

**Educator Induction: A Quantitative Study Comparing the Relationships and
Engagement Between Educators and Mentors During Induction**

A Doctoral Capstone Project

Submitted to the School of Graduate Studies and Research

Department of Education

In Partial Fulfillment of the
Requirements for the Degree of
Doctor of Education

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Dedication

To my mom and step-dad, Darlene and Darrell, who have championed every step of my journey through life. All my love, Jason.

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Abstract

Educator induction programs are designed to support new educators and educational specialists during their first years of teaching. The research problem this study aimed to remediate was the challenge of designing an induction program that comprehensively supports educators and educational specialists with different job types. A comprehensive educator induction program systematically and explicitly teaches new educators workplace systems, routines, and policies, while sharpening the instructional lens of the practitioner. The purpose of this study was 1) to determine if correlations existed between the relationships of educators and mentors and the level of engagement of the educators during induction and 2) to identify the components of comprehensive educator induction programs. A quantitative research approach, through closed surveys, was used to collect data to answer the research questions. Three groups of stakeholders participated in the study: educators and educational specialists, mentors, and intermediate unit educator induction leaders. The data analysis concluded there was no significant evidence to suggest the strength of the relationship between mentee and mentor impacted the engagement of the mentee during induction.

Keywords: new teacher induction, educator induction, educator mentors, teacher attrition, induction planning

CHAPTER I

Introduction

Background

Educator induction programming is required for all public school entities in Pennsylvania. Every six years, induction plans must be revised and submitted to the Pennsylvania Department of Education for approval. This six-year window allows public school districts and intermediate units to continuously improve induction content and practices that best support their newest employees. A teacher's first-year experience has a long-term impact on employee sustainability and overall success in education. Daloz (1999) suggests that environments that combine a high level of challenge with a high level of support are the most conducive to growth. Educator induction planning matters.

The researcher has been a Student Services Supervisor for the Westmoreland Intermediate Unit (WIU7) since 2019. This leadership position has provided opportunities to supervise professional support staff, teachers, educational specialists, and educational consultants while simultaneously creating programs that provide technical assistance to the public and nonpublic schools in the county. The researcher was tasked with re-imagining WIU7's Educator Induction Program, which included writing the Educator Induction Plan for approval from the Pennsylvania Department of Education at the end of the 2020 - 2021 school year. The WIU7, historically, provided educator induction to its internal employees and as a pay-for-service option for its district partners. As part of the re-imagining process, a team of WIU7 division directors, program leaders, and educational consultants met to discuss and analyze the strengths, weaknesses (areas for growth), opportunities, and threats of the previously implemented educator induction

program. The team identified numerous program strengths that should be replicated in the new educator induction program. However, the team determined that program weaknesses and growth opportunities should be focal points for re-imagining. The WIU7 decided it would be in the organization's best interest to re-imagine an educator induction program focusing on its employees and to pause providing induction as a pay-for-service option for its district partners.

Capstone Focus

The challenge for the Westmoreland Intermediate Unit is designing an Educator Induction Program that meets the unique needs of new educators with different job functions. Pennsylvania Code, since 1987, has required school entities in Pennsylvania to have approved educator induction plans for educators who need to obtain their Level II Pennsylvania Instructional or Educational Specialist certification. Educators include Pre-Kindergarten through twelfth-grade general and special education teachers, reading specialists, teacher interns, long-term substitutes, and educational specialists. Educational specialists include Dental Hygienists, Elementary and Secondary School Counselors, Home and School Visitors, Instructional Technology Specialists, School Nurses, School Psychologists, School Speech and Language Pathologists, and School Social Workers (Pennsylvania Department of Education, 2022b). This capstone research project will focus on the experience of educators, educational specialists, and mentors who have participated in the WIU7's induction program over the past three to five years.

Research Questions

The following research questions will seek to identify and compare the perceptions and relationships between WIU7's educators, educational specialists, and their mentors:

- 1) What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?
- 2) What is the difference in perception between educators and educational specialists regarding induction experiences?
- 3) What induction practices effectively meet the needs of new educators with various job types?

Expected Outcomes

The demands placed on first-year educators must be analyzed when planning educator induction programs. Standard job requirements ranging from lesson planning to building relationships with varied stakeholders can lead to professional unhappiness if intentional support is not provided by the organization where the new educator is employed. To complicate these demands, fewer educators are entering the teaching workforce. Forty percent of students in teacher education programs never enter the profession, citing a lack of respect and describing teaching as a disempowered line of work (Riggs, 2013). The results of this action research project will allow school entities to re-imagine induction programs through a more comprehensive lens. This lens could lead to more relevant experiences unique to the different job types within school entities.

Fiscal Implications

A comprehensive approach to induction programming that supports the different kinds of educators and educational specialists is an anticipated outcome for this action-research capstone project. Because intermediate units do not directly benefit from tax-based revenues and rely on government funding and shared distribution costs paid by its member school districts, funding induction programs at an intermediate unit will look different compared to a school district. Direct and indirect costs associated with the program are a reality that must be planned for when budgeting. Direct costs associated with comprehensive induction programming are those related to potential resources (curriculum), hiring of substitute teachers for the release of new educators to attend training sessions, digital platforms to store content or track mentoring interactions, and mentor stipends. Indirect costs include supervision of the induction program (partial salary and benefits). Actual costs associated with induction would depend on the size of the intermediate unit or school district, the number of new employees hired each year who need induction, and the amount of funding made available to the program. Intermediate units and school districts that have the means to invest in their educator induction program should do so, but a comprehensive approach to induction planning can be accomplished without a surplus of money.

Summary

This capstone research project aims to assess the relationship between a new educator and their mentor as it compares to the level of engagement of each stakeholder in the induction process. The researcher will also identify the differences in perception between educators and educational specialists regarding their induction experience.

Chapter One introduced why studying educator induction is critical for school entities wanting to create unique programming for educators with different job types. The next chapter will synthesize existing literature on teacher induction by discussing teacher attrition, examining policies and legislation, and connecting the impact mentoring has on induction programming. In chapter three, the researcher will explain the methodologies used to evaluate the perceptions and connections between educators, educational specialists, and their mentors. The final two chapters will showcase the action research project results, summarize the findings, and share potential recommendations for future studies.

CHAPTER II

Literature Review

For the last fifty years, teacher induction has been a common strategy used across many schools to introduce new teachers to the policies and culture of a school district. This strategy was successful until policymakers and educational leaders learned more about what new teachers need to feel supported and successful as they enter and progress through their first years of teaching. As a result, induction for new teachers has evolved and is more sophisticated than fifty years ago. While the sophistication of new teacher induction should be celebrated, the current support services offered to new teachers in many school systems need tremendous improvement. A thoughtful and intentional teacher induction program can curve the trajectory of teacher attrition in the United States.

This literature review will discuss the evolution of induction, connect teacher attrition and retention to educational policy, bridge new teachers' perceptions of their induction experience, link mentoring to successful induction programming, and connect induction to student outcomes.

History of Induction in the United States

Over the past four decades, induction programming has increased in the United States, with each state having varied requirements and expectations for new teachers (Sclan & Darling-Hammond, 1992). Behling (1984) showed only four percent of all 51 states (eight states) had induction programs implemented or offered to new teachers. Each new decade reported an increase in induction programs: 26 states in 1991 (Andrews & Andrews, 1998) and 29 states in 2016 (Goldrick, 2016).

Induction programming in the United States coincided with what educators knew about teaching and learning throughout the different decades and were impacted by the policies of those eras (Odell & Huling, 2000). Fideler and Haselkorn (1999) described four distinct periods of induction in the United States: period one established before 1986, period two between 1986 and 1989, period three between 1990 and 1996, and period four between 1997 and 2006.

The wave metaphor is appropriate for describing the historical ebb and flow of induction programs due to sporadic budgetary cuts and legislative indifference. Each wave of induction programs is characterized by the time period in which they exist and by the sociological, political, and economic factors that shape that time period such as reduced class size or educational budget reduction. (Wood & Stanulis, 2009, p. 2)

Florida was the first state to design a state-level induction program in 1978 (Feiman-Nemser et al., 1999), but teacher induction can be dated as early as the late 1950s, with many programs having begun as a result of internships, grants and federal funding (Elias, 1980). The Ford Foundation awarded grant opportunities that extended the learning of new teachers planning to enter the field of education. The grant opportunity added a year onto the formal schooling of teachers (a fifth year) that bridged the gap between educational theory and practice (Elias, 1980). Before these grants opportunities, induction was viewed as a process in which new educators entered the field of education absent of influential factors such as age, race/ethnicity, and culture and with little to no support from experienced teachers (Lawson, 1992). This paradigm of thinking

changed significantly when teacher voice and perception were accounted for in hopes of improving induction programming (Lawson, 1992).

The political reformation of education during the 1970s and 80s further developed teacher induction through the era's influence of educational research, policy mandates, and the suggestions of change by educators. As a result, these reformations led to many studies that ignited conversations centered on the development of new teachers entering the educational profession.

One such study by the Texas Research and Development Center for Teacher Education concluded that being a teacher was not an all-or-nothing proposition, and teachers continuously developed through preservice training, into induction, and then in service (Hall, 1979). Hall's study (1979) catapulted conversations into the 1980s and called to action the need for more research on new teacher development. By the end of the 1990s, about half of all new teachers were participating in some form of induction, and by 2000, this figure increased to 80% (Smith & Ingersoll, 2004). A pre-Covid 19 study published by the New Teachers Center showed that 29 states required support for novice teachers, and nine offered continued support for at least three years (Goldrick, 2016). Teacher induction plans are now required in School Improvement Plans under Every Child Succeed Act (Every Student Succeeds Act, 2016).

Evolution of Induction in Pennsylvania

The late 1980s brought change to the Commonwealth of Pennsylvania that impacted the permanent certification process of new teachers. Chapter 14 Induction, required all public schools in the Commonwealth to author and lead a formal induction program for new teachers that served as a precursor to permanent certification (Public

School Code, 1949). Throughout the 1990s and 2000s, Chapter 14 Induction was revised six times and provided additional guidelines for induction with each revision.

The Pennsylvania Department of Education (PDE) requires public school districts in the Commonwealth to develop and submit induction plans every six years. Induction plans must be developed and approved by an induction steering committee composed of teachers and administrators. The induction steering committee and the school board of directors must approve these plans before submission to PDE. Pennsylvania's Department of Education (2019) suggested that induction plans be at least one year long and contain content related to Pennsylvania's Standards-Aligned System (SAS) and Pennsylvania's Educator Effectiveness System: Act 82 of 2020. The guidelines also suggested induction programming to include mentoring and support for new educators that include instruction on students from diverse backgrounds, students with exceptionalities, and English-Language Learners (Pennsylvania Department of Education, 2019).

Pennsylvania's Educator Guidelines suggest new teacher induction as a critical component to the development of Pennsylvania's new teachers, but Allen et al. (2016) believed the guidelines fell short of an evidenced-based induction strategy. Allen et al. (2016) proposed changes for Pennsylvania's Teacher Induction Programming that included revisions to the Legislative Code (22 PA Code 49.16) and the Educator Induction Plan Guidelines (dated 2013). Suggested edits included:

- Increase induction to three years.
- Use language that requires specific induction components.
- Provide training for mentors.

- Provide funding for induction.

More recent state-level efforts have been made that will influence Pennsylvania's new teacher induction processes. Pennsylvania Department of Education (2022a) has set goals aligned to Chapter 14, Induction for new teachers, that have initiated the expansion of induction programming within public school entities. The Workforce Strategy is aimed at providing clarity to Chapter 14 Induction guidelines by the year 2025. As part of the new workforce plan, the Pennsylvania Department of Education will redesign its professional learning database to market opportunities more relevant to Pennsylvania teachers and collect data on exemplary induction programs across the state (Pennsylvania Department of Education, 2022a). Darling-Hammond et al. (2020) stated that by 2025, Pennsylvania will need to recruit, hire, and train thousands of new teachers to serve the growing population of students in the state.

Teacher Attrition and Retention

Teacher attrition and retention have been concepts that can be defined by the prevention of quality teachers who have transitioned away from the profession for reasons that can be avoided (Kelchtermans, 2017). For decades, American schools have been forced to deal with the ongoing reality that teachers have been leaving the field of education. Smith and Ingersoll (2004) found that 15 percent of all new teachers have transitioned away from the profession, and another 14 percent changed schools after their first year on the job. Comparatively, data collected ten years later by Ingersoll and Merrill (2012) showed the statistics have remained unchanged, reporting that 14 percent of first-year teachers transitioned away from teaching by the conclusion of their first year, 33 percent by the end of their third year and 40 to 46 percent within their first five years.

To further compound Ingersoll and Merrill (2012) research, data projected by McFarland et al. (2019) showed a decrease in the number of students who had completed a four-year teacher education program at the university level. Of those professionals who graduated from a 4-year college or university, new teachers struggled to apply what they learned as a preservice teacher to practical classroom application (Goodwin, 2016).

These studies have indicated that fewer teachers are entering the field of education while just as many, if not more, are leaving. Conclusions from both data sets have shown the teacher attrition gap has not closed.

Studies of teacher attrition are well documented, and researchers agreed on similar contributing factors that led to teachers leaving the profession. An early study conducted by Ingersoll (2001) found that many new teachers quit the education profession because they were not satisfied with their job based on the following:

- unhappiness with their rate of pay (salary)
- little to no support from their administrators
- lack of student buy-in (motivation)
- issues with classroom management and student discipline
- lack of voice connected to decision-making

A large number of recent researchers agreed and have added to the factors that have led to teacher attrition. Diliberti et al. (2021) surveyed teachers before and after the pandemic and found stress to be the number one reason teachers left the profession. Work environment (Craig, 2017), lack of upward mobility (Guha et al., 2017), lack of acknowledgment and space to implement innovative practices (Matete, 2021), difficult to manage students (Williams et al., 2020), and low salaries (Allegretto & Mishel, 2018).

There exists a considerable body of literature that identifies classroom management and unruly students as a pervasive theme that underpins the concept of teacher retention. Public Agenda (2004) identified classroom management as an overwhelming challenge for teachers. They found that 85 percent of teachers surveyed believe new teachers are ill-prepared to manage classroom behavior issues. The Coalition for Psychology in Schools and Education (2006, 2019) indicated that teachers had a preferential need for professional development opportunities focused on classroom management and reported mixed levels of confidence. Researchers overwhelmingly agree many factors cause teacher attrition, and despite decades of research, very little has been done to change the trajectory of teachers transitioning away from the profession.

The Education Policy Implementation Center at Texas State University engaged in a 10-year study designed to slow teacher attrition. The study involved 37 public school districts and seven universities in Texas. Induction programming afforded by the grant assigned six to eight novice teachers to a trained mentor (in some cases retired teachers), provided time for mentors to observe and confer with mentees twice per week, and offered specialized training and graduate-level classes for new teachers. The research found that participating new teachers were retained by more than 10 percent compared to the state average and earned nearly 3,000 graduate hours. A follow-up study two years later showed that 94 percent of the participating teachers were mentors or had been a mentor to a novice teacher. New teachers noted that the instructional and emotional support provided by their mentors impacted their decision to stay in the education field. This long-term study is supported by research that novice educators, who are a product of strategic mentoring and partnerships, have remained in the

profession at higher than average retention rates and experience reduced learning curves (Darling-Hammond, 2003).

Policies and Legislation

Since the 1990s, education policy in the United States has changed how we think about teacher reform (Aaronson et al., 2007). Nguyen et al. (2019) have connected education policy to the reformation of teacher attrition. As previously reported in the literature, extensive research has shown that teacher attrition in the United States has remained unchanged. According to the National Center for Education Statistics (2022), teacher attrition rates are approximately at 16 percent.

For the past two decades, several states have attempted to create programs incentivizing teachers to remain in the profession. Research has shown that these incentive programs did reduce teacher attrition, but none reported replicable efforts that sustained gains in teacher retention or policies that changed legislation. An example of one such program was implemented in North Carolina and paid math, science, and special education teachers a bonus of \$1,800 to teach in high-need schools. According to Clotfelter et al. (2008), the bonus program reduced teacher attrition by 17 percent over three years. In a more recent study of similar monetary incentives, Tennessee offered high-performing teachers a \$5,000 stipend to teach at lower-performing schools. Nguyen et al. (2019) reported a 20 percent improvement in teacher retention. Based on this research, monetary incentives assisted with teacher attrition and led to understanding more about sustainability of such programs, but the long-term effects on teacher turnover still need to be studied.

More recent and promising approaches to policy reformation are hopeful to reduce teacher attrition and are supported by several researchers. Darling-Hammond et al. (2020) authored a framework that suggested how federal, state, and local policymakers could use the Covid-19 pandemic to excite change for educational reformation. The framework provided research and policy recommendations in 10 focus areas (Priorities). Of the ten priorities, priority nine was specifically designed to prepare educators to think differently about school through motivation at the federal, state, and local policy level. A critical piece of priority nine suggested policymakers support “high-retention teacher strategies” (Darling-Hammond et al., 2020, p. xii) through several concepts that included teacher and leader residencies. This research is directly connected to research completed by Guha et al. (2016), who reported:

Studies of teacher residency programs consistently point to the high retention rates of their graduates, even after several years in the profession, generally ranging from 80 - 90 percent in the same district after three years and 70 - 80 percent after five years. (p. 34)

In an executive summary to the Pennsylvania Department of Education, Darling-Hammond et al. (2018) recognized tremendous shifts in the states’ teacher workforce. Enrollment in teacher preparation programs has declined by 65 percent since 2009, and the percentage of teachers from diverse backgrounds is below the national average by 15 percent (Pennsylvania Department of Education, 2022a).

Darling-Hammond et al. (2018) recommended changes to Pennsylvania’s School Code Chapter 14 to address teacher shortages and better support beginning teacher induction programming. These recommendations have established priorities for Pennsylvania’s

Every Student Succeed Act state plan by supporting efforts to reduce teacher shortages, provide greater access to high-quality teachers and increase diversity in Pennsylvania's teacher workforce. Darling-Hammond et al. (2018) stated that:

The major review of Chapter 49 presents an opportunity to advance the state's priorities for the future and ensure that Pennsylvania's system of teacher licensure and preparation supports a diverse teacher workforce, promotes equitable access to quality teaching for all students, and helps the districts tackle persistent shortages that undermine teacher quality and student achievement. (p. 33)

Reports, studies, and recommendations like those of Darling-Hammond et al. (2020) and Guha et al. (2016) are needed to help policymakers understand more completely the connections between teacher attrition and policy reformation.

