Investigation of Needs/Concerns of Teachers within an Induction Year Program

A dissertation presented to

the faculty of

the College of Education of Ohio University

In partial fulfillment

of the requirements for the degree

Doctor of Philosophy

Pamela C. Beam

March 2009

© 2009 Pamela C. Beam. All Rights Reserved.
This dissertation titled

Investigation of Needs/Concerns of Teachers within an Induction Year Program

by

PAMELA C. BEAM

has been approved for

the Department of Teacher Education

and the College of Education by

_________________________________________

Dianne M. Gut

Associate Professor of Teacher Education

_________________________________________

Renée A. Middleton

Dean, College of Education
ABSTRACT

BEAM, PAMELA C., Ph.D., March 2009, Curriculum and Instruction

Investigation of Needs/Concerns of Teachers within an Induction Year Program (179 pp.)

Director of Dissertation: Dianne M. Gut

This mixed method investigation looked at induction year teachers’ perceptions of their needs and the match between these needs and the support offered by their induction year programming. Research demonstrates induction year teachers need many levels of support during their critical induction year, and without it, many new teachers leave the profession. The purpose of this study was to determine whether induction year teachers’ perceptions of their concerns match the induction year program components identified as effective by the current research.

The conceptual framework guiding this study was the work of Vygotsky and his proposal that challenging tasks can ultimately be mastered if first done under guidance (Ormrod, 2003). To compliment Vygotsky’s theory, this study also reflects upon Katz’s developmental stages of teachers and the work of Lave and Wenger; whose work on situated learning with legitimate peripheral participation also supports the idea of apprenticeships or working under the tutelage of an expert. The concept that learning is intrinsically social and interactive is also embraced by Lave and Wenger (1991) in their work on situated learning with legitimate peripheral participation.

Thirty-four induction year teachers completed a pre and post-survey and an induction year team focus group over a three month period. The program coaches were
also interviewed in this study. Both quantitative and qualitative methods were employed for data triangulation.

Qualitative data was derived from interviews with the team coaches, focus group interviews, and a document analysis of the induction year handbook and relevant resources available to all program participants. Quantitative data from the induction year surveys was also analyzed. The quantitative data collection utilized a single-group pretest-posttest design using data from a pre- and post-survey completed by the induction year teachers. For the qualitative data, the researcher used an inductive analysis to synthesize the group interviews.

The data from this study showed the perceived needs/concerns of the induction year teachers did indeed align with the components described in the literature. The more critical point being that they identified areas of needs/concerns identified in the literature but missing from the induction year programming available to them.

Approved: _____________________________________________________________

Dianne M. Gut

Associate Professor of Teacher Education
ACKNOWLEDGMENTS

There are many people who have been unfailingly supportive during my journey towards my doctoral degree. This journey has certainly proved to be memorable in many ways, but the support and love I received from friends and family as well as my committee members allowed me to find ways around and over the many obstacles that appeared in my path.

First, I would like to thank Dr. Frans Doppen who began this journey with me and then graciously stepped back to offer support in another capacity on my committee. My committee, including Dr. Danielle Dani, Dr. Martin Tuck, Dr. Frans Doppen, and Dr. Dianne Gut were committed to making sure only my best work went forward through their questions, suggestions, and availability, and for this I thank them from the bottom of my heart. In particular, I would like to thank Dr. Dani for her time and feedback focusing on the synthesis of my work. I would also like to thank the members of the induction year collaborative that participated in my study.

Second, I must thank my chair, Dr. Dianne Gut whose gentle pushing and timely reminders, combined with her unflagging support and feedback kept me focused and moving “onward” in my quest to complete this momentous process. It is thanks to her and her understanding of the many issues facing me throughout this journey that was one of the most significant levels of support offered me.

Third, I must thank my close friend, colleague and fellow doctoral student, Tara Boyer for her many cards, calls, visits, and conversations that allowed me to vent my frustrations all the while pumping me back up and pushing me forward to complete the
race. In addition, I would like to thank my children JW and Christine Beam who were my original reasons for pursuing the objective of a doctoral degree, and all my friends and family members who kept track and repeatedly asked how I was doing and when I would be finished.

Finally, it is my husband Jay who I would like to thank the most. It has been his love, support, and faith in my capabilities that have allowed me significant time away from him and my family to work on this degree. Jay has been my biggest cheerleader and did all in his power to clear the way for me to be able to focus on the work while he carried a heavier load at home. I could not have contemplated nor completed this journey without his love and support.
TABLE OF CONTENTS

Abstract ............................................................................................................................... 3

Acknowledgments............................................................................................................... 5

List of Tables .................................................................................................................... 10

List of Figures ................................................................................................................... 11

Chapter One: Introduction ............................................................................................... 12

Retention Issues ............................................................................................................. 16

Induction Year/Induction Programs.................................................................................. 19

Ohio’s Induction Year Program ...................................................................................... 21

Statement of the Problem .............................................................................................. 23

Purpose of the Study ...................................................................................................... 24

Significance ..................................................................................................................... 25

Limitations and Delimitations of the Study .................................................................... 26

Limitations ..................................................................................................................... 27

Delimitations ................................................................................................................ 28

Conceptual Framework ................................................................................................. 29

Definition of Terms ...................................................................................................... 31

Chapter Two: Literature Review ...................................................................................... 34

Teacher Supply and Demand ......................................................................................... 35

Teacher Attrition .......................................................................................................... 43

Concerns of Induction Year Teachers ............................................................................ 48

The Induction Program ................................................................................................. 52

Identification of New Teacher Needs ............................................................................. 52
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Support</td>
<td>54</td>
</tr>
<tr>
<td>The Mentor</td>
<td>59</td>
</tr>
<tr>
<td>The Principal</td>
<td>63</td>
</tr>
<tr>
<td>Summary</td>
<td>65</td>
</tr>
<tr>
<td>Chapter Three: Methodology</td>
<td>67</td>
</tr>
<tr>
<td>Conceptual Framework Revisited</td>
<td>67</td>
</tr>
<tr>
<td>Research Hypothesis</td>
<td>68</td>
</tr>
<tr>
<td>Null Hypothesis</td>
<td>68</td>
</tr>
<tr>
<td>Induction Year Collaborative Program</td>
<td>71</td>
</tr>
<tr>
<td>Team Meetings</td>
<td>72</td>
</tr>
<tr>
<td>Dyad Meeting</td>
<td>74</td>
</tr>
<tr>
<td>Observations</td>
<td>74</td>
</tr>
<tr>
<td>Gaining Entry</td>
<td>75</td>
</tr>
<tr>
<td>Participants</td>
<td>76</td>
</tr>
<tr>
<td>Selection</td>
<td>77</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>80</td>
</tr>
<tr>
<td>Pilot Survey</td>
<td>82</td>
</tr>
<tr>
<td>Team Coach Interviews</td>
<td>83</td>
</tr>
<tr>
<td>Induction Year Teacher Focus Group Interviews</td>
<td>87</td>
</tr>
<tr>
<td>Procedures</td>
<td>90</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>93</td>
</tr>
<tr>
<td>Triangulation</td>
<td>93</td>
</tr>
<tr>
<td>Qualitative Data Analysis</td>
<td>94</td>
</tr>
<tr>
<td>Quantitative Data Analysis</td>
<td>96</td>
</tr>
</tbody>
</table>
Chapter Four: Results ................................................................. 99
  Research Questions................................................................. 99
  Quantitative Results.............................................................. 99
  Qualitative Results................................................................. 108
  Induction Year Teacher Focus Group Interviews...................... 123

Chapter Five: Discussion ............................................................ 144
  What are Induction Year Teachers’ Needs/Concerns? ................. 144
  Do Induction Year Teachers Know what They Need? ................... 147
  Differing Needs............................................................... 149
  Changes Over Time .................................................... 151
  Conceptual Framework Revisited ....................................... 152
  Recommendations............................................................ 154
  Conclusion ................................................................. 159
  References ............................................................... 161

Appendix A: Data Analysis Plan ................................................. 168
Appendix B: Pre-Post-Survey for Induction Year Teachers ............ 169
Appendix C: Descriptive Statistics ............................................. 173
Appendix D: Results of the ANOVA .......................................... 175
Appendix E. Tukey Test Statistics ............................................. 178
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1: District Grade Level Distribution of Participants</td>
<td>80</td>
</tr>
<tr>
<td>Table 2: District Team Composition by Coach</td>
<td>83</td>
</tr>
<tr>
<td>Table 3: Percentages of Participant Responses by Question</td>
<td>101</td>
</tr>
<tr>
<td>Table 4: Mean Differences</td>
<td>103</td>
</tr>
<tr>
<td>Table 5: Levels of Significance for Each Question Based on ANOVA</td>
<td>104</td>
</tr>
<tr>
<td>Table 6: Grade Level Differences</td>
<td>105</td>
</tr>
<tr>
<td>Table 7: Paired t-test Results</td>
<td>107</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Page

Figure 1: County-wide induction year mentoring collaborative hierarchy ...................... 75
Figure 2: Themes from team coach interviews ................................................................. 87
Figure 3: Themes from induction year teacher focus group interviews ......................... 90
Figure 4: Paired t-test mean scores ............................................................................... 108
CHAPTER ONE: INTRODUCTION

Education policy researchers predict a national demand for teachers in excess of two million in the next several years due to increasing student enrollment and anticipated retirements (Ingersoll, 2002; Ingersoll & Smith, 2003; Kelley, 2004). In addition to this overall shortage, a shortage of teachers specializing in the area of special education, math, and science are at a critical level nationally (Gursky, 2001; Pipho, 1998; Posamentier & Coppin, 2005; Thornton, Peltier, & Medina, 2007). Further compounding this issue, currently, is a high rate of teacher attrition (Kelley, 2004; Ingersoll, 2002; Ingersoll & Smith, 2003; Oakes, Franke, Quartz, & Rogers, 2002). These findings are supported by reports from the National Center for Education Statistics (1996) entitled The Schools And Staffing Survey (SASS) and a conference focusing on Teacher Supply, Demand, and Quality (TSDQ) sponsored by the National Research Council (Boe & Gilford, 1992; Hussar, 2002).

In the mid-1980s, The National Center for Education Statistics (NCES), part of the United States Department of Education, conducted several surveys concerning school staffing designed to collect data on a variety of topics including the varying demands for teachers. In 1985, NCES went through a critical review of the surveys and data collection system, and redesigned the elementary/secondary school data system that focused on teacher demand and shortage, teacher and administrator characteristics, school programs, and general conditions in schools (Boe & Gilford, 1992). This work resulted in a set of surveys including SASS, and the development of the Teacher Followup Survey (TFS) that was conducted a year after the SASS survey. It was following the analysis and
dissemination of the data from these surveys that researchers began alerting policy makers and administrators about predicted shortages. However, there is little evidence of a shortage of candidates entering the profession today. Indeed colleges are preparing adequate numbers, and in fact, in some subject areas, too many candidates (Ingersoll, 2001; Ingersoll, 2002; Murnane, Singer, Willett, Kemple, & Olsen, 1991). Currently, the biggest problem seems to be attrition of new teachers, the financial impact of attrition on school districts, and the consistency of quality programming negatively impacting student achievement. Therefore, it is imperative that districts aggressively work to combat the attrition of new teachers.

Since the re-authorization in 2001 of the Elementary and Secondary Education Act of 1965, now titled the No Child Left Behind Act (NCLB), there has been more pressure on schools to recruit and retain highly qualified teachers even in the poorest among them. The new re-authorization dedicated a specific and significant section to the need for all children to be taught by Highly Qualified Teachers (HQT). According to the United States Department of Education, “One of the most important factors in raising student achievement is a highly qualified teacher.” Research has shown that teacher subject-matter knowledge is correlated with student learning (Stronge & Hindman, 2003). In this era of high standards and high expectations, having a highly qualified teacher has never been more important. The No Child Left Behind Act (NCLB) recognizes this by requiring all teachers of core academic subjects in the classroom, both general educators and special educators, to be highly qualified. Highly qualified status is determined using three essential criteria: (a) attaining a bachelor's degree or better in the subject taught; (b)
obtaining full state teacher certification; and (c) demonstrating knowledge in the subjects taught (p. 1).

The following section of the legislation lays out the district’s responsibility in recruiting and training new and veteran teachers who did not, at the time NCLB was passed, meet the highly qualified section of the law:

SEC. 1119. QUALIFICATIONS FOR TEACHERS AND PARAPROFESSIONALS.

(a) TEACHER QUALIFICATIONS AND MEASURABLE OBJECTIVES-

(1) IN GENERAL- Beginning with the first day of the first school year after the date of enactment of the No Child Left Behind Act of 2001, each local educational agency receiving assistance under this part shall ensure that all teachers hired after such day and teaching in a program supported with funds under this part are highly qualified.

(2) STATE PLAN- As part of the plan described in section 1111, each State Educational Agency receiving assistance under this part shall develop a plan to ensure that all teachers teaching in core academic subjects within the State are highly qualified not later than the end of the 2005-2006 school year. Such plan shall establish annual measurable objectives for each local educational agency and school that, at a minimum —

(A) shall include an annual increase in the percentage of highly qualified teachers at each local educational agency and school, to ensure that all teachers teaching in core academic subjects in each
public elementary school and secondary school are highly qualified not later than the end of the 2005-2006 school year;

(B) shall include an annual increase in the percentage of teachers who are receiving high-quality professional development to enable such teachers to become highly qualified and successful classroom teachers; and

(C) may include such other measures as the State educational agency determines to be appropriate to increase teacher qualifications.

(3) LOCAL PLAN- As part of the plan described in section 1112, each local educational agency receiving assistance under this part shall develop a plan to ensure that all teachers teaching within the school district served by the local educational agency are highly qualified not later than the end of the 2005-2006 school year (United States Department of Education, 2001).

Given the potential shortage of highly qualified teachers in specific content areas such as mathematics, science, and special education, and in specific regions in the United States, such as rural and urban settings, focusing on teacher retention and reasons for attrition has become paramount for every school building in every school district in the country. Some of the proposed reasons for the shortage are increased student enrollment, teacher retirement, low teacher salaries, and teacher attrition (Chapman & Green, 1986; Cochran-Smith, 2004; Darling-Hammond, 2000; Geoffrion, Staples, & Shewmaker,
Currently, Ohio’s K-12 enrollment between 2002-2007 has shown a sharp decline in overall enrollment in the state based on “population patterns” from which the data was derived (Driscoll & Fleeter, 2007). The total enrollment in the state of Ohio in 2007 was approximately 1,715,000 million indicating a downturn in enrollment of approximately 59,000 students (3.35%) (Driscoll & Fleeter, 2007). Even though there is a decline of enrollment overall, there have been increases in enrollment in wealthy suburban districts, small town districts, and suburban districts in Ohio. In fact, according to Driscoll and Fleeter (2007), it was predicted there would be “significant enrollment growth by 2017 in small town districts (15%) and in very high wealth suburban districts (13%)” (p. 2). As limited as the literature is regarding officials having a sense of future needs of the size of the teaching force, literature regarding the impact of high retention rates is plentiful.

Retention Issues

In recent years, educators, administrators, and state departments of education have been warned of a projected shortage to enable them to prepare a plan to combat the issue (Darling-Hammond, 2000; Ingersoll, 2002; Ingersoll & Smith, 2003; Kelly, 2004). These warnings often implied that a shortage could result in school systems having to resort to lowering standards in order to fill open teaching positions, thereby increasing the number of under-qualified teachers that could negatively impact student achievement (Ingersoll, 2001); a situation that can become increasingly complex when trying to meet new federal requirements of having every child taught by a highly qualified teacher (Cochran-Smith,
This issue looms even larger for districts in rural and urban settings where salary and resources are more limited. Rural and urban school districts are already the hardest hit when it comes to attracting highly qualified teachers and often fill their classrooms with inexperienced teachers and teachers teaching outside of their certification area (Darling-Hammond, 2003; Oakes, Franke, Quartz, & Rogers, 2002).

Cochran-Smith (2004) concurs that a shortage of teachers and the demands of teaching contribute to a recruitment and retention problem. However, she cites the work of Ingersoll (2002) to support her contention that it is not true that most teachers leave teaching through retirement, and the shortage is not primarily due to too few prospective teachers being produced each year. Rather, she proposes the shortage is caused primarily by a teacher turnover problem.

Darling-Hammond (2000) has stated that the current teacher shortage, in combination with the demands of standards-based education, is what makes the retention of new teachers such a critical issue. Others concur and recommend induction year teachers need a high level of support on many fronts to ensure they become quality veteran teachers rather than a teacher attrition statistic (Andrews, Gilbert, & Martin, 2006; Moir & Gless, 2001; Quinn & Andrews, 2004).

Attrition rates can be staggering. According to Geoffrion, Staples and Shewmaker (2001), in North Carolina, 16-20 percent of new teachers leave the teaching profession after their first year and close to 42 percent within the first five years. Ingersoll’s (2001) analysis of the national Schools and Staffing Survey and Teacher Follow-up Survey
confirmed these findings for most of the United States and stated that more than one third of induction year teachers leave the profession during the first three years and almost half leave after five years. In the face of all this data, retention of a competent teaching force is critical.

An analysis of the Chatham Education Foundation Teacher Retention Survey conducted in 2000, reveals that although finances are one of the main reasons for teacher attrition, a lack of support is the second most notable concern. Providing new teachers with a quality induction program may serve to considerably alleviate teacher attrition (Kelley, 2004). One way to provide support is through the mentoring process (Andrews, Gilbert, & Martin, 2006; Andrews & Quinn, 2005; Geoffriao, Staples, & Shewmaker, 2001; Kelly, 2004).

Educators agree there is a need for mentoring and supporting new teachers to bring them more purposely and effectively into the profession (Darling-Hammond, 2003; Geoffriao, Staples, & Shewmaker, 2001; Odell & Ferraro, 1992; Wilkins & Clift, 2006). There is also an emerging consensus among U.S. educators and policy makers that retention of new teachers is tied to quality induction programs with effective mentors (Beasley, Corbin, Feiman-Nemser, & Shank, 1996; Cheney, Krajewski, & Combs, 1992; Feiman-Nemser, 2003). High teacher attrition rates do not provide students, teaching teams, or administrators with a consistent instructional program, as each time a new teacher enters a school or district, an adjustment period is required and consequently student performance can be negatively impacted (Ingersoll, 2002).
In short, using available data to predict the needs of a strong teaching force is complicated. There is also literature that counters the information generated by SASS and TFS due to its’ datedness. However, much of the literature relating to the future needs of the profession support the idea that districts have some responsibility in recruiting and retaining a high quality teaching force for the students in their communities. The suggestion seen most in the literature that falls within the districts purview is the design of a formal induction year program.

Induction Year/Induction Programs

Many districts and school buildings today offer new teachers the support of a fellow teacher, or mentor as a major component of their induction year programming in order to help them transition into their new classroom and culture through a mentoring process. Due to the need to retain highly qualified teachers and to help beginning teachers quickly get to a level of proficiency, offering support through an induction program is essential (Andrews & Quinn, 2005; Darling-Hammond & Berry, 2006). An induction program can take many forms. Through induction programs, districts work to improve student achievement while retaining quality teachers in their buildings (Feiman-Nemser, 2003). Thus, it is imperative districts provide a quality induction program for their new teachers that delivers a multi-faceted support system geared towards professional and personal needs.

Beginning teachers, also called induction year teachers, face a myriad of issues as they enter their classrooms for the first time. For many induction year teachers entering after pursuing an undergraduate degree, this is the first time they are entering the world
with an adult level of responsibility. Other induction year teachers enter teaching from another occupation or return to teaching after taking time off to raise a family (Brock & Grady, 1998). On a professional level, induction year teachers are often placed in situations where their choices are to “sink or swim” while being expected to demonstrate a level of expertise commensurate with a veteran teacher in a myriad of areas (Brock & Grady, 1998; Feiman-Nemser, 2003). To compound matters, many teachers start their careers in classrooms with a high student-teacher ratio, multiple preparations, the lowest achieving students, and extra-curricular duties (Brock & Grady, 1998; Mandel, 2006).

Another professional hurdle for a beginning teacher involves socialization into the teaching profession within a specific school environment. The new environment often has teachers joining faculties in which social groups and friendships are already formed; adding another layer of stress on the new teacher (Brock & Grady, 1998; Johnson & Kardos, 2005). Not only do new teachers often face insecurities on a professional level, but many face personal upheavals as well (Brock & Grady, 1998).

Starting out, usually in a new city or town, induction year teachers have to find a place to live, come up with several hundred dollars in deposits; begin to find their way around the area, and deal with loneliness. In addition, they have to start the year on a positive note with expectations of being able to deliver instruction and manage a classroom as well as a veteran teacher would (Cochran-Smith, 2004; Darling-Hammond, 2003; Doppen, 2002; Feiman-Nemser, 2003). It is no wonder that many induction year teachers report feeling overwhelmed and isolated (Brock & Grady, 1998).
Ohio’s Induction Year Program

To address the issue of preparing beginning teachers for the myriad of situations they will face, such as high-stakes testing of students in core subject areas, and meeting highly qualified teaching standards mandated by the NCLB Act, in 2002 the State of Ohio implemented a teacher induction program. Ohio’s Induction program includes many of the research-based components identified as important to the success of new teachers. The components identified in the literature are:

1. assistance with curriculum and instruction
2. personal and/or emotional support
3. access to materials, supplies, and resources
4. information pertaining to district policies and procedures
5. help with classroom management and discipline
6. assistance with parent, colleague, and student interactions
7. sustained comprehensive professional development for both the induction year teachers and the mentors
8. building principal oversight
9. extensive opportunities for collaborative work (Kelley, 2004; Moir & Gless, 2001; Quinn & Andrews, 2004; Wong, 2004).

Beginning with the 2002-2003 school year, the state of Ohio began requiring all state-supported school districts to provide an Induction Year Program that included mentoring for each newly licensed teacher (Hanby, 2003). Between 1997 and 2000, the state of Ohio also began the transition from certification to licensure and developed the
The program is currently made up of eight main components: Induction year implementation, Induction year orientation, Mentor identification based on selection criteria, Mentor assignments, Mentor professional development, Induction year activities, Induction year coordination, and Program evaluation (Ohio Department of Education, 2002). The state-mandated orientation entails a meeting at the beginning of the school year where a state consultant comes on-site and delivers an overview of the Praxis III Assessment.

Although the Ohio model is based on best-practice, according to current research, it lacks significant components. Missing from Ohio’s current model are (a) sustained comprehensive professional development for both the induction year teachers and the mentors, (b) building principal oversight, and (c) extensive opportunities for collaborative work (Hanby, 2003). These components are critical for offering a quality induction year program and it is the quality of the program components that have the greatest impact on meeting the needs of induction year teachers, thereby positively impacting the attrition
rate of induction year teachers (Brock & Grady, 1998; Kelley, 2004; Moir & Gless, 2001; Wong, 2004).

Statement of the Problem

Each year, many districts across Ohio and the United States start their school year with new or beginning teachers also referred to as induction year teachers. For this study, the terms induction year and induction program will be used.

Research demonstrates induction year teachers need many levels of support during their critical induction year, and without it many new teachers leave the profession. The burden these induction year teachers face is often overwhelming. Areas of concern for induction year teachers include curriculum proficiency, assessment, classroom management, student relationships, parental involvement, exceptional students, collegial relationships, grading, high stakes testing, and administrative support to name a few (Andrews & Quinn, 2005).

Given the current research, many states, including Ohio, now offer support to new teachers in a formalized manner. However, there is little research exploring the question of whether the programs offered match the concerns of new teachers. Several studies claim a well-designed induction year program can have a positive impact on teacher retention (Andrews, Gilbert, & Martin, 2006; Andrews & Quinn, 2005; Brock & Grady, 1998; Cheney, Krajewski, & Combs, 1992; Cochran-Smith, 2004), and stress that the level of support offered is critical. When induction year teachers feel supported in all areas of need, they report a positive feeling regarding their induction year as a teacher. As a result, when teachers have a positive experience during their induction year teaching,
they are more likely to stay in the profession (Andrews, Gilbert, & Martin, 2006; Andrews & Quinn, 2005; Cheney, Krajewski, & Combs, 1992; Darling-Hammond, 2003; Holloway, 2001; Nielsen, Barry, & Addison, 2006). As previously stated, a lack of support is the second most commonly identified reason new teachers leave the profession, with low salary being the first. Although teacher attrition can be significantly impacted by a formal quality induction year program that addresses the issues of support, there is nothing in the literature that claims induction year programming alone can address or positively impact the issue of financial need.

Purpose of the Study

The purpose of this study was to determine whether induction year teachers’ perceptions of their concerns match the induction year program components identified as effective by the current research. The concepts of needs and concerns were used interchangeably in order to collect both levels of data. Teachers may have a strong need of support in a particular area, while at the same time having a concern about an area, but not being in need of immediate intervention. It was important to gather information about both concepts to answer the research questions. Specifically, this study was designed to answer the following questions:

Question One: What are the perceived needs/concerns of the induction year teacher?

Question Two: Are the perceived needs/concerns of induction year teachers aligned with the components of effective induction year programs?

Question Three: Do induction year teachers perceive differing needs/concerns based on grade level?
Question Four: Do the perceived needs/concerns of induction year teachers decrease as their induction year progresses due to the support of an induction year program?

Significance

Although there is a great deal of research on the effectiveness of formal induction year programs, after searching in ERIC, Education Abstracts, Education Research, Dissertation Abstracts, and PsycINFO databases, limited research exists that specifically explores induction year teachers’ perceived concerns compared to the actual induction year programming offered. Therefore, a conceivable discrepancy between the effectiveness of an induction year program as perceived by the providers and the induction year participants may exist. The available literature on induction year programming describes the most effective components of induction year programs, and although mentoring is only one of many components it is by far the component most addressed in the literature as necessary to the success of induction year programming (Andrews, Gilbert, & Martin, 2006; Beasley, Corbin, & Feiman-Nemser, 1996; Brock & Grady, 1998; Cheney, Krajewski, & Combs, 1992; Darling-Hammond, 2003; Giebelhaus & Bowman, 2002; Holloway, 2001; Wong, 2004). Consequently, the quality of the whole induction year program becomes critical to the success of the induction year teacher.

