adverse reactions, or new information that may alter our perception of the benefits-risk ratio.
3. Study procedures and files are subject to audit any time.
4. Any modifications of the protocol or the informed consent as the study progresses must be reviewed and approved by this committee prior to being instituted.
5. Continuing Review Approval for the proposal should be requested at least one month prior to the expiration date above.
6. This approval applies to the protection of human subjects only. It does not apply to any other university approvals that may be necessary.

C. Randall Colvin, Ph.D., Chair
Northeastern University Institutional Review Board

Nan C. Regina
Director, Research Integrity

Northeastern University FWA #: 4630