Trajectory of New Teachers Entering the Field of Education

Education has remained one of the largest professions in the United States for decades. The profession has employed nearly 3 million public school teachers annually, with 310,000 new educators entering the profession (Aspen Institute, 2022). Over the past 50 years, the education profession has seen shifts from teachers who enter the field and stay until retirement to the younger generation of teachers who enter the field and leave after a few years (Aspen Institute, 2022). The younger generation of teachers who have entered the profession view teaching as a short-term opportunity, as 40 percent have left the field after five years (Aspen Institute, 2022). The trajectory of new teachers entering and remaining in the field is declining and has posed concerns for the future of education in America. Public school entities nationwide do not have enough teachers to fill open positions and are challenged by not having enough candidates to hire (U.S.

Department of Education, 2022a). While traditional teacher preparation programs still represent the majority of new teachers entering the field (National Center for Education Statistics, 2018), closing the growing teacher gap will require creative approaches to training and certifying new teachers.

Many states have changed traditional licensure requirements and have relied on alternative education programming to increase the trajectory of new teachers entering the field (Yin & Partelow, 2020). Alternative education programs certifying non-traditional students to become teachers are called Non-Institutions of Higher Education (Non-IHE) programs (Yin & Parelow, 2020). The Center for American Progress found non-IHE alternative certification programs existed in 32 states. Most of these programs are implemented by individual public school entities and regional service agencies (King & Yin, 2022). Yet despite the growing popularity of non-IHE alternative certification programs, traditional teacher programs have enrolled the largest number of students at 75 percent of the total number of new teachers who have entered the field (U.S. Department of Education, 2022b).

Research completed by Garcia and Weiss (2019) indicated the United States had seen fewer students entering the teaching profession. Incentivized by the USDOE, Texas became an early leader in this movement and initiated changes in teacher preparation and certification policies that attracted, hired, and retained new teachers who entered the field (Guthery and Bailes, 2019). A study of teacher attrition completed by Guthrey & Bailes (2019) found that Texas's policy reformation on teacher preparation and certification was a statistically significant predictor of new teachers' grit and tenacity. Unlike Texas,

several states have introduced stipends or student loan forgiveness programs to new and existing teachers that have supported a decrease in teacher attrition.

Alternative routes to education have impacted teacher shortages by providing creative routes to licensures for non-traditional students, but the research has shown challenges. The alternative education movement was a reaction to the discontent with teacher preparation programs hosted by colleges and universities nationwide. The disenchantment of these traditional teacher preparation programs included accusations of low admission bars being accepted as the norm and coursework that was not practical for novice teachers (Solomon, 2009). Supporters of alternative pathways to licensing new teachers argued that removing unnecessary obstacles that often hindered interested students from becoming teachers would open the gateway for more teachers to enter the profession. Tom (2000) reported that most alternative pathways to education programs are characterized by a summer of intense training and professional development before a person becomes the teacher of record. According to the National Center for Education Statistics (2022), nearly 18 percent of public school teachers earned their teacher licenses through an alternative certification program.

Haberman's (1999, 2001) research showed a positive correlation between alternative pathways to education programs and teacher retention. Haberman reported on the recruitment and retention efforts in a large mid-western school district that collaborated with their bargaining union and a local university to form an alternative pathway program. The alternative education pathway program he studied gave opportunities to minorities who held a non-education bachelor's degree. During this program, individuals participated in a summer training coupled with a teacher residency

with a mentor. Haberman (2001) reported that 94 percent of those who participated in the program stayed within the school system over ten years. This particular study showed an increase in teacher retention due to an alternative pathway to education program. It also connects to the research of Darling-Hammond et al. (2020), and Guha et al. (2016) that reported teacher residency programs increase teacher retention.

In contrast to the literature and studies on alternative pathways to education, Scherer (2012, p. 2) stated that because of their popularity, alternative routes to education programs were “all over the map.” Darling-Hammond (2000), in her report for the National Commission on Teaching and America’s Future, showed the relationship between alternative routes to teaching and retention and found that retention in the profession was connected to advanced levels of preparation. Her study reported that Eighty-four percent of teachers who held a Bachelor’s and Master’s degree in education remained in the field after three years compared to 34 percent who participated in an alternative licensure program who only had a Bachelor’s degree (Darling-Hammond, 2020). Darling-Hammond’s research (2020) concluded that alternative pathways to education may have reversed its effect on teacher retention and contributed to greater teacher attrition rates.

New approaches to creating a more robust teacher pipeline have been growing in popularity (Bartanen & Kwok, 2022). Grow Your Own Programs (GYO) became increasingly popular, impacted the teacher pipeline, and were often cited as a progressive approach addressing teacher shortage (Goings et al., 2018). As of 2022, forty-nine states, including the District of Columbia, had at least one GYO program (Garcia, 2022). GYO programs are pathways for high school students interested in becoming teachers (Garcia,

2022). One such program, Pathways2Teaching, gained significant traction over the past decade and has become a national model for high school GYO teacher programs (Bianco & Marin-Paris, 2019). With numerous programs in Colorado, Minnesota, Tennessee, New York, North Carolina, and New Jersey, Pathways2Teach offered high school students the opportunity to earn nine credits (through local universities) during eleventh and twelfth grade. The Pathways program provided weekly classroom field experiences that included working with students with exceptionalities and learners from diverse backgrounds. A unique feature of the Pathways2Teach curriculum was its strong focus on college access and academic writing (Bianco & Marin-Paris, 2019). High school students who completed the program graduated high school with a paraprofessional certificate that allowed them to gain employment within their district upon graduation. Although the Pathways2Teach program has the researched elements of success, specific data on the program was not found.

Educator Perceptions of Induction Programming

Teaching is one of the few professions where new educators are expected to perform as their veteran counterparts, on day one, with no real-life training other than student teaching (McGeehan, 2019). States nationwide have new teacher induction programs, but research is scarce in identifying the science or theories of well-designed programs (McGeehan, 2019). Researchers have determined that new teachers have experienced tremendous shock (Hobson & Ashby, 2012) during their first years of teaching. Clark (2017) reported this could be lessened by understanding new teachers' perceptions as they reflect on their induction experiences.

A review of the literature has shown that numerous large-scale studies of teacher perceptions of their induction experience have been conducted over many years. A recent large-scale study supported by the New Teacher Center analyzed the perceptions of new teachers and their principals on induction. The study captured the results of educators in four teacher induction programs across the United States. The significant findings of this study, as reported by Kutsyuruba (2020), showed that teachers' perceptions of communication and frequency of classroom visitations were consistently lower than their principals' perceptions. New teachers' perceptions varied as related to support from their principals and ranged from highly supportive (Kutsyuruba, 2020) to unapproachable. Both new teachers and principals agreed there was a shared vision, but many new teachers felt uncomfortable asking questions (Kutsyuruba, 2020). The study also revealed that the “principal’s evaluative responsibilities created tensions in the perceptions of their supportive role in teacher induction and mentoring programs” (Kutsyuruba, 2020, p. 31). A reasonable deduction from this study is that perceptions of new teachers and principals will vary, but research has supported significant evidence that strategic mentor-mentee pairing is critical (Andrews et al., 2006). Because the process for mentor matching was not shared in the study supported by the New Teacher Center, it was difficult to determine if that had any significant impact on perception.

Several other researchers have reported on studies and found varying perception levels of new teachers on their induction programming. Nelson (2016) examined new teachers’ perceptions of their induction experiences in several North Carolina school districts. He found a tremendous disconnect between new teachers and their assigned mentors and an un-focused professional development experience. Holtzapple (2012)

found new teachers struggled to maintain a working relationship with their mentor when their mentor taught in a different building. Wechsler et al. (2010) conducted a study on 39 state-funded induction programs across Illinois and found new teachers did not feel they were offered quality instructional support.

Mentoring as Critical Piece to Teacher Induction

A mentor is an experienced individual with a specific skill set who shares knowledge with a person who is a novice (Roberts, 2000). The most critical school-based factor that affects student achievement is high-quality instruction given by a teacher (Wong, 2004). Research has been examined from numerous surveys (Charnock & Kiley, 1995; Hudson, 2012) and showed that new teachers remembered their first teaching years as daunting, stressful, and overwhelming. New teachers have rated support from a mentor as the most crucial factor during their induction years (Behrstock-Sherratt et al., 2014).

For the past three decades, mentoring has transformed from “a method of knowledge and skill transfer to understanding mentoring as part of lifelong learning and professional development, key support strategy and mutually beneficial developmental partnership” (Zembytska, 2016, p. 68). Since the 1980s, mentoring has taken hold for two groups of teachers: in-service and pre-service teachers (Feiman-Nemser, 1996). Throughout the 1990s, mentoring became popular and was used as a method of support for new teachers as they grappled with learning how to teach (Darling-Hammond, 1998). The concept of new teacher mentoring has developed since the late 90s from a role as a confidant (Little, 1990) to a connector that brings overarching practices together. This support often consists of supporting new teachers as they navigate the many resources a

school may have (Langdon & Ward, 2015; Wang et al., 2008). Other researchers have described mentoring as coaches, teachers, parent figures, role models, counselors, and sponsors (Abell et al., 1995; Ganser, 1998; Gehrke & Kay, 1984; Little, 1990; O'Brien, 1995). More research on defining terms such as coach, friend, supporter, and role model needs to be further developed to show how each concept connects to the dynamics of mentoring (Ambrosetti & Dekkers, 2010).

Educative mentoring programs have shown evidence of mutual gains between the mentor and a mentee (Bradbury, 2010; Feiman-Nemser, 2001). Wexler (2020) found that relationships between novice teachers and their mentors build and continue over time. Recent studies showed that building-level administrators and educational researchers found positive correlations between the overall effectiveness of novice teachers and those who have had mentors as part of their induction program (New York University, 2019). Carter and Francis (2001) compared induction experiences between new teachers with mentors and those without. They found that new teachers with mentors were generally more satisfied with their induction experience.

Differences in traditional mentoring models compared to educative mentoring models include assisting new teachers in developing innovative ways of solving both short- and long-term problems they may encounter during their first years of teaching (Feiman-Nemser, 2001). Educative mentoring (Feiman-Nemser, 2001) has been described as mentoring focused on the professional growth of beginning teachers through their experiences with veteran teachers (Bradury, 2010). Educative mentoring has promoted pervasive reflection and continuous development, and case studies showed positive correlations as measured by the engagement of the novice teacher and the mentor

(Feiman-Nemser, 2001). Bradbury (2010) has linked the success of educative mentoring to mentoring that has occurred in science classrooms because of its effect on inquiry. In Table 1, the differences between traditional and educative mentoring are described.

Table 1

Differences in Emphasis in Traditional View of Mentoring and Educative Mentoring

Traditional Mentoring	Educative Mentoring
Providing support necessary to retain novice teachers in the profession	Fostering a disposition of sustained inquiry into teaching practice
Meeting immediate needs	Meeting immediate needs while developing a long-term orientation toward reform-based science teaching
Sharing practical solutions to day-to-day problems	Thinking about teaching as a complex process where there is rarely one "right" answer
Providing copies of lesson plans, notes, and science activities	Using background knowledge of students and their work samples to plan lessons that support learning about a particular topic
Sharing of advice from mentor to novice	Valuing the contributions and ideas of both the mentor and novice

Note. Reprinted from "Educative mentoring: Promoting reform-based science teaching through mentoring relationships," by Bianchini, J., Sutherland, S., & Windschitl, M., 2010, *Science Teacher Education*, p. 1052 (<https://doi.org/10.1002/sc.20393>).

Thirty-one states have a requirement specific to training before becoming a mentor; in 15 states, this required mentor training is followed by pervasive professional development (Goldrick et al., 2012). Mentor training in the United States that is considered robust and comprehensive trains mentors using:

Different types of individual and collaborative activities: orientation sessions, presentation of available instructional materials and resources for self-education, coaching, training, reflective workshops, teaching seminars, conferences, communication with program coordinators and school administrators,

participation in discussion panels or problem-solving groups, mentor support groups and mentor communities. (Zembytska, 2016, p.71)

Compensation for mentors varies from school district to school district and state to state. Some mentors have volunteered their time and effort to pay forward their first-year teacher experiences with a mentor, while other mentors are given incentives. Incentives to support and encourage mentors can include workload reduction to meet with their mentees, stipends or additions to their salary base, career advancements, and intrinsic motivators like certificates and awards at end-of-year employee celebrations (Zembytska, 2016).

Teacher-Mentor Connection

The relationship between a new teacher and their mentor matters and can potentially catapult a new teacher's career into success (Muschallik & Pull, 2016). Research has described the relationship between a new teacher and mentor in many different ways, but there is limited research on how a mentor builds explicitly relationships with new teachers by using non-traditional activities (Baker et al., 2018). Relationships that have been built from a place of empathy (Nemanick, 2017), explained school and theoretical frameworks (Maynard et al., 2014), provided new teachers with specific feedback, filled gaps that assist with managing classroom behaviors (Boz & Boz 2006), and helped teachers find their professional voice (Maynard et al., 2014) have been common themes found in the literature. These new teacher and mentor relationship characteristics have been most helpful when defining the commonalities in highly successful relationships and provided insight into the kind of mentors needed for new teachers. More research that defines the types of activities mentors do and should not do

is required to describe better the strategy behind forming more efficient relationships between new teachers and their mentors (Maynard et al., 2014). Numerous studies evaluated success between a mentee and their mentor and have measured soft variables like the relationship satisfaction assessed by the mentee and the mentor (Linden et al., 2013). Studies that measured hard variables (Muschallik & Pull, 2016), such as developing teachers as leaders during their induction experience, have been less common in the education field and warrant more research to help identify the specific strategies that support a relationship between mentor and mentee that develop hard skills.

Mentors as collaborators have been a common theme in the literature when defining the relationship between a new teacher and a mentor and is an element needed to enhance a new teacher's skill set (Cochran-Smith & Fries, 2005). In contrast to this common theme, some research has cautioned mentors on collaborating. Mentoring relationships focused largely on the mentor as a collaborator are more likely to reduce the mentor role from a relationship of guidance to the mentor taking a lead in project completion (Maynard et al., 2014).

Pairing of Teachers and Mentors

Mentoring is an essential piece for new teachers as they participate in induction programming, and often these relationships extend well beyond the completion of formal induction experiences. Ingersoll and Strong (2011) suggest criteria for mentor selection to include:

- excellent people skills
- effective as an instructor
- related work experience

- leadership skills
- grade-level or content expertise synonymous with the mentee

Intentional mentor-to-mentee pairing has a significant impact on a new teachers' success during their first years of teaching. Careful consideration of how mentors and mentees are paired is essential (Lozinak, 2016). Zembytska (2016) found that American researchers suggest an ideal age difference of about 8 - 15 years between new teachers and mentors, but many school systems across the country are experiencing high teacher turnover rates and will invite retired teachers to close the mentor-to-mentee gap. Extensive research shows positive correlations between healthy mentor-to-mentee relationships and teacher attrition (Wong, 2004).

Lozinak (2016), whose action research in a suburban Connecticut school district, examined mentor-to-mentee assignments and found the matching process of a veteran to a novice teacher to be ineffective as perceived by new teachers. The research study was designed to determine if the mentor-pairing process would improve new teachers' perceptions of mentoring relationships. As Lozinak (2016) identified, three contributing factors should be considered in mentor-mentee pairing:

- The relevance of sharing the logistics behind the pairing process with all stakeholders involved.
- The importance of matching mentees with mentors who work in the same building for accessibility.
- The power of matching mentees and mentors in similar grades or content to create a job-alike atmosphere.

Lozinak (2016) shared that despite limitations that included sample size and timing of new teacher hires, the study focused on the importance of thoughtful pairing between mentors. Comparatively, Lozinak (2016) connected research done by Ingersoll and Strong (2011) that provided empirical evidence that suggested 1) mentoring has had positive effects on new teachers, 2) mentoring has helped new teachers refine their craft, and 3) mentoring reduced new teacher attrition.

Induction Alignment and Requirements Specific to Job Types - Teachers versus Specialists

School districts in the United States have separated by definition and certification the differences between teachers and educational specialists. Each of the fifty states has mandated specialized licensing requirements for all public school educators. Despite common definitions attached to specific certification types, distinctions between the terms teacher, educator, support specialist, educational specialist, direct service providers (etc.) vary across each state and have been found to be ambiguous and defined by local contexts (Pollock & Mindzak, 2015). The Pennsylvania Department of Education (2022b) defines a teacher as someone whose primary job is to instruct students as outlined by a specific state educational agency. A support personnel is someone other than a teacher or administrator who is mandated to possess an educator license based upon at least a bachelor's degree (Pennsylvania Department of Education, 2022b).

According to the Pennsylvania Department of Education (2022b), Support Personnel is synonymous with Educational Specialists. It is defined by a person whose primary job function is to provide direct services other than classroom instruction. Educational specialists in Pennsylvania have included school counselors, nurses, speech and language therapists, reading specialists, and school psychologists.

Because of the ambiguity between the different terms that may define a teacher, it has been difficult to discern which job types associated with the education field are required to participate in induction for each state. All of the researchers, studies, and national organizations in this literature review connect induction to teachers.

Differentiating the Induction Experience for Different Job Types

Researchers agree there are core elements that comprise most educator induction programs, and they have varied in style and implementation (Lawson, 1992). Common elements include training on district-specific curricula and policies, instructional strategies, and support mentoring (Robinson, 1998). Differentiation can occur through shared leadership of induction programs, affiliations with educational entities, and by varying the structural design of the induction program to emphasize certain components (Zewe, 2000). A majority of induction programs vary across regions, but most share similar visions (Zewe, 2000).

The concept of differentiating the induction experience for job types that fall outside the teacher's definition has yet to be well documented or researched. A Pennsylvania study conducted by Holtzapple (2012) surveyed new teachers and noted “negative perceptions focused primarily on issues of relevance within the induction program for non-traditional new teachers or new teachers other than those in regular classrooms” (p. iv). Additional studies to understand the complexities of differentiating induction for different job types are required that could include examination of how National and State Educational Agencies approach induction.

Comprehensive Teacher Induction Programs

The original title of this literature review section was Innovation in Educator Induction. A review of the literature found the term innovative to be used minimally to describe induction programs. A more inclusive approach that describes innovative induction programming can be identified as “comprehensive” (Glazerman et al., 2010, p. xxiii). Glazerman et al. (2010) described comprehensive induction programming as support to new teachers defined by rigor, structure, and sequenced. Conversely, teacher induction programs that provide basic support services to new teachers (Berry et al., 2002; Smith & Ingersoll 2004) are referred to as “informal or low-intensity” (Glazerman et al., 2010, p. xxiii).