If induction year teachers do not believe their induction program is meeting their needs, it could result in a lack of commitment to the program, and consequently have a negative impact on others in the building or district where the program is offered. In turn, this lack of commitment may well affect all parts of the induction year teacher’s repertoire, culminating in an unsuccessful year for the teacher and his/her students. A
lack of commitment could also result in a teacher deciding to leave the profession which contributes to the teacher attrition problem. Therefore, it is important the induction program is a formal structured program, rather than informal and unstructured, and that it include mentoring by a veteran teacher who is aware of, and trained to provide the needed support (Beasley, Corbin, & Feiman-Nemser, 1996; Brock & Grady, 1998; Cheney, Krajewski, & Combs, 1992; Darling-Hammond, 2003; Lyons & Oppler, 2004; Wong, 2004). Education is not the only field that values structured mentoring programs. In fact, according to Lyons and Oppler (2004), the business field strongly supports a structured mentoring program.

Given the importance of retaining good teachers to the mission of offering a quality education to all children, it is critical that educators and administrators alike assure that everything possible is being done to increase the likelihood of retaining new teachers. A review of the current literature indicates a need for additional research about the concerns of induction year teachers to make sure their concerns are being met by induction year programs. In addition, research that increases the knowledge base of actual induction year teachers’ concerns will benefit many P-12 students as well as new teachers, mentors, administrators, and researchers.

Limitations and Delimitations of the Study

The present study involves induction year teachers and program coaches from one county collaborative induction year program in the state of Ohio. In the state of Ohio, unlike many other states, a county may be comprised of several school districts or only one district depending on the size of the county and its location. In the Southeastern part
of the state, each county is comprised of several school districts that are smaller than many urban and suburban areas based on population and distance between districts. Also, based on their location, they are considered rural rather than suburban or urban. Many of the teachers working in these districts grew up and were educated in their respective counties. Given the emphasis of this study, it is imperative that the concerns of induction year teachers be an area of focus, along with regard for the opinions of the individuals responsible for the actual induction year programming being offered.

Limitations

Utilizing one county in Southeastern Ohio is one limitation of this study. The locality of this county and the use of rural school districts is also a limitation to this study when looking at generalizability of the data. Induction year teachers are the focus of the study, the numbers of participants in this rural area are not large, and therefore sample size is a limitation. The time available for pre-post data collection was also a limitation in this study. This study’s data reflects less than a full year’s worth of implementation of an induction year program. Ideally, to truly determine a change in perceived levels of concerns, a post-assessment would come at the end of the school year to allow for a better opportunity to identify change or growth. However, due to institutional time constraints, a full year of data collection was not feasible. This issue of time, as stated above, also impacts the decision to limit the study to one state’s induction program requirements and one county in that state, thereby limiting the number of study participants.
Another limitation is that the data is based on self-report. Because respondents have the ability to generalize and place value on the questions being asked, reliability of self-report can be questioned. In addition, respondents might have been less than honest in their responses if they perceived there might be some penalty applied to themselves, their mentor, or the team coach, if their comments regarding the provided programming were negative. The researcher’s ability to alleviate the respondents’ fear of having confidential information mismanaged is a critical skill when conducting interviews and focus groups. Confidentiality was a critical issue in this study and one that will be addressed specifically in the methodology section.

A final limitation to be considered is the researcher’s relationship with the induction year program. The researcher was a charter member of the county collaborative responsible for designing the current induction year program and continues to be a member of the collaborative governing board. As such, it was essential that there was minimal contact with respondents during the administrations of the survey. To ensure this, another member of the board administered the pre- and post-survey. In addition, it is imperative that the researcher maintained a high level of objectivity during the interviews with the program coaches.

*Delimitations*

There are three reasons that only one county was used. The first is that each district in the state was given permission by the State Department of Education to design an induction year program to meet its specific needs as long as the program included the eight required components. This “openness” makes it difficult to compare programs
across the state that may have little in common regarding implementation. A second reason the districts in only one county were selected is because they are a part of a collaborative that designed one comprehensive program in order to share resources with agreed upon key components and implementation schedule. This collaborative design allowed an accurate comparison of the programming among the six districts. The final reason is related to institutional time constraints placed upon the researcher to complete the research project.

Conceptual Framework

The conceptual framework guiding this study was the work of Vygotsky and his proposal that challenging tasks can ultimately be mastered if first done under guidance (Ormrod, 2003). His tenet that everyone has a “zone of proximal development” (ZPD) when beginning new and difficult tasks is one of the lenses through which the open-ended responses to the survey and focus group responses will be analyzed. According to Smagorinsky, Cook, and Johnson (2003), Vygotsky’s theory relates to the idea that concept development of beginning teachers is often problematic because these concepts do not come easily or immediately, but rather are mastered with practice under a competent mentor where the beginning teacher gains new experiences and applies them in new settings (Ormrod, 2003). To compliment Vygotsky’s “zone of proximal development, the researcher will also be reflecting upon Katz’s developmental stages of teachers to frame the idea of generalizing the ZPD. Katz (1972) identified four distinct stages of teacher development that take into consideration induction year as well as veteran teachers’ development. These stages are: Stage I – Survival, Stage II –
Consolidation, Stage III – Renewal, and Stage IV – Maturity. Typically, induction year teachers remain in the survival stage during their first year, however some do move into the consolidation stage as well.

The concept that learning is intrinsically social and interactive is also embraced by Lave and Wenger (1991) concerning situated learning with legitimate peripheral participation. These authors view learning as a situational activity that has at its core a process they call legitimate peripheral participation. Beginning teachers have the opportunity to learn how to respond to any given situation based on watching and participating with an expert having ‘high levels of knowledge and skill’ as demanded by the situation.

Learning to teach is a very complex process and one that goes well beyond theory. Indeed, Lave and Wenger (1991) view the induction year as an opportunity for the induction year teacher to test, examine, and clarify the many ideas and conceptions they bring with them to their classrooms. This requires opportunities to observe and be observed by experts who help clarify and guide induction year teachers as they work towards becoming more expert in the complex process of teaching.

Vygotsky, Lave and Wenger, and Katz, all view apprenticeships as very valuable to the process of learning how to become a teacher. This phenomenon is clearly mirrored in the work of a mentor - induction year teacher relationship. Along with apprenticeships, Vygotsky’s theory also supports the concepts of scaffolding, guided practice, and peer interactions; all of which are part of a strong induction program (Ormrod, 2003).
The idea that teaching is very complex and new teachers need many levels of support is clearly supported in the literature. Based on the tenets of Vygotsky’s zone of proximal development, Lave and Wenger’s situated learning with legitimate peripheral participation and Katz’s developmental stages of teachers, learning is inherently social and interactive, challenging tasks can be mastered through guided practice under the tutelage of an expert practitioner. Although not everyone reaches mastery at the same time (ZPD), these theories are the most appropriate to use as a lens for examining the perceived (and possibly changing) concerns of induction year teachers that were examined in this study.

Definition of Terms

For the purpose of this study, the following terms were defined as follows:

Attrition: Teachers who leave the teaching profession for reasons other than retirement.

Collaborative: The induction year program design and implementation team made up of one member from each of six school districts in one Southeastern Ohio County composed of classroom teachers and two outside consultants from a supporting licensing institution.

District Orientation: Each district provides an inservice training session for their new teachers on policies, procedures and practices related to attendance, grading, curriculum, contractual obligations and other relevant topics to new teachers.

Induction: Entry level programming to help beginning teachers become acculturated and socialized into the profession and the building culture. Programming has multiple components; including a mentoring process.
**Induction Year Program**: A vehicle for providing direct assistance to Ohio’s beginning teachers (Ohio Guidelines for Quality Entry Year Programs, 2002).

**Induction Year Program Coordinator**: Chosen by the district Superintendent, this person coordinates the state mandated reporting of the induction year teachers hired by the district, identify the building or district team coaches and be a member of the executive board of the County-Wide Collaborative (County Mentor Collaborative Handbook, 2002-2006).

**Induction Year Teacher**: Beginning or first year teacher (Ohio Guidelines for Quality Entry Year Programs, 2002). In this study, the entry year teacher will be referred to as an induction year teacher.

**Local Education Agency (LEA)**: Local school districts governed by a local board of education.

**Mentee**: Experienced teachers with more than one year and less than five years of teaching experience that are in their first year of teaching in a new district.

**Mentor**: Experienced teachers, trained to serve as mentors who provide support for beginning teachers by guiding their induction into the profession, assisting them with the protocol, procedures, and increasing their skills in planning, creating an environment for learning, teaching for student learning, and engaging in professional reflection (Ohio Guidelines for Quality Entry Year Programs, 2002).

**Praxis III**: A performance-based on-site assessment of a beginning teacher’s success in the classroom. This assessment is used in the state of Ohio in the licensing process.
Singleton: In the scheduling process, this refers to a teacher who is the only one teaching a particular subject in a school.

Self-contained Classrooms: Classrooms where teachers are responsible to teach all subjects and remain with the same group of students all day.

State Orientation: Required meeting to present an overview of the state-mandated Praxis III on-site Assessment for licensure.

Team Coach: Experienced teachers, preferably those who have experience as a mentor, who coordinate and facilitate monthly team meetings comprised of mentors and entry-year teacher dyads within a district or building.
CHAPTER TWO: LITERATURE REVIEW

Since the early 1980’s, educational policy makers and researchers have predicted an impending teacher shortage based on increases in student enrollment and teacher retirements (Ingersoll, 2002; Ingersoll & Smith, 2003; Kelley, 2004; Thornton, Peltier, & Medina, 2007). In addition, researchers have identified teacher attrition as a major factor in this perceived teacher shortage (Oakes, Franke, Quartz, & Rogers, 2002; Kelley, 2004). The intent of this chapter is to identify the reasons for teacher shortages, and strategies designed to combat this trend. One factor contributing to the teacher shortage may be a lack of quality mentoring during the induction years of a beginning teacher’s developing career. Therefore, this chapter will present critical components of good induction programs identified in the literature. This chapter will also review what beginning teachers believe are critical factors impacting their decisions to stay in the classroom.

Most of the available research examining the perceived teacher shortage is dated as it takes several years to collect enough data to identify trends. Therefore, studies of this kind have several years between them. The most current information in the literature predicts needs and shortages for the United States spanning through 2007-2008 using data collected during the 1999-2000 to 2003-2004 time period by the National Center for Education Statistics (NCES). These predictions are problematic as Hussar (2002) describes:

One difficulty in determining the accuracy of the newly hired teacher projections is the infrequency in the administrations of SASS [School and Staffing Survey]
and TFS [Teacher Follow-up Survey], which are the sources of much of the data used to compute the newly hired teacher projections and also the newly hired teacher numbers themselves. Since the release of the original Hussar report in 1999, the NCES has administered SASS and TFS only two times and the next SASS is not scheduled to be administered until 2007–08. With the limited number of data points for both newly hired teachers and also key inputs such as the continuation rates, it is difficult to determine if the weaknesses described here only pertain to the years examined or indicate a greater problem with the model. At this point, there do not appear to be enough data points to better model the continuation rates (p. 5-6).

Although much of the data used to make these predictions is dated, many at the national and state levels continue to use this data in their work (Hussar, 2002). In light of the difficulties in predicting future needs, a case can be made that designing a plan to fight the high attrition rates can be a positive strategy for districts to employ to help retain the highest number of qualified teachers as possible. Offering induction year teachers some level of support seems to be a step in the right direction.

Teacher Supply and Demand

The teaching force is composed of two large groups: employed teachers who choose to stay employed in the profession, and entering teachers. Teachers who choose to stay in the profession make up the majority of teachers in the public school system; however, due to attrition and retirement, a large number of additional teachers are also
hired each year. The composition of the entering group is quite complex (Boe & Gilford, 1992). Boe and Gilford identify entering teachers as being drawn from four sources:

1. A reserve pool of qualified teachers composed of: (a) experienced former teachers, and (b) graduates of teacher preparation programs from prior years (sometimes called delayed entrants);  
2. Recent graduates of teacher preparation programs (some of whom are also experienced teachers);  
3. College graduates who have not completed a teacher preparation program and who have not previously taught (sometimes referred to as entrants via alternate routes); and  
4. Teachers employed in private schools who migrate to teaching positions in public schools. (p. 26)

The teaching force demographic is multifaceted. Teacher qualifications; subject matter specialty; grade level; special certifications and endorsements; and teacher characteristics such as race/ethnicity, gender, and age are all critical components of the teaching force. The distribution of this teaching force among public schools varies by type, grade level, and location. This becomes important when considering issues of unequal distribution. An example of this would be high schools in large urban areas that typically attract a less experienced teaching force that is younger and less well prepared to teach high school subjects than teachers hired at nearby suburban schools (Boe & Gilford, 1992).

In 1991, a conference was convened at the request of the National Center for Education Statistics (NCES), a division of the Office of Educational Research and
Improvement of the United States Department of Education. The intent of the conference was to bring together statisticians, researchers, and policy makers to facilitate much-needed communication between the three entities. The subject of the conference, critically important to public education, was teacher supply, demand, and quality (Boe & Gilford, 1992). The main goal of the conference was to contribute to the development and retention of a highly qualified K-12 teaching force through three activities:

1. Identify the major issues and educator needs that policy makers need to be aware of while developing and retaining a highly qualified K-12 teaching force;
2. Review the adequacy of leading teacher, supply, demand, and quality (TDSQ) projection models and address the newly identified needs; and
3. Review the adequacy of available data bases at the state, regional, and national level relevant to TDSQ’s purpose of aiding policy makers in gathering needed information for making sound policy (Boe, & Gilford, 1992, p. 22).

The conference brought to light the debate regarding what to measure, how to measure it, and when to measure it. According to Boe and Gilford (1992),

Since instruction is delivered primarily by teachers, the size, composition, and distribution of the teaching force are vital to the effectiveness of U.S. public education. In turn, public education is widely regarded as central to the nation’s social and economic well-being and to its international competitiveness. Consequently, the adequacy of the supply of teachers (in terms of numbers, composition, and distribution) in relation to the demand for them has been a
matter of continuing concern among educators and policy makers responsible for ensuring the effectiveness of public schools. (p. 21)

The conference identified trends suggesting teacher shortages might develop in the late 1980’s and 1990’s due to high attrition, based on low salaries and poor working conditions, increasing teacher retirements, increasing student enrollment, declining teacher-pupil ratios, falling enrollment in teacher preparation programs, decreasing interest among women to enter the teaching profession, and more stringent entry standards for beginning teachers (Boe & Gilford, 1992). However, most of these trends did not develop and subsequently, teacher shortages did not occur.

During the 1980’s, the teaching force was portrayed as being inadequate to meet projected needs for delivering high quality classroom instruction (Boe, & Gilford, 1992). In response, several blue ribbon commission reports were written and, many educational policies enacted. President George H. Bush and his administration launched the America 2000 Program, a major effort in designing new ways to more effectively organize and operate schools and measure student achievement. Some of these initiatives included creating alternative routes for teachers to enter the teaching profession, providing federal support for teachers interested in teaching in specialized fields, and establishing the National Board of Professional Teaching Standards.

According to Boe and Gilford (1992), the national demand for public school teachers is defined as “…the total number of teaching positions funded by local education agencies (LEA’s), i.e., the number that LEA’s are able and willing to employ at a given time” (p. 24). They identified the main factors contributing to teacher demand in any
particular year as the number of students enrolled, policies pertaining to curriculum and teacher-pupil ratios, prior commitments, such as raises, to currently employed teachers, LEA funding capacities, and the prices that must be paid for various types and qualities of teachers (Boe & Gilford). The LEA funding capacities speak to the problem of limited commonalities when trying to ascertain trends in this area. It is important to note that several years after this conference; there was still no nation-wide data available to support the idea of a teacher shortage (Podgursky, 2006).

The predicted teacher shortage has not yet come to fruition; however, even today there is a preponderance of literature reporting the United States is still facing a possible shortage of teachers in math, science, and special education as well as across the board when considering the retirement of the current teaching workforce (Hussar, 2002). Although the literature supports the premise that attrition in the teaching ranks is problematic for a number of reasons, there is no clear consensus on why teachers leave and therefore no clear plan on how to positively impact this problem to any great degree.

**Teacher Shortage**

Since the early 1980’s, education policy researchers have been warning of a severe teacher shortage. This shortage has been predicted based on perceived increases in student enrollment and teacher retirement. Although the numbers of college graduates eligible to apply for teaching licenses were plentiful, there was a decline in interested applicants (Murnane, Singer, Willett, Kemple & Olsen, 1991). Murnane et al. (1991) believed the decline was due to demographic and economic factors. Public school enrollments began falling in the United States in the late 1970’s and early 1980’s at the
end of the “baby boom” era. These negative enrollment patterns began to impact the number of school openings and layoffs when enrollment failed to keep up with the number of schools already fully staffed. This phenomenon led to many unemployed college graduates who had been prepared to teach (Murnane et al.).

During this time, an additional complication was the decline in teachers’ salaries compared to salaries in other professions. Murnane and colleagues (1991) identified two underlining reasons for the decline in teacher salaries. First, the United States was beset by economic problems and rapid inflation. This phenomenon had much of the populace seeking tax relief while resisting increases in levies or other expenditures for public entities. Second, in response to diminishing teacher positions, the teacher’s union leadership refrained from pressing for salary increases that might have increased the number of teacher layoffs. These factors led to a decline of starting teacher salaries by as much as 20 percent, which, combined with decreasing job openings, led many college graduates and incoming students to choose majors and occupations outside of the field of education (Murnane et al).

A common fear is that the perceived shortage has resulted in school systems lowering their teacher qualification standards to fill vacancies, thereby increasing the number of under-qualified teachers and lowering overall school achievement (Cochran-Smith, 2004; Ingersoll, 2002). The prevailing response to this inability to staff all classrooms with highly qualified teachers has been to increase the number of teacher candidates.
According to Ingersoll (2002), there has been a wide range of initiatives designed to recruit new candidates into the teaching profession (e.g., Troops-to-Teachers, Peace Corps, and Teach for America). In addition, many states have developed alternative licensure avenue programs that allow college graduates to postpone formal education training and immediately begin teaching in the classroom. The significance of these initiatives as a potential strategy to increase teacher candidates has also been identified by Boe and Gilford (1992). Finally, financial incentives such as loan forgiveness, signing bonuses, housing assistance, and tuition reimbursement have been offered to increase recruitment of teachers in hard to serve and underserved areas (Darling-Hammond, 2000; Ingersoll, 2002; Podgursky, 2006).

In his work, *Is There a Qualified Teacher Shortage?*, Podgursky (2006), suggests that although the early years of No Child Left Behind (NCLB) heightened the angst surrounding the ability of administrators to find highly qualified teachers to fill vacancies, the idea that there was a dearth of available teachers was a myth. In addition, he believed that raising teachers’ salaries across the board would not bring more highly qualified teachers to the profession despite a wealth of literature to the contrary. Instead, he believed that exploring the structure of the teacher compensation system and comparing it to a market-based system would yield important information leading to significant policy changes, thereby increasing both the quality of teacher candidates and student achievement (Podgursky).

Podgursky (2006) also explored the idea that teacher pay is a key consideration in attracting more highly qualified teachers to the profession. He compared teacher and non-
teacher salaries in 2003 in 15 large metropolitan areas where all were required to have a college undergraduate degree. His findings indicate that teachers were comparable to many other professionals in these metropolitan areas, while having higher fringe benefits than their private-sector colleagues. Therefore he believes a case can be made that teachers are paid adequately enough to attract quality teachers to the profession. When all is said and done, he proposed that ‘the most reasonable standard for determining if teachers’ pay or quality is adequate is whether a district is meeting current regulatory standards” (p. 32). Darling-Hammond and Berry (2006), however believe that “it is not enough to just pay teachers more; the conditions have to be in place to give them a chance to succeed” (p. 17).

Podgursky (2006) believes all districts will suffer shortages and recruitment difficulties in certain areas and fields at some time; therefore, districts need to consider other forms of renumeration rather than a single salary schedule. Indeed, he states that, “A district that insists it must raise the pay of all teachers in the district because it cannot recruit a certified speech pathologist is not spending money wisely” (p. 32). In addition, he recommends licensing standards must have more built in flexibility.

In short, although the early research predicted a catastrophic teacher shortage in the late 1980’s and early 1990’s, more current research belies that teacher staffing problems are as urgent as predicted; however, there is no doubt that many districts and certain subject areas regularly have difficulty recruiting and retaining highly qualified teachers. There is some dissention among researchers regarding salary being one of the major issues behind teacher attrition; however, there is agreement that districts will likely
see shortages and problems with recruiting teachers in high need areas and specialized fields in the future. The biggest reason for this dilemma as noted by several researchers is teacher attrition.

Teacher Attrition

The disquiet over teacher shortages has led researchers to study other areas of teacher supply and demand. There have been several studies on teacher turnover—the departure of experienced teachers from their teaching jobs. Researchers like Chapman and Green (1986) and Kaplan and Owings (2004) have focused their research on which teachers leave the profession and why. Boe, Bobbitt, and Cook (1998), and Grissmer and Kirby (1997) along with Murname, Singer, Willett and Olsen (1991) have found that teacher turnover is strongly linked to specific academic fields. Special education, mathematics, and science are typically found to be fields with the highest turnover rates (Ingersoll, 2002; Thornton, Peltier, & Medina, 2007).

According to Ingersoll (2001), reasons teachers leave the field include: a) retirement, b) school staffing action, c) personal, d) to pursue other jobs, and e) dissatisfaction. Among these reasons, Ingersoll states that retirement makes up the smallest percentage of attrition (27%). Staffing action more frequently impacts migration to another district rather than attrition from the profession (41% versus 12%). Personal reasons, including raising a family, spousal moves and health issues are reported as reasons more often than either retirement or staff action. Personal reasons account for 33% of teachers who migrate and 45% of teachers who leave the profession (Ingersoll, 2001). Ingersoll (2001) further explains:
Two interrelated reasons tied to the organizational conditions of teaching are, together, the most prominent source of turnover. Forty-two percent of all departures report as reasons job dissatisfaction or the desire to pursue a better job, another career, or to improve career opportunities in or out of education. Dissatisfaction underlying migration is most often listed as being due to low salaries, lack of support from the school administration, student discipline, problems, and lack of teacher influence over decision-making. Likewise, dissatisfaction underlying attrition is most often reported as being due to low salaries, lack of support from school administration, lack of student motivation, and student discipline problems. (p. 522)

Another important finding is that a critical component influencing a teacher’s decision to leave the profession is age. It has been consistently found that younger teachers have a higher attrition rate than their older peers (Ingersoll, 2002). Given this information, many researchers concluded that teacher retirement is not the driving force behind teacher turnover and the shortage problem.

When examining teacher attrition, Ingersoll (2002) cautions against leaving out or ignoring the impact of the characteristics of schools on teacher attrition. He specifically cites the widely held belief that urban, high poverty, public schools have high levels of teacher attrition, but points out this assumption has never been tested with nationally representative data to determine which actual school variables lead to this turnover (Ingersoll, 2002).
Other issues Ingersoll (2002) raises regarding current research is that emphasis has been mainly on those who leave teaching for good, however information about how the organizational conditions of schools affect, and are affected, by attrition is scarce. In order to address these data shortcomings, beginning in the late 1980’s, the United States Department of Education’s National Center for Education Statistics developed and conducted the Schools and Staffing Survey (SASS) and its supplement, the Teacher Followup Survey (TFS). Using this new data source, Ingersoll examined teacher attrition from an organizational perspective based on the following related premises: (a) employee turnover is important because of its link to the performance and effectiveness of organizations, (b) fully understanding turnover requires examining it at the level of the organization, (c) turnover is affected by the character and conditions of the organizations within which employees work.

Organizations such as schools depend on commitment, continuity, and cohesion from their staff and therefore are particularly hard hit when subjected to high teacher attrition that negatively impacts the quality of programs and performance (Ingersoll, 2001; Ingersoll, 2002). This is particularly critical in the face of NCLB’s high-stakes testing and accountability components, and further compounded when highly qualified teachers migrate rather than leave the field altogether. Organizations are damaged regardless of whether a highly qualified teacher is leaving the field altogether or migrating to another organization. When this occurs in large enough numbers, staffing problems are created (Darling-Hammond & Berry, 2006; Ingersoll, 2001; Ingersoll, 2002; Ingersoll & Smith, 2003).
Once it has been determined that attrition is occurring, it is important to understand the key organizational conditions that have been shown to significantly affect employee turnover, such as: employee compensation, the level of administrative support—especially for new teachers, the degree of conflict and strife within the organization, and the degree of employee input into and influence over organizational policies that have been shown to significantly affect employee turnover (Ingersoll, 2001, 2002).

Ingersoll’s (2002) findings support the proposed increase in teacher demand since the mid 1980’s. Specifically, student enrollment and the size of the teaching workforce (P-12) has increased, and according to the SASS data, there have been many schools with teaching openings they could not fill or had difficulty filling. However, the data did not support the premise that the shortage was based on increased student enrollment, but rather based on teacher attrition. In addition, attrition was not found to be a result of the graying workforce, but rather the result of newly trained teachers leaving the profession very early in their careers (Ingersoll, 2002).

