A QUANTITATIVE STUDY OF TEACHER PREPARATION PROGRAMS AND THEIR

EFFECTS ON TEACHER ATTRITION RATES IN THE STATE OF IDAHO

A Dissertation

Presented in Partial Fulfillment of the Requirements for the

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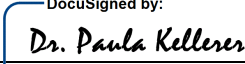
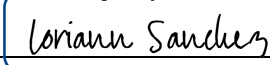Northwest Nazarene University

by

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June, 2023

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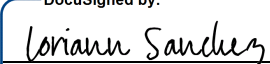
AUTHORIZATION TO SUBMIT

DISSERTATION

This dissertation of Casey Boothby, submitted for the degree of Doctor of Education with a
major in Educational Leadership and titled "A Quantitative Study of Teacher Preparation
Programs and Their Effects on Teacher Attrition Rates in the State of Idaho," has been reviewed
in final form. Permission, as indicated by the signatures and dates given below, is now granted to
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DEDICATION

This dissertation is dedicated to my support system through this arduous process. To my wife Sheree: Thank you for always supporting my dreams and encouraging me to be my best self. To Ella, Hadley, Channing, and Rylan: Never give up on your dreams and pursue your passions! This process has been difficult but I never could have done it without your encouragement, love, and support.

ABSTRACT

Teacher turnover is an issue not only in the state of Idaho but across the nation. This study

examined the attrition outcomes of 6,572 beginning teachers in Idaho that were trained in one of

four types of teacher preparation programs and started teaching between the 2014-15 and 2019-

20 school years.   Teachers in the ABCTE preparation program were less likely to be

unemployed than traditionally certified teachers in each of the three years after initial

certification. There was no statistically significant difference in employment outcomes between

teachers who completed a nontraditional program through an institute of higher education and

traditionally trained teachers.   Teach for America-Idaho teachers were found to be 2.6 times and

3.3 times more likely to be unemployed in years 2 and 3 after initial certification. Conclusions

suggest a look into what makes the ABCTE program completers more likely to stay in the

classroom and a discussion regarding Teach for America – Idaho needs to take place due to the

large turnover rates.

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Chapter I

The national teacher attrition rate, indicating teachers leaving the profession completely, is approximately 8% and Idaho's rate during the same time period was 10% (Carver-Thomas & Darling-Hammond, 2017; Linder & McHugh, n.d.). According to the most recent Teacher Pipeline Report provided by the Idaho State Board of Education, Idaho has seen a modest decline in attrition to 8.3% of instructional staff not returning which is more in alignment with the national data above (Dean, 2022). Reports have also indicated an increase in the number of graduates from alternative certification pathways in Idaho. The Education Commission of the States (2019b) and the U.S. Department of Education has indicated that over the past three years of available data (2017-18, 2018-19, 2019-20) that 35%, 37%, and 40% of teachers entering the profession in Idaho have entered via these pathways respectively.

In order to reduce attrition rates of teachers it is imperative to understand the reasons why teachers are leaving the classroom. Research has identified frustrations with administration as a leading cause of teacher attrition (Carver-Thomas & Darling-Hammond, 2017; Harris, Davies, Christensen, Hanks, & Bowles, 2019; Podolsky, Kini, Bishop, & Darling-Hammond, 2016; Redding, Booker, Smith, & Desimone, 2019). Teachers identify lack of administrative support in the areas of encouragement, support, collaboration time and enforcement of the school rules as reasons to leave the profession (Harris et al., 2019; Holmes, Gibson, & Parker, 2019; Podolsky et al., 2016; Redding et al., 2019). There also seems to be a significant cognitive dissonance between teacher and administration beliefs when assessing trust and support availability, whether work expectations are acceptable, and if pay is adequate. The teachers in the Harris, Davies, Christensen, Hanks, and Bowles study (2019) believed that administration was lacking in the above areas, whereas the administrators believed they were providing adequate support, expectations, and pay. Conversely, the value of a supportive administration can balance out the

equation for some teachers and they will continue in the profession even if salary is considered low (Carver-Thomas & Darling-Hammond, 2017; Podolsky et al., 2016; Reitman & Karge, 2019; Shuls & Flores, 2020).

The pressures of the classroom such as classroom/behavior management issues, workload demands, and lack of support/resources may also lead to an increase in teacher attrition (Bowen, Williams, Napoleon, & Marx, 2019; Flower, McKenna, & Haring, 2017; Podolsky et al., 2016; Ponnock, Torsney, & Lombardi, 2018). Traditionally certified educators may feel better prepared for the behavioral management of a classroom in comparison to alternatively certified teachers (Bowen et al., 2019), but when traditionally certified educators are compared to special education teachers, they are more likely to only have the basic skills or concepts and may not actually be as adequately prepared as they perceive themselves to be (Flower et al., 2017).