It should be noted in this literature review that not all studies were completed in an era when the term comprehensive was used to define teacher induction programming. An example of such a study came from Moskowitz and Stephens (1997), who defined systems of support for new teachers as targeted interventions. Both groups of researchers used different terms to describe high-quality induction programming.

Assessment has been a recurring theme in the literature and identified as an element of comprehensive induction programs. Assessments that have involved constructive feedback (Glazerman et al., 2010) or assessments that are used to support the ongoing growth of the teacher are perceived by new teachers as non-threatening and generally successful (Moskowitz & Stephens, 1997). Zembytska (2016) suggested assessment data could also be collected through reflective journals, new teacher tracking logs, student achievement data, and observations.

Many researchers in the field have supported comprehensive teacher induction programs. Smith and Ingersoll (2004) defined induction programs that incorporated multiple types of support for new teachers as comprehensive. (Gilles et al., 2009; Pavao, 2018; Xuan, 2019;) have noted support for new teachers by reducing workload that allowed for mentoring activities and learning experiences. Comparatively, other researchers described support for new teachers similarly. Zembyst (2016) outlined support for new teachers, including dedicated on-site mentors, common planning time with mentors, reduced workload, and opportunities for job-alike networking. Each of the researchers noted different kinds of support for new teachers, but each support mechanism could be connected to comprehensive induction planning. As shared by Zembytska (2016), some states have adopted evaluation standards for new teachers connected to induction policies. It was not found in the literature if those assessments impacted induction success.

Connections to Student Outcomes

Teacher induction has impacted novice teachers' ideology about teaching and learning, but few long-range research studies have successfully measured or connected the effects of induction on student achievement (Wang et al., 2008). Strong (2006) suggested studies that attempted to measure the connections between new teacher induction programs and student achievement have been difficult to measure:

It is hard to obtain the necessary data. Many schools and districts do not maintain databases connecting student test scores to teachers. Many states do not test students in all grades annually, and tests are changed frequently, making it difficult to compare performance from year to year. Induction programs vary, and

many factors contribute to changes in student achievement besides the kinds of support beginning teachers receive. (p. 1)

The research completed by Strong (2006) has coincided with research from (Ronfeldt et al., 2013) that has connected new teacher induction programming to student achievement in schools that have had high teacher retention rates (Ronfeldt et al., 2013). Increased levels of teacher turnover and programs that have struggled to successfully prepare students have posed challenges for educational policymakers (Glazerman et al., 2010). Darling-Hammond (2000) has noted that high turnover in urban schools has negatively impacted student outcomes because it has forced students to be instructed by teachers lacking the experience to support quality schooling. High turnover has caused undue stress to school systems and has forced negative financial impacts onto school entities that must attract, retain, and professionally develop teachers to replace their poorer counterparts (Ingersoll & Smith 2003; King & Newman, 2000). It has been found that even teachers with tenacity and grit have shown hardships with curricular content and managing students when they have yet to be adequately supported at the onset of their teaching career (Johnson et al., 2004). This research has connected to the research reported by Glazerman et al. (2010) that has called on school entities to provide a more comprehensive approach to teacher induction programming.

In 2004, the United States Department of Education collaborated with Mathematica Policy Research and led a large-scale review of comprehensive teacher induction support. This research study aimed to determine what, if any, impact comprehensive teacher induction practices had on new teachers and student outcomes. Districts participating in the study chose from two providers, the Educational Testing

Service or the New Teacher Center at the University of California, to provide comprehensive induction services. Both service entities assigned new teachers with mentors at a 12 to 1 ratio. Mentors were trained and received high-quality professional development. New teachers were provided with frequent professional development and ongoing opportunities to observe experienced teachers (Glazerman et al., 2010). The key findings of this research made positive connections between comprehensive teacher induction training and student outcomes. Glazerman et al. (2010) showed that it took three years of ongoing support offered through a comprehensive teacher induction program before a positive impact was made on student achievement. This study proved that support provided by comprehensive induction programs can impact student outcomes. A question for future researchers is can this study be replicated. If comprehensive support for new teachers (during induction) has proven to impact student outcomes, could this change induction policies?

More literature has connected student achievement by way of being an effective teacher. Sanders and Rivers (1996) have reported that a critical factor for student growth to occur; better instruction equates to higher achievement (Sanders & Rivers, 1996). Strong et al. (2011) concluded that effective teachers experience higher student achievement than less effective teachers.

Additional studies of teacher induction that have connected student achievement (good, bad, or indifferent) as a result of induction are supported by a comprehensive induction strategy and use control trials to measure student growth. As an example of one such study, findings reported by Young et al. (2017) found notable impacts on student achievement in English Language Arts and Mathematics after two years of New Teacher

Center (NTC) induction support in schools in Florida, Illinois, and Iowa. NTC's induction program, where student gain was observed, had schools that implemented the program with fidelity, new teachers who interfaced with mentor teachers more often than non-NTC new teachers, focused on instruction, valued at higher levels activities centered on mentoring, and credited their NTC induction experience to the development of stronger skills as novice teachers. Follow-up interviews with new NTC teachers suggested tremendous value in having trained NTC mentors to support them through learning about classroom management, lesson planning, individualizing instruction, continued reflection, and ultimately gaining confidence in their first years of teaching (Young et al., 2017).

Summary

Teacher induction programming continues to evolve, including the critical need to create a more comprehensive support system for new teachers. Using research, school districts can better design induction programs that 1) support new teachers during their first years of teaching, 2) bridge achievement gaps between new teachers and student outcomes, and 3) impact the trajectory of teacher attrition in the United States. The intended goal of sharing this research is to support educational leaders responsible for leading and designing induction programs for new educators.

CHAPTER III

Methodology

This action research project was designed to interrogate the realities of Educator Induction through the lens of educators, educational specialists and their mentors, and Intermediate Unit leaders who manage induction. A thorough review of the literature has shown that 1) teacher attrition and retention have been a growing concern for many educational researchers and practitioners over the past two decades (Smith & Ingersoll, 2004), and 2) strong mentorship matters (Zembyst, 2016). Smith and Ingersoll (2004) found that 15 percent of all new teachers have transitioned from the profession, and another 14 percent changed schools after their first year on the job. Data collected ten years after Smith and Ingersoll showed that the statistics have remained unchanged, reporting that 14 percent of first-year teachers transitioned away from teaching by the conclusion of their first year (Ingersoll & Merrill, 2012). The Covid-19 pandemic has deepened this reality and left school districts scrambling to attract and retain highly qualified teachers to fill gaps left by the pandemic.

The literature review supported the researcher's need to 1) identify the sequence of events and planned activities that support comprehensive induction programming and 2) determine if relationships between new educators and their mentors increase engagement with the induction process. This chapter further illustrates the purpose of the action research study, describes the educational setting and participants, provides a brief description of the Westmoreland Intermediate Unit's (WIU7) history of induction, discusses the research design, methods, and data collection methods, captures the validity of the study, and details the fiscal implications for induction.

Purpose

This action research project investigated and compared the perceptions and relationships between the Westmoreland Intermediate Unit's educators, educational specialists, and mentors on the intermediate unit's induction programming. Numerous studies have shown that mentor-mentee pairing is essential (Andrews et al., 2006), and a comprehensive scope and sequence of induction activities and content can lead to improved student outcomes (Glazerman et al., 2010). This study was strategically designed to collect quantitative data that will assist the researcher in reimagining and developing a more comprehensive approach to the Westmoreland Intermediate Unit's Educator Induction Program. The quantitative data was collected through surveys distributed to educators, educational specialists, and mentors who completed the Westmoreland Intermediate Unit's induction program over the past five years. An additional survey was distributed to intermediate unit leaders across the Commonwealth who were identified as Educator Induction Program Leaders for their prospective intermediate units. Data collected as a result of these surveys will answer three research questions.

Research Questions:

1. What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?
2. What is the difference in perception between educators and educational specialists regarding induction experiences?
3. What induction practices effectively meet the needs of new educators with various job types?

The first research question measured the perceived relationship between the new educator and their mentor and compared the educators' engagement with induction programming as evaluated by each educator and mentor. The second research question determined the perceptual differences between the educator and mentor on various programmatic features of the Westmoreland Intermediate Unit's Induction Program. These two research questions aimed to collect and compare the perceptions of educators and their mentors on induction programming and overall stakeholder engagement. The third research question was designed to identify practices that have successfully met the needs of new educators with various job types across the Commonwealth.

Setting

This action research study targeted educators, educational specialists, and their mentors, whom the Westmoreland Intermediate Unit employed over the past three to five years. The Westmoreland Intermediate Unit is one of 29 educational service agencies that provide technical assistance to public and nonpublic schools across the Commonwealth. Intermediate Units are innovative and highly specialized and offer cost-efficient instructional and operational services to their member school entities. Intermediate Units are direct service providers to approximately 50,000 Pennsylvania students (Pennsylvania Association of Intermediate Units, 2023). Each intermediate unit is unique, but most technical services offered can be associated with the following categories:

- Adult Education
- Cooperative Projects
- Educational Technology

- Preschool Education
- School-Age Programs
- Statewide Programs
- Training and Development (Westmoreland Intermediate Unit, 2023)

The General Assembly of the Commonwealth of Pennsylvania (1997) created intermediate Units to function as regional educational service agencies to support local school entities.

Until 1971, county superintendents supplied the structure between the State and local levels. In 1970, the General Assembly passed Act 102, creating a system of 29 intermediate units (IUs), which replaced the county superintendent offices as of July 1, 1971. The IUs were mandated to create a broad program of educational services to be offered to public and nonpublic schools, including curriculum development and instructional improvement services; educational planning services; instructional materials services; continuing professional education services; pupil personnel services; State and federal agency liaison services; and management services. The IUs were created as instruments of Federal, State, and local education policies. They were empowered to create new services needed by public and nonpublic schools. The IUs were envisioned as achieving economies of scale in the provision of services. (p. 11)

The Westmoreland Intermediate Unit is in Southwestern Pennsylvania's Westmoreland County. The Westmoreland Intermediate Unit comprises 17 public school districts, three Career and Technology Centers, 20 nonpublic schools, and Clairview School. Direct and indirect technical assistance is provided to stakeholders through

curriculum, executive, financial, technology and infrastructure, and student services (Westmoreland Intermediate Unit, 2023). Most of Westmoreland County is located in the Laurel Highlands and spans 1,028 square miles with a total population of 353,057 (United States Census, 2021).

The public school districts in Westmoreland County range in size. Hempfield Area School District, the largest, enrolls 5,700 students (Hempfield Area School District, n.d.) compared to Monessen City School District, the smallest, which enrolls 751 students (Monessen City School District, n.d.). Comparatively, the largest nonpublic school entity in Westmoreland County is the Diocese of Greensburg which enrolls approximately 1,300 students (Diocese of Greensburg, n.d.).

Westmoreland County's population includes 94 percent white, 3 percent black, 1.7 percent two or more races, 1.4 percent Hispanic, and 1.2 percent American Indian, Asian, or Native Hawaiian. The median household income is \$68,708, and 11.2 percent live in poverty. High school graduates represent 95 percent of the total population, and 31 percent represent individuals with a Bachelor's degree or higher (United States Census, 2021). Clairview School is the Westmoreland Intermediate Unit's special education placement entity for students with low-incidence disabilities for Westmoreland County and beyond. The school opened in 2000 and provided students with unique learning opportunities through an individualized curriculum centered on social-emotional learning (Clairview School, 2023).

Participants

Three different groups of educational stakeholders participated in this action-research study. Group One consisted of Westmoreland Intermediate Unit

inductees (educators and educational specialists), Group Two participants were the mentors of the inductees, and Group Three consisted of educator induction leaders from across the Commonwealth. All participants who volunteered for this study consented to participate in the research study (Appendix B).

The researcher identified 26 potential educators and educational specialists for this action research project. Each of the 26 potential participants was employed by the Westmoreland Intermediate Unit, provided direct services to the county's early intervention or school-age students, and completed induction over the past three to five years. All educators and educational specialists were Level I educators in pursuit of completing induction as one of the Pennsylvania Department of Education requirements before applying for Level II certification. The educators and educational specialists who participated in this research project completed induction at the Westmoreland Intermediate Unit.

The completion of induction was one step in the process of applying for Level II certification. Level I certifications for educators and educational specialists are valid for six years of service. Educators and educational specialists teaching in Pennsylvania with a Level I certification for three to six years of satisfactory teaching and having earned 24 post-bachelor credits can apply for a Level II certification. The Pennsylvania Department of Education (2023b) has determined that educators and educational specialists can apply for Level II certification when the following “conditions” are met:

- Six credits must be associated with your [the educator or educational specialist] area(s) of certification and/or must be designed to improve professional practice

- You [the educator or educational specialist] must have three years of satisfactory service on a Level I certificate, verified by the chief school administrator of the employing school entity
- You [the educator or educational specialist] must have completed a PDE [Pennsylvania Department of Education] induction program verified by the chief administrator of your employing entity (Pennsylvania Department of Education, 2023b, “Level I to Level II” section).

The Pennsylvania Department of Education (2023b) defines educators as professional or temporary employees who provide direct instruction to students in a specified content area or grade level. An educational specialist is a nonteaching professional who provides direct services to students but is not considered a classroom teacher (educator). Educational specialists include:

- Speech and Language Therapists
- Social Workers
- Nurses
- School Psychologists
- School Counselors
- English as a Second Language Teachers
- Dental Hygienists
- Home School Visitors
- Instructional Technology Specialists
- Other (professional employees who provide services and who are not classroom teachers)

Educator participants in this action research project taught special education in grades pre-kindergarten through twelfth grade. Educational specialists participants in this action research project provided direct services specific to speech and language therapy (early intervention and school-age), vision impairment, and deaf and hard of hearing.

The researcher identified 17 potential mentors for this action research study. Sixteen were employees of the Westmoreland Intermediate Unit, and one was an employee of a local public school district. All mentors shared the same job type as their mentees. Chapter 49 of the Pennsylvania School Code requires a mentor relationship between new educators and educational specialists. Mentors are educators with exceptional instructional leadership skills and can assist the new educator or educational specialist in developing on-the-job skills (Pennsylvania Department of Education, 2023b). The mentors were not provided a stipend and volunteered to support the new employee in this capacity. Each mentor held a Level II educator or educational specialist certification through the Pennsylvania Department of Education and earned a satisfactory rating on all end-of-year evaluations before and during their time as a mentor.

Intermediate unit educator induction program leaders were also participants in this study. Educator induction program leaders design or manage the induction process at their intermediate unit. Because each intermediate unit across the Commonwealth is unique, participants in this study who were induction program leaders had job titles that ranged from Director of Educational Programs and Services, Director of Curriculum and Instruction, and Supervisor of Special Education to Program Assistants. The size of each participating intermediate unit varied and ranged from very large, which employed 1,200 professionals, to very small, which employed 100 professionals. The researcher emailed

all 29 intermediate units requesting they identify the person who oversees/manages Educator Induction at their intermediate unit. Of the 29 emails sent by the researcher, 18 intermediate units responded with the name, title, and contact information of the Educator Induction point of contact. As a result, there were 18 potential intermediate unit induction leaders for this action research project participants.

Project History

The researcher found no data on Educator Induction at the Westmoreland Intermediate Unit before 1990. However, putting context around the induction program was essential for this action research study and was based on the information learned through personal communications. The individuals used to collect this information asked to remain anonymous and are cited as such at the end of this section. They asked to remain anonymous because their recollection of events was based on their experiences as Westmoreland Intermediate Unit employees.

New employees engaged in induction in the early 1990s were assigned a mentor who received a stipend. Induction lasted one year, and mentees and mentors met informally and as needed. The intermediate unit provided end-of-year checklists to inductees and mentors to verify proficiency in specific competencies. The researcher was unable to discern what competencies were included in this checklist. Once the mentors and supervisors verified the completion of these competencies with the inductees, the inductees were considered finished with induction requirements, and the intermediate unit awarded a letter of completion was awarded to the inductees.

The induction program became more formally structured in 2000; the number of meetings increased, and specific induction content was identified. The induction

competency checklist was no longer used. Four meetings per year with intermediate unit-related information were offered during these meetings. Information shared at these meetings included how to access travel reimbursement, attend a professional conference, and an introduction to special education policy. Conversations between the mentee and mentor consisted of teaching strategies that included direct instruction.

A layer of asynchronous professional development was added to the induction program in 2010, the number of meetings increased to monthly, and induction became a three-year requirement. The induction program also became a group-led initiative. Induction content focused on the Pennsylvania Department of Education's expectations (guidelines), including confidentiality, special education - Individualized Education Plans (IEPs), curriculum and assessment, and classroom management. This induction programming change resulted from an outside educational consultant hired by the intermediate unit, who observed the need for a more robust program. Mentors were still assigned to mentees, were paid a small stipend, and induction terminology became a part of the bargaining agreements.

During this time, the Westmoreland Intermediate Unit offered induction services to its member public school districts and local preschool programs. The rationale for offering induction services to district and preschool partners was to 1) provide them with an option to have a more robust approach to induction and 2) provide them with a program that could serve one or two new employees. As a result, the intermediate unit hosted induction for various employee types that included nurses, general and special education teachers, special teachers (gym, art, music), speech and language therapists, school counselors, and psychologists. The costs to districts and preschools were

minimal: \$350 in year 1, \$250 in year 2, and \$140 in year 3. This concept continued until districts created their own induction programming.

In 2017 the Westmoreland Intermediate Unit's Educator Induction program transitioned from being group-led and was assigned to one person. The new induction program leader created personalized learning plans for the employees engaged in induction. Induction remained a three-year program, and face-to-face or virtual meetings were held in the evenings every other month. Induction content focused on explicit instruction, professionalism, working with difficult parents, keeping organized, behavior, and mental health. Beginning-of-the-year goal setting and end-of-the-year sharing of learning presentations were added to the induction curriculum. During this time, mentors were no longer paid a stipend, and it became difficult to attract mentors. As a result, the mentoring piece of induction became less formal, and mentees were not assigned a specific mentor (Anonymous respondents, personal communications, March 9, 2023). Educator induction programming for the 2022 - 2023 school year reverted to assigning Level I educators and educational specialists a formal mentor and was reduced from a three-year requirement to a two-year requirement. Content for all educators and educational specialists who instructed students participated in structured literacy professional workshops and were required to complete four field experiences that included:

- attending a Westmoreland Intermediate Unit board meeting
- interviewing a Westmoreland Intermediate Unit supervisor or director that is outside of the employee's job type

- shadowing a Level II professional who was not employed at the same entity as the employee
- attending a Pennsylvania Training and Technical Assistance Network (PaTTAN) in-person workshop

Educators who did not directly instruct students were still required to complete the four field experiences. However, these employee types completed an action research project in place of structured literacy training.