Additionally, Ingersoll (2002) found great variety among the kinds of schools suffering the “revolving door” effect. Analyzing data from the different cycles of SASS and TFS, he correlated teacher characteristics, building characteristics, and teacher attrition, and identified five key categories of turnover. These categories were retirement, (12%); school staffing issues such as lay-offs, school closings, and reorganizations (28%); personal reasons including leaving for pregnancy, child rearing, health problems, and family moves (39%). The final categories were interrelated: job dissatisfaction and pursuit of another job (51%). Those who left the profession citing job dissatisfaction most
often pointed to low salaries, lack of administrative support, minimal student motivation, student discipline problems, and a lack of shared governance opportunities. In short, Ingersoll recommended recruitment policies alone would not solve current staffing problems. Instead, he recommended attention be directed to the issues surrounding teacher retention and efforts combined in both areas to more effectively impact teacher attrition.

Conversely, Chapman and Green (1986) argued that attrition can not be blamed on organizational conditions to any great degree. Rather they posited the most significant attrition factors are based on initial commitment to teaching and early work experience. These researchers cited a lack of information regarding factors that positively address retention and the debatable findings in the literature as barriers to the development of effective interventions offered by school administrations (Chapman & Green). The authors conducted a quantitative study using their own social learning theory model to analyze teacher retention utilizing a four-group discriminate analysis. They surveyed 1,043 graduates from the University of Michigan who received a teaching certificate at the time of their graduation. The study, utilizing the revised *Survey of Graduates with Teaching Certificates*, reported a 67% response rate. The findings suggested teacher retention is a function of six factors: teacher’s personal characteristics, educational preparation, initial commitment to teaching, quality of first teaching experience, professional and social integration into teaching, and external influences such as employment climate.
Although several studies have investigated the reasons behind teacher attrition, the literature is not clear on whether attrition is impacted most by organizational conditions as Ingersoll (2001; 2002) contends or initial commitment to teaching and early work experience posited by Chapman and Green (1968). Initial career commitment, or teachers who come into the profession after making teaching their primary goal, is not an attribute usually impacted by the organization where they work, however, the early work experience, both during pre-service training as student teachers, and in their first professional assignment are most definitely impacted by the organizational climate and level of support given to induction year teachers. Regardless of the lack of consensus on the reasons behind teacher attrition, the literature clearly indicates that time, energy, and resources must be invested in identifying what it will take to retain teachers after their first year in the profession.

Concerns of Induction Year Teachers

In an effort to address the continued teacher attrition problem in public education, Andrews, Gilbert, and Martin (2006) examined the issue of teacher support. The study addressed: What types of support do beginning teachers’ value and what do they actually receive? What types of support do administrators value and what types of support do they believe are provided for the beginning teachers in their schools? The study involved the partner school districts of two universities. Beginning teachers and their building principals across 14 school districts were surveyed to identify the types of support that were valued and actually received.
The survey had respondents identify which of 12 support strategies listed were offered, and identify the value placed on each strategy. The results indicated a noticeable discrepancy between how teachers rated the supports and the perceived value of the supports. Of the 12 strategies, four were highly valued by the teachers but less that half the teachers were offered these supports. These highly valued supports included the opportunity to observe other teachers, co-planning time with other teachers, smaller classes, and feedback on classroom observations in a non-evaluative manner (Andrews et al., 2006). Strategies that allowed collaboration between new teachers and veteran teachers were valued the most.

Interestingly, there seemed to be a mismatch between the perceptions of building principals and teachers in the supports offered. It is possible that principals consider team, departmental, and student support meetings as collaboration opportunities, whereas teachers may consider them business meetings rather than opportunities to work together to improve instruction. In addition, collaboration activities may require logistical support that the principal may be unaware of or unwilling to provide (Andrews et al., 2006).

The value given to these areas were also reflected in the work of Nielsen, Barry, and Addison (2006) in their study of new teachers’ perceptions of beneficial components in an induction program and in a study by Meister and Melnick (2005). However, in Andrews, Gilbert and Martin’s (2006) study, a smaller number of new teachers reported being given these supports while a high percentage of administrators stated these supports were available (Andrews, Gilbert, & Martin, 2006). It was recommended that a dialog between new teachers, mentors, and administrators occur at the beginning of each school
year, to discuss new teachers’ needs while sharing district philosophies regarding such supports, to help clear up any misconceptions and open channels of communication (Andrews, Gilbert, & Martin).

Quinn and Andrews (2004) studied beginning teachers’ perceived levels of support asking them to rate the amount of support they received from all sources in the areas of: assistance with instruction and curriculum, personal and/or emotional support, access to materials, supplies, and resources; information about school and school district procedures and policies, help with classroom management and discipline, and suggestions for dealing with parents or parent conferences. The area most identified as still needing more support was the area of instruction (Nielsen, Barry & Addison, 2006; Quinn & Andrews, 2004). Indeed, Nielsen et al. (2006) strongly believe that instructional resource teachers, or teachers with a strong curriculum and instruction background, participating in the induction program, are critical to an induction program’s success.

Unfortunately, not all beginning teachers have access to a mentoring process. Johnson and Kardos (2002) in their work with The Project on the Next Generation of Teachers at the Harvard Graduate School of Education found that many induction year teachers face minimal levels of support in their new environments. They mention the diverse make-up of teachers in today’s schools brought on by the diverse paths some have taken to get into the profession, and identified three distinctly different professional cultures: the veteran-oriented professional culture, the novice-oriented professional culture, and the integrated professional culture into which induction year teachers have to assimilate.
The veteran-oriented culture is based on an environment where the norms of professional practice are set up to serve veteran faculty members and not organized to engage new teachers with expert practice. The novice-oriented culture is one where “youth, inexperience, and idealism prevail” (p. 3). These teachers have little or no access to experienced teachers to help mentor them in their work. The integrated culture is one where professional exchange across experience levels is encouraged and supported. In addition, teamwork and camaraderie were tenets of these environments (Johnson & Kardos, 2002). Unfortunately, very few induction teachers in the study found themselves in an integrated professional culture. Their results showed induction year teachers requesting organized support in the form of planning lessons with mentor teachers, opportunities to observe other teachers and discuss student needs, and access to help on short notice when there is a problem. The desire for specific supports identified in these studies demonstrates that induction year teachers have very specific areas of concern (Johnson & Kardos, 2002).

Although the predicted teacher shortage did not occur as described in the earlier research, based on the review of the literature, there can be no doubt that teacher attrition does indeed plague many school districts across the nation. The literature also reveals that the design and implementation of a strong induction program can significantly impact a beginning teacher’s decision to stay in the profession. Although literature is sparse regarding induction year teachers’ perceptions of support, and given that induction teachers are in the best position to provide feedback on the effectiveness of their induction experience, clearly it is an area that needs more study.
The Induction Program

According to the literature, there is a shortage of qualified teachers across the nation (Cheney, Krajewski, & Combs, 1992; Ingersoll, 2002; Ingersoll & Smith, 2003; Gursky, 2001; Kelley, 2004; Pipho, 1998; Thorton, Peltier, & Medina, 2007). This shortage makes it critical for districts to focus on creating programs that will increase the likelihood of retaining qualified teachers in the profession.

Identification of New Teacher Needs

During the induction year, teachers often find it difficult just to cope with the daily demands of classroom life. Katz (1972) identified this first stage of teacher development appropriately as the ‘survival stage.’ The final three stages of teacher development described by Katz are: Stage II – Consolidation, Stage III – Renewal, and Stage IV – Maturity.

Cheney, Krajewski and Combs’ (1992) research focused on micro-phases of development of the induction year teachers drawn from observations of 42 induction year teachers who participated in a collaborative university/school district induction year program. The collaborative induction program ran for four years with 42 teacher participants. Experienced mentor teachers and university faculty worked collaboratively to support the group of first-year teachers. Mentor teachers were employed full-time by the district to provide support to first-year teachers (Cheney et al.).

The authors posit the developmental stages of teaching may span one or multiple years. Their study focused on dividing the survival stage into five micro-stages based on classroom observations, mentor teachers’ notes, weekly seminars, and journal entries.
Mentor teachers and university faculty met weekly to discuss progress and problems experienced by first-year teachers. These discussions revealed common experiences among the new teachers and the smaller increments of growth described as micro-phases were derived from these experiences (Cheney et al., 1992).

Although Cheney et al. (1992) identified five micro-phases through which all elementary and special education beginning teachers progressed, there were some aspects specific to special education teachers. Their research found three of the five phases typically occur within the initial stage of teacher development Katz (1972) identified as the ‘survival stage:’ (a) order/time-filling, (b) timing, planning, and management, and (c) experimentation. The two additional micro phases – (d) long-range planning, and (e) focus on students – are consistent with the ‘consolidation stage’ of teacher development Katz identified as common among second or third year teachers. Not all teachers observed in the induction-year program progressed through each of these phases during their first year of teaching, even with increased support and assistance. The authors reported that the order of the phases did not change, but some teachers took longer than the year-long program to reach more advanced phases (Cheney et al., 1992).

Emotional support is a critical part of the mentor’s role early in the school year. This is especially true for the special education teachers, who are often the only special education personnel in their buildings (i.e., singletons). Cheney et al. (1992) reported it is important to set aside time during the weekly seminar, to meet in groups based on teaching assignments so teachers can brainstorm solutions to persistent problems in their classrooms.
In conclusion, like Katz (1972), Cheney et al. (1992) found that awareness of the way the first-year teacher develops can help induction year program designers set appropriate expectations for first-year teachers. They also found that second and third-year teachers appear more confident in their teaching skills, more articulate about what it means to be a good teacher, and more willing to give and receive feedback than teachers who do not participate in such a program. The difference between Cheney et al. and Thorton, Peltier and Medina (2007) is that Thorton et al. believe the special education teacher faces different challenges than the general educator and propose there should be a separate induction program designed for special education teachers.

**Teacher Support**

In response to soaring attrition rates, Wilkins and Clift (2006) developed an internship program based on specific areas of support for new teachers. Their work focused on teacher support during the first few years of teaching. Andrews and Quinn (2005) concur that providing support to beginning teachers is essential for two reasons: the need to retain qualified beginning teachers and the need for beginning teachers to become effective practitioners as soon as possible. Feiman-Nemser, Carver, Schwille, and Yusko (1999a) state, “Providing support to beginning teachers is a humane response to the trials and tribulations associated with the first year of teaching” (p. 12).

To address this issue of support, Wilkins and Clift (2006) proposed a conception of support that has as its focus, a network of services and resources provided by a collaborative partnership of stakeholders from institutions across the state of Illinois where under-funded programs are the norm. Andrews and Quinn (2005) agree with
Wilkins and Clift (2006) that induction programs with mentoring components have been effective in ameliorating some of the causes – including lack of support – of the high attrition rate among beginning teachers.

Wilkins and Clift (2006) suggest that if induction programs are to truly respond to the needs of new teachers, the state and the entire education profession must partner to rethink the funding and structures of induction programs. This sentiment is echoed by many others experts in the field (Chaney, Krajewski, & Combs, 1992; Darling-Hammond, 2000; Darling-Hammond & Berry, 2006; Feiman-Nemser, 2003; Kyle, Moore, & Sanders, 1999). In fact, Darling-Hammond and Berry (2006) believe there needs to be a national investment in creating conditions to better support new teachers, especially in high need districts.

Wilkins and Clift (2006) suggested exploring “cross-role, cross-institutional collaboration” where a variety of stakeholders work together to provide supports and learning opportunities. Working within this structure, Wilkins and Clift (2006) reflected that although there were many challenges, there were also possibilities with potential to be instructive to others seeking to design an induction program that moves away from competition, and towards collaboration that engenders a more comprehensive approach to new teacher support; thereby getting closer to the “totality of experience” they embrace. Once the design and implementation of an induction program is realized, it becomes imperative to determine if it is effective in providing the support needed by beginning teachers. Therefore, these beginning teachers need an opportunity to evaluate the perceived benefits and supports of said programming.
Andrews and Quinn (2005) also support the idea of having a structure in place for teacher support and conclude that providing support to beginning teachers in the form of an induction program is essential for helping beginning teachers become more effective practitioners sooner. When we consider (a) the United States’ need for retaining the potential teachers our colleges are graduating, (b) the need for new teachers to be able to help their students reach state-mandated standards, and (c) the students’ needs to perform well on standardized tests as well as pass high-stakes exit exams, it becomes obvious that we need a positive change in the way new teachers are inducted into the profession.

Andrews and Quinn’s (2005) study sought to determine, through a questionnaire, whether there was a significant difference in the perception of the amount of support received among induction year teachers in three conditions: (a) a mentor assigned through the school district’s mentor teacher program, (b) a mentor assigned by their principals, and (c) no assigned mentor. The findings suggest that the mentoring component of the induction year programming can be effective in relieving the sense of isolation and lack of support new teachers often feel. Specifically, mentor programs need to place more emphasis on the importance of mentors assisting first-year teachers with curriculum and instruction, specifically in areas of planning lessons, doing teaching observations, and providing constructive feedback. The induction year teachers perceived they received the least amount of support in the area of curriculum and instruction (Andrews & Quinn).

Massey (2006) also found that beginning teachers struggled with curriculum and curricular adaptations and believes that teacher preparation programs can positively
impact this issue. In support of this idea, Andrews and Quinn (2005) believe more emphasis needs to be placed on the importance of the induction year teachers observing their mentors and being observed by their mentors with follow-up conferencing in mentor teacher training to specifically address issues of curricular planning and adaptation. The researchers propose two possible reasons that mentors and first-year teachers do not take advantage of these observation opportunities. Namely, both feel that they are too busy and it is too much trouble to arrange for a substitute to allow them the opportunity to observe and confer afterwards, and the mentor training does not stress the importance of these observations and conferences. Andrews and Quinn (2005) suggest that induction programs should place more emphasis in the training of their mentors on the importance of planning and observations and make that a mandatory part of the induction program. The research of Andrews, Gilbert and Martin (2006) also supports the importance of opportunities for beginning teachers to observe other teachers and plan together.

Research suggests that it takes three to five years for most beginning teachers to become proficient (Mandel, 2006). Thus beginning teachers must be retained to ensure a proficient teaching force. Existing and developing induction programs need to ensure accountability with respect to critical teacher needs such as curricular planning, development of lessons, and teacher observations. Current teacher shortages and the imminent need for teachers to become effective practitioners make the immediate implementation of effective induction programs for beginning teachers imperative.

Sadly, according to Mandel (2006), some induction year teachers do not survive. Not because of problems with students or parents; but because of the inadequacies in
today’s system of preparing and supporting new teachers. Since No Child Left Behind (NCLB) was enacted, many school districts have felt forced to focus solely on testing. Virtually every statewide and district-wide curricular decision today is based on raising test scores. Consequently, nearly every educational decision at the local school level involves “teaching to the standards.” This excessive focus on testing and standards has led to a lack of focus on the practical guidance and support that help first-year teachers stay afloat. First-year teachers have one basic goal in mind – survival (Mandel, 2006).

Help from a trained caring mentor is a crucial ingredient in helping new teachers survive their induction year. Yet the mentoring components of many induction programs are being eliminated in many states because of budget shortfalls. Even when mentor programs are well staffed, mentors can’t help first-year teachers unless they understand and provide the kinds of information and support that new teachers really need. For mentoring to truly help new teachers, the agendas need to come more from the new teacher than from the mentor (Mandel, 2006).

Mandel (2006) identifies new teachers’ concerns falling within five broad categories: setting up the classroom and preparing for the first weeks of school, covering the required curriculum without falling behind or losing student interest, grading fairly, dealing with parents, and maintaining personal sanity. These categories also fall within the first two stages of teacher development identified previously by Katz (1972).

Ideally, new teachers should be taught some of these practical “survival skills” in their teacher preparation programs. Teacher education courses should address new teachers’ concerns and give pre-service teachers strategies for finding the answers to
these kinds of questions during their first teaching assignment. After new teachers begin teaching, their schools should continue the process of helping them meet practical classroom challenges (Katz, 1972; Wong, Britton, & Ganser, 2005). In addition to mentors, schools might provide professional development sessions on a monthly basis to help address timely issues. However, these professional development opportunities must be “highly structured, comprehensive, rigorous, and seriously monitored” with well-defined roles for staff developers, administrators, instructors, and mentors. (Wong, Britton, & Ganser, 2005). The content of professional development workshops must originate from the expressed needs of induction year teachers themselves. Beginning teachers’ needs significantly differ from those of veteran teachers. Keeping the status quo will only result in continued new teacher attrition (Mandel, 2006).

The Mentor

The idea of induction programs is not a new concept specific to education. Business has long been a proponent of the mentoring process with regards to advancement within the organization. Lyons and Oppler (2004) examined a federal agency’s induction program where beginning professionals strive, with the help of their programming, to find success and satisfaction in their new jobs. Many employers are aware of the economic benefit gained by promoting from within the organization. Subsequently, many public and private organizations recognize the value of a mentoring component in their induction program. A mentoring component can be structured in a formal or informal manner and the relationships built within these frameworks vary on a
multitude of dimensions that may influence the level of satisfaction perceived by both the mentor and protégé.

According to Lyons and Oppler (2004), relationships developed in an informal program are often driven by developmental needs and mutual identification: mentors and protégés choose their partners based on similarities. In addition, informal mentoring components are not recognized, managed, or structured by the organization. However, relationships in a formal mentoring component tend to be more forced and develop artificially through assignments made by members of the organization who are not directly involved in the mentoring process and without protégé’s input. Consequently, the organization formally recognizes the mentoring process and has complete control over its implementation (Lyons & Oppler, 2004).

A key potential drawback of formal mentoring components, according to Lyons and Oppler, is the risk of mismatches between mentor and protégé. Although it is found in both types of programs, the potential for cross-gender relationships impacting the dynamics of the mentor-protégé relationship are more prevalent in formal programs. These researchers propose that participant demographics such as gender and race can affect the outcomes of the mentoring relationship.

Lyons and Oppler (2004) examined the structural attributes and demographic characteristics of a formal mentoring component and how these two attributes influence protégé satisfaction. Their most significant finding was that protégés reported being more satisfied with their job, mentor, and organizational support when they were paired with a mentor they requested (Lyons & Oppler, 2004).
It is not always possible as proposed by Lyons and Oppler (2004), to allow choice when implementing a mentoring component. Regardless of opportunities for induction year teachers to choose their mentors, it is critical that the matching process be carefully considered and implemented (Darling-Hammond, 2000, 2003). The mentoring process, if well designed and supported, can have a huge impact on teacher retention (Beasley, Corbin, Feiman-Nemser, & Shank, 1996; Brock & Grady, 1998; Rowley, 1999; Darling-Hammond, 2003). A program cannot be considered well designed unless the mentors are trained in the areas where induction teachers struggle (Holloway, 2001; Norman & Feiman-Nemser, 2005; Rowley, 1999). Indeed, Norman and Feiman-Nemser (2005) believe that new teachers need help making the transition to teaching independently, and most induction programs depend on the mentoring component to facilitate this important growth.

Mentor teachers are responsible for understanding current issues in the field with regard to curriculum content and instructional strategies. They must be able to collaborate with colleagues and articulate their beliefs and goals to new teachers (Kyle, Moore, & Sanders, 1999; Rowley, 1999). Norman and Feiman-Nemser (2005) found that new teachers who had the opportunity to work with trained mentors were better able to manage instruction, student engagement, and classroom management than those paired with mentors with no formal mentor training. Interestingly, Feiman-Nemser (2003) states:

In many ways, mentoring is an unnatural activity for teachers. Good classroom teachers are effective because they can pull off a seamless performance, monitor
student understanding, and engage students in important ideas. But good classroom teachers may not know how to make their thinking visible, explain the principles behind their practice, or break down complex teaching moves into components understandable to a beginner. (p. 4)

However, she believes these skills can and must be taught in well designed mentor training programs.

Odell and Ferraro (1992) suggest a formal mentor selection process be put in place for a successful outcome. They propose criteria include experienced teachers with evidence of excellent classroom teaching, effectiveness in working with adults, and demonstrated commitment to being an active and open learner. Giebelhaus and Bowman (2002) suggest that mentoring models include "a framework for selection and training of mentors and opportunities for mentors and their protégé to work together--including opportunities for direct observations of teaching" (p.247). The opportunity to observe and be observed appears to be a critical component of the mentoring process (Cheney, Krajewski, & Combs, 1992; Darling-Hammond, 2003; Giebelhaus & Bowman, 2002; Kelley, 2004).

The literature identifies two models used in the mentoring process: (a) teachers are matched up with peer mentors who are teaching the same subject or grade in the same building whenever possible, and they work around each others schedules to do their mentoring work; or (b) mentor teachers are released from their teaching duties to mentor several teachers full time (Johnson & Kardos, 2005; Nielsen, Barry, & Addison, 2006). As demonstrated in this section, the success of a mentoring component of an induction
program depends not only on appropriate matches, time and training, but the expectations that mentors and induction year teachers hold for each other (Norman & Feiman-Nemser, 2005). Although the literature provides no conclusive evidence regarding which type of mentoring structure brings the most success, the largest studies that included a higher education component tended to use the mentor release model [teachers are released from their teaching duties to mentor a group of induction year teachers full-time] rather than the peer mentor model [matching induction year teachers with a mentor one-to-one, with both teachers having full teaching responsibilities].

_The Principal_

Experienced teachers are not the only important people in the mentoring process. According to Brock and Grady (1998), principals play a key role in the enculturation of new faculty in their buildings. Their study focused on what principals and beginning teachers expected of each other. The authors conducted a random survey of public and nonpublic, elementary and high school principals in the state of Nebraska. Based on a 75% response rate, results showed that principals expect their induction year teachers to demonstrate a professional attitude, adequate knowledge of subject areas, good classroom management skills, excellent communication skills, a belief that every child can learn, and a desire to help students succeed (p. 2).

Beginning teachers also had expectations of their principals. They reported wanting their principals to visit and give constructive feedback, be available for questions, make their expectations clear, explain the school’s traditions, and be open to scheduled meeting times. The authors concluded that beginning teachers identify the
school principal as a key source of support and guidance while principals look to the mentoring component to offer much of what has been identified as needed by induction year teachers. Mentors are viewed as helpful by both sides, while the lack of training and diverse selection criteria for mentors are problematic. Therefore, principals need to be more aware of induction year teachers’ needs and be prepared to provide assistance (Brock & Grady, 1998).

Johnson and Kardos (2005) add another dimension to a principal’s work with induction year teachers. They posit principals are responsible for bridging the gap between the goals of veteran teachers nearing retirement and induction year teachers just starting their careers. It is their contention that many schools contain two distinct generations of teachers. They suggest principals can bridge this gap by encouraging more than one mentor to work with new teachers, getting veteran teachers involved in the hiring process, scheduling time for new and veteran teachers to meet, and encouraging new teachers to take on leadership roles (Johnson & Kardos).

Quinn and Andrews (2004) also highlight the principal’s role in the mentoring of new teachers. In their study, induction year teachers were asked to rate the level of support principals gave in comparison to the total support received from all sources. They report the majority of teachers felt supported by their principals, but there was a need for the principal to be more involved in the orientation activities of the new teachers; specifically, policy and procedure types of information such as playground rules, protocols for setting up parent conferences, use of the phone system, and grading policies. In conclusion, the authors suggest that principals be reminded of their critical
role in the support of new teachers and lead by example in offering whatever support
beginning teachers might need while encouraging the rest of their staff to do the same.

Summary

Although there is some dissention among experts regarding the predicted teacher
shortage, there is evidence of continued shortages in the areas of special education,
mathematics, and science. In addition, experts still predict that the retirement of the
“baby-boomers” (those who are reaching 30-35 years in the profession) will significantly
impact the workforce in the near future (Boe & Gilford, 1992; Hussar, 2002). There is
also clear evidence that many districts across the nation suffer with teacher attrition. It is
also clear in the literature that many teachers leave the profession due to low salaries.
Regardless, these issues result in districts struggling with recruiting and retaining highly
qualified teachers. Therefore it is critical for districts to design programs that will
enhance the likelihood of teachers who want to remain in the profession.

The literature also makes a strong case regarding the detrimental effects of
attrition on the continuity and quality of educational programs in districts and buildings
that suffer from continued teacher attrition. Given the increased focus on accountability
and student achievement, it becomes even more important for quality induction year
programs to be structured and responsive to the needs of induction year teachers.

Although there is a plethora of studies describing the qualities of a successful
induction year program, there are few studies focusing on the perspectives of the
induction year teachers themselves. In addition, there appears to be research needed
regarding the differing perspectives of all members of an induction year program to get a
sense of what each entity sees as its role/responsibilities regarding the support of induction year teachers. Although there is little individual districts can do about the low salaries for teachers, there appears to be much they can do to support induction year teachers in a variety of ways. Getting their input and feedback is crucial to that process.
CHAPTER THREE: METHODOLOGY

The purpose of this study was first, to determine the perceived needs/concerns of induction year teachers. Second, this study was to ascertain whether their perceived needs reflected those identified in the current literature and if there was a match between the perceived needs/concerns of induction year teachers and the actual induction year programming they received. Next, this study looked at whether induction year teachers had differing needs/concerns related to the grade level they taught. Finally, this study determined if the levels of needs/concerns of the induction year teachers decreased over time when participating in an induction year program. This chapter describes the methodology and discusses the participants, instruments, and procedures used in this study.

The design of this research is a case study. According to Bogdan and Biklen (2003) “A case study is a detailed examination of one setting, or a single subject, a single depository of documents, or one particular event” (p. 54). “Because the primary purpose of a case study is to obtain a detailed description and gain an understanding of the case, generalizability of the findings is a concern” (McMillan, 2004). Therefore, a mixed-method design was utilized to take advantage of two data collection approaches and analysis to triangulate the data and include as much detail and description as possible to enhance generalizability of the findings.

Conceptual Framework Revisited

Lave and Wenger’s (1991) theory of situated learning with legitimate peripheral participation, Vygotsky’s (Ormrod, 2003) social learning theory and the “zone of
proximal development,” and Katz’s (1972) developmental stages of teachers, shaped the lens through which the research questions have been studied. A comparison of the mentoring relationship to that of an apprenticeship and the sense of individualized development with concrete stages supporting induction year teachers’ development guided the interpretation of the wealth of data collected.

This study addressed the following questions:

**Question One**: What are the perceived needs/concerns of the induction year teacher?

**Question Two**: Are the perceived needs/concerns of induction year teachers aligned with the components of effective induction year programs?

**Question Three**: Do induction year teachers perceive differing needs/concerns based on grade level?

**Question Four**: Do the perceived needs/concerns of induction year teachers decrease as their induction year progresses due to the support of an induction year program?

**Research Hypothesis**

This study was designed to test the following hypotheses:

- Induction year teachers perceive differing concerns based on grade level.

- Induction year teachers’ levels of perceived concern decrease as their induction year progresses due to the support of the induction year program.

**Null Hypothesis**

- Induction year teachers do not perceive differing concerns based on grade level.
• Induction year teachers’ levels of perceived concern do not decrease as their induction year progresses due to the support of the induction year program.

The remaining research questions were answered using qualitative methodology, so formal research hypothesis are not appropriate. To answer the research questions, a mixed-methods approach was utilized. See Appendix A for a delineation of the questions and associated research methodology.

According to Powell, Mihalas, Onwuegbuzie, Suldo, and Daley (2008), the utilization of mixed-methods techniques results in “richer data being collected, thereby leading to a greater understanding of underlying phenomena” (p. 293). Indeed, Sosulski and Lawrence (2008) state:

Research that mixes methodologies can temper biases inherent in each tradition; the power of numbers and an aim of generalizing quantified outcomes balanced with the rich context of lived experiences captured in qualitative inquiry can yield results that are quite distinct from single method design. (p. 121)

According to McMillan (2004), a mixed-method study is one in which “both qualitative and quantitative approaches to gathering, interpreting, and reporting data are used together in a single study” (p. 288). There are both advantages and disadvantages to using a mixed-method design. The advantages include allowing the researcher to incorporate the strengths of each method; providing a more thorough picture of the phenomena being considered, emphasizing both the outcomes and the process of both approaches; and not limiting the gathering and analysis of data to one approach. Disadvantages or limitations of this design include the challenge that the researcher has some expertise in both methods, and the components used may only superficially
represent either method which would disqualify it as a mixed-method design (McMillan, 2004).

Both quantitative and qualitative methods were used in this study in a triangulation design where both quantitative and qualitative data were collected. McMillan (2004) states: “to the extent that the results from each method converge and indicate the same result, there is ‘triangulation’ and greater credibility in the findings” (p. 289).

Qualitative and quantitative data were used to answer research Questions One and Two with data coming from interviews with team coaches, focus groups with induction year teachers from every team, induction year teacher pre- and post-surveys, and a document analysis of the induction year handbook, and relevant resources available to all induction year program participants. Questions Three and Four were answered using quantitative data utilizing a single-group pretest-posttest design using data collected from surveys completed by the induction year teachers.

Research Site

This research was conducted in six rural school districts located in one Southeastern Ohio county. The participating districts consist of two city school districts, three local school districts, and one career center. All six districts have been involved with a county-wide collaborative induction program beginning in the 2002-2003 school year.

During the 2002-2003 academic school year, the state of Ohio implemented new licensure standards that had mentoring as one of its three core elements. The first element was a change in the grade level bands from elementary and secondary certificates to Early Childhood, Middle Childhood, Adolescence-to-Young Adult, and Multi-Age
licenses. The second element was the implementation of a required performance-based on-site assessment (Praxis III) for all newly-licensed teachers. The third element was that all districts in the state of Ohio were mandated to provide an induction program, called the Entry-Year Program, which included mentoring for all newly-licensed teachers hired beginning in the 2002-2003 school year.

Successful participation in an induction year program and passage of the Praxis III on-site assessment were required components of the new licensing requirements for Ohio beginning with the 2003-2004 school year. During the prior school year, districts were provided with the Ohio Guidelines for Quality Entry Year Programs document outlining the eight required components for every induction year program. As the county’s six school districts began their preliminary discussions about this mandate, the Educational Service Center (ESC) for the county responsible for programming for three of the six districts in the county, suggested it would be a better investment of time and resources to form a collaborative to design and implement the resultant program and all necessary training. Given the high-stakes nature of the Praxis III on-site assessment, in the view of the members of the collaborative, it was critical for there to be a clearly articulated quality program that all six districts pledged to offer.

Induction Year Collaborative Program

The county induction year collaborative program is a one-year formal program that delivers information and support in the areas of state licensure, the required Praxis III on-site assessment, formal induction year teacher professional development, and one-on-one mentoring between a veteran teacher and an induction year teacher. The requirements of the program state that each district form a team (teams) made up of (a) team coaches, who are responsible for the facilitation of the team meetings and for collecting dyad
meeting documentation and program portfolios, and (b) mentor teachers who are matched with an induction year teacher or mentee (one of the six districts require teachers new to the district with less than five years experience to participate in the induction year programming). Mentors are to be chosen based on proximity, matched teaching assignments, demonstration of mastery teaching and documentation of state approved mentor training. Currently, all six districts offer mentors some form of compensation for their participation in the program.

**Orientation**

The induction year teachers participate in two distinctly different orientations at the beginning of the school year; the district orientation and the state-mandated orientation. In the district orientation, the focus is on specific district or building policies and procedures. These procedures include but are not limited to attendance, grading, requisitioning supplies, and personal leave policies. They might also address playground/recess duty, lunch duty protocols; any other responsibilities that falls within the teacher’s purview.

The state-mandated orientation requires all members of the induction year program, including the induction year teachers, team coaches, and executive committee members, to attend an overview of the Praxis III on-site Assessment and licensure responsibilities. These meetings cover any updates at the state level regarding licensure requirements and possible or pending legislation related to induction year programming and licensure.

**Team Meetings**

Formally, the program has a building or district team (some districts have enough induction year teachers to have a team at each building and some only have one district
team encompassing all grade levels). These teams meet for three hours a month and the meetings are facilitated by the district/building coach. It is during these meetings that professional development activities are facilitated. These professional development activities support the following components identified in the literature: assistance with curriculum and instruction, personal and/or emotional support, and help with classroom management. The teams address these components through the use of three suggested protocols (i.e., consultancy protocol, action research protocol, and text-based discussion protocol). Teachers bring problems related to the topics above to the group for help in generating solutions. Depending on the type of problem, the team chooses the most appropriate protocol.

The most widely-used protocol is called the consultancy protocol. The consultancy protocol requires the induction year teacher to bring a problem to the group. The induction year teacher summarizes the situation, while the rest of the team asks both clarifying and complex probing questions. The induction year teacher is required to remain quiet and take notes while the remainder of the team brainstorms possible solutions to the problem. At the end of the session, the induction year teacher prioritizes the solutions and decides which one will be tried at the first possible opportunity.

The second most-used protocol is the action research protocol. The action research protocol guides teachers through the use of action research to problem-solve with the intention of reporting the results to the team after adequate time has elapsed to complete the action research process. When using this protocol, both the induction year teacher and his/her mentor work together during the action research process.

The final protocol is the text-based discussion protocol. The team coach chooses articles or other forms of text that stimulates discussion or allows for brainstorming about
an issue that is relevant or of particular interest to the team. The team is expected to read
the text prior to coming to the team meeting and be prepared to discuss it as part of the
meeting agenda.

More generally, the meetings address issues of curriculum and instruction, personal and/or emotional support, and help with classroom management during the time induction year teachers are preparing for the Praxis III assessment that usually occurs during the second semester of the induction year.

_Dyad Meeting_

During the one-on-one dyad meetings, the induction year teachers or mentees discuss with their mentors issues of more immediate concern as well as issues of grading, policies, and procedures. It is a program expectation that the mentors will specifically address components such as curriculum and instruction, personal and/or emotional support, and help with classroom management as well as issues relating to resources, policies and procedures, and parental interactions while in their dyads. It is expected that the dyads meet weekly and to maintain documentation of all formal and informal mentoring sessions.

_Observations_

In addition, there is an expectation that each induction year teacher observes not only in their mentor teacher’s classroom but in other master teachers’ classrooms as well, and that they are observed by their mentor teacher. There is also an expectation that the induction year teachers will go through two mock Praxis III on-site assessments with their mentor teacher, team coach, or another master teacher designated by the team coach, in preparation for the formal Praxis III on-site assessment that occurs in the second semester of their induction year, and impacts future licensing.
See Figure 1 for a diagram outlining the County-Wide Induction Year Mentoring Collaborative Hierarchy.

*Figure 1. County-wide induction year mentoring collaborative hierarchy.*

Gaining Entry

Upon approval from the Internal Review Board, written permission was obtained from each of the six school district superintendents to survey all induction year teachers, to personally interview all induction year program coaches, and to conduct on-site focus groups with each team’s induction year teachers. A formal letter was sent to each of the
six school district induction year program coordinators and one university representative explaining the research study and timelines and requesting their help in the facilitation of the pre-and post survey of the induction year teachers, and the distribution and collection of participant consent forms from induction year teachers and program coaches. At the same time, the informed consent of the coordinators was secured. The researcher agreed to keep all personal information confidential. A summary of the results was provided to the members of the county-wide collaborative governing board, and the district superintendents.

After permission from the superintendents was obtained, the researcher contacted the district induction year program coordinators, at the start of the school year to distribute and collect the signed consent forms from the induction year teachers and team coaches prior to the Induction Year Program Orientation date in September of the school year. The coordinators brought the completed consent forms to the state mandated orientation which ensured the researcher had minimal contact with identifying information and to avoid any pressure to participate.

Participants

The participants in the study were 34 induction year teachers and mentees in a small rural county in southeastern Ohio who were participants in a county-wide collaborative induction year program during the 2008-2009 school year. Teachers ranged in age from 23-32 years. All participating teachers were Caucasian. The mentee teachers were teachers who were in their first year of teaching in one school district, but had anywhere from one to four years teaching experience in another district. The mentees
were a part of the focus group interviews, but did not take part in completing the survey, as it was not their first year teaching. In addition, team coaches from the six districts that are members of the county-wide collaborative were interviewed to provide background information and describe the current implementation plan for the induction program offered during the first half of the school year. The six school districts within the collaborative range from very small, serving 937 students Pre-K through twelfth grade, to the largest, a medium-sized school district serving 2897 students enrolled in Preschool through twelfth grade. The relatively small size of the six districts along with the rural nature of this Appalachian region of the state, accounts for the small participant numbers. Many of the teachers in this region of the state were born and raised in the Appalachian region of the state and continue to live and work in this area.

Selection

This study used convenience and purposeful sampling procedures. It was purposeful in that the study invited all induction year teachers and coaches in the county to participate. It is a sample of convenience, as all participants are members of one county’s collaborative induction year program. The induction year program’s superintendents, coaches, and mentor coordinators are familiar with the researcher and were accessible and open to participation.

These two sampling procedures share similar strengths and weaknesses. The strengths of purposeful and convenience sampling are that they are less costly, less time-consuming, easy to access, usually assure a high participation rate, and generalization to similar situations is possible. Two additional strengths of purposeful sampling are that it
adds credibility to qualitative research and assures receipt of needed information (McMillan, 2004). The weaknesses are that it is difficult to generalize the results, the sample is less representative of an identified population, and results might be dependent on unique characteristics of the sample (McMillan, 2004). These weaknesses make this one of the limitations of the study.

The names of all induction year teachers for the 2008-2009 school year were gathered from lists solicited from the induction year program coordinators. These program coordinators make up the induction year governing board and many were the authors of the original design of the current program. The team coaches have the responsibility of implementing the components of the induction program including the three hour monthly meetings of the districts’ mentor and induction year teacher dyads, but do not oversee the individual dyad responsibilities (the formal and informal meetings between the mentor and induction year teacher) either at a building level or for an entire district. However, the coaches have limited responsibility to collect documentation providing accountability regarding the dyad meetings and the two required mock Praxis III on-site observations. The names of the team coaches were also solicited from the induction year program coordinators. The researcher has been a member of the governing body since the establishment of the county-wide collaborative.

The induction year teachers and team coaches came from the elementary, middle school, and high school levels in the six school districts that make up the county-wide collaborative. Thirty four induction year teachers and eight coaches participated in this study. One district was large enough to split into two teams – an elementary team and a
secondary team and one district chose to have co-coaches (two). Initially, the researcher planned to use three groups (elementary, middle/junior, secondary); however, after administration of the pre-survey, it was discovered that multiage teachers (art, physical education, special education, foreign language) serving multiple grade levels had not been considered, nor had fourth grade been included as part of an elementary building. Therefore, the number of grade level groupings had to be amended from three to five groups.

Grade levels were grouped in the following manner: a) high school, b) middle/junior high school, c) fourth grade, d) elementary (PK-3), and e) multi-age. The high school level included grades nine through twelve. The middle/junior high school level included grades seven and eight. The fourth grade teachers were separated from the elementary and middle school categories based on two factors. First, all other teachers in the middle school category taught in grades seven and eight, which was too far removed from the fourth grade, and second, fourth grade teachers in this study were in buildings that used some form of departmentalization. Therefore, they did not fit with the elementary teachers who were teaching in self-contained classrooms. The elementary level included grades preschool through third grade. The multi-age level included teachers who were responsible for programming for a specific content area in kindergarten through twelfth grade.

Table 1 summarizes the number of participants and their grade level responsibilities by district. Participants’ teaching experience ranged from zero to eight
years of experience with eight teachers holding a masters degree and 26 holding bachelor’s degrees.

Table 1

<table>
<thead>
<tr>
<th>District</th>
<th>Number of Teachers</th>
<th>High School</th>
<th>Middle or Junior High</th>
<th>4th Grade</th>
<th>Pk-3rd Grade</th>
<th>Multi-age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
<td>1</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>n\textsuperscript{a}</td>
<td>34</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>14</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: \textsuperscript{a} Total number of teachers.

Instrumentation

Quantitative data was gathered using a pre- and post-survey (see Appendix B) completed by all participating induction year teachers from each of the six districts that comprise the county-wide collaborative induction year program. Additionally, data were gathered from interviews with team coaches from the six participating districts, and focus groups interviews with teams of induction year teachers. Finally, a document analysis
was conducted to determine the components of the actual induction year program and
used to triangulate, confirm, or disconfirm data from the other sources. The survey data
was analyzed using a matched *t-test*, and ANOVA and a Tukey test for comparison.

*Pre-and post-test survey.* The survey was adapted from Andrews and Quinn
(2005) who designed a 20-item survey using a six-point Likert-type scale. The choices on
the survey were 1 = very strongly disagree, 2 = strongly disagree, 3 = disagree, 4 = agree,
5 = strongly agree, and 6 = very strongly agree. Although their study involved 182
induction year teachers and resulted in a 74% return rate, the authors did not discuss or
report on the reliability or validity of their survey.

As mentioned above, the survey used in the present study was modified from
Andrews and Quinn (2005) and designed to measure the perceived needs/concerns of
induction year teachers, providing insights into the initial areas and levels of concern for
induction year teachers, compared with the areas and levels of concerns after one
semester of formal mentoring during an induction year program.

The 17-item survey included 16 selected-response items and one open-ended
item. Using a five-point Likert scale, available choices included 1 = Strongly agree, 2 =
Agree, 3 = No impact, 4 = Disagree, and 5 = Strongly agree. Sample items include: “I am
concerned with or need additional support regarding classroom management issues,” “I
am concerned with or need additional support implementing my curriculum,” “I am
concerned with or need additional support regarding the grading process,” and “I am
concerned with or need additional support regarding my mentor’s support.”
Pilot Survey

The induction year teacher survey was piloted with 25 induction year teachers during the 2007-2008 school year to determine: 1) their perceptions of the questions (relevance, suggest additional questions), 2) clarity, and 3) the approximate amount of time it would take to complete the survey. Two respondents mentioned problems with the verb concerned in the questions. Both suggested a change of the verb, however, after a review of the survey, the researcher chose not to make the suggested changes to the final draft of the survey based on the fact that both respondents had a different rationale for requesting a different verb and 92% of the respondents did not have any issues with the wording of the items. Initial review of the pilot survey data indicated that the survey items provided data that was relevant and sufficient to adequately answer the research questions.

*Interview questions.* Individual interviews were conducted with team coaches. Once each district selected and identified its program coach or coaches, the researcher sent an email describing the research, timelines of the interviews, and requested possible dates and times to schedule the interviews. The dates and times were mutually agreed upon by the researcher and the coach. Once dates and times were confirmed, consent forms were distributed and collected by the mentor coordinators. All six districts coaches were interviewed. To adhere to a standardized open-ended interview format, the researcher used questions outlined on an interview protocol.
Team Coach Interviews

Eight team coaches from six different school districts were interviewed regarding their perceptions of the current induction year program and the structure of the required monthly team meetings they were responsible for facilitating. A profile of team composition by coach is presented in Table 2.

Table 2

<table>
<thead>
<tr>
<th>District Team Composition by Coach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coach</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Coach 1</td>
</tr>
<tr>
<td>Coach 2 – Two coaches</td>
</tr>
<tr>
<td>Coach 3</td>
</tr>
<tr>
<td>Coach 4</td>
</tr>
<tr>
<td>Coach 5</td>
</tr>
<tr>
<td>Coach 6</td>
</tr>
<tr>
<td>Coach 7</td>
</tr>
</tbody>
</table>

Coaches One, Three, and Six facilitate teams that cover multiple grade levels.

Coaches Four and Five facilitate teams specifically for secondary or elementary teachers.
only. Coaches Two and Seven have teams that include teachers all from the same building.

The coaches’ interview questions were designed to solicit their impressions of the component parts of the induction year programming offered at each of the district sites. All eight team coaches (one team had two coaches who shared coaching responsibilities) had multiple years of experience in the position of team coach. All interviews were scheduled in advance on a date and time convenient to both parties at the district’s team meeting site. Each interview took approximately 40 minutes and all seven interviews were taped to ensure accuracy. All coaches were relaxed and open during the interviews and did not hesitate to ask for clarification when necessary. One coach was a member of the original governing board that designed the induction year program being discussed while another is a current member.

The interview protocol included six open-ended questions with follow-up probes to be asked if the respondents did not cover all relevant areas in their responses. The questions were designed based on the components of successful induction year programs as described in the literature. The questions were as follows:

1. What do you see as the strengths of the induction year program?

2. Given the county induction program’s expectations, what if anything, do you plan to do differently based on your experiences in the position as coach? Why?
   - Will you make any changes based on available time?
   - Will you make any changes based on the concerns of your induction year teachers?
3. Which elements do you deem critical for your induction year teachers or for a successful induction year program? Why?

4. Based on your experience, which program elements do you believe could be removed? Why?

5. What elements would you add to the program based on your experiences? Why?

6. Are there any differences in your program delivery based on the grade level taught by your induction year teachers?
   - If so, describe the differences.

If coaches did not mention items addressed in the induction year teacher survey, (i.e., administrative paperwork, classroom management, curriculum implementation, needs of exceptional students, lesson planning, student relationships, colleague relationships, parent interactions, grading, analyzing data, administrative support, mentors support, resource availability, high-stakes testing and student development) the researcher followed up with probes inquiring whether or not these issues were components included in their induction program.

Each interview took approximately 45 minutes and was audio taped for transcription at a later date. Although each interview was audio taped, additional notes were taken. Patton (2002) advises that note-taking be kept to a minimum as it may make interviewees feel uncomfortable or distracted. Therefore, the interviewer kept note-taking during the interviews to a minimum.

Data collected from the coach interviews was analyzed using an open-coding method. McMillan (2004) describes coding as the use of words, phrases, or events in the
data that seem to clearly stand out to help with categorizing the data. This coding process, referred to as *categorical aggregation* (McMillan, 2004) and *open-coding* (Creswell, 1998), allowed for concepts and ideas in the responses to be identified and categorized. The next step in the analysis of the data was a process McMillan (2004) calls *drawing patterns* which is similar to *axial coding* (Creswell, 1998) where the “correspondence between two or more categories or codes” is identified to show relationships that allow fewer but broader topic headings that share similar properties or subcategories (p. 273). During this level of qualitative analysis, five major categories emerged.

Creswell (1998) recommends the number of categories be limited to five or six and as it turned out, five was the optimal number of categories emerging from this data that assured a clear and comprehensive representation of the data. Member checks were completed with six of the eight team coaches during the December county-wide meeting, to clarify an issue that was raised regarding the use of the full array of protocols available in the induction year program handbook and available for use in the team meetings. The other two coaches were unavailable at the meeting due to other responsibilities. A follow-up email was sent to get the remaining coaches’ responses to the issue of team meeting protocols. The following patterns or themes emerged from the coaches’ responses:

- the team meeting and its components
- the county-wide collaborative
- the mentor component
- the orientation
- other observation opportunities
A visual of the major themes is presented in Figure 2. As shown, each emergent theme stands alone, although each theme represents a different component of the induction year programming.

Figure 2. Themes from team coach interviews.

Induction Year Teacher Focus Group Interviews

One district also had a cadre of “mentees” attend the monthly meetings whose teaching experience ranged between one and four years of experience in their current teaching assignment. Although the “mentees” had previous teaching experience, they were new to the district and were required to have a mentor, and attend the first part of
the monthly group meetings. They were excused from the second half of each meeting that focused on the Praxis III on-site assessment.

*Focus group questions.* The researcher conducted focus group sessions with each district/building team of induction year teachers. Focus groups or group interviews are interviews structured to allow participants to talk about particular issues (Bogdan & Biklen, 2003). This technique is helpful in encouraging interaction among participants that ultimately brings about a richer understanding about what is being discussed (McMillan, 2004).

The researcher attended one meeting of each team from all six districts. The researcher participated in each meeting and at the end of the meeting time, when there was time left for the induction year teacher and his/her mentor to meet, all but the induction year teachers and the researcher remained for the focus group session. As stated above, each session was audio-taped. The interview questions were designed to encourage reflection, and support or challenge the components current literature proposed to be the bulwark of successful induction year programs. The interview questions for the focus groups were meant to clarify feelings and perceptions left unclear after completion of the initial survey and to add any new insights as yet unmentioned or ignored in the literature. The interview protocol for the focus groups consisted of four open-ended questions with possible probes.

1. What do you see as the biggest strength of the induction year program?
2. Are there any components that you believe are essential to your success that the current induction year program does not offer?
3. Are there areas of teacher competence other than curriculum and instruction, assessment, accountability, and relationships or climate that you believe are critical to revisit during this first year?

4. How do you plan to solicit the help you need if it is not a formal part of your induction year programming?

All focus group interviews took place at the end of a regularly scheduled monthly meeting and were scheduled in advance by the researcher and the team coach to assure minimal disruption of required and preferred programming. The make up of each team was unique with regard to grade levels and subject areas represented.

In keeping with the philosophy of Creswell (1998) and McMillan (2004), after applying open-coding or categorical aggregation to the data collected during the team focus group interviews and then further scrutinizing the data through axial coding or drawing patterns (McMillan, 2004), once again, five major themes emerged. The major themes that evolved were:

- the mentoring component
- the district orientation process
- curriculum help
• additional observations
• team meeting components

A visual of the emergent themes is shown in Figure 3. Again, these themes stand alone and are not connected other than being components of the overall programming of the induction year program.

![Diagram of Induction Year Program](image)

*Figure 3. Themes from induction year teacher focus group interviews.*

**Procedures**

A pre-survey was administered in September of 2008 during the required county-wide induction year teacher state orientation. The survey was a formal part of the agenda and in order to minimize researcher bias, was administered by a member of the
collaborative governing board. At the beginning of the meeting, one of the mentor coordinators explained the purpose of the survey, gave directions for filling out the survey, distributed them, and set up two areas around the room for anonymous collection of completed surveys. Although the researcher is a member of the collaborative governing board, and a regular participant at the state mandated orientations, the researcher had no contact with the induction year teachers during the survey administration that might have led them to think certain responses were being sought.

The survey data collection followed the steps outlined below.

1. Upon receipt of IRB approval from the university, the researcher contacted the local superintendents.

2. Once approval had been obtained from the six local superintendents, induction year program coordinators were asked to serve as distributors of consent forms to all new induction year teachers and team coaches in their districts.

3. Induction year program coordinators collected the consent forms from the induction year teachers and team coaches prior to the state mandated orientation at the beginning of the school year.

4. The researcher created a participant list from the returned consent forms.

5. The researcher assigned an identification number to each participant.

6. The researcher numbered the surveys using the ID numbers and placed sticky notes with participants’ names on each survey covering the ID number.
7. Each survey was color-coded with a dot in the upper corner of the first page to correspond with each district’s coach, allowing the researcher to triangulate program components with concerns identified by the induction year teacher.

8. The surveys were distributed by each district’s mentor coordinator at the orientation meeting.

9. Induction year teachers were instructed to remove the sticky note with his/her name, leaving only the ID number on the survey before completing it and returning it to the designated collection boxes.

10. For induction year teachers whose names were omitted from the original list, the researcher’s advisor or another program coordinator present at the induction year meeting added the teacher’s names to the list and assigned a code number to the teacher and to a survey at the registration table.

11. Individual interviews with the team coaches took place in November of 2008 at each district site. The interview was conducted using standardized open-ended interview questions (Patton, 2002) and was conducted at a site agreed upon by both parties. A standardized open-ended interview protocol was used to provide comparability in this multi-site study (Patton).

12. The focus group interviews were conducted at the team meetings during the months of November and December of 2008 at each district site. The interviews were conducted using a standardized open-ended interview protocol and were conducted at the end of each of the team meetings.
13. The post-survey was administered during the winter induction year teacher event in early December following the same procedures as the pre-survey.

Data Analysis

Both quantitative and qualitative methods were used in a triangulation design in which both quantitative and qualitative data were collected (McMillan, 2004). Qualitative data informed all research questions, contributing most specifically to Questions One and Two with data coming from interviews with the team coaches, focus group interviews, and a document analysis of the induction year handbook and relevant resources available to all program participants. Quantitative data from the pre- and post-surveys was also collected and analyzed. The quantitative data answered research Questions Three and Four utilizing a single-group pretest-posttest design. To answer Question Three, an ANOVA was utilized and to answer Question Four, a matched t-test was employed.