Research Plan

The research plan for this action-research project was supported by critical findings in the literature review:

- Forty percent of the newest generation of teachers have left the profession after five years (Aspen Institute, 2022).
- New teachers have experienced tremendous shock during their first years of teaching (Hobson & Ashby, 2012).
- Induction programs with multiple support types are comprehensive (Smith & Ingersoll, 2004).
- A strong relationship between a new teacher and their mentor matter (Cochran-Smith & Fries, 2005).

The key findings of the literature review revealed that new teachers need a comprehensive support structure that includes mentors. The research plan used quantitative surveys to collect data on the following research questions:

1. What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?

2. What is the difference in perception between educators and educational specialists regarding induction experiences?
3. What induction practices effectively meet the needs of new educators with various job types?

The research plan included three quantitative survey questions to measure the perceived relationship between mentees and their mentors. These perceptions were compared to the level of engagement each stakeholder (mentee and mentor) had in the induction process. The research plan met the needs of the research problem through a collection of survey responses from mentees, their mentors, and intermediate unit leaders who managed induction programs. Survey responses were analyzed to identify how induction could be improved by strengthening mentee and mentor relationships and identifying common program elements that defined a comprehensive induction program.

The fiscal implications related to the research plan were minimal. The researcher used the KeySurvey digital platform to create, distribute, collect, and house the survey question responses. KeySurvey enabled the researcher to create a varied approach to question design and provided survey participants access to the survey on mobile devices and stand-alone computers, and laptops. KeySurvey was a previously purchased survey platform at the Westmoreland Intermediate Unit and was used across different programs. The KeySurvey program was purchased at \$5,000 annually with unlimited use for all survey designers. This research plan could have been implemented using a different survey platform, with numerous options available at zero cost.

Research Design, Methods, & Data Collection

Action research is a “systematic approach to investigation that enables people to find effective solutions to the problems that confront their everyday lives” (Stringer, 2014, p. 1). This researcher used a systematic approach to find solutions to the complexities that educator induction presented at the Westmoreland Intermediate Unit. Kemmis and Wilkinson (1997) described a systematic approach as a specific sequence of events for planning, observing, and collecting data. The researcher used a quantitative approach to data collection for this research plan; this data collection approach used statistics and numbers to compare relationships between mentees and mentors. Research studies that “focus on hypothesis testing and studying relationships among variables often use quantitative, statistical methods to analyze data” (Hendricks, 2017, p. 9). Using the quantitative data collection method, the researcher identified patterns in perceptions and programs as surveyed by the three stakeholders in the research plan: educators and educational specialists, mentors, and intermediate unit leaders who managed induction.

Table 2 describes the alignment of research questions, data collection methods, data sources, and the timeline for this action research study.

Table 2

Alignment of Research Questions, Data Sources, and Timeline

RESEARCH QUESTIONS	DATA SOURCES	TIMELINE
<p>What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?</p>	<p>A ten-question, close-ended survey was sent to 27 potential educators who have participated in and completed the Westmoreland Intermediate Unit’s induction program and their respective mentors. The researcher used the purposeful sampling method to identify inductee participants. The purposeful sampling method ensured the inclusion of the different types of educators and educational specialists who have completed the induction program. The goal was to identify and survey educators, educational specialists, and their mentors from various job types (Appendices B and C).</p> <p>The final question on the survey for inductees and mentors gave an opportunity to list any additional services they thought would be helpful related to induction.</p>	<p>January 30 - February 6, 2023</p>
<p>What is the difference in perception between educators and educational specialists regarding induction experiences?</p>	<p>The final question on the survey for inductees and mentors gave an opportunity to list any additional services they thought would be helpful related to induction.</p>	
<p>What induction practices effectively meet the needs of new educators with various job types?</p>	<p>A ten-question, close-ended survey was sent to a potential 18 intermediate unit induction leaders across the Commonwealth. The survey gathered data to determine the practices used at intermediate units that supported a comprehensive induction experience for new educators, educational specialists, and mentors (Appendix E).</p> <p>The final question on the survey for induction program leaders gave the opportunity to list any additional programs or services they thought would be helpful or practical related to induction programming. This data was collected to determine and compare more than one or no mode.</p>	<p>January 30 - February 6, 2023</p>

Data collected by the three surveys will be analyzed using KeySurvey.

KeySurvey is the digital platform the researcher used to create, distribute, collect, and house survey question responses. KeySurvey arranges data by question type, enabling the researcher to determine the survey question responses' mean, median, and mode.

Each of the three surveys contained the same questions and question type, with the exception of two questions on the survey sent to intermediate unit induction leaders.

Because the survey questions and question types are the same across all three surveys, the researcher can establish the mean, median, and mode for each research group's set of survey questions (educators and educational specialists, mentors, intermediate unit induction leaders). The researcher will identify patterns and anomalies by analyzing and comparing responses for each group surveyed. Comparing each group's responses will increase validity, discussed in detail in the next section of this chapter. The content of the survey questions used to establish mean, median, and mode across all three surveys included:

- induction content satisfaction on overall induction experience, length of induction, educator effectiveness (Danielson Framework), Standards-Aligned System (SAS), collaboration with other inductees, teaching strategies for diverse learners, and inductee/mentor experience;
- relationship quality between mentees and mentors;
- induction activities (inductee and mentor observations, co-observing, co-planning, goal setting between inductees and mentors, and attending professional learning opportunities;
- relevance of induction as compared to job types;

- engagement level between inductees and mentors.

The two survey questions that were different and included on the surveys sent to induction leaders at intermediate units gathered data to determine the strategies used during induction that attempt to differentiate the induction process of new educators and educational specialists with different job types. This data will be analyzed by 1) establishing the response rate for each differentiation strategy implemented and 2) determining the mode of the complete data set.

The researcher obtained approval from the PennWest University Institutional Review Board before conducting any research for this action research study. The Westmoreland Intermediate Unit also reviewed and approved the proposed research plan. Prior to completing any survey for data collection, potential participants read a letter that explained the:

- purpose of the action-research project
- expected time to complete the survey
- privacy expectation (no names)
- option to withdraw from the project at any time
- benefits of participating in the study

Each group of participants was asked to complete a digital survey. The approval letter provided by the PennWest University Institutional Review Board shows that the researcher's project proposal was approved (Appendix A).

The budget for implementing the Educator Induction program for the Westmoreland Intermediate Unit totals \$89,933.00. It includes the partial salaries and benefits of the program administrators, travel expenses for the supervisor, contracted

services, stipends, and indirect costs. During the first three years of implementation, there will not be any revenue stream to support expenditures in the budget. Any potential revenue for the Educator Induction program will be forecasted in a five-year budget upon successful implementation after three years. Revenue will be generated through potential District partnerships that choose Westmoreland Intermediate Unit's Educator Induction program as a pay-for-service option to satisfy the Pennsylvania Department of Education's Educator Induction requirement. As a result, funding will be supported by the general operating budget under the function of special education core programming. The funding source expends dollars from the administrative budget, applied to the entire Intermediate Unit, and was not assigned to a specific instructional level. Expenditures associated with this budget were not segregated by individual schools because the Intermediate Unit was classified as a non-instructional building.

A professional development platform, "Alludo," will be used to design educator induction courses and track progress throughout the program. The cost associated with Alludo is shared because other Westmoreland Intermediate Unit teams use Alludo. Potential stipends for the mentors may be needed to compensate for the time and effort of each mentor. Mentors would earn a flat stipend per year (cost to be determined) regardless of how much time they spend with their mentees. Most of the required work for the new educators and their mentors will be completed during regular school hours throughout the board-approved calendar year.

The indirect costs associated with the Educator Induction program totaled \$4,350.00, including rent, utilities, administrative fees, telephone, technology, and supplies. These indirect costs were shared and standard for major programs that required

a budget housed at the Intermediate Unit. The indirect cost rate for the Educator Induction program was .05% of the total budget (approximately \$4,350.00). Line items such as rent, utilities, telephone, technology, and supplies were needed to 1) account for the space and utility of the program at the Intermediate Unit and 2) maintain the quality of the everyday programming associated with the Westmoreland Intermediate Unit Educator Induction Plan. The intermediate unit's administrative fee was associated with most programming across all divisions and was considered an indirect cost. This administrative fee included a portion of the salaries of those employees who worked in accounting, payroll, human resources, and technology. In general, because the Educator Induction program represented a small percentage of the overall programming at the Intermediate Unit, the indirect costs associated with this initiative were negligible.

Validity

A non-negotiable requirement for any researcher engaged in action research is validity. Hendricks (2017) defined validity as studies that can be trusted. Lincoln and Guba (1985) developed criteria for trustworthiness that are used vastly in action research. These four criteria include credibility, transferability, dependability, and confirmability. Hendricks (2017) defined these criteria:

- **Credibility:** The plausibility of the research findings for the context that was studied.
- **Transferability:** The extent to which results of a study are applicable to other contexts and other individuals.
- **Dependability:** The degree to which research results would replicate with the same or similar participants and/or contexts.

- Confirmability: Showing that results are an accurate representation of what occurred rather than the result of the researcher's bias, motivation, or interest. (p. 64)

Credibility, dependability, and confirmability can be established through triangulation, a procedure that requires the researcher to gather and analyze multiple data sources (Hendricks, 2017). Rossman and Rallis (2012) described triangulation as a way to “ensure that you have not studied only a fraction of the complexity that you seek to understand” (p. 65). In this research study, the researcher compared the survey results between educators, educational specialists, and their mentors on relationships with each other, engagement level during the induction process, and overall perceptions of induction programming. Each mentee and mentor created a six-digit numerical code unknown to the researcher to ensure the anonymity of the mentees and mentors who participated in the study. This six-digit code was created to identify the like mentee and mentor so that triangulation could occur. This triangulation of multiple data sources increased the validity of the first two research questions:

1. What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?
2. What is the difference in perception between educators and educational specialists regarding induction experiences?

Triangulation was also used to increase the validity of the third research question:

3. What induction practices effectively meet the needs of new educators with various job types?

Triangulation for research question number three occurred by cross-comparing the responses to common questions on the three surveys sent to educators, educational specialists, mentors, and intermediate unit leaders who supervised induction across the Commonwealth. The content of these common question types assessed the value each group of research participants placed on different induction activities such as observing, co-observing, lesson planning, action research, and goal setting.

Limitations

Two limitations were placed on this action research project: mentee-to-mentor assignments and inductee representation from all different job types. The Westmoreland Intermediate Unit discontinued offering a stipend for mentors in 2017. Thereafter, it was difficult for the induction program leader to attract and retain the number of mentors needed to assign a specific mentor to most mentees. As a result, the researcher had to cross-compare notes from the induction program leader and the mentees to identify the mentors. In some cases, there needed to be more clarity between whom the program leader identified as a mentor and whom the mentees identified as mentors. Mentees often identified several people as their mentors because a specific person was not assigned to them.

The second limitation of this research study was the representation of all the different jobs, specifically those associated with the role of educational specialists. Because the researcher surveyed inductees who completed the Westmoreland Intermediate Unit's Educator Induction program over the past five years, certain job types were not represented in this study because no new employees needed to be hired in those

job types. The educational specialists not represented in this research study were school nurses, counselors, and psychologists.

Summary

This quantitative action research study was conducted to 1) determine how engagement between induction mentees and mentors impacts overall satisfaction with the induction process and 2) identify induction strategies that impact the different employee types that educational entities employ. The setting for this study was the Westmoreland Intermediate Unit and included three different induction stakeholders:

- Educators and Educational Specialists
- Mentors
- Intermediate unit leaders who managed induction

A brief overview and connection to the literature review reestablished the central findings of educator induction programming. These findings included the need for a comprehensive approach to induction design (Smith & Ingersoll, 2004) and a strong relationship between new teachers and their mentors (Cochran-Smith & Fries, 2005). These critical findings in the literature further supported the need for this action research project.

A project history was shared to provide additional context that illustrated the evolution of educator induction at the Westmoreland Intermediate Unit since the 1990s. The historical narrative established the changes over time and how they impacted induction, good, bad, or indifferent. The fiscal implications of this research plan were minimal because the researcher used an existing survey platform to collect data. The cost to implement induction increased tremendously when the direct and indirect costs were

considered. The validity of the research plan was established by triangulating multiple data sources between the different induction stakeholders. Finally, two potential limitations were presented to create a context for the results. Chapter IV will focus on how the action research plan unfolded and the interpretations of the surveys sent to each participant group.

CHAPTER IV

Data Analysis and Results

This action research study aimed to re-imagine the Westmoreland Intermediate Unit's Educator Induction Program. The challenge for the Westmoreland Intermediate Unit is designing an Educator Induction Program that successfully meets the unique needs of new educators with different job types. These job types include Pre-Kindergarten through twelfth-grade general and special education teachers, reading specialists, teacher interns, long-term substitutes, and educational specialists. Educational specialists include Dental Hygienists, Elementary and Secondary School Counselors, Home and School Visitors, Instructional Technology Specialists, School Nurses, School Psychologists, School Speech and Language Pathologists, and School Social Workers. The Westmoreland Intermediate Unit's current induction program weaknesses and growth opportunities led to the development of the researcher's three research questions:

- 1) What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?
- 2) What is the difference in perception between educators and educational specialists regarding induction experiences?
- 3) What induction practices effectively meet the needs of new educators with various job types?

This chapter will detail the quantitative data collection methods used for this action research study. Three different groups of participants were used to collect data designed to answer the three research questions above. These participant groups included

Westmoreland Intermediate Unit educators and educational specialists who previously completed the intermediate units induction program, their respective mentors, and intermediate unit leaders who supervised the induction process across the Commonwealth of Pennsylvania. This action research project will provide insight into how Educator Induction Programs can be more engaging for the different job types hired by intermediate units and public school districts.

Data Analysis

A quantitative-methods research design was used to collect data for this action research project and to answer the three research questions designed by the researcher. The researcher used three quantitative surveys to collect data from educators and educational specialists, their mentors, and induction leaders at intermediate units throughout Pennsylvania. The three surveys were sent to each participant group on January 30, 2023, and data was collected through February 6, 2023. Baseline data was not collected because the study aimed to identify the perceptions of previous Westmoreland Intermediate Unit inductees, their mentors, and the current perceptions of intermediate unit leaders who lead induction in their respective intermediate units.

The overarching objective of the data collection process of this study was to 1) determine if correlations exist between the perceptions of educators, educational specialists, and their mentors as compared to program engagement and 2) determine the strategies perceived to be successful for induction program design. The study results were collected using KeySurvey, the same digital platform the researcher used to create, distribute, and house the survey questions sent to each of the three research groups. KeySurvey arranged the data into charts and graphs based on the question type. Five

survey questions required participants to select from a drop-down menu or gave participants two options for choosing only one answer. This data was reported in a numerical response rate using percentages. Two survey questions required participants to rate different items along a scale and were reported in percentages. Data was collected to show the mode for each response, represented by percentages. The last question type on the three surveys was an optional, multi-line text response box used to collect comments. The multi-line text response survey question was designed to elicit any additional information yet to be addressed in the surveys. Data for the multi-line text responses were reported by quoting the participant's responses and were placed in a table format.

Educator and educational specialists surveys were sent to 26 inductees from the Westmoreland Intermediate Unit, who completed induction over the past five years. Fifteen surveys were sent to mentors. The discrepancy in the number of surveys sent to educators and educational specialists was attributed to several mentors serving in the mentoring capacity for multiple mentees. Of the surveys sent to educators and educational specialists, one inductee was on maternity leave and did not complete the survey. Of the surveys sent to mentors, one mentor denied participation, which automatically removed both the mentor and mentee from the study due to triangulation and validity due diligence on behalf of the researcher. An additional two mentors did not complete the survey because they felt their interactions were limited with their mentees. The lack of interaction between the two mentors and their mentees removed them from the study. Two mentors completed a survey but needed to correctly identify the six-digit code their mentees created. The incorrectly identified six-digit code withdrew the mentors and their mentees from the study due to removing the ineligible surveys from

KeySurvey, fourteen of the 26 educators, educational specialists, and eight corresponding mentors completed the survey. Seven of the 14 educators and educational specialists whose surveys were eligible for the study became ineligible because their mentors did not complete a survey. Those seven educators' and educational specialists' surveys were not included in the researcher's data collection due to triangulation and validity due diligence. After processing all of the surveys to determine eligibility for this study, data were collected on six educators, educational specialists, and their mentors with the following job types:

- one early intervention speech and language therapist
- one teacher of deaf or hard-of-hearing students
- three school-age speech and language therapists
- one special education teacher

The third group of participants in this study were educator induction leaders. Eighteen surveys were sent to educator induction leaders from intermediate units across the Commonwealth of Pennsylvania. Nine of the eighteen surveys were returned for the researcher to analyze.

Data from the three surveys were analyzed to establish a mean, median, mode, or no mode for each question. Data comparison existed on questions that were the same across all three surveys and were used to find similarities and anomalies among the survey responses of each participant group. These comparisons were designed to increase the validity of the action research study. Data triangulation is discussed after the data has been presented for each research question.

Results

Research Question One: What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?

The results for research question one were collected from two surveys distributed to educators, educational specialists, and their mentors. Each survey asked the educators, educational specialists, and mentors the same questions. The output results of these questions showed the total survey responses between all educators, educational specialists, and mentors and were used to establish a mean, median, mode, or no mode. The data comparisons of individual responses between the mentee and their mentor are presented after the mean, median, or mode has been determined. The comparison of individual responses between the mentee and the mentor supported the researcher's effort to increase the study's validity.

The first set of questions on both surveys asked educators, educational specialists, and their mentors to describe the quality of their relationship. The question design gave those surveyed seven options and required a "pick one" option. The seven options used to describe the quality of their relationships ranged from very strong to completely weak. Figure 1 shows data explaining how the educator or educational specialist perceived the quality of their relationship with their mentor. Figure 2 shows data describing how the mentor perceived the relationship quality with their mentee.

Figure 1

Educator and Educational Specialist Survey Question 3

How would you describe the quality of your relationship with your mentor?