Triangulation

Triangulation procedures were employed during the data collection and analysis to strengthen the credibility of both the data and the investigator. The data triangulation was accomplished using quantitative and qualitative measures and by involving the induction year teachers and team coaches in addition to the analysis of the induction year handbook to capitalize on the greatest number of perspectives. The investigator solicited the expertise of other faculty experts during the coding, analysis, and interpretation of the data.
Qualitative Data Analysis

To answer research Questions One and Two, qualitative data came from the coaches’ interviews, researcher’s notes, transcripts of the focus group sessions, and open-ended survey question responses. The researcher used an inductive analysis to synthesize and analyze qualitative data rather than a deductive method used to test pre-determined hypotheses. Qualitative research uses induction to identify new ways of understanding rather than starting with predetermined hypotheses that might limit what data is collected and may cause bias (McMillan, 2004). Qualitative data also came from a document analysis of the induction year program handbook and other relevant materials that provided triangulation. For Question Two, data also came from quantitative data gathered from the pre/post survey.

After the interviews and focus group tapes were transcribed, qualitative data from all sources was combined and the researcher coded the data to identify common themes or patterns in the data (Bogdan & Biklen, 2003; Creswell, 1998). Data from the interviews was initially analyzed using an open-coding process. Open-coding allowed the researcher to identify and categorize initial concepts that emerged from the data (Creswell, 1998). The intent of the process was to move the concepts from very general to more specific as the analysis progressed (Bogdan & Biklen, 2003; Creswell, 1998).

Following the open-coding process, axial coding was completed to further develop the data, looking for context and consequences in different alignments of the data that were broken down during open-coding (Creswell, 1998). During the axial coding process, the researcher noted in the transcripts that during one of the coach interviews,
questions arose regarding the use of all of the meetings’ professional development protocols recommended in the program’s handbook. The coach wondered if that might be something to change about the program, and when going through the notes from the interviews, the researcher noted that no specific information regarding the protocols, except the consultancy protocol, was mentioned.

The researcher utilized a member check with all the coaches regarding this question and to review initial themes being developed. Member checks took place during the December county-wide meeting during a session that included only coaches. Six of the eight coaches were present at this session. The researcher completed member checks with the two additional coaches through written correspondence. Qualitative data was also collected from the open-ended question asking the induction year teachers to identify any component not already addressed in the survey about which they had additional needs/concerns.

Finally, after the open- and axial coding was completed, the researcher employed selective coding to integrate and refine the categories to begin examining relationships across and among the categories (Creswell, 1998). The themes emerging from the coaches’ interviews were a) team meetings, b) the County-Wide Collaborative, c) the mentoring component, d) the state-wide orientation, and e) other observation opportunities. The themes that emerged from the induction year teachers and mentees were a) the mentoring component, b) the district orientation process, c) curriculum help, d) additional observations, and e) team meetings.
Credibility. McMillan (2004) states: “The primary criterion for evaluating qualitative studies is the credibility of the study” (p. 277). A study has credibility if the data, data analysis, and conclusions are believable and trustworthy. A question the researcher asks is, do the themes and patterns that emerge from the data make sense? The principles of triangulation, reliability, and internal and external validity contribute to the credibility of a qualitative study (McMillan, 2004). The researcher attempted to maintain credibility through the use of triangulation of sources of information including multiple administrations of a survey as well as individual and focus group interviews, and a program document analysis. In addition, the researcher checked for bias and logical interpretation of the data through member checks and by soliciting feedback and input from faculty members.

Validity. Validity, more often called verification in qualitative studies, refers to being able to replicate the study and arrive at the same findings (Creswell, 1998; McMillan, 2004). The limitations of this study impacted its validity to some degree. These same limitations may negatively impact generalizability of the results. Qualitative research by its nature is subjective and therefore, it is up to readers to determine if they agree with the researcher’s interpretation of the data (Doppen, 2002). The researcher has enhanced the validity through member checks, and triangulation of multiple sources of data from interviews, focus groups, and survey responses.

Quantitative Data Analysis

In order to answer research Questions Three and Four, quantitative data was derived from pre- and post-surveys of induction year teachers collected in August and
December. Hypothesis One stated that induction year teachers perceive differing concerns based on grade level, was tested using an ANOVA for a single-group pretest-posttest design, comparing the means of the five school levels. There were one dependent variable and five independent variables. The dependent variable or the variable affected or predicted by the independent variables (McMillan, 2004), were the induction teachers’ concerns. The independent variables, those that influence or predict the dependent variable (McMillan, 2004); were the five distinct grade levels of elementary (P-3), 4th grade, multi-age, middle/junior high, and high school. A level of significance at ($p < .05$) was set to test the hypothesis.

Hypothesis Two stated that induction year teachers’ levels of concern decrease as their induction year progresses due to the support of the induction year program. A matched $t$-test for a single-group pretest-posttest design was used to compare the pretest and posttest means of the whole group. A significance level of significance at ($p < .05$) was set to test the hypothesis.

In summary, a mixed-methods research design was the most appropriate methodology to use in this case, given the number of participants and limited timeline. Collecting data from multiple sources allowed for a triangulation of the data gathered. This chapter provided a review of the conceptual framework, a presentation of the research questions, the focus group and coach interview questions, the findings of the pilot study, a description of the data collection procedures, including participant selection and description of the research site, and a description of the statistical tests used, a
definition of the role of the researcher, an identification of how credibility was maintained, and finally, a description of the data analysis procedures that were utilized.
CHAPTER FOUR: RESULTS

In this chapter, findings from the analysis of the pre/post survey and interview data are reported. Both quantitative and qualitative data will be summarized in text as well as through visual means.

Research Questions

This study addressed the following questions:

*Question One*: What are the perceived needs/concerns of the induction year teacher?

*Question Two*: Are the perceived needs/concerns of induction year teachers aligned with the components of effective induction year programs?

*Question Three*: Do induction year teachers perceive differing needs/concerns based on grade level?

*Question Four*: Do the perceived needs/concerns of induction year teachers decrease as their induction year progresses due to the support of an induction year program?

Quantitative Results

Quantitative data were gathered through a pre-post administration of a 17-item survey (Cronbach’s Alpha - .920) of 24 induction year teachers participating in a county-wide induction year program. This number is different from the total number of participants in the induction year program due to the inclusion of mentees from one of the six districts. It was not appropriate to include the mentees in the survey whose purpose was to identify induction year teacher’s needs/concerns. The pre-survey was administered during the first of three required county-wide meetings in September with the goal of acquiring initial levels of induction year teachers’ perceived needs/concerns. The post-
survey administration was completed at the second required county-wide meeting in December to ascertain any changes in perceived needs/concerns over time.

**Survey Results**

In an attempt to answer research **Question Two, Are the perceived needs/concerns of induction year teachers aligned with the components of effective induction year programs?** the researcher examined responses to the pre-post surveys to identify, specifically through question number 17 (Other area(s) of needs/concerns? Please identify the degree to which you are concerned), to see if there were any additional components or needs/concerns induction year teachers felt were critical to their success that were not addressed in the survey, which contained questions evaluating the existing components of the program.

Although eight participants responded to question 17 on the pre-survey, and two on the post-survey, all responses to this item were related to program components already addressed in the survey. As none of the items proposed were needs/concerns not already addressed in the program, it can be determined from the quantitative responses, that the needs/concerns of the induction year teachers participating in this study were being addressed by the components of the current program that is based on the specified components of successful induction-year programs as defined in the literature. The survey choices were numbered one through five with one being strongly agree, five being strongly disagree, and three being no impact or zero. In order to clarify the ease of reporting the data, prior to analysis, individual ratings were re-coded to a scale of -2 to +2 where -2 equaled strongly concerned and +2 equaled no concern. A negative score
indicates the teacher was experiencing high levels of concern and a positive score indicates the teacher was experiencing little to no concern. Table 3 provides the descriptive statistics for all items for both pre- and post-survey.

Table 3

Percentages of Participant Responses by Question excluding “No Impact” (#3)

<table>
<thead>
<tr>
<th>Question #</th>
<th>Pre-Survey Mean</th>
<th>Post-Survey Mean</th>
<th>Pre-Survey Percent of &quot;1&quot;</th>
<th>Pre-Survey Percent of &quot;2&quot;</th>
<th>Post-Survey Percent of &quot;1&quot;</th>
<th>Post-Survey Percent of &quot;2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Paperwork</td>
<td>-0.17</td>
<td>0.10</td>
<td>4.2%</td>
<td>41.7%</td>
<td>33.3%</td>
<td>16.7%</td>
</tr>
<tr>
<td>2 Class Mgmt</td>
<td>-0.33</td>
<td>-0.19</td>
<td>20.8%</td>
<td>33.3%</td>
<td>4.2%</td>
<td>45.8%</td>
</tr>
<tr>
<td>3 Grading</td>
<td>-0.21</td>
<td>0.48</td>
<td>12.5%</td>
<td>37.5%</td>
<td>25.0%</td>
<td>16.7%</td>
</tr>
<tr>
<td>4 Testing</td>
<td>-0.21</td>
<td>0.00</td>
<td>8.3%</td>
<td>33.3%</td>
<td>29.2%</td>
<td>33.3%</td>
</tr>
<tr>
<td>5 St. Motivation</td>
<td>-0.50</td>
<td>-0.43</td>
<td>20.8%</td>
<td>41.7%</td>
<td>8.3%</td>
<td>41.7%</td>
</tr>
<tr>
<td>6 Curriculum</td>
<td>-0.29</td>
<td>0.14</td>
<td>20.8%</td>
<td>33.3%</td>
<td>8.3%</td>
<td>20.8%</td>
</tr>
<tr>
<td>7 Exceptionalities</td>
<td>-0.50</td>
<td>-0.43</td>
<td>20.8%</td>
<td>45.8%</td>
<td>16.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>8 Assessment</td>
<td>0.08</td>
<td>0.14</td>
<td>8.3%</td>
<td>20.8%</td>
<td>4.2%</td>
<td>25.0%</td>
</tr>
<tr>
<td>9 Planning</td>
<td>-0.29</td>
<td>0.05</td>
<td>20.8%</td>
<td>33.3%</td>
<td>8.3%</td>
<td>12.5%</td>
</tr>
<tr>
<td>10 Resources</td>
<td>-0.67</td>
<td>-0.48</td>
<td>29.2%</td>
<td>41.7%</td>
<td>12.5%</td>
<td>41.7%</td>
</tr>
<tr>
<td>11 Admin Support</td>
<td>0.46</td>
<td>-0.19</td>
<td>8.3%</td>
<td>12.5%</td>
<td>8.3%</td>
<td>29.2%</td>
</tr>
<tr>
<td>12 Mentor Support</td>
<td>1.00</td>
<td>1.14</td>
<td>4.2%</td>
<td>12.5%</td>
<td>8.3%</td>
<td>12.5%</td>
</tr>
<tr>
<td>13 Student Relation</td>
<td>0.50</td>
<td>1.24</td>
<td>8.3%</td>
<td>16.7%</td>
<td>16.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>14 Colleagues</td>
<td>0.46</td>
<td>1.10</td>
<td>12.5%</td>
<td>16.7%</td>
<td>8.3%</td>
<td>8.3%</td>
</tr>
<tr>
<td>15 St. Social Dev.</td>
<td>0.29</td>
<td>0.52</td>
<td>4.2%</td>
<td>25.0%</td>
<td>4.2%</td>
<td>20.8%</td>
</tr>
<tr>
<td>16 Parents</td>
<td>-0.17</td>
<td>0.38</td>
<td>8.3%</td>
<td>45.8%</td>
<td>4.2%</td>
<td>20.8%</td>
</tr>
</tbody>
</table>

Table 4 identifies items that induction year teachers rated significantly different from zero or neutral. Items that were significantly different from the pre- to post-survey are identified by an asterisk. In the pre-survey given in early September, induction year teachers had a high level of need/concern (scoring at the strongly agree category) regarding student motivation (question five) and available resources (question ten).
At that same time, induction year teachers felt very confident (rating as strongly disagree) with mentor relationships (Q12). In the post-survey given at the end of the first semester in December, there were no high levels of need/concern in any of the components (no one scoring at the strongly agree category) and the induction year teachers felt very confident with mentor, student, and colleague relationships (Q12, Q13, Q14).
Table 4

Mean Differences

One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>Test Value = 0</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
<td>Df</td>
</tr>
<tr>
<td>Pre Paperwork</td>
<td>-0.811</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>0.439</td>
<td>20</td>
</tr>
<tr>
<td>Pre Class Mgmt</td>
<td>-1.282</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>-0.722</td>
<td>20</td>
</tr>
<tr>
<td>Pre Grading</td>
<td>-0.866</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>1.87</td>
<td>20</td>
</tr>
<tr>
<td>Pre Testing</td>
<td>-1</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>0.00</td>
<td>20</td>
</tr>
<tr>
<td>Pre Motivation</td>
<td>-2.077</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>-2.007</td>
<td>20</td>
</tr>
<tr>
<td>Pre Curriculum</td>
<td>-1.127</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>0.53</td>
<td>20</td>
</tr>
<tr>
<td>Pre Exceptionalities</td>
<td>-1.906</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>-1.627</td>
<td>20</td>
</tr>
<tr>
<td>Pre Assessment</td>
<td>0.401</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>0.591</td>
<td>20</td>
</tr>
<tr>
<td>Pre Planning</td>
<td>-1.098</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>0.213</td>
<td>20</td>
</tr>
<tr>
<td>Pre Resources</td>
<td>-2.563</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>-1.87</td>
<td>20</td>
</tr>
<tr>
<td>Pre Admin Support</td>
<td>2.037</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>-0.847</td>
<td>20</td>
</tr>
<tr>
<td>Pre Mentor Supp</td>
<td>3.916</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>5.164</td>
<td>20</td>
</tr>
<tr>
<td>Pre Students</td>
<td>1.906</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>7.384</td>
<td>20</td>
</tr>
<tr>
<td>Pre Colleagues</td>
<td>1.588</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>5.319</td>
<td>20</td>
</tr>
<tr>
<td>Pre St. Social Dev.</td>
<td>1.372</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>1.808</td>
<td>20</td>
</tr>
<tr>
<td>Pre Parents</td>
<td>-0.7</td>
<td>23</td>
</tr>
<tr>
<td>Post</td>
<td>1.504</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: * = significance level of (p) < .05
In response to research question three: *Do induction year teachers perceive differing needs/concerns based on grade level?* data was analyzed using an ANOVA for a single-group pretest-posttest design, comparing the means of the five groups (grade level bands). The analysis revealed that in the pre-survey, the five groups differed significantly (significance level of $p < 0.05$) in their responses to student motivation (question five), student relationships (thirteen), and collegial relationships (fourteen). In the post-survey data, there were no significant differences between the groups on any of the survey questions (significance level of $p < 0.05$). See Appendix D for results of the ANOVA. Table 5 reports the level of significance for all questions based on the results of the ANOVA. Items that were statistically significant are identified by an asterisk.

Table 5

*Levels of Significance for Each Question Based on ANOVA*

<table>
<thead>
<tr>
<th>Question</th>
<th>Pre-Survey Sig.</th>
<th>Post-Survey Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Paperwork</td>
<td>0.279</td>
<td>0.586</td>
</tr>
<tr>
<td>2 Class Mgmt</td>
<td>0.243</td>
<td>0.923</td>
</tr>
<tr>
<td>3 Grading</td>
<td>0.845</td>
<td>0.623</td>
</tr>
<tr>
<td>4 Testing</td>
<td>0.73</td>
<td>0.578</td>
</tr>
<tr>
<td>5 St. Motivation</td>
<td><em>0.004</em></td>
<td>0.827</td>
</tr>
<tr>
<td>6 Curriculum</td>
<td>0.703</td>
<td>0.868</td>
</tr>
<tr>
<td>7 Exceptionalities</td>
<td>0.08</td>
<td>0.713</td>
</tr>
<tr>
<td>8 Assessment</td>
<td>0.711</td>
<td>0.667</td>
</tr>
<tr>
<td>9 Planning</td>
<td>0.46</td>
<td>0.553</td>
</tr>
<tr>
<td>10 Resources</td>
<td>0.545</td>
<td>0.586</td>
</tr>
<tr>
<td>11 Admin. Support</td>
<td>0.918</td>
<td>0.076</td>
</tr>
<tr>
<td>12 Mentor Support</td>
<td>0.548</td>
<td>0.501</td>
</tr>
<tr>
<td>13 Student Relations</td>
<td><em>0.012</em></td>
<td>0.315</td>
</tr>
<tr>
<td>14 Colleagues</td>
<td><em>0.022</em></td>
<td>0.55</td>
</tr>
<tr>
<td>15 St. Social Dev.</td>
<td>0.125</td>
<td>0.886</td>
</tr>
<tr>
<td>16 Parents</td>
<td>0.274</td>
<td>0.29</td>
</tr>
</tbody>
</table>

*Note.* $* =$ significance level of $(p) < .05$
As there were significant differences in concerns/needs by grade level, for the pre-survey data, the null-hypothesis was rejected for research Question Two. In order to discover where the differences between grade levels existed, a Tukey post-hoc test was run. Grade level differences were identified for three of the sixteen items with results presented in Table 6. Appendix E contains the Tukey analysis.

Table 6

Grade Level Differences

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Grade Level</th>
<th>Grade Level</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>5</td>
<td>3</td>
<td>*-1.889</td>
<td>0.592</td>
<td>0.034</td>
<td>-3.67</td>
<td>-0.11</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td>*-2.667</td>
<td>0.81</td>
<td>0.028</td>
<td>-5.1</td>
<td>-0.23</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Relations</td>
<td>5</td>
<td>3</td>
<td>*-2.667</td>
<td>0.684</td>
<td>0.008</td>
<td>-4.72</td>
<td>-0.61</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colleagues</td>
<td>5</td>
<td>3</td>
<td>*-2.556</td>
<td>0.778</td>
<td>0.028</td>
<td>-4.9</td>
<td>-0.22</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note *. The mean difference is significant at the 0.05 level.

Levels of concern differed between elementary teachers and multi-age teachers (teachers who teach subjects that span all grade levels) and between fourth grade and multi-age teachers in the area of student motivation (Q5). There was also a difference between multi-age teachers and P-3rd grade teachers with regard to student relationships (Q13). Finally, a difference between multi-age teachers and P-3rd grade teachers and 4th
Grade teachers existed in the area of collegial relationships (Q14). In all three questions, multi-age teachers showed a significantly higher level of concern than the other groups.

A matched \textit{t-test} for a single-group pretest-posttest design was used to answer research Question Four, \textit{Do the perceived needs/concerns of induction year teachers decrease as their induction year progresses due to the support of the induction year program?}

Data was derived from the pre-post-survey of induction year teachers completed in September and December. A paired t-test was used to determine the mean deviation from pre- to post-survey responses of all participants for each item. This information was used to determine any changes in induction year teachers’ levels of perceived needs/concerns after one semester of participation in an induction year program. See Table 7 for the results of the paired \textit{t}-tests.
Table 7

**Paired t-test Results**

<table>
<thead>
<tr>
<th>Paired Samples Test</th>
<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Pair 1 Paperwork</td>
<td>-.190</td>
<td>1.250</td>
<td>.273</td>
<td>-.759</td>
<td>.378</td>
</tr>
<tr>
<td>Pair 2 Classroom Mgmt</td>
<td>-.190</td>
<td>1.401</td>
<td>.306</td>
<td>-.828</td>
<td>.447</td>
</tr>
<tr>
<td>Pair 3 Grading</td>
<td>-.619</td>
<td>1.161</td>
<td>.253</td>
<td>-1.147</td>
<td>-.091</td>
</tr>
<tr>
<td>Pair 4 Testing</td>
<td>-.238</td>
<td>1.300</td>
<td>.284</td>
<td>-.830</td>
<td>.354</td>
</tr>
<tr>
<td>Pair 5 Motivation</td>
<td>-.048</td>
<td>1.431</td>
<td>.312</td>
<td>-.699</td>
<td>.604</td>
</tr>
<tr>
<td>Pair 6 Curriculum</td>
<td>-.476</td>
<td>1.632</td>
<td>.356</td>
<td>-1.219</td>
<td>.266</td>
</tr>
<tr>
<td>Pair 7 Exceptionalities</td>
<td>.048</td>
<td>1.564</td>
<td>.341</td>
<td>-.665</td>
<td>.760</td>
</tr>
<tr>
<td>Pair 8 Assessment</td>
<td>-.048</td>
<td>1.284</td>
<td>.280</td>
<td>-.632</td>
<td>.537</td>
</tr>
<tr>
<td>Pair 9 Planning</td>
<td>-.381</td>
<td>1.499</td>
<td>.327</td>
<td>-1.063</td>
<td>.301</td>
</tr>
<tr>
<td>Pair 10 Resources</td>
<td>-.190</td>
<td>1.470</td>
<td>.321</td>
<td>-.860</td>
<td>.479</td>
</tr>
<tr>
<td>Pair 11 Admin. Support</td>
<td>.714</td>
<td>1.419</td>
<td>.310</td>
<td>.068</td>
<td>1.360</td>
</tr>
<tr>
<td>Pair 12 Mentor Support</td>
<td>.000</td>
<td>1.449</td>
<td>.316</td>
<td>-.660</td>
<td>.660</td>
</tr>
<tr>
<td>Pair 13 Student Relations</td>
<td>-.714</td>
<td>1.347</td>
<td>.294</td>
<td>-1.327</td>
<td>-.101</td>
</tr>
<tr>
<td>Pair 14 Colleagues</td>
<td>-.619</td>
<td>1.465</td>
<td>.320</td>
<td>-1.286</td>
<td>.048</td>
</tr>
<tr>
<td>Pair 15 St. Social Dev.</td>
<td>-.190</td>
<td>1.569</td>
<td>.342</td>
<td>-.905</td>
<td>.524</td>
</tr>
<tr>
<td>Pair 16 Parents</td>
<td>-.571</td>
<td>1.287</td>
<td>.281</td>
<td>-1.157</td>
<td>.015</td>
</tr>
</tbody>
</table>

*Note.* * = significance level of $(p) < .05$

The findings indicate that over the course of one semester, there was a statistically significant decrease (significance level of $p < 0.05$) in the level of perceived needs/concern related to the grading process (Q3) and developing relationships with students (Q13).

Conversely, there were two components that showed some increase in levels of needs/concerns. There was a slight, statistically insignificant increase in perceived concern for exceptional children (Q7) and a statistically significant increase in perceived concern for administrative support (Q11). A decrease in levels of concern over the course
of the semester (Q3, Q13), indicate that some induction year teachers’ needs/concerns do indeed decrease leading to a rejection of the null hypothesis for research Question Three that asked if the perceived needs/concerns of induction year teachers decrease as their induction year progresses due to the support of the induction year program. Figure 4 below reflects the mean scores from Table 7.

![Figure 4: Paired t-test mean scores.](image)

Qualitative Results

As stated above, in order to establish credibility when answering research Questions One and Two, the data was triangulated using both quantitative data and qualitative data from multiple sources. The qualitative data was collected from individual interviews with team coaches from each of the six districts and focus group interviews with the induction year teachers on each district team. This section focuses on the themes
that emerged from interviews with the two separate groups. Figure 2 in the methods chapter provides a visual of the themes from the coaches’ interviews. The identified themes were:

- the team meeting and its components
- the county-wide collaborative
- the mentor component
- the state mandated orientation
- other observation opportunities

In the first theme, the team meeting and its components, the topics related to ideas associated with the required monthly team meetings. Specifically, the coaches liked that meetings were formally structured but provided enough flexibility to allow them to cater to the specific needs of their individual teams. The coaches are responsible for planning and facilitating these required meetings and all seven of the teams meet once a month for three hours. One of the code families within this category was the importance of flexibility when planning the activities and content of the meetings. The induction year handbook provides a recommended structure for the meetings, but many found the flexibility to meet the needs of the individual team members very important.

Coach 1: Like I said putting the timeline together, that was a request that they [the induction year teachers] had. When I’m looking at concerns about gaps, it’s okay how we can meet everybody’s needs here. Going over things with Praxis. Again, it’s ok because it is a need for everybody in the group.
Coach 5: I like the flexibility to meet and discuss the needs of the group because a lot of times something will come up and you have to allow serendipity to take over and be able to spend some time and hash over some things that you know need to be discussed at that time. I like having that flexibility rather than you know just kind of scripting everything out all the way.

Coach 7: I’m a real big believer in community building and so, you know, I definitely add my own flavor into the beginning of our program. Our situation’s a little different. I typically only have, well we’ve had as small as one person and we’ve had as many as maybe four or five people, but we have a small group. It can be a positive and it can be a negative because when you have just one person you don’t have those other people to bring things up for the one person, but yes, I feel like I do cover everything that’s supposed to be covered but we are able to be a bit more flexible with it.

Other topics within this theme the coaches felt contributed to the success of the overall program were bringing in additional resource people, professional development opportunities, and the use of the protocols – specifically the consultancy protocol and the required portfolio.

Coaches felt some things made their job more difficult. Difficulties included developing programming for teachers who are the only teachers who teach their subject or course (singleton), the limited amount of time to get everything covered that is expected by the program, and disagreement about the need for separate teams for elementary and secondary teachers.
Coach 7: Absolutely I would do it differently. Um, in working with the early childhood and preschool programs that I do, it definitely would be a different delivery system if I had, you know K-12, no question. I think it would depend on how many people there were.

Coach 4: Our district always has two teams – the secondary and the elementary, which I think is important if at all possible because the needs of the secondary are so different than the needs of the elementary. I think that in our district anyway, we found that that can take away from what you’re there for because they get so hung up on, “Well I don’t have to deal with that or that’s not my issue” … you know what I mean? So I think one thing is always having two separate teams and we have enough people that we can always do that.

Coach 5: I’ve had kind of an even mix between middle school and high school or maybe mostly high school. So I adapt some of the discussion and try to make sure you know we’re talking about things that would be issues at both levels when we are bringing things up.

Coach 5: The one year I did teach both an elementary and secondary team and what we did there was to actually kind of split the meeting up. We started the secondary meeting early and covered secondary issues at the beginning of the meeting, then we did our food and conversation, housekeeping kinds of things for the entire group in the middle. Then we allowed the secondary people to do their M&M [mentor-mentee/induction year teacher dyad meeting] time at that point.
and went ahead and worked with the elementary team members for the rest of the evening. That seemed to work out pretty well.

*Coach 6:* But my teachers, the feedback that I have gotten from them, I do surveys at the end of the year every year, and so the feedback that I have gotten is that they actually really enjoy being together. And, again, I think it’s that opportunity for us to hear what’s going on. So they just, high school teachers and junior high, they’re amazed sometimes to hear the stories about these kindergarteners and first graders and what all has to be done. So I’ve found having them together is helpful and I think the teachers learn from each other in that regard. But I can see that if your numbers were too big you may have to have two groups.

There was consensus that the programming needed to be suited to the different grade levels but, if done correctly, the work didn’t have to be done in separate teams. However, it was also stated that if they were unable to provide separate teams, the work load on the coach significantly increases.

The second major theme, *the county-wide collaborative,* included comments about the support offered to the individual districts by the county-wide collaborative. It was clear from the data that all coaches valued being a part of the collaborative. Several strengths the coaches attribute to the collaborative are the up-to-date information and information regarding the mandates coming form the State Department of Education, as well as the support available from other coaches within the collaborative.
Coach 6: Okay, um, one of the biggest strengths of our program is, I think, you can come in as a person not having been involved with this before and feel like you have the support system there and that you know you’re going to be going in the right direction with your teachers. And I think we keep up to date with all the current things coming up with entry year [induction year]; you know all of the changes that are facing us right now with the entry year [induction year] program.

Coach 4: I think we know that we’ve covered every single thing that we’re supposed to cover because of our collaborative, yeah, because of the structure.

Coach 3: Honestly, I can’t think of too much that I would add. And really I think there’s been a lot of work done to streamline this, you know, pretty well. I know in comparison with other places we are so much more organized and you know, on task.

Another strength mentioned by the coaches is the program’s overall curriculum.

Coach 1: Well, I think one of those strengths is what I would just refer to as curriculum, the fact that there is a guideline. There are things that mentors and entry year [induction year] people are expected to do, things that have to be done over certain parts of the year. They have forms and the guide sheets and so forth. Um, it’s spelled out. And the fact that things are spelled out and they’re logical and they’re chronological, I think those are real strengths.

Coach 1: It’s also a strength the way the program is set up and how we try to make use of the various talents and skills people have. We’ve done that from the
beginning. Who is good at doing this and get them to do it. So I think that’s a plus. And it’s just been an organized well-planned program.

Finally, the collaborative is seen as providing a level of accountability for all six districts to strive to meet.

Coach 4: I think that having that overall collaborative has also risen up [increased the standards of performance in] some districts.

The third major theme, the mentor component, focused on the mentoring process. According to the induction year handbook, each district is to do everything in their power to match induction year teachers with same subject and grade mentors. In reality, the coaches describe situations where this is not always within their power and when an appropriate match is not made, they see the drawbacks as significant.

On the positive side of the issue, coaches depend on mentors to facilitate a plethora of activities because the three hour monthly meeting cannot possibly manage to support all of the induction year teachers’ needs/concerns. The induction year handbook provides a mentor checklist to help mentor teachers remember to cover specific areas of need/expertise. Procedures and processes that are unique to the district or building come under this purview.

Coach 4: I rely on the mentor to deliver personalized, you know, what’s specific to their area, their grade level, their, you know, whatever. Because I don’t want to use group time to specifically talk about things that don’t apply to the rest of the group.
According to the coaches, the relationship between the mentor and the induction year teacher is also critical to the process and overall program success.

*Coach 2:* And just, you know, let them know that there are people that they can discuss some problems and issues with and be able to get some help to find some resolution for that.

A negative associated with the matching of mentors and induction year teachers seems to be the selection process itself. Often times, districts do not have teachers trained in the process of mentoring in all subject areas and grade levels from which to choose, to better facilitate an appropriate match for every induction year teacher. The state requires that at a minimum, mentors must have been through the two-day Pathwise training to provide them with needed mentoring skills.

*Coach 6:* The only thing, and you know I think it’s something that we could talk about, when we ask for mentors, and I know there have been other things to try to address this in the past, teachers may offer to be a mentor for a variety of reasons, whether it’s the stipend or whatever the reason may be, but sometimes the people that you would really like to mentor or people that you think would be a very effective person to mentor are not mentors. Just because you are a good teacher doesn’t mean you would be a good mentor as well.

*Coach 6:* Sometimes those are not the teachers that would actually have the most scientifically-based research practices being utilized in their classroom, but they have the Pathwise training, so there is a little trade off there. And so mentor training I could see could be a very big benefit, beneficial to the program.
Coach 3: I think that can be a great thing or it can be a bit hard if you don’t get a good match. And we’ve had a couple of times when that’s been a problem. But really overall, we’ve come up usually with somebody’s that pretty workable together. We try to get, of course, you know subject area people but we’re really having trouble finding mentors right now cause nobody’s certified.

Coach 6: One problem that we’ve had is not having someone at each grade level. But it’s very important; we always have somewhat of a difficulty when someone is mentoring someone that’s not at their grade level. We have grade level meetings and there’s a lot of collaboration at grade level; so when that person is not there, there’s a lot of information they’re not privy to, or things that would be helpful to them if they were at grade level. But then again, this year we had three new first grade teachers, so even if you have one [trained mentor], you may not have enough. For instance, if I am a second grade teacher and I’m new but my mentor is a fifth grade teacher, then that fifth grade teacher won’t always know what’s really relevant to me as a second grade teacher.

Finally, there was some concern over how quickly the dyads are able to begin their work together. The labor contracts for the six districts are significantly different, but there was consensus that the sooner the mentor begins her/his work with the induction year teacher, the better the beginning of the school year will go.

The focal point of the fourth major theme, the state mandated orientation, was preparation for the beginning of the year. Comments from the coaches referred to both the state-mandated county-wide orientation and each district’s individual induction year
orientation. The state-mandated orientation requires that all districts have a state representative come to one of the first required meetings for the induction year teachers to present information about the Praxis III on-site assessment that is required for continued licensure.

State-mandated orientation. Comments regarding the state-mandated orientation were all negative in nature and conveyed a feeling of frustration and concern about overwhelming the induction year teachers with information they were unprepared to understand and absorb.

Coach 3: Well, probably the first one is that we probably don’t need to spend so much time having you know, someone come [from the state] and present at the very first meeting. That information is so, our teachers are thrown into this the very first, their very first meeting, their very first year they’re teaching and they’re thrown into this meeting and they have this presentation by the state person and it’s totally meaningless to them and overwhelming. There isn’t any interaction between the state person and the teachers and they hardly even know what questions to ask at that point anyways.

Coach 7: So, I definitely think that [the first state-mandated meeting] could be reworked and changed and I’m not exactly sure how, I mean they need to have that information but I think it could be done differently and would be more valuable to the teachers if it could be chunked. Chunking is absolutely right cause they need to know that information and the way it is presented, they don’t know that information.
Coach 4: They don’t walk away [from the first state-mandated meeting] with the information but yet they need the information. So absolutely, I think we could do a better job, much better job and give it to them at the appropriate times. And, yeah, cause that meaning even to my teachers, you know, they come back and it doesn’t, it’s fairly meaningless to them and they don’t have the time for meaningless things. Neither do we.

Coach 2: Well, I don’t know if they absorb much on that first meeting. I think there’s stuff thrown at them at that meeting that they’re either not ready for, you know. I know they’re getting an overview, but they kind of get that again in group meetings. And I’m thinking maybe that time might be spent a little differently than having someone go over it there cause, honestly, I look around and people are not paying attention.

Individual district-wide orientations. When commenting on individual district orientations, the coaches again perceived the orientations to be lacking, however, they did provide suggestions that would enhance the experience for both the mentors and the induction year teachers. Identified problems included disjointed delivery – persons leading the orientation did not always include the induction year coaches or mentors in the orientation, a lack of concrete specific topics the mentor should cover with the induction year teacher regarding strategies to help with beginning a new year – that could lead to the mentor or coach making assumptions about the competence of the induction year teachers, and finally, a lackadaisical effort on the part of the coaches to provide in-service to the mentors for how to access and utilize the program’s handbook.
Coach 2: And it might be good for us to be there for that initial meeting [district orientation] that they have with the curriculum director before the actual in-service that we go to and they can even talk about the procedures and stuff like that cause these are things that really will keep you up at night if you don’t know what to do the next day.

Coach 6: Well I think, you know, maybe trying to get the [district] orientation for the new teachers, of course again the issue is how late they get hired in the year; but as much as practical, try to initiate uniting the mentors and mentees [induction year teachers], you know early before the school years starts. Start getting them talking a little earlier so that they feel a little bit more comfortable by the beginning of the school year. The other there would be to try, as much as possible, to like, you know, get the induction year teacher orientation for the collaborative a little earlier.

Coach 5: And maybe where we already have lists of suggested things for the mentor to go over with the induction year teacher in our existing handbook that maybe we need to emphasize early on maybe when mentors are hired, you know, to go to this section of the handbook online or even have the coordinator print out and make sure, you know, that they’re accomplishing a lot of those objectives with their mentees [induction year teachers] early on even before school starts. Unfortunately, you know, a lot of people are even still on vacation up until, you know, the week before school starts.
The fifth and final theme that emerged from the data from the team coaches contained two distinct code families: the required mock Praxis observations and the required master teacher observations. These two code families were categorized under the theme of other observations opportunities. This theme appears to be the one with the greatest significance due to the amount of data coded under this theme.

Mock Praxis observations. The program requires each induction year teacher to go through two separate mock Praxis III on-site assessments requiring the induction year teacher and the “assessor” to model as closely as possible, the real on-site assessment that occurs in the spring of the induction year and is required for the next level of licensure. These practice observations are designed to ensure the induction year teacher is prepared and feels confident and competent when facing such a high-stakes assessment. The assessor for these practice observations can either be the team coach, the mentor, or both, if the induction year teacher wants different assessors for the two mock Praxis assessments.

Coach 3: Well, I think the success we’ve had with getting the students [induction year teachers] to pass their Praxis has been, you know, proof that, you know, we have a strong program. I probably think the mock Praxis evaluations is [sic] the most important component. I mean the other things are not unimportant, but I think for the assessor, when I learned to do the assessments this way, it was the greatest thing because it helps me when I have a student teacher and when I have observers because to take yourself personally out of it and just write observations,
it just takes all of the power trip out of it and you’re just commenting on what you’re seeing.

Coach 2: I think the mock Praxis assessments are extremely important. I think they feel so much more secure by February after they have done a couple of these than if they didn’t ever do that. I’m afraid we’d lose some just on nerves!

Coach 7: So, I think the Pathwise Training is critical even if they have had classes and they do understand the process. I think it is critical that they do the Pathwise Training and then from there we take it from where they are at. You know some look at you like deer in the headlights look. They have no idea what they’re in for. But others have a little bit of information. So I think the information we give them and the mock Praxis that we do with our mentors is invaluable because they actually go through the paperwork, go through the process.

Coach 6: For the mock Praxis assessment we have others come in and observe; another mentor that is not their own. Sometimes it could be me, if numbers play it that way or time constraints. We found that mentors and induction year teachers form such a close relationship that sometimes it’s easy to say, well it wasn’t there but I know they will when the day comes, or those sort of things. So this new person, them not being used to, it just sort of holds them a little more accountable and it truly is more like the real deal. So they’ve found that very, very helpful.

Master teacher observations. The second subcategory within this theme focused on the requirement that induction year teachers observe their mentor teacher in their own classrooms as well as choosing three to five additional master teachers to observe in order
to be exposed to multiple ways of managing a classroom and multiple teaching methods and strategies.

*Coach 4*: I think the observations every month, I think that’s another key component because you know between the mock Praxis and the regular reflective coaching um, I mean that doesn’t happen during our meetings, but it is another critical component.

*Coach 6*: One thing that we have done here is, I think, we’ve been very fortunate to have release time with subs for teachers to do observations of their induction year teachers and for their induction year teachers to have release time to go and visit other classrooms other than just their mentors which is valuable for them. I think that’s something maybe that we’re able to do that other districts may not be able to do that I find very, very helpful.

Indeed, it appeared that not all coaches felt confident this requirement was actually being met.

*Coach 1*: I don’t know if it would be an addition as much as I’d like to be sure it is going on. It’s the getting out and seeing the master teachers or gifted teachers. I’m not sure people are seeing the value of that early enough. Getting somebody to cover a class is harder than it used to be. Is that maybe inhibiting someone from getting out to observe?

In conclusion, data from individual interviews with team coaches revealed five distinct themes. Although these themes were identified as strengths of the induction year program, the coaches also identified corresponding areas for improvement in order to
better serve their induction year teachers. Finally, the coaches expressed interest in a
different option regarding the state-mandated orientation meeting.

Induction Year Teacher Focus Group Interviews

Seven teams of induction year teachers from six different districts were
interviewed to determine their perceptions of the strengths and weaknesses of the
induction year program offered during their first year in the classroom. One team
included several mentees in addition to the induction year teachers. Three of the eight
team coaches chose to stay during the interview; however, the researcher did not perceive
any hesitancy on the part of the induction year teachers to participate that would warrant
asking the coaches to excuse themselves.

Each focus group interview took approximately 45 minutes and all seven were
audio-taped to make sure all comments and information were captured for transcription
and analysis. All team members appeared to be relaxed and open to responding to the
questions. Often, members of the team would clarify for each other or add to other
members’ comments throughout the interview. The identified themes were:

- the mentoring component
- the orientation process
- curriculum help
- additional observations
- team meeting components

The theme entitled *the mentoring component* had the greatest number of coded
comments. Both positive and negative aspects of the mentoring process were described
by the participating induction year teachers and mentees. This theme was comprised of
four subcategories or code families. These code families were the plight of the singleton
(a teacher who is the only one teaching this subject and the only one in the specific
building), mentor match, structured mentors, and other help.

**The plight of the singleton.** When addressing the plight of the singleton one of the
issues that arose was a lack of help in the induction year teacher’s specific licensure area
(i.e., music, French, reading at the secondary level, deaf education, and educational
technology).

*French Teacher:* I seem to have a similar problem but mine’s more personalized
because I am the only French teacher and there is only one other Spanish teacher
who is not a mentor. So, there’s really, I can’t have a mentor that’s in a foreign
language or even if it’s not my foreign language. So that’s really, really
challenging. And I wish if there were something to do maybe there could be some
way to correspond with somebody that has taken Praxis III and gone through that
to help me out because this seems not relevant to me at all so it’s really confusing
and really frustrating.

*Reading Teacher:* I think in my field, I would have to go out and see another
teacher teaching the same thing that I’m doing. And I don’t think I can really do
that as well. I can see the teaching side of things in another subject, but I would
like to see the same subject and I really can’t do that here.

*Technology Teacher:* I want to try to go out and try to get other opinions from
other vocational teachers because I think that’s more important. I have a list of all
the schools here and their phone numbers. I just have to kind of find out which
program I would like to go see, which ones are going to be more beneficial. And I
don’t know how to do that. I don’t want to say, “Hey! Is your program good?
Would you want me to come watch?” So that’s where I’m at now.

*Family Consumer Science Teacher:* Yeah, I agree there. I feel like my students
are changing in a week, well the end of next week. So my students I have right
now they’re about to be finished with me. And um, I feel like they’ve been my
poor little guinea pigs because I feel the same way. I feel some of the stuff I went
too in-depth and some stuff, you know, was too broad. And I just, I’ve struggled
there to find that balance, that happy medium and it can’t be the mentor because
my mentor doesn’t teach what I teach.

*Deaf Education Teacher:* Yeah, I’m such a rare specialty field so I suppose if I
had like a huge crisis I would go to a professor from grad school or somebody
actually would be in the state but somebody who has dealt with situations like that
cause there’s really no one around here that I could do that with.

Another issue dealt with the degree of help needed. For instance, an assistant band
director was being mentored by an elementary music teacher who has experience with
music but not the fundamentals of instrumental instruction and marching.

*Band Teacher:* I would say for me specifically would be meeting with a teacher
that does identically what I do. I mean my mentor’s great but she is more a
general music teacher who deals with K-6 so she can help me with at least half of
my job. But there’s also the part where I’m an assistant band director and I’m the only one in that position.

*Mentor match.* The next code family included all responses dealing with the mentor matching process. Both negative and positive comments were made regarding the current mentors and how they were matched with the induction year teachers. Some teachers appreciated that their mentors were same grade or same subject. However, this happened only on one team in a district with the largest cadre of trained mentors.

The majority of comments reflected the frustration of having a mentor that was not on their grade level or in their subject area. A few teachers mentioned they clearly felt they were a burden to their mentors and their mentors were participating grudgingly. Still others were grateful for having a mentor regardless of their teaching assignment for more general help.

*Elementary Teacher:* I think, like I built a really strong rapport with my mentor and it’s really helped knowing that I could just go ask any questions like – hey, how can I do this? How should I do this?

*Middle School Teacher:* I would agree with other people with being able to bounce ideas off of somebody else and just having your mentor there knowing that you can go to them any time you need them. Very helpful.

*Preschool Teacher:* I mean I know our mentor’s getting paid, but is there a lot of like, I feel like they need so much like gratitude like because I’m so grateful for them.
Elementary Teacher: I go straight to my mentor whenever I have a break or, she’s a wonderful mentor so she’s here before and after school so I just find time to be with her.

Middle School Teacher: I think that I see as the biggest strength is just having that person there that any time you have a question sometimes I feel bad about bugging different teachers, but having a person there who, ok I’m allowed to bug this person and it’s ok to bug this person. And so for me that’s what been helpful.

Elementary Teacher: Um, I would definitely go with the mentor being the biggest key component of the program.

The following comments speak to the issue of mismatched dyads.

Elementary Teacher: I think my mentor not only is one grade younger, but she is one grade level teaching younger. She is also special ed so there is really not a lot of connections between our two classrooms. I think that it’s very beneficial for the overall questions as far as the administration and what we need to do in the beginning of the year to get our classrooms ready and parent-teacher conferences. I just feel very lucky that the team that I’m on is very open.

Elementary Teacher: For me it would’ve been helpful if my mentor could’ve been from the same grade level that I’m from. My mentor’s great but she doesn’t do the same things my team does. And I felt my team was very busy at the beginning of the year. All teachers are busy. So I felt kind of lost at the very beginning just because I didn’t know exactly what my team players were doing.
Elementary Teacher: We experience having our mentors in a lower grade, which I think we’re still kind of struggling with. I mean luckily, you know, our first grade team is really strong. But it’s still, I don’t know. Hearing about other people’s experience and the mentors in the same grade seems to go a little bit smoother. Elementary Teacher: Things are just a little bit easier and it’s easier to relate. Cause it’s not like I don’t care what they did in kindergarten but it’s kind of like I kind of need to know more about what I’m doing now, what I have to do tomorrow and all these things. 

Middle School Teacher: That is my exact concern too! Like, well, my mentor’s third grade and I’m fifth. So often there she has awesome ideas and suggests there are things to try which works really well at third, but things are just different and I’m doing very different things and it would be really nice, and I understand that if, you know, people aren’t willing to do it or if, you know that we can’t just wish mentors at grade level, but at the same time it’s just terribly disappointing that, you know, you come into it and here are the other fifth grade teachers and some of them, you know, have been here for almost 30 years and I think they’ve got really cool ideas but my mentor is way down the hallway and I can’t just bop in and sometimes I feel like there’s so much going on within fifth grade that I would love to just have that fifth grade mentor who I feel like I could ask questions to because they are getting paid to do it instead of asking someone, hey! Could you stay after school for a half hour? And not feel like I shouldn’t ask.
High School Teacher: Like he said, sometimes you’re paired up with somebody that doesn’t do exactly what you do. And if sometimes I need help like I wish there was a curriculum map a little bit more that helped me to kind of schedule out my year.

Elementary Teacher: I had the opportunity of getting a mentor at my grade level but it’s her first year in this grade. So it would have been better to have somebody that had been there cause my questions are answered with “well I didn’t do that yet this year either so we’re going to find out together”.

High School Teacher: Um, I think I just make a stronger connection with another teacher in the building and I usually go to her first just because I feel more comfortable and she’s also taught what I’m teaching whereas my mentor hasn’t.

The following are comments relating to reluctant mentors.

Elementary Teacher: I really think that however the mentors are being chosen might not be the best way. Um, I think the mentor really needs to want to do it. Sometimes I feel like I’m more of a burden and not a priority. That’s just hard. So I think that the choosing of the mentors might need to be reworked.

Intervention Teacher: I was given a mentor, not in my specialty area, about to retire and had no clue at all how to relate to my situation. And you know, she would come and evaluate me and say “you know way more what you are doing than I ever will” and say things like that – not constructive at all.

Structured mentors. Another pattern that emerged in this code family was the idea that although many induction year teachers felt supported by their mentors, there was a
pervasive feeling that the mentors expected the induction year teachers to come to them with any questions, while the induction year teachers oftentimes felt formulating questions was beyond their abilities. This was followed with the idea that it would be beneficial if there was more structure to the relationship.

*High School Teacher:* I think this is one situation where I would’ve preferred somebody to come in and pretend like I knew nothing. You know, it’s like I like to know stuff, but I’d rather somebody come in, think I knew nothing and go over everything with me. You know I’ve went into several meetings and known, I don’t know what the abbreviations they’re using, I don’t know what tests they’re talking about, I don’t know what results they’re talking about or how I’m supposed to get any of this stuff. I just felt very unprepared for many of my meetings just not knowing any of that lingo, I think, is, what it is, and not learning that in college didn’t help either.

*Elementary Teacher:* I think just some kind of, before the school year starts, a formalized meeting with, you know, all of the procedural stuff and you know I’m, maybe I’m a weird meeting person, but if you have a set time every week that you can at least collaborate for half an hour or something and not that you have to always live by that but at least check in and make sure that you’re breathing.

*Junior High Teacher:* It’s like you have so much going on and sometimes you don’t know the questions that you need to ask. And I’m kind of going through a transition with a new mentor now and I’ve only had her for a couple of days and she’s been absolutely fabulous. But yeah, sometimes I don’t know what to ask.
Elementary Teacher: It’s almost like you could come up with like a checklist that the mentor could say, okay on week three I need to check these, to check and make sure this person knows how to do these five things or something like that.

Elementary Teacher: Yeah, and we are all so busy it’s easy to push things aside and say “Oh, you know, let’s talk about this ten minutes from now”, you know what I mean? It’s so easy to not have a meaningful meeting I think, like with your mentor, that if that part was formalized for me it would be very helpful because I think having it be so flexible; it’s easy to push it under the rug.

Middle School Teacher: I agree with that. I think sometimes it’s easy to skip meetings or whatever, you know, really to me but if there’s something specific that we had to sit down and talk about I think that would be more beneficial.

Junior High Teacher: It’s just like, you know, there’s a lot of things that you think about throughout the day but then like at the end of the day, do you really remember it all? And so it’d just be really nice to have that person that’s like, ok, so what about this or that?

Elementary Teacher: Well I was just going to add on what she said about meeting weekly cause it’s what, how many weeks in the school year, and my mentor and I just sat down and said we should start meeting weekly. You know I think it is important for the mentor and induction year teacher or mentee to find time even if it’s just 10 minutes after school or something at least once a week.

A small subgroup spoke to the different needs of the mentees (experienced teachers with less than five years in their current teaching assignment). As stated earlier,
one district requires mentees to participate in the induction year program and they perceived a lack of sensitivity to what the dyad relationship should look like in these cases.

*Preschool Teacher:* Just one big catch-all makes no sense to me. I mean while it’s helpful to talk about what’s going on or, you know, ideas, or only when needed.

*Elementary Teacher:* Yeah. Because for those of us that maybe have years of experience… but then I honestly do feel that her and my time will be better spent. But as a first year teacher, then maybe I would’ve felt differently.

The last code family involved what the induction year teachers do if their mentor cannot answer their questions or if the relationship between the dyad is not particularly strong. The preponderance of statements in this code family indicated that the induction year teacher would go to other teachers in the building, hallway, or grade level team. Some teachers mentioned college professors, professional organization contacts, and family they used for support and/or to get answers to their questions.

The second major theme identified by the induction year teachers revolved around the beginning of the year orientation process. Many comments targeted a perceived lack of support at the start of a new school year. A lack of knowledge regarding district and building policies and practices was the greatest area of concern. Issues regarding copy machine use, ordering and inventorying new materials, emergency procedures, taking attendance and collecting lunch money were key areas generating the most comments.

A second issue that emerged was the need for an introduction to the rest of the faculty and staff. Many felt an increase in administrator participation in the induction
year program was needed and viewed the orientation as a good place for building principals to become more involved. Many induction year teachers also felt the orientation for induction year teachers and mentors needed to happen as early as possible.

_Elémentary Teacher:_ I agree with most of the first year teachers. I don’t know what questions to ask until something comes about that I don’t know what to do and then it’s, oh well, maybe I should have known this already and I didn’t. I feel that way a lot in testing situations.

_Middle School Teacher:_ Is it possible for, I’m not sure like what the chain of command is, but is it possible for you to mandate districts to have a first year orientation or something like that?