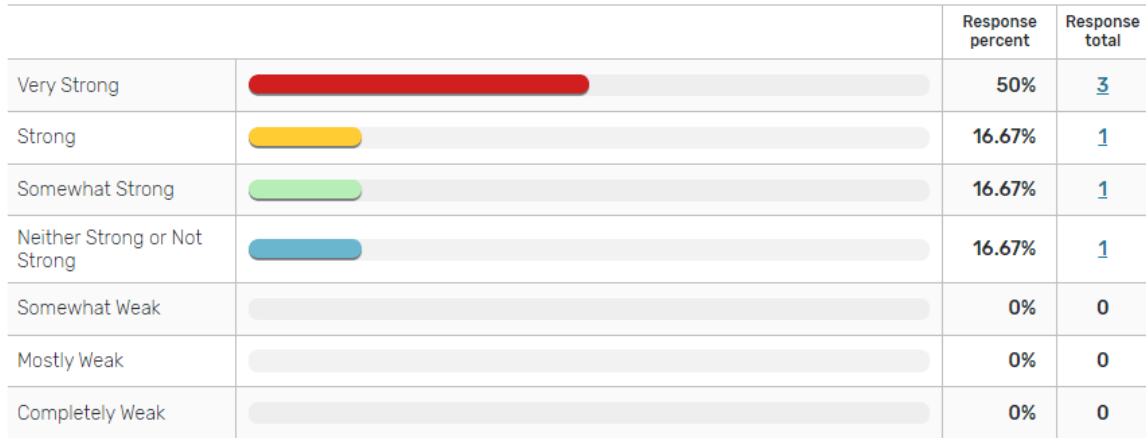
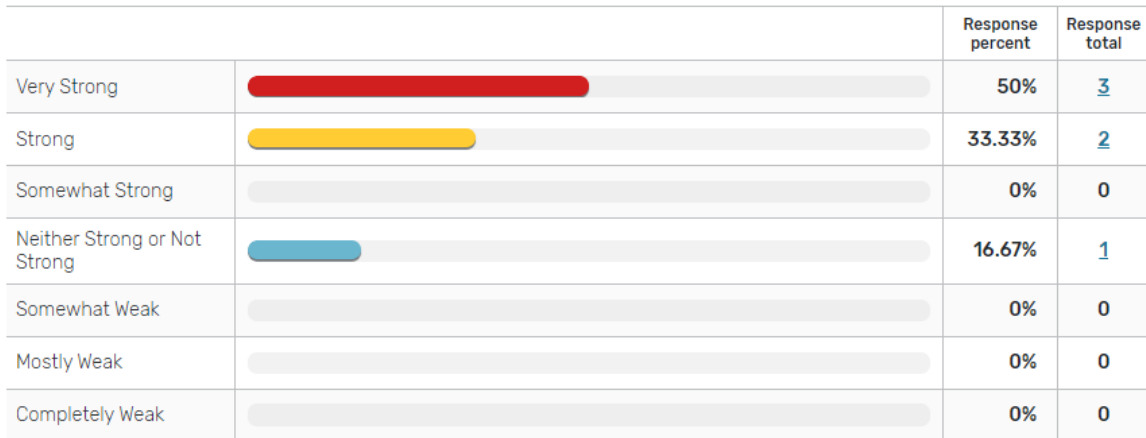


Figure 2

Educator Induction Mentor Survey Question 2

How would you describe the quality of your relationship with your inductee?



To perform a statistical analysis of the data in Figures 1 and 2, a numerical value was given to represent each response category, with one being given to the response “Completely Weak” and seven to the answer “Very Strong.” The data in Figure 1 shows how educators and educational specialists perceived the relationship quality with mentors. Fifty percent of those surveyed perceived the relationship as very strong, and

16.67 percent perceived the relationship as either strong, somewhat strong, or neither strong nor not strong. The data in Figure 1 were analyzed to determine the distribution of responses was skewed to the left with a center of seven, given by the mode, and a spread of 1.75 categorical units, provided by the interquartile range (IQR). There were no significant outliers in the data. The median response to the survey question in Figure 1 was 6.5, representing a value between “Strong” and “Very Strong.” The data in Figure 2 shows how the mentors perceived the relationship quality with inductees. Fifty percent of those surveyed perceived the relationship to be very strong, 33.33 percent described the relationship as strong, and 16.67 percent as neither strong nor not strong. The data in Figure 2 were analyzed to determine the distribution of responses was skewed to the left with a center of seven, given by the mode, and a spread of one categorical unit offered by the IQR. There were no significant outliers in the data. The median response to the survey question in Figure 2 was 6.5, representing a value between “Strong” and “Very Strong.” When comparing the two distributions from Figure 1 and Figure 2, it was observed that both distributions were skewed to the left. The center of each distribution was the same, each with a mode of seven. The spread of responses by educator induction mentors given by the IQR was slightly higher at 1.75 than that of educators and educational specialists with an IQR of one.

The next set of questions on both surveys asked educators, educational specialists, and their mentors to identify if the relationship between each other could have been more impactful throughout induction. The question design gave those surveyed two options, “yes or no,” and required a pick one or the other option. Figure 3 shows the number of educators and educational specialists who believed the relationship with their mentor

could have been more impactful. Figure 4 shows data describing the percentage of mentors who thought their relationship could have been more impactful with their inductees.

Figure 3

Educator and Educational Specialist Survey Question 4



Figure 4

Educator Induction Mentor Survey Question 3



To analyze the data in Figures 3 and 4, a number was given to represent each response category, with one being given to the response “No” and two to the answer “Yes.” The data in Figure 3 shows the number of educators and educational specialists who believed the relationship with their mentor could have been more impactful. Of those educators and educational specialists surveyed, 83.3 percent stated the relationship between them and their mentor could have been more impactful, and 16.67 percent felt the relationship could not have been more impactful. The data shown in Figure 3 was analyzed to determine the distribution of responses was skewed to the left with a center of two, given by the mode, and a spread of zero categorical units presented by the IQR.

One possible outlier with a value of one represented a single response of “No” to the survey question. The median response to the survey question in Figure 3 was two, which meant a " Yes " response to the question, “Do you think the relationship with your mentor could have been more impactful?” Figure 4 shows data describing the percentage of mentors who believed their relationship could have been more impactful with their inductees. Of those mentors surveyed, 83.3 percent felt the relationship between them and their inductee could have been more impactful, and 16.67 percent did not think the relationship could have been more impactful. The data shown in Figure 4 was analyzed to determine the distribution of responses was skewed to the left with a center of two, given by the mode, and a spread of zero categorical units offered by the IQR. One possible outlier with a value of one represented a single response of “No” to the survey question. The median response to the survey question illustrated in Figure 3 was two, representing a " Yes " response to the question, “Do you think the relationship with your inductee could have been more impactful?” When comparing the two distributions from Figure 3 and Figure 4, it was observed that both distributions were skewed to the left. The center of each distribution was the same, each with a mode of two. The spread of responses by mentors, educators, and educational specialists was the same, with an IQR of zero.

The final survey question used to collect data on research question one, “What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?” asked educators, educational specialists, and their mentors to rate engagement levels during the induction process. The question design gave those surveyed five options, requiring a pick one or the other option. The five

options used to describe engagement during the induction process ranged from almost always engaged to never engaged. The data in Figure 5 shows the level of engagement of the educator or educational specialist during the induction process. Figure 6 shows the level of engagement of the educators or educational specialists through the lens of the mentors.

Figure 5

Educator and Educational Specialist Survey Question 7

How would you rate your level of engagement with the induction process?




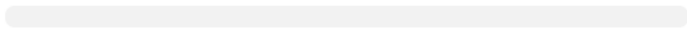
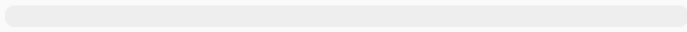


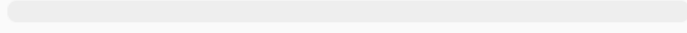
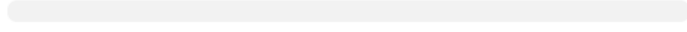
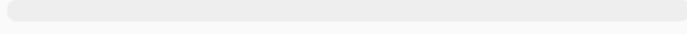
		Response percent	Response total
Almost always engaged		33.33%	2
Often engaged		33.33%	2
Sometimes engaged		33.33%	2
Seldom engaged		0%	0
Never engaged		0%	0

Figure 6

Educator Induction Mentor Survey Question 6

How would you rate the level of engagement of your inductee with the induction process?

		Response percent	Response total
Almost always engaged		66.67%	4
Often engaged		33.33%	2
Sometimes engaged		0%	0
Seldom engaged		0%	0
Never engaged		0%	0

To analyze the data in Figures 5 and 6, a number was given to represent each response category, with five being given to the response “Almost always engaged” and

one to the response “Never engaged.” The data in Figure 5 shows the level of engagement of the educator or educational specialist during the induction process. The data collected shows that 33.33 percent of the educators and educational specialists surveyed are either almost always engaged, often engaged, or sometimes engaged with the induction process. The data shown in Figure 5 was analyzed to determine the distribution of responses was symmetrical and multimodal, with modes at three, four, and five representing responses of “Sometimes engaged,” “Often engaged,” and “Almost always engaged,” respectively. The center of the distribution is four, given by the median, and has a spread of 1.5 categorical units, presented by the IQR. There were no significant outliers in the distribution of responses. Figure 6 shows the level of engagement of the educators or educational specialists through the lens of the mentors. Data collected shows 66.67 percent of the mentors felt their inductees were almost always engaged with induction processes, and 33.33 percent showed inductees as often engaged. The data shown in Figure 6 was analyzed to determine the distribution of responses was skewed to the left and unimodal. The center of the distribution is five, given by the mode, and has a spread of 0.75 categorical units, given by the IQR. There were no significant outliers in the distribution of responses. The median response was five, representing a response of “Almost always engaged” to the survey question, “How would you rate the level of engagement of your inductee with the induction process.” When comparing the two distributions from Figure 5 and Figure 6, it was observed that the shapes of the distributions were different, whereas the distribution of Figure 5 was symmetrical. In contrast, the distribution represented in Figure 6 was skewed to the left. The center of the distribution of responses from mentors was slightly higher at five, represented by the

median, compared to the center distribution of responses from educators and educational specialists, with a median value of four. The spread of responses by educators and educational specialists was slightly higher, with an IQR of 1.5 when compared to the spread of mentors of 0.75 given by the IQR.

Triangulation Research Question One

Data comparing individual responses on relationship quality between the educators, educational specialists, and their mentors are presented in Table 3. To triangulate the data, the researcher asked each educator and educational specialist to create a six-digit code only to be shared with their mentor. These six-digit codes were used to identify and compare individual educators, educational specialists, and mentors' responses. Table 3 compares the responses between educators, educational specialists, and their mentors on two survey questions that measured the perceived quality of the relationship between the mentee and the mentor and the mentee's engagement level during the induction process. The data triangulation in Table 3 supports research question one "What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?"

Table 3*Data Triangulation of Educators, Education Specialists, and their Mentors on**Relationship Quality and Induction Engagement*

Six-digit code	Relationship Quality		Induction Engagement	
	Mentee	Mentor	Mentee	Mentor
000123	S-STR	NS-NS	A-A	O
814724	V-STR	V-STR	A-A	A-A
142021	V-STR	V-STR	O	A-A
032032	STR	STR	S	A-A
006409	V-STR	V-STR	O	A-A
889010	NS-NS	STR	S	O

Note. S-STR = somewhat strong; NS-NS = neither strong nor not strong; A-A = almost always; O = often, V-STR = very strong; STR = strong

The data from Table 3 shows 66.67 percent of educators, educational specialists, and mentors agree on their perceptions of the quality of their relationship. Induction engagement indicates that .17 educators, educational specialists, and mentors agree on perceptions of engagement levels during induction.

The Mann-Whitney U test was performed on the survey results about the relationship quality of the relationships between educators, educational specialists, and mentors. The Mann-Whitney U test is used when researchers want to know if two groups differ on a variable of interest. The null hypothesis was established to test whether there was a difference between how educators and mentors perceived their relationship quality. After performing the test, the data was found to have a U-value of 17. At the five percent significance level, the critical value of U is five. Therefore, because the result of 17 is

greater than the critical value of five, the impact was insignificant and failed to reject the null hypothesis.

The Mann-Whitney U test was then performed on the survey results about the induction engagement between educators, educational specialists, and mentors during the induction process. The null hypothesis was established to test whether there was a difference between how educators and mentors perceived their induction engagement. After performing the test, the data was found to have a U-value of 10. At the five percent significance level, the critical value of U was five. Therefore, because the result of 10 was more significant than the critical value of five, the impact is insignificant and failed to reject the null hypothesis.

Research Question 2: What is the difference in perception between educators and educational specialists regarding induction experiences?

The results for research question two were collected from two surveys distributed to educators, educational specialists, and their mentors. Each survey asked the educators, educational specialists, and mentors the same questions. The output results of these questions showed the total survey responses between all educators, educational specialists, and mentors and were used to establish a mean, median, mode, or no mode. The data comparisons of individual responses between the mentee and their mentor are presented after the mean, median, or mode has been determined. The comparison of individual responses between the mentee and the mentor supported the researcher's effort to increase the study's validity.

The first set of questions that collected data on research question two asked educators, educational specialists, and their mentors to rate their level of satisfaction with

the required components of the Pennsylvania Department of Education Educator Induction as provided through the Westmoreland Intermediate Unit's induction program. The question was designed to allow participants to rate different induction components on a scale ranging from completely satisfied to completely dissatisfied. Participants were also allowed to select "was not part of my induction experience" if they felt any of the required components were not introduced during their induction experience. Figure 7 data shows the satisfaction levels of educators and educational specialists for the different induction components. Figure 8 data depicts data that shows the satisfaction levels of mentors for the various components of induction.

Figure 7

Educator and Educational Specialist Survey Question 2

How satisfied were you with the following?

	Was not part of my induction experience ■	Completely Dissatisfied ■	Mostly Dissatisfied ■	Somewhat Dissatisfied ■	Neither Satisfied or Dissatisfied ■	Somewhat Satisfied ■	Mostly Satisfied ■	Completely Satisfied ■
Overall Induction Experience	0% (0)	0% (0)	16.67% (1)	16.67% (1)	16.67% (1)	16.67% (1)	33.33% (2)	0% (0)
Length of Induction Program	0% (0)	0% (0)	16.67% (1)	33.33% (2)	16.67% (1)	0% (0)	16.67% (1)	16.67% (1)
Educator Effectiveness Training (Danielson Framework)	16.67% (1)	0% (0)	0% (0)	0% (0)	33.33% (2)	16.67% (1)	16.67% (1)	16.67% (1)
Standards Aligned System Training (SAS)	0% (0)	0% (0)	0% (0)	0% (0)	66.67% (4)	16.67% (1)	16.67% (1)	0% (0)
Opportunities to Collaborate with Other Inductees	0% (0)	0% (0)	0% (0)	33.33% (2)	16.67% (1)	0% (0)	33.33% (2)	16.67% (1)
Teaching Strategies for Diverse Learners; including ELL	16.67% (1)	0% (0)	16.67% (1)	33.33% (2)	16.67% (1)	0% (0)	16.67% (1)	0% (0)
Inductee / Mentor Experience	16.67% (1)	0% (0)	0% (0)	16.67% (1)	16.67% (1)	0% (0)	33.33% (2)	16.67% (1)

Figure 8

Educator Induction Mentor Survey Question 1

How satisfied were you with the following?

	Was not part of my induction experience ■	Completely Dissatisfied ■	Mostly Dissatisfied ■	Somewhat Dissatisfied ■	Neither Satisfied or Dissatisfied ■	Somewhat Satisfied ■	Mostly Satisfied ■	Completely Satisfied ■
Overall Induction Experience	16.67% (1)	0% (0)	16.67% (1)	0% (0)	16.67% (1)	16.67% (1)	33.33% (2)	0% (0)
Length of Induction Program	0% (0)	16.67% (1)	0% (0)	0% (0)	16.67% (1)	16.67% (1)	33.33% (2)	16.67% (1)
Educator Effectiveness Training (Danielson Framework)	33.33% (2)	0% (0)	0% (0)	16.67% (1)	16.67% (1)	0% (0)	16.67% (1)	16.67% (1)
Standards Aligned System Training (SAS)	66.67% (4)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	16.67% (1)	16.67% (1)
Opportunities for you Inductee to Collaborate with Other Inductees	16.67% (1)	0% (0)	0% (0)	0% (0)	33.33% (2)	50% (3)	0% (0)	0% (0)
Teaching Strategies for Diverse Learners; including ELL	66.67% (4)	0% (0)	0% (0)	0% (0)	33.33% (2)	0% (0)	0% (0)	0% (0)
Mentor / Inductee Experience	0% (0)	0% (0)	0% (0)	0% (0)	33.33% (2)	0% (0)	50% (3)	16.67% (1)

Both Figures 7 and 8 show results for seven different variables being analyzed.

The variables analyzed in research question two were overall induction experience, length of the induction program, Educator Effectiveness Training, Standards Aligned System Training, opportunities for inductees to collaborate with other inductees, teaching strategies for diverse learners, and mentor/inductee experience. To analyze the data in Figures 7 and 8, a number was given to represent each response category, with one being

given to the response “Was not part of my induction experience” and eight being given to the reaction “Completely Satisfied.”

Figure 7 shows that no educator or educational specialist was completely satisfied or dissatisfied with their overall induction experience. Eighty-three percent of the educators and educational specialists were either somewhat or mostly satisfied with their overall induction experience, 17 percent were neither satisfied nor dissatisfied, 16.76 percent were mostly dissatisfied, and one educator or educational specialist said their overall induction experience was not part of their induction experience. Data collected on the perceived mentor/inductee experience through the lens of the educator or educational specialist shows 16.67 percent were completely satisfied, 50 percent were mostly satisfied, and 33.33 percent were neither satisfied nor dissatisfied. The remaining induction program components, including program length, Educator Effectiveness training, Standards Aligned System training, collaboration with other inductees, and teaching strategies for diverse learners, averaged 8.34 percent completely satisfied, 16.67 percent mostly satisfied, 5.56 percent somewhat satisfied, 16.67 percent neither satisfied nor dissatisfied, 16.67 percent somewhat dissatisfied, 5.56 percent mostly dissatisfied, zero percent completely dissatisfied, and 5.56 percent stated one or more program elements were not part of their induction experience.