_Elémentary Teacher:_ I had no experience at setting up a classroom so I didn’t know where I was supposed to put things, where would be the best place to have this, is this safe? What do I need? And then also all this stuff I had to figure out what to do with it and nobody was there.

_Elémentary Teacher:_ As far as behavior management in the classroom, it would have been nice to go over, maybe, how other people do their behavior management plans. You know, being a first year teacher, you know going into my student teaching, the plan was already established by the classroom teacher and I was just facilitating it and so that was kind of my only idea as far as when setting up my plan. So I think it would’ve been nice to maybe have a longer discussion about other options.
Elementary Teacher: Everything like technical that I learned is because I’ve asked like five million questions. And I feel like such a both cause I’m always, like, in the office, how do I do this? What do I do for this? What do I do for this? And I just feel like it would’ve been really nice to just have a, and I was here over the summer and I feel like every day I was in the office.

Elementary Teacher: The important things especially because um, maybe it was common sense lacking in my brain to say but from day one, every time I would have an absence slip like an explanation of why a child was absent, I would just put it in their folder. And then all of a sudden the principal came and said you know this child has been absent four days and no excuse. And I was like; well I have all of the excuses here. I didn’t know I was supposed to initial them and send them to the office.

Multi-age Teacher: And maybe some way of getting new teachers that are here for their first year comfortable with the people around them outside of their own hallway. Maybe even outside of their own school. Whereas, you know, the big meeting that we went to, it was a bunch of first year people and I had to meet some of them; but I’m not meeting anybody that’s been here for 30 years or 25 years.

Multi-age Teacher: I think it would’ve been a benefit because I feel kind of uncomfortable walking down to or, you know, I look up a kid’s schedule and I see, okay, he has, you know, English this period and I need to talk to this English teacher about this person’s behavior. I think you’d feel more comfortable about
that if the school was more integrated or more if a first year teacher immediately went out and met everybody.

*High School Teacher:* I feel like I know the people in my hallway and I don’t know anybody else in the entire building.

*Elementary Teacher:* I also think that when we had the whole day of in-service, the day before school started, I would have really appreciated that maybe a couple days before school started because at the end of that day I had a list of so many things that I needed to do before my kids came in the morning and it was stuff that I really could have flip-flopped the orientation day to the teacher in-service, the work day so that I could have that meeting all day, have my list of things to do and then actually use my time during my work day to check off my list instead of the reversal.

*Junior High Teacher:* I know this is really hard because people are hired at such different times, but I was so ready right when I got hired to get started and figure out what I’m going to do. I had plenty of time but I did not have any information.

*Junior High Teacher:* Even just five days would’ve been beneficial I think because I was still, like the week before, I was still just kind of going through the stuff the previous teacher left and was kind of clueless about everything else.

*High School Teacher:* I would like more involvement with administration honestly because, again I feel like that’s removed and if I don’t have structured time to like actually meet with them or for them to hear our concerns then I’m missing like how to deal with administration and stuff.
Middle School Teacher: I agree with not making it even expected by the mentors because I think they throw too much on the mentors and they expect them, when it’s really the administration’s job to explain some of these things and not just put it all on the mentors to tell us that. Because I mean they have their plate full already with the Praxis stuff in particular. They shouldn’t have to tell us the rules and regulations.

Curricular help was the third major theme that emerged from the data. In this theme, teachers expressed a need for more help in this area, specifically with the scope and sequence of their content, to allow them to better plan for the school year.

Junior High Teacher: Looking at the year and thinking, well are there certain parts that I should be teaching in the first quarter? Like we did the math testing today; I’m going through and I’m looking at all the questions and I’m thinking, well, I haven’t taught that yet. And I’m wondering Oh, should I have gone over that already?

Junior High Teacher: Just basically like the whole year, you know, getting an idea of another teacher and see what they do. Just being organized and planning so that you’re not just throwing stuff out there in some kind of weird order.

High School Teacher: We have to have the expert there cause you don’t have the experience. Then I would have had a better idea of how fast I needed to be going those first two, three, four weeks. And say ok, like if I, when I redo it next year I’m not going to spend nearly as much time on the history of the revolution and all those things because I’m a government teacher not a history teacher. And I feel
like I’ve short changed the kids and I think that’s something a lot of first year teachers do because they don’t realize that scope and sequence thing.

The fourth major theme emerging from the induction year teacher data was additional observations. Coincidently, the induction year teachers, like the coaches, also saw two distinct code families within this larger one; the mock Praxis observations and the master teacher observations.

Mock Praxis Observations. Many of the induction year teachers participated in the two day Pathwise training that was offered in the county and compared its value with that of the practice Praxis observations.

High School Teacher: I like the hands-on like the Praxis practice; you know where we have the mentor in there that’s just like they would in a real situation. I learn best with hands-on. I don’t learn much at meetings like this to be honest with you.

High School Teacher: I personally think that the biggest strength is just the overall going through the Praxis, all the domains and really having to think about what you’re doing and why you’re doing it; and having the support from the team to try to figure all of that out together.

High School Teacher: I think everything about this program’s really beneficial. Like I mean I think I really like that where we stress a little bit on the actual Praxis III kind of observing and stuff like that cause right now I feel like I do well in the classroom but like when other people are in there like I get a little timid so I think it’s great that we get some experience with that.
Teacher: And the Pathwise training that we participated in was a humongous help—humongous help.

Elementary Teacher: I have a question about or really wonder why we do the Praxis is just like I know we go through all of this in the year practicing to get to this point, but it seems so scripted, so like a one-time thing, you know, so many people I’ve heard say like you can make it. So I’m kind of like “Well what’s the point in having it?”

Master Teacher Observations. The comments regarding master teacher observations were predominantly positive comments from the induction year teachers with the exception of one district’s teachers who had not been given the opportunity to complete observations of master teachers as recommended in the induction year program’s handbook.

Elementary Teacher: I thought observing, going around and observing different teachers and getting different ideas on all kinds of things, I thought that was really important and it’s a requirement like you said and that means you have a set time to do this; so that made it really comfortable.

Preschool Teacher: Being able to go visit other teachers and having these opportunities just to get ideas to see what works and what doesn’t kind of builds your own, what you want your classroom to look like.

High School Teacher: I don’t know if for the observations, if it’s going to have that teacher teaching under Praxis conditions, but if that teacher had to teach under Praxis conditions, I think that would be the most helpful.
High School Teacher: Yeah. I think it would be, you need more time to watch your mentor teach in the classroom just like they come to observe us. I think we need to observe them, cause we learn from them more so than them coming to us observing us and saying you can do this.

Elementary Teacher: But I think it would be useful to see other teachers and you don’t have the time.

The fifth and final major theme was, team meetings. The majority of the comments were positive regarding the scheduled meetings and their content. Within the team meetings, there are several components that coaches can utilize to address induction year teachers’ needs. Coaches can utilize different protocols they have been trained to facilitate (i.e., consultancy protocol). In using this protocol, induction year teachers are encouraged to bring a problem they have to share with the group. Through a facilitated process managed by the team coach, the group discusses the problem and offers the induction year teacher solutions that could be immediately applied. The consultancy protocol was considered a very important and valued part of the meetings. In addition, induction year teachers are required to produce a portfolio at the end of the program that has as its focus the four domains of the Praxis III on-site assessment; however, some dissention arose regarding the value of the portfolio.

High School teacher: So far I like the fact that there is scheduled meetings, and I’m going to expand on that later, the fact that there are sit-down meeting times. That’s kind of a forced chance for you to ask questions and get some sort of feedback.
High School Teacher: And meet new people as well, get other perspectives that might be different than my own to be valuable.

Multiage Music Teacher: Having structured time to work with another staff member because I find that during the day, as a first year teacher, I’m so busy with other things I don’t really have time to want to go meet in the teachers’ lounge or spend my time talking with teachers when I need to get work done. So it’s good for me to have like structured time that like you’re required to meet with other staff members or experienced teachers.

Assistant Band Director: So, I mean, you know these smaller meetings where you get to see people that are in your building and district and then like you know, I probably wouldn’t, you know, John and I probably never would’ve really talked had it not been for the fact that we were in this mentoring program together.

Elementary Teacher: Yeah, it’s nice to be not the only one, you know, who’s new and new at everything.

Middle School Teacher: But I would agree that I would rather have, you know, I guess, the majority of our time at our meetings to be focused on what’s relevant or what we feel is relevant. I feel like the biggest focus, and some of you may disagree, but I feel like the biggest focus is that day that the assessor’s coming in. I think I would rather, you know, have meetings and talk about what happened in the past month and what we could do differently, what might help us next year, what we could plan ahead for rather than everything leading up to this 45 minute
period where we’re going to be defined as a teacher and whether we, you know pass or fail.

The following comments speak to the importance of the consultancy protocol.

*Elementary Teacher:* Um, the biggest strength I see is all of the consultancies and just bouncing ideas off of each other about what has worked and what hasn’t worked. Just getting those, you know really good ideas from each other.

*Middle School Teacher:* I agree. I think the consultancies are really good and just meeting in these groups once a month it’s kind of helpful. We go over a lot of stuff and we talk about a lot that’s going on in our classrooms.

*Elementary Teacher:* I like the consultancy as well. I think it’s helpful cause you hear things that you’ve had a question to ask but you forget about it and then they bring it up and you’re like; I need to know the same thing. And that gets brought up a lot. So I like it.

The following comments speak to the induction year teachers’ feelings about the required portfolio.

*High School Teacher:* I would like a sample portfolio. I mean, we’re lucky that we have actually gone through this not very long ago but, for people that don’t have that, I wouldn’t know how to structure it very well cause my mentor, she never was actually through this herself.

*Elementary Teacher:* [Take out] the binder. I mean it helps to a point; it really puts things into perspective. It’s just a lot of work.
Elementary Teacher: And it just, it does seem like a lot of extra work that I don’t really see the value of it personally.

In conclusion, there was quite a bit of overlap between the strengths identified by the team coaches and those identified by induction year teachers. Identified strengths included the team meetings, the Praxis work, and other observations. Although there was some dissention regarding too much of a focus on Praxis from one of the focus groups, the majority of the comments were very positive regarding the programming in this area. All parties felt that the opportunities given to the induction year teachers to observe and be observed by others teachers was extremely valuable; however, one district was struggling with being able to fully offer this component to their induction year teachers and these teachers felt neglected in this area.

Summary

The team coaches found the county-wide collaborative to be a particular strength of the program, in particular the opportunities to meet together. The collaborative gathers regularly to plan county-wide meetings and to disseminate new information being generated at the state level. It is also important to mention that three of the coaches are currently, or were previously members of the collaborative governing board. However, given the minimal contact the induction year teachers have with the collaborative, and the fact that they are not responsible for any of the programming; it is not surprising they did not note this as a program strength.

Another similarity both groups shared is mixed feelings regarding the mentoring component. Both groups recognized the importance of the mentor to the induction year
teacher and also reported that when it was a good match, it was a very positive experience. The number of negative comments regarding the matches is where the groups were most similar. From the coaches’ viewpoint, the lack of available mentors overall was the biggest downside reported and was manifested in the induction year teachers’ comments regarding a lack of mentors at their grade level or subject area. In addition, the induction year teachers noted that some mentors appeared to have grudgingly accepted their role.

There were, however, some differences between the two groups regarding areas for improvement. Although coaches found the state-mandated orientation problematic, they did not report their own district orientation to be lacking, whereas the induction year teachers focused their concerns on the lack of a comprehensive district and building orientation. The induction year teachers noted curriculum support as an area of need, whereas the coaches had not planned anything specific to any one subject or grade level, expecting instead that the mentors would “personalize” the help they offered. According to the induction year handbook, there is no set expectation that there be any kind of curricular focus with the exception of The Praxis Domain work teams do as part of their team meetings. According to the literature, curriculum support should be a main thrust of any induction year program. Interestingly, the induction year teachers confirmed this as needed component, while the coaches paid little attention to curriculum support as a necessary focus.
CHAPTER FIVE: DISCUSSION

This chapter reviews the study’s purpose, design, research questions, and hypotheses. This study sought to answer four questions specific to the perceptions of the needs/concerns of induction year teachers. Data was collected using a mixed-method approach that included a pre/post survey, individual coach interviews, and focus group interviews with induction year teachers. Induction year teachers and coaches from six public school districts participated in this study. The six districts are part of a county-wide induction year collaborative. Thirty-four induction year teachers and mentees and eight team coaches were involved in the interviews and surveys. The research questions guiding this study were: 

**Question One:** What are the perceived needs/concerns of the induction year teacher? 

**Question Two:** Are the perceived needs/concerns of induction year teachers aligned with the components of effective induction year programs? 

**Question Three:** Do induction year teachers perceive differing needs/concerns based on grade level? 

**Question Four:** Do the perceived needs/concerns of induction year teachers decrease as their induction year progresses due to the support of the induction year program? The researcher, as an additional way to triangulate the data, completed a document analysis of the induction year program’s handbook that lays out the components of the program as well as the expectations of the mentors, entry year teachers, and the team meetings.

**What are Induction Year Teachers’ Needs/Concerns?**

When induction year teachers were asked what they perceived to be their needs/concerns, they were able to articulate where they felt supported and where they did
not. Their responses helped to answer Question One which asked: What are the perceived needs/concerns of the induction year teacher? When asked to identify strengths of the current induction year program, participants identified the required meetings, and the mentoring component. Their responses echoed the importance of having a structured formal induction year program as is supported in the literature (Andrews, Gilbert, & Martin, 2006; Meister & Melnick, 2005; Nielson, Barry, & Addison, 2006).

However, some participants revealed dissatisfaction with the mentor matching process, and a need for additional observations. Negative comments raised by both the coaches and the induction year teachers organized under the theme of the mentoring component were all related to mismatches between the mentor and induction year teacher and a lack of qualified, interested mentors. The literature speaks to a lack of logistical competence critical to a successful induction year program. Indeed, there is evidence that structured, comprehensive programming that is focused on the individual needs of the induction year teacher is not the norm (Barry, Barnett, Hopkins-Thompson & Hoke, 2002; Smith & Ingersoll, 2004).

Additionally, the induction year teachers identified the beginning of the year orientation and curriculum implementation as areas in need of improvement. The issue of the orientation consistently came up in all seven focus group meetings. Clearly, the response from the induction year teachers was much stronger than the literature suggests. One reason for this might be related to the small building sizes where mistakes are much more obvious and easier for administrators to respond to. A relationship might also exist between administrators personally responding to mistakes or problems and the increased
level of concern related to administrative support noted in the post survey data. In response to the heightened level of concern, induction year teachers recommended individual districts provide a specific orientation dealing with all required paperwork and procedures relevant to the daily administration of their classes, specific to their building and district. Participants also noted a lack of administrative presence in their induction year programming, leading to a sense that administrators are unaware, or do not understand how stressful and overwhelming the first year is for the induction year teacher.

When discussing the strengths of the program, team coaches also identified mentoring, team meetings, and additional observations as strengths of the induction year program. Mentoring, if done well, additional observations with structure, and reflection partnered with professional development are also supported in the literature as critical to the success of induction year teachers (Darling-Hammond, 2003; Johnson & Kardos, 2002; Katz, 1972; Nielson, Barrey, & Addison, 2006; Quinn & Andrews, 2004) However, it was clear in this study, the coaches’ believed it was the responsibility of the mentors to deal with areas of curriculum and orientation. This of course is further complicated when the induction year mentor matching is problematic.

The coaches also felt the county-wide collaborative was a strong component of the program which allows for sharing of resources critical to the success of the teachers taking the Praxis III on-site assessment. In addition, they felt that having the collaborative disseminate updated information from the state and region was particularly helpful.
Do Induction Year Teachers Know what They Need?

The second research question examined the perceived needs/concerns of induction year teachers and whether they accurately reflected the components of effective induction year programs as described in the literature. Both quantitative and qualitative data were used to answer to this question. The literature suggested it was necessary that induction year programs offer support in the following areas to assure a successful first year for their teachers: administrative paperwork, classroom management, student motivation, grading, testing and evaluation analysis, curriculum implementation, exceptional students, lesson planning, available resources, administrator support, and relationships with students, colleagues, parents and mentors (Moir & Gless, 2001; Kelley, 2004; Quinn & Andrews, 2004; Wong, 2004). The quantitative data was collected through a pre-post administration of a 17-question survey rating induction year teachers’ levels of need/concern for each of the topics mentioned above.

The first 16 items asked induction year teachers to rate their level of need/concern related to each of the components listed above. A seventeenth open-ended question allowed induction year teachers to identify any other area not mentioned in the survey they felt was a concern or a need for them. During both pre- and post-administrations, no additional areas were noted by the participants. Therefore, it can be concluded that there were no new needs/concerns identified by the participants that were not already noted in the literature; however, clearly there were some needs/concerns not being adequately addressed in the current programming. Another possibility may be that after only one semester, the induction year teachers were unaware what unanticipated needs might still
arise. The literature is clear that it takes an extended amount of time and thoughtful programming to help induction year teachers to become proficient, capable, and confident instructional leaders in the classroom (Chency, Krajewski, & Combs, 1992; Darling-Hammond, 2000; Darling-Hammond & Berry, 2006; Feiman-Nemser, 2003; Katz, 1972; Kyle, Moore, & Sanders, 1999; Wilkins & Clift, 2006). Following up with the induction year teachers after a complete school year may uncover additional areas of concerns not yet identified.

With regard to research Question Two, the qualitative data available from participants’ responses during interviews indicated coaches felt the program was inclusive of all key components which were aligned with those in the literature. They also indicated the built-in flexibility to design monthly meetings allowed them to individualize programming to incorporate the components and focus on the needs of each particular team. Other than a suggestion to require and offer more training for mentors, the coaches did not suggest any other components they felt were needed.

Coaches felt the mentors were able to individualize the dyad meetings to address the specific needs of their induction year teachers so the team meetings could be dedicated to issues that impacted all of the teachers (i.e., building procedures, student motivation, and classroom management). Unfortunately, this lends itself to making a lot of assumptions that this individualization is indeed happening and assumptions that all mentors are competent to do so. Wong, Britton and Ganser (2005) state that successful induction programs must be highly structured with an emphasis on professional development for all participants. In addition, they believe that collaboration of teachers is
a critical tenet of good programming. Mandel (2006) and Andrews and Quinn (2005) also emphasize the importance of mentor training that is comprehensive and ongoing.

The focus group interviews, made up of induction year teachers and mentees, confirmed the findings from the survey data suggesting the induction year teachers felt that programming was addressing the components in the literature, although not to the greatest extent possible. Although the induction year teachers did not identify any suggestions for improvement in response to question number 17, during the focus group meetings, it became clear that the teachers were satisfied with the program, with the exception of support in the areas of curricular implementation and administrative paperwork/policies and procedures. The comments regarding administrative paperwork were tied specifically to the beginning of the year orientation. Curriculum implementation and planning is identified in the literature as a significant concern and a concern that lasts for some time as it takes time and practice to master (Andrews & Quinn, 2005; Katz, 1972; Kyle, Moore, & Sanders, 1999; Massey, 2006; Rowley, 1999). Administrative paperwork is also identified as a concern for induction year teachers in the literature to a lesser degree (Andrews & Quinn, 2005; Massey, 2006).

Differing Needs

In responding to Question Three: *Do induction year teachers perceive differing needs/concerns based on grade level?* the data indicated a difference in needs/concerns based on grade level taught; thus leading to a rejection of the null hypothesis. The pre-survey data showed grade level groups differed significantly in their concerns related to student motivation, student relationships, and collegial relationships. Post-survey data
indicated a significant difference between groups in the area of administrative support, which was not an area that was statistically different in the pre-survey. One potential reason for this may be that after one semester, induction year teacher’s interactions with their principals would have increased.

The grade level teachers reporting the highest level of needs/concern were the multi-age teachers. These teachers are licensed to teach their content to all grade levels. One reason for the increased level of concern might be linked to teaching a level or grade of student they had no prior experience teaching. Another reason might be tied into the stress of being a singleton within their respective buildings.

Data from individual coach interviews were mixed with regard to whether or not different grade levels needed different programming. Philosophically, one school district believed this to be true and therefore had two separate teams. However, it must be noted this particular district is also the only one with enough induction year teachers to warrant two teams each year, all other districts had only enough induction year teachers to warrant one team. However, the secondary coach of the aforementioned district felt that having a combined team could be done well, just not easily.

The other district coaches felt there was evidence from the induction year teachers indicating they enjoyed and benefited from the diversity of grade levels and subjects taught by members of their teams. However, coaches also mentioned this year was unique and three of the seven team coaches identified difficulties they were having making the meetings relevant for all participants, with preschool and high school induction year teachers together on the same team. This seems to indicate that coaches do
indeed perceive a need for offering different programming for different levels of teachers. It should be noted that all coaches serving only one team mentioned they explicitly address grade level differences when facilitating meeting discussions and consultancies.

There were very few studies in the literature relating to programming needs by grade level and the few that were found were not in total agreement. While there is literature supporting programming based on “common experiences” across grade levels and subjects, there are other experts who claim specialized areas need programming to meet their unique responsibilities (Cheney, Krajewski, & Combs, 1992; Thorton, Peltier, & Medina, 2007).

Changes over Time

In responding to Question Four: *Do the perceived needs/concerns of induction year teachers decrease as their induction year progresses due to the support of the induction year program?* The pre-post survey data was analyzed using a matched *t*-test and indicated a statistically significant decrease in the level of perceived needs/concerns in three areas with a fourth area approaching statistical significance; thus leading to a rejection of the null hypothesis. The areas showing a statistically significant decrease included grading, administrative support, and student relationships. The fourth area approaching a statistically significant decrease in level of concern was interactions with parents. Decreases in levels of concern in these areas is not surprising when one considers the role of the mentor and the opportunities to discuss questions and concerns related to these issues in the context of the team meetings.
Conversely, as mentioned above, there was a statistically significant increase in the level of concern regarding administrative support. Some thoughts regarding possible reasons for this response were given above. Additionally, there was an increase in levels of concern regarding working with children with exceptionalities. Although it did not meet the level of significance of $p < .05$, it is noted here because it is the only other area of increased level of needs/concerns. This can be attributed to the mentors’ lack of working with, or having a level of expertise with students with exceptionalities. These findings may also be related to the post-survey being administered close to the end of the semester. At that point in time, the induction year teachers possessed tangible evidence demonstrating a lack of progress for some of their students, especially students with exceptionalities.

Overall, the data provided evidence that participation in the induction year program did indeed benefit the induction year teachers as indicated by a reduction in their level of concerns after one semester of participation. The findings that participation in an induction year program helps to alleviate induction year teacher’s needs/concerns is prominently supported in the literature (Andrews, Gilbert, & Martin, 2006; Andrews & Quinn, 2005; Beasley, Corbin, Feiman-Nemser, & Shank, 1996; Brock, & Grady, 1998; Darling-Hammond, 2003; Kaplan & Owings, 2004; Wilkins & Clift, 2006).

Conceptual Framework Revisited

As stated earlier, this study was analyzed through the lens of a conceptual framework that encapsulates the work of Vygotsky, Katz and Lave and Wenger. Vygotsky’s idea that apprenticeships are critical to the mastery of any skill coupled with
his tenet that everyone develops at different rates [Zone of Proximal Development] was further supported by the work of Katz, who took the idea of an induction year teacher’s rate of growth and developed four distinct stages of teacher development. In each stage, the mentor or specialist works along side of the induction year teacher, modeling for and observing the induction year teacher in a collaborative relationship to bring about growth and confidence. Lave and Wenger, also believe that having the opportunity to learn by watching and participating with experts increases the skill and knowledge of the beginning teacher.

This study clearly reflects the idea that an apprenticeship or being mentored by a more experienced teacher is valued by the induction year teacher. In addition, it came out in the data that the expectations and importance of the mentor was considerable. It should also be noted that the data showed that these induction year teachers do not believe that all teachers should be mentors. Indeed, they identified very specific needs to be met by their mentors and were negatively impacted when mismatches occurred. The viewpoint that mentors need specialized training is an understood tenet of all three theories.

There is also an expectation in the theories noted above, that there will be supports in place for the work of the mentors and induction year teachers. The data collected in this study noted both when the supports were in place and when they were missing. This was particularly important related to opportunities for the induction year teacher to be given time and coverage to observe their mentors and other master teachers. In addition, the induction year teachers and their mentors valued the team meetings that encouraged collaboration and problem solving. The importance of collaboration is
prominent in the work of Katz and Lave and Wenger and to a lesser degree that of Vygotsky.

Recommendations

An examination of one county’s induction year teacher programming with regard to necessary components identified in the literature, indicated it is important for the programming for the coming year to reflect an increased focus on the design of a strong orientation process that is broadly interpreted as well as specific to each building or district. In addition, involving building administrators in the program orientation might also strengthen induction year teachers’ feelings of support regarding the administrator’s role in the induction year program, without expecting a great deal of time from administrators during a time of the year when their schedules may have some flexibility.

One way administrators could be involved with the induction year teacher is to help design and facilitate the district or building orientation at the beginning of the school year. In this way, they will be reinforcing the idea that they know who the induction year teachers are and are available for questions regarding expectations or other issues the induction year teachers may have before the school year starts to overwhelm them. In addition, administrators can design on-going orientation sessions that will cover current critical issues so they are presented in a timely fashion rather than all presented at the beginning of the year. There is a possibility that if the teacher is not immediately engaged with or using certain concepts such as semester exams, grade cards and class parties, they might forget the policies related to them and put themselves in jeopardy of having to explain why they did not follow the correct procedures.
Another critical way administrators can show their support is by getting involved in ensuring teachers are provided release for observation opportunities. These additional opportunities for the induction year teachers to receive feedback on classroom observations in a non-evaluative manner and observe master teachers at work were highly valued by the induction year teachers. They can take a role in monitoring this process to make sure it is happening. Managing class coverage is clearly the role of the building administrator.