Figure 8 data shows that no mentor was completely satisfied or dissatisfied with their overall induction experience. Fifty percent of the mentors were either somewhat or mostly satisfied with their overall induction experience, 16.67 percent were neither satisfied nor dissatisfied, 16.76 percent were mostly dissatisfied, and one mentor said their overall induction experience was not part of their induction experience. Data

collected on the perceived mentor/inductee experience through the lens of the mentors show 16.67 percent were completely satisfied, 50 percent were mostly satisfied, and 33.33 percent were neither satisfied nor dissatisfied. The remaining induction program components, including program length, Educator Effectiveness training, Standards Aligned System training, collaboration with other inductees, and teaching strategies for diverse learners, averaged 8.34 percent completely satisfied, 11.11 percent mostly satisfied, 11.11 percent somewhat satisfied, 15 percent neither satisfied nor dissatisfied, 2.78 percent somewhat dissatisfied, zero percent mostly dissatisfied, 16.67 percent completely dissatisfied, and 22.22 percent stated one or more program elements were not part of their induction experience. “Not part of their induction experience” is an option provided to participants if they believed specific induction content was not offered during their experience. The researcher created this as an option to avoid participants from feeling forced to select an option that may not fully describe their induction experience.

The distributions of satisfaction in the overall induction experience for educators, educational specialists, and mentors were skewed to the left. The center of each distribution was seven, represented by the mode. The median response for educators, educational specialists, and mentors was 5.5. The spread of the answers was slightly higher for mentors, with a distance of 3.25 given by the IQR, compared to the spread of 2.5 for educators and educational specialists. Neither distribution had any apparent gaps or outliers.

The distributions of satisfaction in the length of the induction program for educators, educational specialists, and mentors were skewed to the left. The center of the distribution for educators and educational specialists was four, represented by the mode,

which was several units lower than the center of the mentor distribution, which was seven, given by the mode. The median response from educators and educational specialists was 4.5, which was lower than the median from mentors at 6.5. The spread of responses was slightly higher for educators and educational specialists at 2.5, given by the IQR, compared to the spread of mentor responses of 1.75. There were no apparent outliers in the educator and educational specialist distribution; however, there was a possible outlier in the response distribution for mentors at two.

Educators, educational specialists, and mentors were asked to rate their overall satisfaction with the Educator Effectiveness training during the induction experience. The distribution of mentors' responses was skewed to the right, whereas the distribution of educators' and educational specialists' responses was skewed to the left. The center of the distribution of educators and educational specialists was five, given by the mode, which was significantly higher than the center of the distribution for mentors of one, provided by the mode. The spread of responses for educators and educational specialists was 1.75 given by the IQR, lower than the spread of responses for mentors, which was 4.75 provided by the IQR. There was a single possible outlier response of one for educators and educational specialists, and there was a gap between responses of one and four for mentors involved in the induction process.

The fourth variable educators, educational specialists, and mentors were asked about was their satisfaction level with Standards Aligned Systems training. The distribution of the educator, educational specialist, and mentor responses was skewed to the right. The center of the distribution for educators' and educational specialists' responses at five, given by the mode, was significantly higher than the center of the

distribution for mentor responses at one, presented by the mode. The spread of answers for educators and educational specialists was 0.75 provided by the IQR, which was significantly lower than the spread of mentor responses of 4.5, provided by the IQR.

Educators, educational specialists, and mentors also responded to a survey question about their satisfaction with opportunities to collaborate with other inductees during the induction process. The distribution of educators' and educational specialists' responses was symmetric and bimodal, whereas the distribution of mentor responses was skewed to the left. The center of the educators' and educational specialists' response distribution was six, given by the median, which was slightly higher than the center of the mentors' response distribution of 5.5, provided by the median. The spread of educators' and educational specialists' response distribution was marginally higher at 2.75, provided by the IQR than the spread of the distribution of mentor responses, which was one, also provided by the IQR.

The surveyed groups were asked to rate their satisfaction with their experience with teaching strategies for diverse learners during the induction process. The distribution of educators' and educational specialists' responses was symmetric and unimodal, whereas the distribution of mentor replies was skewed to the right. The center of the response distribution for educators and educational specialists was four, represented by the mode, which is significantly higher than the center of the response distribution for mentors, which is one, given by the mode. The spread of responses for the distribution of educators and educational specialists was 1.5, given by the IQR, which was lower than the spread of responses for mentors of three, given by the IQR.

The final survey question, represented by Figures 7 and 8, asked educators, educational specialists, and mentors to rate their overall inductee/mentor experience. Both distributions were skewed slightly to the left. The center of both the educators' and educational specialists' responses distribution and mentor response distribution was seven, given by the mode of each set of responses. The spread of educators' and educational specialists' responses was slightly higher at 2.75, given by the IQR than the spread of responses from mentors at 1.5, given by the IQR.

The second survey question that collected data on research question two asked educators, educational specialists, and their mentors to rate different mentor services (services provided by the mentor during induction) used to engage the inductee on a scale from one to six with “one” representing “most important” to “six” representing “least important.” Participants could only use each number one time. These mentoring services included the mentor observing the inductee, the inductee observing the mentor, co-observing or co-planning with the mentor, goal-setting with the mentor, and attending a professional learning event with the mentor. Figure 9 shows how the educators and educational specialists ranked the importance of specific mentoring services that the mentor could have provided during induction. Figure 10 shows how the mentors ranked the importance of specific mentoring services they could have provided during induction.

Figure 9

Educator and Educational Specialist Survey Question 5

Rank the following mentor services in order of importance. Try to recall what would have been most important to you as a first year educator. Use "1" for most important and "6" for least important (only use each number once).

	1 ■	2 ■	3 ■	4 ■	5 ■	6 ■		Response total
Mentor Observing You	16.67% (1)	0% (0)	16.67% (1)	16.67% (1)	50% (3)	0% (0)		6
You Observing Your Mentor	50% (3)	16.67% (1)	16.67% (1)	0% (0)	0% (0)	16.67% (1)		6
Co-Observing with Your Mentor	0% (0)	16.67% (1)	16.67% (1)	33.33% (2)	33.33% (2)	0% (0)		6
Co-Planning with your Mentor	33.33% (2)	16.67% (1)	33.33% (2)	16.67% (1)	0% (0)	0% (0)		6
Goal-Setting with Your Mentor	16.67% (1)	33.33% (2)	16.67% (1)	16.67% (1)	0% (0)	16.67% (1)		6
Attending a Professional Learning Event Together	33.33% (2)	0% (0)	0% (0)	0% (0)	16.67% (1)	50% (3)		6

Figure 10

Educator Induction Mentor Survey Question 4

Rank the following mentor services in order of importance. Try to recall what would have been most important to you as a mentor providing support to a first year educator. Use "1" for most important and "6" for least important (only use each number once).

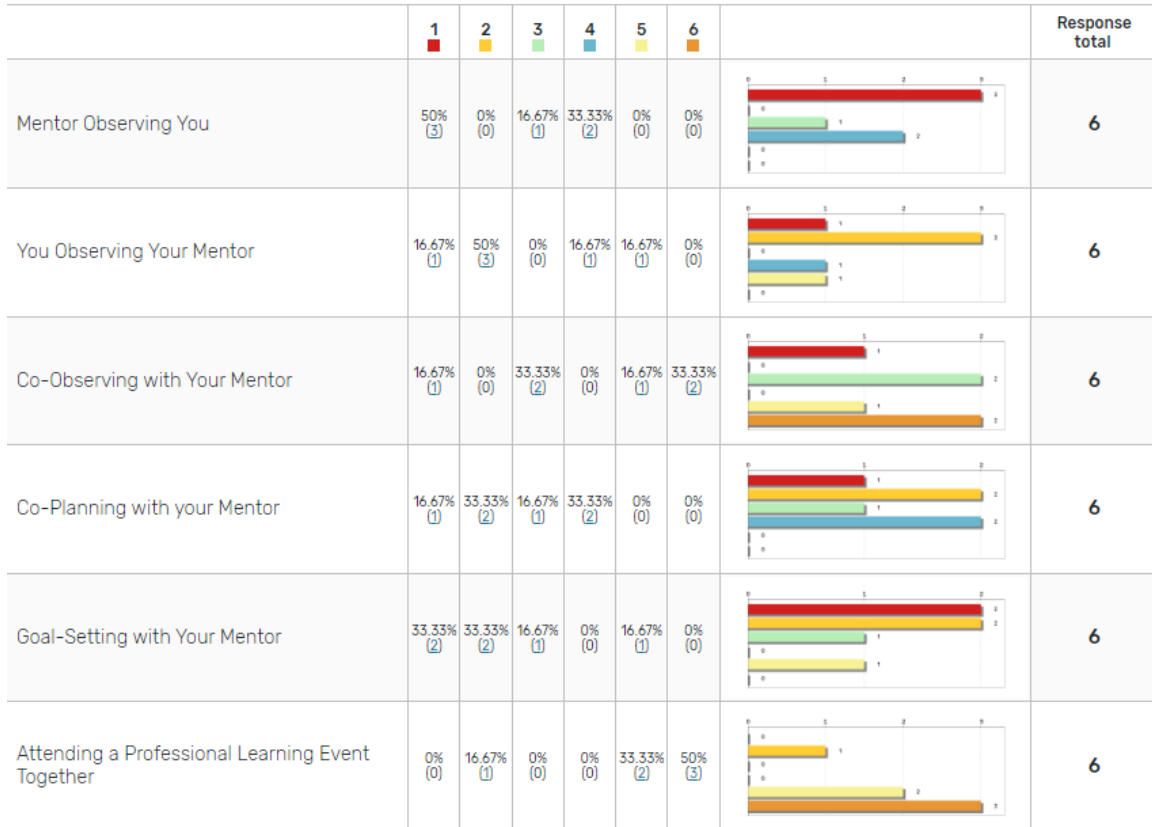


Figure 9 shows a list of mentoring services the mentor could have provided during induction. The data shows that 50 percent of educators and educational specialists ranked the “inductee observes the mentor” as the most critical (impactful) mentoring service from the list of six services, and fifty percent ranked “attending a professional learning event together” as the least important (impactful) mentoring service. The second most selected mentoring service was “goal-setting with the mentor” at 33.33 percent, and the second least selected mentoring service was the “mentor observing the inductee” at 50 percent.

Figure 10 shows a list of mentoring services the mentor could have provided during induction. The data shows that 50 percent of the mentors ranked the mentoring service of “mentor observes the inductee” to be the most critical (impactful) service from the list of six services, and fifty percent ranked “attending a professional learning event together” as the least important (impactful) service. The mentors' second most selected mentoring service was the “inductee observing the mentor” at 50 percent, and the second least desired mentoring service was “attending a professional learning event together” at 33.33 percent.

Both Figures 9 and 10 show results for six different variables being analyzed. The variables analyzed in this portion of the survey rated mentor services during the induction process, which included mentor observing inductee, inductee observing mentor, co-observing with inductee and mentor, co-planning with inductee and mentor, goal-setting with inductee and mentor, and inductee and mentor attending professional learning event together. To analyze the data in Figures 9 and 10, a number represented each possible response category, with one being given to the response “Most important” and six being given to “Least important”.

The first chart in Figures 9 and 10 shows the responses from educators, educational specialists, and mentors on their perceptions of the importance of the mentor observing the inductee. The educator and educational specialist response distribution showed a left skew, whereas the mentor response distribution represented a right skew. The center of the educator and education specialist distribution was five, represented by the mode, which was significantly higher than the center of the mentor distribution of one, given by the mode. The spread of the distribution of responses for educators and

educational specialists was 1.75, given by the IQR. In contrast, the spread of the distribution of responses for mentors was slightly higher at 2.75, given by the IQR.

The next chart in Figures 9 and 10 represents the responses from educators, educational specialists, and mentors and their perceptions on the level of importance for the inductee observing the mentor. Distributions for educators, educational specialists, and mentors represented a skewed distribution. The center of the educator and education specialist response distribution was one, given by the mode, which was only slightly below the center of the mentor response distribution, which had a center of two, provided by the mode. The spread of the distribution of educators' and education specialists' responses was 1.75, given by the IQR, which was very similar to the spread of the mentor responses of 1.5, also given by the IQR.

The third chart in Figures 9 and 10 represents the perceptions of educators, educational specialists, and mentors on co-observing with the mentor during induction. Both distributions were bimodal and skewed left. The educators and educational specialists distribution had modes of four and five, whereas the mentor distribution had modes of three and six. The center of both distributions was four, represented by the median. The spread of mentor responses was slightly higher at 2.75, given by the IQR than the spread of educators' and educational specialists' responses of 1.5, given by the IQR.

Co-planning with the mentor was the next variable analyzed for participant perception. This variable was represented by the fourth chart in Figure 9 with educators and educational specialists and in Figure 10 with mentor responses. The educator and education specialists distribution was bimodal with a slight left skew, whereas the mentor

response distribution was bimodal and relatively symmetrical. Because both distributions were bimodal, the center of each distribution was represented by the median and was found to have a center of 2.5. The spread of both distributions was also the same, 1.75, given by the IQR.

Figures 9 and 10 show charts representing perceptions of the importance of goal setting with the teacher during the induction process based on responses. Both distributions for the different groups represented right-skewed distributions. The center of the distribution of responses for educators and educational specialists was 2.5, given by the median, which was just slightly higher than the center of the distribution of responses for mentors at two. The spread of responses from educators and educational specialists was 1.75, given by the IQR, which was nearly the same as the spread of responses from mentors of 1.5.

Attending a professional learning event was the final variable analyzed in Figures 9 and 10 to determine the perception of the two studied groups. Distributions for responses from educators, educational specialists, and mentor teachers were skewed to the left. The center of the distribution for educators and educational specialists was six, given by the mode, which was the same as the center for the mentor response distribution. The spread of responses from educators and educational specialists was significantly higher at four, given by the IQR than from mentors of one.

The final two survey questions that provided data on the second research question, “What is the difference in perception between educators and educational specialists regarding induction experiences?” asked educators, educational specialists, and mentors to reflect on induction at the Westmoreland Intermediate Unit to determine if

the experience was relevant and impactful to their specific job types. The design for both survey questions gave participants five options and required a pick one or the other format. The first survey question in this data set, “How often did you feel your induction experience was relevant to your job type,” gave participants five options that ranged from all of the time to not at all. The second survey question in this data set, “How would you describe the impact of your induction experience as it relates to the responsibilities unique to your job type?” gave participants five options that ranged from very impactful to not impactful. Figure 11 shows the perception of educators and educational specialists that compared induction experience to job type relevance. Figure 12 shows the perception of mentors compared to the induction experience of their mentee to job type relevance.

Figure 11

Educator and Educational Specialist Survey Question 6

How often did you feel your induction experience was relevant to your job type?

		Response percent	Response total
All of the time		0%	0
Most of the time		50%	3
Some of the time		50%	3
Not at all		0%	0

Figure 12

Educator Induction Mentor Survey Question 5

How often did you feel your inductee's experience was relevant to his/her job type?

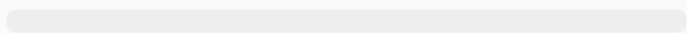


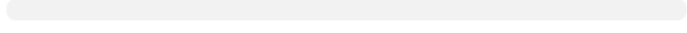
		Response percent	Response total
All of the time		0%	0
Most of the time		83.33%	5
Some of the time		16.67%	1
Not at all		0%	0

Figure 11 shows the perception of educators and educational specialists that compares induction experience to job type relevance. This data was collected from one special education teacher, one early intervention speech and language therapist, three school-age speech and language therapists, and one teacher of deaf or hard of hearing. None of the inductees thought induction was always or not at all related to their job type. Fifty percent believed induction was related to their job type most of the time, and the other fifty percent considered induction was related to their job some of the time. Figure 12 shows the perception of mentors that compares the induction experience of their mentee to job type relevance. The data shows 83.33 percent of the mentors believed induction was relevant to their mentee’s job type most of the time, and 16.67 percent thought induction was relevant to their mentee’s job type some of the time.

To statistically analyze the data in Figures 11 and 12, a number was given to represent each response category, with one being given to the response “Not at all” and four being given to the response “All of the time.” The distribution for educators' and education specialists' responses was symmetric and bimodal, whereas the distribution for mentor responses was unimodal and skewed slightly to the left. The center of the

educator and educational responses was 2.5, given by the median, which is just slightly lower than the center of responses for mentors of three. The spread of responses from educators and educational specialists was one, given by the IQR, which was slightly higher than the spread of mentor responses of zero, also provided by the IQR.

Figure 13 shows how educators and educational specialists compared their induction experiences to the responsibilities unique to their job type. Figure 14 shows how mentors connected induction experiences to the responsibilities unique to their mentee’s job type.

Figure 13

Educator and Educational Specialist Survey Question 7

How would you describe the impact of your induction experience as it relates to the responsibilities unique to your job type?



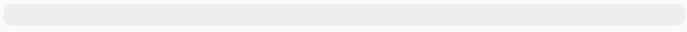

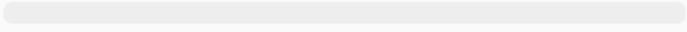
		Response percent	Response total
Very impactful		16.67%	1
Impactful		16.67%	1
Fairly impactful		0%	0
Slightly impactful		66.67%	4
Not impactful		0%	0

Figure 14

Educator Induction Mentor Survey Question 7

How would you describe the impact of your inductee's induction experience as it relates to the responsibilities unique to his/her job type?

		Response percent	Response total
Very impactful		0%	0
Impactful		66.67%	4
Fairly impactful		33.33%	2
Slightly impactful		0%	0
Not impactful		0%	0

The data in Figure 13 shows that 16.67 percent of the educators and educational specialists found their induction experience to be very impactful compared to their job type's unique responsibilities, and 66.67 percent found their induction experience was slightly impactful. Figure 14 shows 66.67 percent of the mentors believed induction was impactful to their mentee's unique job responsibilities, and 33.33 percent believed induction to be fairly impactful on their mentee's unique job responsibilities.

To statistically analyze the data in Figures 13 and 14, a number was given to represent each response category, with one being given to the response "Not impactful" and four being given to the response "Very impactful." The distribution of responses to the impact level of the induction process for educators and educational specialists was skewed to the right. In contrast, the distribution of mentors was skewed to the left. The center of the educators and educational specialists was two, given by the mode, which was lower than the center for mentors of four. The spread of responses from educators and educational specialists was slightly higher than that of the spread of responses from mentors, with spreads of 1.5 and 0.75, respectively, both given by the IQR.