Finally, it is the principal that can make scheduling issues like common planning time happen. Having common planning time with their mentor or other teachers in their grade level or content area can be an incredible opportunity for collaboration and help in specific areas of concern.

Likewise, the data indicated a need for professional development related to curriculum mapping and long-term lesson planning with particular attention to teachers who are the only faculty in their building teaching a specific topic or subject (singleton). To assume that mentors are competently addressing this issue for the induction year teacher is problematic given the mismatch of mentors and induction year teachers, an area of concern and frustration that was raised by both coaches and induction year teachers.

Although help with curriculum implementation appeared to be an expectation of the mentors, districts might consider collaboratively designing a two or three day workshop for the induction year teachers and pool their resources to bring in a consultant. Districts might consider sharing internal expertise in the form of curriculum directors and
content experts as well as having team coaches work with small groups of teachers to offer help prior to the start of school. By pooling resources, districts can take advantage of not only money saving strategies, but opportunities to spotlight experts in their own district which could translate into more teachers being willing to mentor or offer other areas of expertise to the induction year teachers.

To address concerns of mentor and induction year teacher matches, the induction year collaborative should continue to provide mentor training and encourage master teachers to participate in the mentoring process. The building principal and district superintendent could also lend support for the increased commitment required by mentors.

The entry year collaborative in this study is in a unique situation with regards to sharing resources that may allow them to easily address the issue of grade level differences. Given the limited number of induction year teachers that many of the collaborative districts serve; which prohibits them from having district grade level teams, one solution might be to provide professional development for the coaches offering suggestions and strategies that will allow them to address the diversity within their teams.

Another suggestion, in keeping with the concept of flexible meetings would be to offer opportunities to integrate teams across districts based on the grade levels being served by the teams and share resources to assure effectiveness of the meetings.

Data indicating a decrease in levels of needs/concern, points to the fact that the collaborative has worked very hard to be responsive to the needs of its induction year teachers. However, there is clearly room for improvement. It should also be noted that the
time frame of this study was a limitation in that induction year teachers had only one semester rather than a full school year of participation in the induction year program. The researcher intends to administer a follow-up survey at the end of the year to get a more accurate view of participants’ impressions of whether or not the program addressed their needs/concerns. However, that information is not available at the time of this writing.

Although this study was administered within a small rural collaborative, because this study’s results have a strong tie to the literature, some strong points of interest should be considered. First, the program must be formalized and structured. This idea is borne out in the literature (Beasley, Corbin, & Feiman-Nemser, 1996; Brock & Grady, 1998; Cheney, Krajewski, & Combs, 1992; Darling-Hammond, 2003; Lyons & Oppler, 2004; Wong, 2004), and was also noted by the induction year teachers in this study during the focus group interviews. Other districts and collaboratives, regardless of their size, looking at initially designing or improving an induction year program should first consider the professional development needs of the mentors in this program. Professional development related to the planning and implementation of curriculum and instruction is critical; as is training for collaboration.

The second area all districts need to reflect upon is the matching process of mentors and induction year teachers. This is also important regardless of which type of mentor model is used. If a mentor release model is used, consideration regarding the scope of subject areas and grades represented by the cadre of mentors becomes critical. If the peer mentor model is used, a one-to-one match becomes even more important. A third area districts need to consider is a plan for the release of the induction year teacher and
mentors in a peer mentor model needs to be outlined formally in the program and supported by the administration. The fourth area related to the need to develop a tool or provide an opportunity for the induction year teachers to give reflective feedback about the programming they received for program review and renewal. This study showed induction year teachers can be a valuable resource in this regard. Finally, attention should be given to the array of grade levels represented each year. This is particularly important when matching induction year teachers with mentors.

For those small suburban districts or other rural districts, sharing resources with neighboring districts or engaging colleges of higher education in conversation about forming a collaborative could help alleviate some of the resource deficits. Numbers of induction year teachers, in these types of districts can fluctuate dramatically from year to year. The same can be true of grade levels and subject areas, so training the facilitators of the program in management of multiple grade levels and subject areas at one time would be strongly encouraged. In addition, the needs/concerns of “singleton” induction year teachers may be a particular issue for smaller districts as well as mentor matches. Again, one idea to help combat this issue could be sharing resources through the formation of a collaborative. Regardless of the type and size of the district, if there is minimal administrative support both financially and philosophically, program success could be diminished.

Recommendations for follow-up studies include the need to increase the number of participants and the length of time covered by the study, allowing the program more time. It is recommended that a mixed-methods research design be utilized to maximize
the amount and depth of data that can be gathered to increase credibility and validity of
the study. Face-to-face interviews are also recommended combined with the use of
surveys. In particular, focus group interviews added depth to the data, as well as lent
weight to any one individual’s comment due to the ability for a number of people to agree
or add more depth to the comment. This level of triangulation through the use of both
quantitative and qualitative data addresses any concerns of subjectivity and researcher
bias that may be inherent in qualitative methods of data collection.

Conclusion

This mixed-methods study examined the perceived needs/concerns of induction
year teachers and the effectiveness of the induction year program in which they
participated. Data from this study demonstrated there are differing needs/concerns based
on the grade level taught, and that participation in an induction year program based on the
components identified in the literature as essential for successful induction year
programs, decrease induction year teachers’ levels of needs/concerns during their first
year of teaching. In addition, it was clear with this small group of induction year teachers,
you were able to accurately identify needs/concerns they felt were not being addressed
by their induction year program. This study further supports the idea that induction year
programs would be better served to solicit input from induction year teachers themselves
on their needs/concerns while they are going through the first year, to gather authentic
feedback for program improvement and enable facilitators to tailor the programming to
meet the specific needs of their induction year teachers, thereby enhancing their chances
for success. Furthermore, it was clear from this study’s participants that the induction
year teachers still had needs/concerns that were not being met; therefore, more needs to be done within the structure and programming of their current induction year program.
References


Driscoll, & Fleeter (2007). Tables and figures for the 2007 condition of teacher supply and demand in Ohio. (Available from the Ohio Department of Education, 25 South Front Street, Columbus, Ohio 43215)


Hanby, S. (2003). Polishing the apple. (Available from the Ohio Department of Education, 25 South Front Street, Columbus, Ohio 43215)


Leadership, 62(8), 8-14.


http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=853&ContentID=3855&Content=50709


Oaks, California: Sage Publications.


## APPENDIX A: DATA ANALYSIS PLAN

<table>
<thead>
<tr>
<th>Question</th>
<th>Hypothesis</th>
<th>Null Hypothesis</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question One:</strong></td>
<td>What are the perceived needs/concerns of the induction year teacher?</td>
<td>N/A</td>
<td>N/A Qualitative Inductive Analysis with support from quantitative data</td>
</tr>
<tr>
<td><strong>Question Two:</strong></td>
<td>Are the perceived concerns of induction year teachers aligned with the components of effective induction year programs?</td>
<td>N/A</td>
<td>N/A Qualitative Inductive Analysis with support from quantitative data</td>
</tr>
<tr>
<td><strong>Question Three:</strong></td>
<td>Do induction year teachers perceive differing concerns based on grade level?</td>
<td>Induction year teachers perceive differing concerns based on grade level.</td>
<td>Induction year teachers do not perceive differing concerns based on grade level. Quantitative: ANOVA comparing the means of the three distinct grade levels using teacher concerns as the dependent variable and the grade levels as the independent variables where the level of significance (p) &lt; .05 will result in the rejection of the null hypothesis Qualitative Inductive Analysis</td>
</tr>
<tr>
<td><strong>Question Four:</strong></td>
<td>Do the concerns of induction year teachers decrease as their first year progresses due to the support of the induction year program?</td>
<td>Induction year teachers’ concerns decrease as their induction year progresses due to the support of the induction year program</td>
<td>Induction year teacher’s concerns do not decrease as their first year progresses due to the support of the induction year program Quantitative: matched t-test comparing the pretest and posttest means of the whole group, where the level of significance (p)&lt;.05, will result in the rejection of the null hypothesis Qualitative Inductive Analysis</td>
</tr>
</tbody>
</table>
APPENDIX B: PRE-POST-SURVEY FOR INDUCTION YEAR TEACHERS

Pre-Post-Survey for Induction Year Teachers

You have been identified as an Entry-Year Teacher (EYT). I am conducting a study to determine whether there are perceived needs/concerns that are common to all induction year teachers that could be addressed by an induction year program.

Please take a moment and complete the following questionnaire regarding your perceived concerns. When you have completed the questionnaire, please deposit it into the manila envelope on the registration table. This survey is anonymous and your responses will only be used in aggregate form.

Thank you very much for your participation.

Grade Level You Teach __________________
Licensure area: ________________________
Number of years teaching: _______________
Highest degree earned: __________________

Please circle your preferred response:

1. I am concerned with or need additional support regarding completing required administrative paperwork
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

2. I am concerned with or need additional support regarding classroom management issues
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree
3. I am concerned with or need additional support regarding the grading process
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

4. I am concerned with or need additional support regarding my students’ performance on high-stakes tests
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

5. I am concerned with or need additional support regarding student motivation
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

6. I am concerned with or need additional support regarding implementing my curriculum
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

7. I am concerned with or need additional support regarding addressing the needs of exceptional students
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree
8. I am concerned with or need additional support regarding analyzing and evaluating assessment data
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

9. I am concerned with or need additional support regarding my ability to plan strong, appropriate lessons
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

10. I am concerned with or need additional support regarding available resources
    1 = Strongly agree
    2 = Agree
    3 = No impact
    4 = Disagree
    5 = Strongly disagree

11. I am concerned with or need additional support regarding my level of administrative support
    1 = Strongly agree
    2 = Agree
    3 = No impact
    4 = Disagree
    5 = Strongly disagree

12. I am concerned with or need additional support regarding my relationship with my mentor
    1 = Strongly agree
    2 = Agree
    3 = No impact
    4 = Disagree
    5 = Strongly disagree
13. I am concerned with or need additional support regarding developing positive relationships with my students
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

14. I am concerned with or need additional support regarding developing positive relationships with my colleagues
   1 = Strongly agree
   2 = Agree
   3 = No impact
   4 = Disagree
   5 = Strongly disagree

15. I am concerned with or need additional support regarding my students’ social development
    1 = Strongly agree
    2 = Agree
    3 = No impact
    4 = Disagree
    5 = Strongly disagree

16. I am concerned with or need additional support regarding interacting with parents
    1 = Strongly agree
    2 = Agree
    3 = No impact
    4 = Disagree
    5 = Strongly disagree

17. Other area(s) of needs/concerns? Please identify the degree to which you are concerned.

    1 = Strongly agree
    2 = Agree
    3 = No impact
    4 = Disagree
    5 = Strongly disagree
### APPENDIX C: DESCRIPTIVE STATISTICS

#### One-Sample Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>24</td>
<td>-.17</td>
<td>1.007</td>
<td>.206</td>
</tr>
<tr>
<td>Q2</td>
<td>24</td>
<td>-.33</td>
<td>1.274</td>
<td>.260</td>
</tr>
<tr>
<td>Q3</td>
<td>24</td>
<td>-.21</td>
<td>1.179</td>
<td>.241</td>
</tr>
<tr>
<td>Q4</td>
<td>24</td>
<td>-.21</td>
<td>1.021</td>
<td>.208</td>
</tr>
<tr>
<td>Q5</td>
<td>24</td>
<td>-.50</td>
<td>1.180</td>
<td>.241</td>
</tr>
<tr>
<td>Q6</td>
<td>24</td>
<td>-.29</td>
<td>1.268</td>
<td>.259</td>
</tr>
<tr>
<td>Q7</td>
<td>24</td>
<td>-.50</td>
<td>1.285</td>
<td>.262</td>
</tr>
<tr>
<td>Q8</td>
<td>24</td>
<td>.08</td>
<td>1.018</td>
<td>.208</td>
</tr>
<tr>
<td>Q9</td>
<td>24</td>
<td>-.29</td>
<td>1.301</td>
<td>.266</td>
</tr>
<tr>
<td>Q10</td>
<td>24</td>
<td>-.67</td>
<td>1.274</td>
<td>.260</td>
</tr>
<tr>
<td>Q11</td>
<td>24</td>
<td>.46</td>
<td>1.103</td>
<td>.225</td>
</tr>
<tr>
<td>Q12</td>
<td>24</td>
<td>1.00</td>
<td>1.251</td>
<td>.255</td>
</tr>
<tr>
<td>Q13</td>
<td>24</td>
<td>.50</td>
<td>1.285</td>
<td>.262</td>
</tr>
<tr>
<td>Q14</td>
<td>24</td>
<td>.46</td>
<td>1.414</td>
<td>.289</td>
</tr>
<tr>
<td>Q15</td>
<td>24</td>
<td>.29</td>
<td>1.042</td>
<td>.213</td>
</tr>
<tr>
<td>Q16</td>
<td>24</td>
<td>-.17</td>
<td>1.167</td>
<td>.238</td>
</tr>
<tr>
<td>P1</td>
<td>21</td>
<td>.10</td>
<td>.995</td>
<td>.217</td>
</tr>
<tr>
<td>P2</td>
<td>21</td>
<td>-.19</td>
<td>1.209</td>
<td>.264</td>
</tr>
<tr>
<td>P3</td>
<td>21</td>
<td>.48</td>
<td>1.167</td>
<td>.255</td>
</tr>
<tr>
<td>P4</td>
<td>21</td>
<td>.00</td>
<td>.894</td>
<td>.195</td>
</tr>
<tr>
<td>P5</td>
<td>21</td>
<td>-.43</td>
<td>.978</td>
<td>.213</td>
</tr>
<tr>
<td>P6</td>
<td>21</td>
<td>.14</td>
<td>1.236</td>
<td>.270</td>
</tr>
<tr>
<td>P7</td>
<td>21</td>
<td>-.43</td>
<td>1.207</td>
<td>.263</td>
</tr>
<tr>
<td>P8</td>
<td>21</td>
<td>.14</td>
<td>1.108</td>
<td>.242</td>
</tr>
<tr>
<td>P9</td>
<td>21</td>
<td>.05</td>
<td>1.024</td>
<td>.223</td>
</tr>
<tr>
<td>P10</td>
<td>21</td>
<td>-.48</td>
<td>1.167</td>
<td>.255</td>
</tr>
<tr>
<td>P11</td>
<td>21</td>
<td>-.19</td>
<td>1.030</td>
<td>.225</td>
</tr>
<tr>
<td>P12</td>
<td>21</td>
<td>1.14</td>
<td>1.014</td>
<td>.221</td>
</tr>
<tr>
<td>-----</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>P13</td>
<td>21</td>
<td>1.24</td>
<td>.768</td>
<td>.168</td>
</tr>
<tr>
<td>P14</td>
<td>21</td>
<td>1.10</td>
<td>.944</td>
<td>.206</td>
</tr>
<tr>
<td>P15</td>
<td>21</td>
<td>.52</td>
<td>1.327</td>
<td>.290</td>
</tr>
<tr>
<td>P16</td>
<td>21</td>
<td>.38</td>
<td>1.161</td>
<td>.253</td>
</tr>
</tbody>
</table>

*Note: Q (1-16) stands for pre and P (1-16) stands for post*
### APPENDIX D: RESULTS OF THE ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Between Groups</td>
<td>5.250</td>
<td>4</td>
<td>1.312</td>
<td>1.379</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>18.083</td>
<td>19</td>
<td>.952</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>23.333</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>Between Groups</td>
<td>8.944</td>
<td>4</td>
<td>2.236</td>
<td>1.497</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>28.389</td>
<td>19</td>
<td>1.494</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>37.333</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>Between Groups</td>
<td>2.153</td>
<td>4</td>
<td>.538</td>
<td>.343</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>29.806</td>
<td>19</td>
<td>1.569</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31.958</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>Between Groups</td>
<td>2.319</td>
<td>4</td>
<td>.580</td>
<td>.509</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>21.639</td>
<td>19</td>
<td>1.139</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>23.958</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q5</td>
<td>Between Groups</td>
<td>17.028</td>
<td>4</td>
<td>4.257</td>
<td>5.402</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>14.972</td>
<td>19</td>
<td>.788</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>32.000</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q6</td>
<td>Between Groups</td>
<td>3.819</td>
<td>4</td>
<td>.955</td>
<td>.547</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>33.139</td>
<td>19</td>
<td>1.744</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36.958</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q7</td>
<td>Between Groups</td>
<td>13.000</td>
<td>4</td>
<td>3.250</td>
<td>2.470</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>25.000</td>
<td>19</td>
<td>1.316</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>38.000</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q8</td>
<td>Between Groups</td>
<td>2.417</td>
<td>4</td>
<td>.604</td>
<td>.536</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>21.417</td>
<td>19</td>
<td>1.127</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>23.833</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q9</td>
<td>Between Groups</td>
<td>6.458</td>
<td>4</td>
<td>1.615</td>
<td>.944</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>32.500</td>
<td>19</td>
<td>1.711</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>38.958</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q10</td>
<td>Between Groups</td>
<td>5.333</td>
<td>4</td>
<td>1.333</td>
<td>.792</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>32.000</td>
<td>19</td>
<td>1.684</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>37.333</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q11</td>
<td>Between Groups</td>
<td>1.292</td>
<td>4</td>
<td>.323</td>
<td>.230</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>26.667</td>
<td>19</td>
<td>1.404</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>27.958</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>--------</td>
<td>----</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Q12</td>
<td>Between Groups</td>
<td>5.111</td>
<td>4</td>
<td>1.278</td>
<td>.786</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>30.889</td>
<td>19</td>
<td>1.626</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36.000</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q13</td>
<td>Between Groups</td>
<td>18.000</td>
<td>4</td>
<td>4.500</td>
<td>4.275</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>20.000</td>
<td>19</td>
<td>1.053</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>38.000</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q14</td>
<td>Between Groups</td>
<td>20.069</td>
<td>4</td>
<td>5.017</td>
<td>3.682</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>25.889</td>
<td>19</td>
<td>1.363</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>45.958</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q15</td>
<td>Between Groups</td>
<td>7.569</td>
<td>4</td>
<td>1.892</td>
<td>2.068</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>17.389</td>
<td>19</td>
<td>.915</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24.958</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q16</td>
<td>Between Groups</td>
<td>7.111</td>
<td>4</td>
<td>1.778</td>
<td>1.394</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>24.222</td>
<td>19</td>
<td>1.275</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>31.333</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>Between Groups</td>
<td>3.048</td>
<td>4</td>
<td>.762</td>
<td>.727</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>16.762</td>
<td>16</td>
<td>1.048</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>19.810</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>Between Groups</td>
<td>1.524</td>
<td>4</td>
<td>.381</td>
<td>.220</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>27.714</td>
<td>16</td>
<td>1.732</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>29.238</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>Between Groups</td>
<td>3.905</td>
<td>4</td>
<td>.976</td>
<td>.669</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>23.333</td>
<td>16</td>
<td>1.458</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>27.238</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>Between Groups</td>
<td>2.500</td>
<td>4</td>
<td>.625</td>
<td>.741</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>13.500</td>
<td>16</td>
<td>.844</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>16.000</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P5</td>
<td>Between Groups</td>
<td>1.619</td>
<td>4</td>
<td>.405</td>
<td>.370</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>17.524</td>
<td>16</td>
<td>1.095</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>19.143</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P6</td>
<td>Between Groups</td>
<td>2.190</td>
<td>4</td>
<td>.548</td>
<td>.309</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>28.381</td>
<td>16</td>
<td>1.774</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30.571</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P7</td>
<td>Between Groups</td>
<td>3.429</td>
<td>4</td>
<td>.857</td>
<td>.533</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>25.714</td>
<td>16</td>
<td>1.607</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>29.143</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Between Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>P8</td>
<td>Between Groups</td>
<td>3.214</td>
<td>4</td>
<td>.804</td>
<td>.602</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>21.357</td>
<td>16</td>
<td>1.335</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24.571</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P9</td>
<td>Between Groups</td>
<td>3.429</td>
<td>4</td>
<td>.857</td>
<td>.783</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>17.524</td>
<td>16</td>
<td>1.095</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>20.952</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P10</td>
<td>Between Groups</td>
<td>4.190</td>
<td>4</td>
<td>1.048</td>
<td>.727</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>23.048</td>
<td>16</td>
<td>1.440</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>27.238</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P11</td>
<td>Between Groups</td>
<td>8.357</td>
<td>4</td>
<td>2.089</td>
<td>2.595</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>12.881</td>
<td>16</td>
<td>.805</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>21.238</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P12</td>
<td>Between Groups</td>
<td>3.690</td>
<td>4</td>
<td>.923</td>
<td>.874</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>16.881</td>
<td>16</td>
<td>1.055</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>20.571</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P13</td>
<td>Between Groups</td>
<td>2.881</td>
<td>4</td>
<td>.720</td>
<td>1.291</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>8.929</td>
<td>16</td>
<td>.558</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>11.810</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P14</td>
<td>Between Groups</td>
<td>2.929</td>
<td>4</td>
<td>.732</td>
<td>.787</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>14.881</td>
<td>16</td>
<td>.930</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>17.810</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P15</td>
<td>Between Groups</td>
<td>2.310</td>
<td>4</td>
<td>.577</td>
<td>.281</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>32.929</td>
<td>16</td>
<td>2.058</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>35.238</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P16</td>
<td>Between Groups</td>
<td>6.857</td>
<td>4</td>
<td>1.714</td>
<td>1.365</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>20.095</td>
<td>16</td>
<td>1.256</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26.952</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX E. TUKEY TEST STATISTICS

### Tukey HSD

#### Multiple Comparisons

<table>
<thead>
<tr>
<th>Dependent Variable (I)</th>
<th>Grade Level (J)</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q5</td>
<td>2</td>
<td>.250</td>
<td>.573</td>
<td>.992</td>
<td>-1.47</td>
<td>1.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-1.222</td>
<td>.468</td>
<td>.108</td>
<td>-2.63</td>
<td>.18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>-2.000</td>
<td>.725</td>
<td>.082</td>
<td>-4.18</td>
<td>.18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>.667</td>
<td>.628</td>
<td>.823</td>
<td>-1.22</td>
<td>2.55</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>-.250</td>
<td>.573</td>
<td>.992</td>
<td>-1.97</td>
<td>1.47</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-1.472</td>
<td>.533</td>
<td>.081</td>
<td>-3.08</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>-2.250</td>
<td>.769</td>
<td>.059</td>
<td>-4.56</td>
<td>.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>.417</td>
<td>.678</td>
<td>.971</td>
<td>-1.62</td>
<td>2.46</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1.222</td>
<td>.468</td>
<td>.108</td>
<td>-.18</td>
<td>2.63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.472</td>
<td>.533</td>
<td>.081</td>
<td>-.13</td>
<td>3.08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>-.778</td>
<td>.694</td>
<td>.794</td>
<td>-2.86</td>
<td>1.31</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>*1.889</td>
<td>.592</td>
<td>.034</td>
<td>.11</td>
<td>3.67</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>2.000</td>
<td>.725</td>
<td>.082</td>
<td>-.18</td>
<td>4.18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2.250</td>
<td>.769</td>
<td>.059</td>
<td>-.06</td>
<td>4.56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>.778</td>
<td>.694</td>
<td>.794</td>
<td>-1.31</td>
<td>2.86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>*2.667</td>
<td>.810</td>
<td>.028</td>
<td>.23</td>
<td>5.10</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>-.667</td>
<td>.628</td>
<td>.823</td>
<td>-2.55</td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>-.417</td>
<td>.678</td>
<td>.971</td>
<td>-2.46</td>
<td>1.62</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>*-1.889</td>
<td>.592</td>
<td>.034</td>
<td>-3.67</td>
<td>-.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>*-2.667</td>
<td>.810</td>
<td>.028</td>
<td>-5.10</td>
<td>-.23</td>
<td></td>
</tr>
<tr>
<td>Q13</td>
<td>2</td>
<td>.333</td>
<td>.662</td>
<td>.986</td>
<td>-1.66</td>
<td>2.32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-1.000</td>
<td>.541</td>
<td>.376</td>
<td>-2.63</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>-.667</td>
<td>.838</td>
<td>.929</td>
<td>-3.19</td>
<td>1.85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1.667</td>
<td>.725</td>
<td>.189</td>
<td>-.51</td>
<td>3.85</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>-.333</td>
<td>.662</td>
<td>.986</td>
<td>-2.32</td>
<td>1.66</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-1.333</td>
<td>.617</td>
<td>.236</td>
<td>-3.19</td>
<td>.52</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>-1.000</td>
<td>.889</td>
<td>.791</td>
<td>-3.67</td>
<td>1.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1.333</td>
<td>.784</td>
<td>.456</td>
<td>-1.02</td>
<td>3.69</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1.000</td>
<td>.541</td>
<td>.376</td>
<td>-.63</td>
<td>2.63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.333</td>
<td>.617</td>
<td>.236</td>
<td>-.52</td>
<td>3.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>.333</td>
<td>.802</td>
<td>.993</td>
<td>-2.08</td>
<td>2.75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>*2.667</td>
<td>.684</td>
<td>.008</td>
<td>.61</td>
<td>4.72</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>.667</td>
<td>.838</td>
<td>.929</td>
<td>-1.85</td>
<td>3.19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.000</td>
<td>.889</td>
<td>.791</td>
<td>-1.67</td>
<td>3.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>-.333</td>
<td>.802</td>
<td>.993</td>
<td>-2.75</td>
<td>2.08</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>.937</td>
<td>.134</td>
<td>-.48</td>
<td>5.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-1.667</td>
<td>.725</td>
<td>.189</td>
<td>-3.85</td>
<td>.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>-1.333</td>
<td>.784</td>
<td>.456</td>
<td>-3.69</td>
<td>1.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>-.2.667</td>
<td>.684</td>
<td>.008</td>
<td>-4.72</td>
<td>-.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>-2.333</td>
<td>.937</td>
<td>.134</td>
<td>-5.15</td>
<td>.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*. The mean difference is significant at the 0.05 level.