Triangulation Research Question Two

Data comparing individual responses on the overall induction experience and the mentee/mentor experience between the educators, educational specialists, and mentors are presented in Table 4. To triangulate the data, the researcher asked each educator and educator specialists to create a six-digit code only to be shared with their mentor. The six-digit codes were used to identify and compare individual educators, educational specialists, and mentors' responses. Table 5 compares educators, educational specialists, and mentors' responses to two survey questions. The content used to triangulate the data focused on the overall induction experience of the mentee and their mentor, and then specifically, the experience between the mentee and their mentor. Table 4 compares the individual responses between educators, educational specialists, and mentors on induction relevance and job types. Tables 4 and 5 support data triangulation for research question two, "What is the difference in perception between educators and educational specialists regarding induction experiences?"

Table 4

Data Triangulation of Educators, Education Specialists, and their Mentors on Overall Induction Experience and the Mentee/Mentor Experience

Six-digit code	Mentee oie	Mentor oie	Mentee ime	Mentor ime
000123	MS	NS-ND	MS	NS-ND
814724	MS	MS	CS	CS
142021	MD	NP	NP	MS
032032	SD	SS	SD	MS
006409	SS	MD	NS-ND	NS-ND
889010	NS-ND	MS	MS	MS

Note: OIE = overall induction experience; IME = inductee/mentor experience; MS = mostly satisfied; NS-ND = neither satisfied nor dissatisfied; CS = completely satisfied; MD = mostly dissatisfied; NP = not part of induction; SD = somewhat dissatisfied; SS = somewhat satisfied.

Table 5

Data Triangulation of Educators, Education Specialists, and their Mentors on Overall Induction Relevance as Compared to Job Type

Six-digit code	Mentee	Mentor
000123	Most of the time	Most of the time
814724	Most of the time	Most of the time
142021	Some of the time	Most of the time
032032	Some of the time	Most of the time
006409	Most of the time	Some of the time
889010	Some of the time	Most of the time

To triangulate the data in Table 4, a number was given to represent each response category, with one given to the response “Was not part of my induction experience” and eight given to the response “Completely Satisfied.” The Mann-Whitney U test was performed on the survey results about the overall satisfaction during the induction process between educators, educational specialists, and mentors in Table 5. The null hypothesis was established to test whether there was a difference between how educators and mentors perceived their overall induction experience. After performing the test, the data was found to have a U-value of 16.5. At the five percent significance level, the critical value of U was five. Therefore, because the result of 16.5 was more significant than the critical value of five, the result was not significant and failed to reject the null hypothesis.

Similarly, Table 4 compares the survey responses between educators, educational specialists, and mentors and their perceptions of the overall experience between inductees and mentors. The Mann-Whitney U test was performed on the survey results about the overall satisfaction during the induction process between educators, educational specialists, and mentors in Table 4. The null hypothesis was established to test whether there was a difference between how educators and mentors perceived their overall inductee and mentor relationship. After performing the test, the data was found to have a U-value of 13.5. At the five percent significance level, the critical value of U was five. Therefore, because the result of 13.5 is greater than the critical value of five, the result was not significant and failed to reject the null hypothesis.

To analyze the data in Table 5 for statistical significance, a numerical value was given to represent each response category with one given to the response “Not at all,” two

to “Some of the time,” three to “Most of the time,” and four given to the response “All of the time.” The Mann-Whitney U test was then performed on the survey results about the data representing the overall perception of induction relevance and job types between educators, educational specialists, and mentors in Table 5. The null hypothesis was established to test whether there was a difference between how educators and mentors perceived their overall inductee and mentor relationship. After performing the test, the data was found to have a U-value of 12. At the five percent significance level, the critical value of U is 12. Therefore, because the result of 12 was more significant than the critical value of five, the result was not significant and failed to reject the null hypothesis.

Research Question 3: What induction practices effectively meet the needs of new educators with various job types?

The results for research question three were collected from a survey distributed to educator induction leaders from nine intermediate units across the Commonwealth of Pennsylvania. The second question on the survey asked induction leaders to rank different mentoring services in order of importance.

Data collected in Figure 15 shows a list of mentoring services a mentor could provide during induction. These mentoring services included the mentor observing the inductee, the inductee observing the mentor, co-observing or co-planning with the mentor, goal-setting with the mentor, and attending a professional learning event with the mentor. The data describes the top two most impactful mentoring services: goal setting with a mentor at 33.33 percent and co-planning with a mentor at 25 percent. The mentoring service of attending a professional learning event together was determined as

the least important (impactful) service by induction leaders, with 33.33 percent selecting that service as a non-important mentoring service option.

The next two survey questions that collected data on research question three, “What induction practices effectively meet the needs of new educators with various job types?” asked induction leaders to determine the strategies used to differentiate the induction process of new educators with different job types at their intermediate unit. Participants selected from the following options: synchronous training sessions, asynchronous training sessions, book talks, special projects, action research, self-selection of professional learning experiences, interviews, job-alike meetings, observations of job-alike employees, field experiences, and individual portfolios. From the list mentioned, induction leaders were asked to identify the top two strategies used to differentiate induction at their intermediate unit.

Figure 15

Intermediate Unit Educator Induction Leader Survey Question 2

Rank the following mentor services in order of importance. Try to recall what is most impactful to first year educators. Use "1" for most important and "6" for least important (only use each number once).


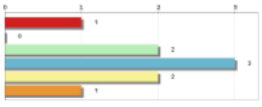



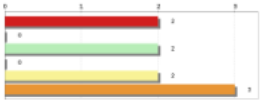
	1 ■	2 ■	3 ■	4 ■	5 ■	6 ■		Response total
Mentor Observing You	11.11% (1)	44.44% (4)	33.33% (3)	0% (0)	0% (0)	11.11% (1)		9
You Observing Your Mentor	11.11% (1)	0% (0)	22.22% (2)	33.33% (3)	22.22% (2)	11.11% (1)		9
Co-Observing with Your Mentor	12.5% (1)	0% (0)	25% (2)	50% (4)	12.5% (1)	0% (0)		8
Co-Planning with your Mentor	25% (2)	37.5% (3)	12.5% (1)	0% (0)	12.5% (1)	12.5% (1)		8
Goal-Setting with Your Mentor	33.33% (3)	22.22% (2)	22.22% (2)	0% (0)	11.11% (1)	11.11% (1)		9
Attending a Professional Learning Event Together	22.22% (2)	0% (0)	22.22% (2)	0% (0)	22.22% (2)	33.33% (3)		9

Figure 16

Intermediate Unit Educator Induction Leader Survey Question 9

What strategies are used to differentiate the induction process of new educators with different job types at your Intermediate Unit?

		Response percent	Response total
Synchronous training sessions		100%	9
Asynchronous training sessions		77.78%	7
Book talks		22.22%	2
Special projects		33.33%	3
Action research		33.33%	3
Self-selection of professional learning experiences		66.67%	6
Interviews		22.22%	2
Job-alike meetings		55.56%	5
Observations of job-alike employees		77.78%	7
Field experiences		44.44%	4
Individual portfolios		55.56%	5

Figure 17

Intermediate Unit Educator Induction Leader Survey Question 10

Based on your response to the previous question, which top two strategies effectively met the needs of new educators in your induction program?	
#	Responses
(9 total)	
1	Im not sure which is question 9
2	Observations of job-alike employees; Self-selection of professional learning experiences
3	Action research, self-selection of professional learning experiences
4	Self-reflection and observations of job-alike employees.
5	Self-selection of learning and observations
6	Job-alike meetings, observations of job-alike employees
7	The two strategies that help to effectively meet the needs of new educators of the induction program are synchronous training, where the mentor and scholar meet with me to review expectations of the mentor scholar cycle and schedule follow-up meetings me with quarterly to review expectations and asynchronous training in our induction online course through canvas, that ultimately facilitates a professional learning network.
8	Differentiating trainings and offering them at the same times.
9	mentor/mentee work throughout the year together; observations of peers/mentors
(9 total)	

Figure 16 shows data collected from educator induction leaders at different intermediate units across the Commonwealth of Pennsylvania. The question was designed for participants to check all options for their intermediate unit. Data shows the top three strategies used to differentiate induction was synchronous training sessions at 100 percent and asynchronous training sessions and observations of job-alike employees at 77.78 percent. The two strategies least used to differentiate induction with different job types were book talks and interviews at 22.22 percent. Figure 17 shows data collected from educator induction leaders at other intermediate units across the Commonwealth of Pennsylvania. The question design was a multi-line text response that allowed participants to type out their responses. The most common responses were observations of job-alike employees and self-selection of professional learning experiences.

The last survey item for educator induction leaders was optional. It required the induction leaders to list any additional programs or services for new educators that would be useful or effective for induction programming. Three induction leaders gave responses. Figure 18 lists the responses of the induction leaders. Responses include increasing time spent on induction, more support for inductees, quarterly check-in meetings between the mentor and the mentee, evaluation of the mentoring cycle, and a place designated for inductees to access “everything they need to know” about their place of employment.

Figure 18*Intermediate Unit Educator Induction Leader Survey Question 11*

List any additional programs or services for new educators that you think would be useful or effective.	
(3 total)	
#	Responses
5	The program strength (or lack there of) is impacted by the small amount of time we have set aside for induction. There is not enough time, therefore not enough support of new educators and because of this induction does not serve the function it could.
7	- quarterly check-ins with mentor/scholar with induction designee, research review - surveys for mentor/scholar delivered by induction designee rating the quality of the mentor cycle
8	A better understanding of where to find information. They are so overwhelmed and there are so many resources. One new employee "Everything You Need to Know" hub would be helpful.
(3 total)	

Discussion

This action research study used a quantitative approach to collecting and analyzing data. Surveys were given to three groups of participants: Westmoreland Intermediate Unit educators, educational specialists, mentors who participated in educator induction over the past five years, and intermediate unit leaders across the Commonwealth of Pennsylvania who led induction at their respective intermediate units.

Data were collected to answer three research questions:

1. What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?
2. What is the difference in perception between educators and educational specialists regarding induction experiences?
3. What induction practices effectively meet the needs of new educators with various job types?

Results for research question one, "What is the relationship between a new educator and their mentors compared to educator engagement in the induction process?"

indicated there was no convincing evidence that there was a difference between how educators and mentors perceived their relationships with respective mentee/inductee, nor was there compelling evidence that there was a difference between how educators and mentors perceived their level of engagement.

Results for research question two, “What is the difference in perception between educators and educational specialists regarding induction experiences?” indicated there was no convincing evidence that there was a difference between how educators and mentors perceived their level of satisfaction with the overall induction process. The results also concluded there was no convincing evidence that there was a difference between how mentees and mentors perceived their overall level of satisfaction with their relationships, nor was there a difference between how educators, educational specialists, and mentors perceived induction relevance and job types.

Results for research question three, “What induction practices effectively meet the needs of new educators with various job types?” indicated the two most impactful mentoring services offered during educator induction were goal setting and co-planning with a mentor. Data also concluded the top three strategies used to differentiate induction for different employee types were synchronous and asynchronous training and observations of job-alike employees.

Summary

Chapter Four showcased and discussed the results of this action research study. Data collected resulted from three surveys distributed to educators, educational specialists, mentors, and intermediate unit educator induction leaders. The Westmoreland Intermediate Unit employees were educators, educational specialists, and mentors. The

educator induction leaders were employees of intermediate units across the Commonwealth of Pennsylvania.

Chapter Five will provide conclusions and recommendations made as a result of this action research study. Chapter Five will also include a description of how the researcher will apply the information to the Westmoreland Intermediate Unit, and other educational entities across the Commonwealth of Pennsylvania will be included.

CHAPTER V

Conclusions and Recommendations

Teaching is one of the few professions where new educators are expected to perform as their veteran counterparts, on day one, with no real-life training other than student teaching (McGeehan, 2019). Researchers have identified that new teachers have experienced tremendous shock (Hobson & Ashby, 2012) during their first years of teaching. Clark (2017) reported this [tremendous shock] could be lessened by understanding new teachers' perceptions as they reflect on their induction experiences. New teachers have rated support from a mentor as the most crucial factor during their induction years (Behrstock-Sherratt et al., 2014). A thoughtful and comprehensive approach to educator induction programming is essential to the success and retention of new educators and educational specialists who enter the teaching profession.

Challenges observed by the Westmoreland Intermediate Unit include designing an educator induction program that supports the needs of new educators and educational specialists with different job types. Educators include Pre-Kindergarten through twelfth-grade general and special education teachers, reading specialists, teacher interns, long-term substitutes, and educational specialists. Educational specialists include Dental Hygienists, Elementary and Secondary School Counselors, Home and School Visitors, Instructional Technology Specialists, School Nurses, School Psychologists, School Speech and Language Pathologists, and School Social Workers (Pennsylvania Department of Education, 2022b). This capstone research project focused on the experience of educators, educational specialists, and mentors who have completed the

WIU7's induction program over the past three to five years and educator induction program leaders from intermediate units across the Commonwealth of Pennsylvania.

Chapter Five will discuss the conclusions and recommendations of this Doctoral Research Capstone Project and incorporate the conclusions made due to the data collection efforts. The researcher will also address the fiscal implications, limitations, and recommendations for future research in Chapter Five.

The Westmoreland Intermediate Unit is an educational service agency in Western Pennsylvania, approximately 45 minutes from Pittsburgh. The intermediate unit provides technical assistance to the 17 public school districts and 20 nonpublic schools in Westmoreland County. The Westmoreland Intermediate Unit employs close to 400 employees that support the following teams/services: Student, Curriculum, Technology and Infrastructure, and Executive. Any newly hired educator or educational specialist, who needs educator induction before applying for their Level II certification, must participate in the Westmoreland Intermediate Unit's Educator Induction program. The purpose of this study was to reimagine educator induction to provide the different employee types with a unique induction experience relevant to their job type.

The following research questions identified and compared the perceptions and relationships between WIU7's educators, educational specialists, mentors, and induction programming implemented at intermediate units across the Commonwealth of Pennsylvania:

- 1) What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?

- 2) What is the difference in perception between educators and educational specialists regarding induction experiences?
- 3) What induction practices effectively meet the needs of new educators with various job types?

A quantitative approach using surveys collected data on three groups of participants: educators and educational specialists, their mentors, and educator induction leaders from across Pennsylvania. Perceptions and relationships between the educators, educational specialists, and their mentors were triangulated by cross-comparing responses to survey questions of each participant group.

Conclusions

The educators, educational specialists, and mentors who participated in this study were WIU7 employees who completed a three-year induction program. Their induction programming included quarterly face-to-face meetings during evening hours, synchronous coursework, observations, and self-selected book talks. The content of the evening meetings focused on explicit instruction, professionalism, working with difficult parents, keeping organized, behavior, and mental health. Induction programming also included beginning-of-the-year goal setting and end-of-the-year sharing of learning presentations led by the Westmoreland Intermediate Unit's educator induction leader. The formal assignment of mentors to inductees was not part of the induction experience for the participants in this research study.

Research Question One

Research question one asked, "What is the relationship between a new educator and their mentor compared to educator engagement in the induction process?" To seek

an answer to this question, the researcher asked the inductees and their mentors' closed-survey questions that related to their induction experience at the Westmoreland Intermediate Unit. These survey questions aimed to gather data on inductee-mentor relationships, engagement with the induction process, and mentoring services used to support the inductee during induction. The Mann-Whitney U test triangulated responses between inductees and their mentors. The Mann-Whitney U test determines if two groups differ on a variable of interest; for this study, the two groups included Westmoreland Intermediate Unit educators, educational specialists, and their mentors. The Mann-Whitney U test used the following survey questions to determine if any statistical correlations existed:

1. How would you [the inductee] describe the quality of your relationship with your mentor?
2. How would you [the mentor] describe the quality of your relationship with your inductee?
3. Do you think the relationship with your mentor could have been more impactful?
4. Do you think the relationship with your inductee could have been more impactful?
5. How would you rate your [the inductee] level of engagement with the induction process?
6. How would you [the mentor] rate the level of engagement of your inductee with the induction process?

Based on the results of the Mann-Whitney U test regarding the perceptions of relationship quality between inductees and their mentors, there was no convincing

evidence to corroborate a difference between how educators and mentors perceived their relationships with each other. This statistical finding suggests strong evidence that inductees and mentors did not differ in how they described their relationship. The Mann-Whitney U test also found no compelling evidence of a difference between how inductees and mentors perceived stakeholder engagement during the induction process. This statistical finding suggests strong evidence exists between inductees and mentors and how each equally perceives the engagement level of the inductee throughout induction. Based on these statistical findings, the perceived strength of a relationship between an inductee and a mentor does not impact the engagement of inductees during educator induction activities.

Research Question Two

Research question two asked, “What is the difference in perception between educators and educational specialists regarding induction experiences?” To seek an answer to this question, the researcher asked the inductees and their mentors' several close-survey questions that collected data on induction experience, inductee/mentor satisfaction, mentoring services, and job-type relevance. The Mann-Whitney U test was used to triangulate responses. The survey questions used to determine if any correlation existed included:

1. How satisfied were you [the inductee] with your overall induction experience?
2. How satisfied were you [the mentor] with your overall induction experience?
3. How satisfied were you [the inductee] with your mentor experience?
4. How satisfied were you [the mentor] with your inductee experience?

5. Rank the following mentor services in order of importance: observing, co-observing, co-planning, goal setting, and attending a professional learning event together.
6. How would you [the inductee] describe the impact of your induction experience as it relates to the responsibilities unique to your job type?
7. How often did you feel your inductee's experience was relevant to his/her job type?

Based on the results of the Mann-Whitney U test regarding the perceptions of how educators and mentors perceived their level of satisfaction with the overall induction process, there was no compelling evidence of a difference in perception. No statistical difference existed between how inductees and mentors perceived educator induction satisfaction. Similarly, the Mann-Whitney U test found no convincing evidence there was a difference between how educators and mentors perceived their induction experiences, relationships with each other, or induction relevance to specific job types. As a result of the Mann-Whitney U test, there is no significant difference in how educators, educational specialists, and their mentors perceive the overall induction process, relationships with each other, or induction content compared to job types.

Research Question Three

Research question three asked, "What induction practices effectively meet the needs of new educators with various job types?" To seek an answer to this question, the researcher asked educator induction leaders from intermediate units across the Commonwealth of Pennsylvania a set of survey questions that focused on mentoring services, strategies used to differentiate induction for different employee types, and an

open question designed to elicit responses that were not addressed in any of the close-survey questions. These survey questions included:

1. Rank the following mentor services in order of importance: observing, co-observing, co-planning, goal setting, and attending a professional learning event together.
2. What top two strategies are used to differentiate the induction process of new educators with different job types at your intermediate unit?
3. List any additional programs or services for new educators that you [educator induction program leader] think would be useful or effective.

Based on the survey data collected, the researcher concluded the most important mentoring services offered by intermediate units across the Commonwealth of Pennsylvania to be:

- goal setting with a mentor
- co-planning with a mentor
- observations by a mentor

When compared to responses made by educators, educational specialists, and their mentors, this data ranked the same in importance for mentoring services. Educators, educational specialists, and their mentors also ranked goal setting and co-planning with mentors and observations by mentors as essential mentoring services that induction leaders could implement during educator induction.

Data collected through the closed-question survey item concluded the top two strategies used to differentiate the induction process of new educators with different job types as:

- synchronous and asynchronous training sessions
- observations of job-alike employees.

This data was corroborated by examining the open-ended responses collected at the end of the educator induction leader survey. Induction leaders reflected “observations of job-alike employees,” “self-selection of professional learning experiences,” “job-alike meetings,” “observations of peers/mentors,” and “differentiated training” to be the most common points of sharing when asked to identify the top two strategies that effectively met the needs of new educators in their induction programs. The triangulation of responses among all three participant groups on mentoring services and data collected on top induction differentiation approaches shows compelling evidence that goal setting, co-planning, mentor observations, synchronous and asynchronous training sessions, and inductee observations of job-alike employees are essential components for comprehensive educator induction programs.

Application to what was learned as a result of this action research study includes 1) determining the best approach to re-engage the current Westmoreland Intermediate Unit educators, educational specialists, and supervisors to consider becoming an educator induction mentor and 2) creating opportunities that will enable inductees to authentically get-to-know the Westmoreland Intermediate Unit, while forming a strong bond with their mentors.

Determining the best approach to re-engaging current Westmoreland Intermediate Unit educators, educational specialists, and supervisors begins by revisiting the literature on educator induction programming. Research has demonstrated positive correlations between the overall effectiveness of novice teachers and those with mentors as part of their induction program (New York University, 2019). Lozinak (2016) connected research done by Ingersoll and Strong (2011) that provided empirical evidence that suggested 1) mentoring has had positive effects on new teachers, 2) mentoring has helped new teachers refine their craft, and 3) mentoring reduced new teacher attrition. New educators and educational specialists deserve the opportunity to engage with highly-successful mentors who can bridge the gap between theory and practice, what was learned in college during pre-service teaching, to the daily realities of service teaching. Improvements to current educator induction programming at the Westmoreland Intermediate Unit can be made by assigning inductees to mentors in their same job type while simultaneously capturing the successes of both the inductees and mentors to use for marketing the new educator induction mentoring program. Table 6 provides specific examples of tangible improvements that could be made to current educator induction programming at the Westmoreland Intermediate Unit that will lead to a more systematic and explicit approach to attracting and retaining educator induction mentors.

Table 6*Tangible Improvements Leading to Attracting and Retaining Educator Induction Mentors*

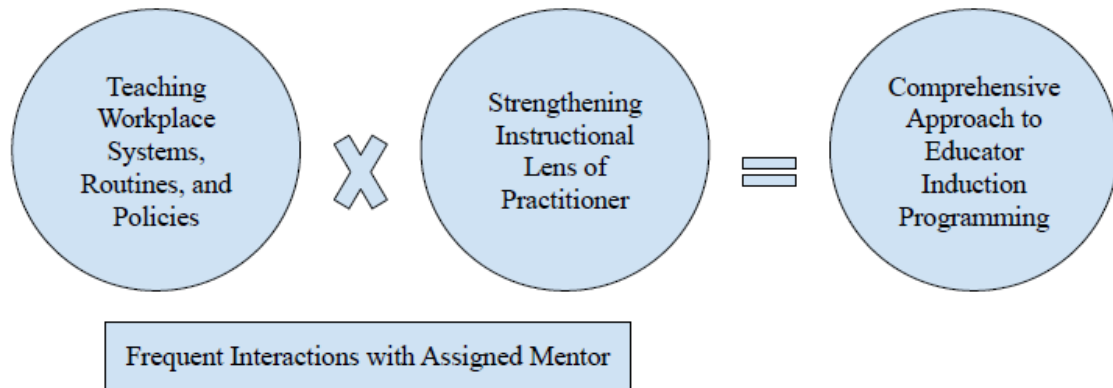
Tangible Mentoring Improvement	Rationale
Eliminate after-school induction requirements	Supports a healthy work-life balance and may increase the potential pool of mentors
Provide work-release time to support mentee	Shows urgency and increases opportunities for the mentor to support the mentee
Develop a mentor technical training series	Provides ongoing support and networking opportunities for the mentor
Celebrate mentor success and victories	Creates a platform that values the efforts of the mentor

Creating opportunities that will enable inductees to authentically get-to-know the Westmoreland Intermediate Unit while forming a strong bond with their mentors is a second tangible improvement that can be made from this action research project.

Glazerman et al. (2010) described comprehensive induction programming as support to new teachers defined by rigor, structure, and sequenced. Induction activities that 1) create academic discourse using a systematic and explicit approach to understanding the culture of the Westmoreland Intermediate Unit, 2) strengthen the instructional lens of new educators and educational specialists, and 3) allow inductees to choose their induction pathway are essential for future induction planning. Figure 19 provides a simple mathematical equation that illustrates the structural components of a comprehensive educator induction program.

Figure 19

Mathematical Equation for a Comprehensive Educator Induction Program



In Figure 19, teaching workplace systems, routines, and policies and strengthening the instructional lens of the practitioner are factors assigned a numerical value of one. For the product (comprehensive approach to educator induction programming) to equal one, both factors (teaching workplace systems, routines, policies, and strengthening the instructional lens of the practitioner) must be fully executed. Complete execution of both factors requires frequent interactions with an assigned mentor. A comprehensive approach to designing an educator induction program requires both teaching the workplace systems, routines, and policies and strengthening the instructional lens of the practitioner.

The fiscal implications connected to this quantitative action research study were minimal. KeySurvey was the informational technology platform used to develop and store participant survey questions and responses. KeySurvey provided the researcher with opportunities to design many different question types and gave participants access to the surveys on mobile devices and digital desktop devices. KeySurvey was a previously purchased survey platform at the Westmoreland Intermediate Unit and purchased at

\$5,000 annually with unlimited access for any survey developer. This action research study could have been implemented using a different survey platform, with numerous options available at zero cost. There would be no costs associated with implementing the mentorship program because the Westmoreland Intermediate Unit does not offer stipends to mentors.

Limitations

Multiple sources were used to corroborate the data of this action research project. While triangulation efforts increased the validity and accuracy of the results, two limitations existed and should be considered.

In 2017, the Westmoreland Intermediate Unit transitioned from an educator induction program led by a team of supervisors to a single-person leader of non-supervisory status. This leadership transition impacted the depth and breadth of induction programming, specifically assigning mentors to new educators and educational specialists. The single-person leader could not find existing Westmoreland Intermediate Unit employees to volunteer as mentors for the educator induction program. As a result, the inductees were left to find their own person [mentor] to “collaborate with” throughout their three-year induction experience. Inductees responsible for identifying their mentors often translated to the inductee relying on several tenured/non-tenured employees (both inside/outside the intermediate unit) with whom they loosely identified as their “mentors” (Anonymous respondent, personal communication, March 9, 2023). The lack of assigned mentors to inductees made it difficult for the researcher to identify a consistent match of educators, educational specialists, and mentors. Alternatively, the researcher had to ask the educators and educational specialists who agreed to participate in the study, who they

identified as their “mentors” during induction. Asked differently, who did you [the inductee] rely on/talk to the most during your induction experience? The researcher used this information to identify potential mentors to participate in the study. In several instances, the identified “mentors” expressed concern as they were never identified as formal mentors, resulting in their unwillingness to participate in the study. This potential limitation could have impacted the perceptions of the educators, educational specialists, and mentors who participated in the study.

The second limitation of this action research study was the result of offering educator induction programming as a fee-for-service option to interested school districts in Westmoreland County. The fee-for-service educator induction model implemented by the Westmoreland Intermediate Unit created a robust array of employee types. Participating inductees ranged from nurses to librarians, early intervention teachers, to special education teachers, special teachers (art, physical education, music), to elementary and high school teachers. This wide array of employee types added complexity for the single-person induction leader. Despite the best attempts of the single-person induction leader to differentiate the induction experience for each educator or educational specialist, induction programming was impacted, and the Westmoreland Intermediate Unit employees, who participated in induction, were in this large array of different employee types. This potential limitation could have affected the perceptions of the educators and educational specialists who participated in the study.

Recommendations for Future Research

This action research project used the quantitative data collection method to gather the perceptions of educators, educational specialists, mentors, and educator induction

program leaders on educator induction programming. The conclusions of this study will allow school and intermediate unit leaders to re-imagine induction programs and design comprehensive educator induction programs for their new educators, educational specialists, and mentors. Closed surveys were given to educators, educational specialists, and mentors who completed the Westmoreland Intermediate Unit's educator induction program and induction leaders who manage induction programs at intermediate units across the Commonwealth of Pennsylvania. Recommendations for future research include:

1. **Bonds between an inductee and a mentor.** A more comprehensive approach to determine the kinds of relational activities that occur between inductees and mentors that lead to strong relationships between the two stakeholders. Specifically, inductee and mentor relationships that positively impact the new educator or educational specialist.
2. **Employee retention post-induction.** A systematic and explicit approach to identify the kinds of induction opportunities that impacted the new educator or educational specialist to stay employed at the entity in which induction was completed.
3. **Attracting and retaining high-quality mentors.** Analyze the reasons why mentors want to participate in educator induction programs. Determine strategies to attract potential mentors to participate in the induction process.
4. **Work-load reduction for new educators and educational specialists.** Determine best practices for implementing this strategy and then measure teacher retention and student outcomes.

5. **Induction programming that leads to improved student performance.** Gather data to identify the characteristics of comprehensive induction programs that evidence improved student outcomes, including Structured Literacy.
6. **Induction programming that develops teachers as leaders.** Identification of specific strategies that support novice teachers taking on leadership roles at their place of employment after induction is completed.

Summary

Education is one of the largest professions in the United States and employs nearly 3 million public school teachers annually, with 310,000 new educators entering the profession each year (Aspen Institute, 2022). However, public school entities nationwide need more teachers to fill open positions and are challenged by needing more candidates to hire (U.S. Department of Education, 2022a). A comprehensive support structure must be considered by educational leaders when designing educator induction programs. This action research study evaluated the relationship between new educators, educational specialists, and mentors and compared their relationships to participant engagement during the induction process. The results of this action research study did not find any statistical evidence to corroborate a difference in mentee/mentor relationships and mentee engagement during induction. Still, the results did find strong evidence that a comprehensive educator induction program is essential for supporting and retaining educators. School leaders who can re-imagine educator induction through a more comprehensive lens will create a trajectory of success and longevity for new educators.

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APPENDICES

Appendix A

PennWest University Institutional Review Board Approval Letter



Institutional Review Board
250 University Avenue
California, PA 15419
instreviewboard@calu.edu
Melissa Sovak, Ph.D.

Dear Jason,

Please consider this email as official notification that your proposal titled "Perceptions of Teachers, Educational Specialists and Mentors on Their Induction Experiences" (Proposal #PW22-013) has been approved by the Pennsylvania Western University Institutional Review Board as submitted.

The effective date of approval is 10/04/2022 and the expiration date is 10/03/2023. These dates must appear on the consent form.

Please note that Federal Policy requires that you notify the IRB promptly regarding any of the following:

- (1) Any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented)
- (2) Any events that affect the safety or well-being of subjects
- (3) Any modifications of your study or other responses that are necessitated by any events reported in (2).
- (4) To continue your research beyond the approval expiration date of 10/03/2023, you must file additional information to be considered for continuing review. Please contact instreviewboard@calu.edu

Please notify the Board when data collection is complete.

Regards,

Melissa Sovak, PhD.
Chair, Institutional Review Board

Appendix B

Informed Participant Consent Acknowledged

Based on the role you have at your Intermediate Unit, you have been invited to complete a survey that has been designed to help the researcher gain perspective on the induction process.

The purpose of this action research Capstone project is to collect data that will enhance the Educator Induction experience for both inductees and mentors. Survey data that is collected by the researcher will assist with future programming to create an induction experience that is timely, meaningful, and relevant to the different job types while meeting the requirements of the Pennsylvania Department of Education Guidelines.

Your participation in this survey is voluntary, can be discontinued at any time without penalty, and all data collected will be discarded. Results are confidential and anonymous. There is minimal risk anticipated in this study and by returning the survey, it will be consent to use the data. All results will be housed and maintained on a password protected drive hosted by the Westmoreland Intermediate Unit. The results of this study will be used for academic purposes only and may be shared with PennWest California faculty and students. The action research Capstone project will be conducted by Jason Stragand, doctoral candidate at PennWest California (formerly California University of Pennsylvania).

If you have any questions about the research study, you can contact the primary researcher or his faculty chair, listed below.

Primary Researcher Contact Information: Jason Stragand, 513.508.2956, str9525@pennwest.edu

Faculty Chair Contact Information: Dr. Mary Wolf, 814.229.7769, wolf@pennwest.edu

This has been approved by the PennWest California (formerly California University of Pennsylvania) Institutional Review Board and is effective 10/04/2022 and expires 10/03/2023.

Appendix C

Teacher and Educator Specialist Survey Questions for Data Collection

Teacher and Educational Specialist Survey

Based on your completion of and/or involvement with the Westmoreland Intermediate Unit's Educator Induction Program, you have been invited to complete a survey that has been designed to help the researcher gain perspective on the induction process.

The purpose of this action research Capstone project is to collect data that will enhance the Educator Induction experience for both inductees and mentors. Survey data that is collected by the researcher will assist with future programming to create an induction experience that is timely, meaningful, and relevant to the different job types while meeting the requirements of the Pennsylvania Department of Education Guidelines.

Your participation in this survey is voluntary, can be discontinued at any time without penalty, and all data collected will be discarded. Results are confidential and anonymous. There is minimal risk anticipated in this study and by returning the survey, it will be consent to use the data. All results will be housed and maintained on a password protected drive hosted by the Westmoreland Intermediate Unit. The results of this study will be used for academic purposes only and may be shared with PennWest California faculty and students. The action research Capstone project will be conducted by Jason Stragand, doctoral candidate at PennWest California (formerly California University of Pennsylvania).

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Primary Researcher Contact Information: Jason Stragand, 513.508.2956, str9525@pennwest.edu

Faculty Chair Contact Information: Dr. Mary Wolf, 814.229.7769, wolf@pennwest.edu

This has been approved by the PennWest California (formerly California University of Pennsylvania) Institutional Review Board and is effective 10/04/22 and expires 10/03/23.

What is the six digit code you and your mentor created?

During your Educator Induction experience, what job type did you have?

Please select one ...

How satisfied were you with the following?

	Was not part of my induction experience	Completely Dissatisfied	Mostly Dissatisfied	Somewhat Dissatisfied	Neither Satisfied or Dissatisfied	Somewhat Satisfied	Mostly Satisfied	Completely Satisfied
Overall Induction Experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Length of Induction Program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educator Effectiveness Training (Danielson Framework)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standards Aligned System Training (SAS)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunities to Collaborate with Other Inductees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching Strategies for Diverse Learners; including ELL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inductee / Mentor Experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- How would you describe the quality of your relationship with your mentor?**
- Very Strong
 - Strong
 - Somewhat Strong
 - Neither Strong or Not Strong
 - Somewhat Weak
 - Mostly Weak
 - Completely Weak

- Do you think the relationship with your mentor could have been more impactful?**
- Yes
 - No

Rank the following mentor services in order of importance. Try to recall what would have been most important to you as a first year educator. Use "1" for most important and "6" for least important (only use each number once).

	1	2	3	4	5	6
Mentor Observing You	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You Observing Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-Observing with Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-Planning with your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal-Setting with Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending a Professional Learning Event Together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often did you feel your induction experience was relevant to your job type?

- All of the time
- Most of the time
- Some of the time
- Not at all

How would you rate your level of engagement with the induction process?

- Almost always engaged
- Often engaged
- Sometimes engaged
- Seldom engaged
- Never engaged

How would you describe the impact of your induction experience as it relates to the responsibilities unique to your job type?

- Very impactful
- Impactful
- Fairly impactful
- Slightly impactful
- Not impactful

List any additional information or services for new educators that you think would be useful or effective.

How would you describe the quality of your relationship with your inductee?

- Very Strong
- Strong
- Somewhat Strong
- Neither Strong or Not Strong
- Somewhat Weak
- Mostly Weak
- Completely Weak

Do you think the relationship with your inductee could have been more impactful?

- Yes
- No

Rank the following mentor services in order of importance. Try to recall what would have been most important to you as a mentor providing support to a first year educator. Use "1" for most important and "6" for least important (only use each number once).

	1	2	3	4	5	6
Mentor Observing You	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You Observing Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-Observing with Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-Planning with your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal-Setting with Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending a Professional Learning Event Together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How often did you feel your inductee's experience was relevant to his/her job type?

- All of the time
- Most of the time
- Some of the time
- Not at all

How would you rate the level of engagement of your inductee with the induction process?

- Almost always engaged
- Often engaged
- Sometimes engaged
- Seldom engaged
- Never engaged

How would you describe the impact of your inductee's induction experience as it relates to the responsibilities unique to his/her job type?

- Very impactful
- Impactful
- Fairly impactful
- Slightly impactful
- Not impactful

List any additional information or services for new educators that you think would be useful or effective.

Rank the following mentor services in order of importance. Try to recall what is most impactful to first year educators. Use "1" for most important and "6" for least important (only use each number once).

	1	2	3	4	5	6
Mentor Observing You	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You Observing Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-Observing with Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-Planning with your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Goal-Setting with Your Mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attending a Professional Learning Event Together	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How would you describe the quality of the relationships your mentors have with their inductees?

- Very Strong
- Strong
- Somewhat Strong
- Neither Strong or Not Strong
- Somewhat Weak
- Mostly Weak
- Completely Weak

Do you think the relationship with your mentors and inductees could be more impactful?

- Yes
- No

How often did you feel your inductee's experience was relevant to their job type?

- All of the time
- Most of the time
- Some of the time
- Not at all

What strategies are used to differentiate the induction process of new educators with different job types at your Intermediate Unit?

- Synchronous training sessions
- Asynchronous training sessions
- Book talks
- Special projects
- Action research
- Self-selection of professional learning experiences
- Interviews
- Job-alike meetings
- Observations of job-alike employees
- Field experiences
- Individual portfolios

Based on your response to the previous question, which top two strategies effectively met the needs of new educators in your induction program?

List any additional programs or services for new educators that you think would be useful or effective.