Ponnock, Torsney, and Lombardi have identified a significant decrease in motivation in early and mid-career teachers that indicate the effect of classroom pressure and recommend supports are put in place during pre-service programs and professional development provided for early and mid-career teachers to help prevent this attrition (2018). There is also a significant negative change in motivation as a teacher moves from pre-service experiences to becoming a classroom teacher which may further lead to attrition (Ponnock et al., 2018). Teachers feel pressured by the testing and accountability measures and cite this as a frequent reason to leave the profession (Holmes et al., 2019; Podolsky et al., 2016). With student test scores tied to teacher accountability, a possible result is a teacher that focuses on the student passing the test or tests and not individualizing instruction for the success of the student (Podolsky et al., 2016). The pressure to adhere to numerous testing and accountability measures as well as the potential sanctions for not improving enough discourages creativity and support of struggling learners.

Instead, it motivates the teacher to tailor instruction with a focus on students passing the test (Carver-Thomas & Darling-Hammond, 2017).

The overall working conditions in which teachers operate can lead to teacher attrition as well (Harris et al., 2019; Podolsky et al., 2016). The cleanliness and safety of the facilities, the educational resources provided, and class sizes are all predictors of whether a teacher will leave the profession and has a direct effect on the morale of the teacher as well as their perceived ability and effectiveness (DiCicco, Jordan, & Sabella, 2019; Podolsky et al., 2016). If a teacher does not feel safe, cannot provide attention their students need due to lack of resources, or is overwhelmed by large classes and behavior issues, then the teacher is more likely to leave the profession (Gaikhorst, Beishuizen, Roosenboom, & Volman, 2017; Harris et al., 2019; Maslow, 1943; Podolsky et al., 2016). Schools with inadequate teaching and learning resources as well as little opportunity for meaningful collaboration and decision-making will see an increase in teacher attrition (DiCicco et al., 2019; Podolsky et al., 2016).

Conflicting data exists regarding how long alternatively certified teachers stay in the classroom (Claflin, Lambert, & Stewart, 2020; Haj-Broussard et al., 2016; Latham, Mertens, & Hamann, 2015; Sorensen & Ladd, 2020; Weinberger & Donita-Schmidt, 2016; Zhang & Zeller, 2016). There are alternative pathway programs that exhibit high retention rates after one and three years in the classroom and attribute the success to the clinical practice components (Haj-Broussard et al., 2016). Researchers in Israel identified no differences in retention rates among traditional versus alternatively certified teachers with respect to initial entry into the field as well as four to five years into teaching (Weinberger & Donita-Schmidt, 2016). In addition, Claflin, Lambert, and Stewart studied agriculture teachers and the type of certification program and found no statistically significant difference in turnover intention regardless of certification route (2020). Opposing these viewpoints, researchers studying Professional Development

School (PDS) alternative programs versus non-PDS alternative programs identified that participants in the PDS model were more likely to stay in the profession long-term (Latham et al., 2015). Conflicting research indicates teachers leaving the profession are more likely to have been through an alternative certification program and attribute this loss to lack of proper training or type of classroom the teacher was given (Zhang & Zeller, 2016).

There are characteristics of teacher preparatory programs and alternative pathway programs that have influenced the effectiveness of the teacher produced (Beck, Lunsmann, & Garza, 2020; Colson, Sparks, Berridge, Frimming, & Willis, 2017; Dassa & Derose, 2017; Doran, 2020; Ng, Lim, Low, & Hui, 2018; Olmstead, Ashton, & Wilkens, 2020; Pearman & Lefever-Davis, 2012). Research has noted that field experience and mentorship of an experienced teacher had a tremendous influence on preparation for the classroom (Doran, 2020; Toralba, Alley, & Brenner, 2018; Whalen, Majocha, & Van Nuland, 2019). Studying the experience of student teachers and mentors, some of those interviewed noted a strained relationship with their mentor that negatively affected their experience, while the majority (73%) indicated a positive relationship and the ability to see what it was truly like to be a teacher during their field experience (Olmstead et al., 2020; Whalen et al., 2019). Research also shows that the field experience portion of a program can create a sense of fear or doubt in a future teacher's ability to manage a classroom and may lead to early attrition from the profession (Basit & Khurshid, 2018; Christophersen, Elstad, Solhaug, & Turmo, 2016; Pearman & Lefever-Davis, 2012). Future teachers reported that field experiences that lasted longer, ranging from three to 30 months, than traditional field experiences strengthened their experience, built resilience, increased efficacy, and allowed pre-service teachers to start building their teacher identity (Colson et al., 2017; Dassa & Derose, 2017; Ng et al., 2018). Those participants who took part in a shorter field experience of between four and 16 weeks did not report the same feelings.

Colson, Sparks, Berridge, Frimming, and Willis (2017) found that a year-long student teaching experience increased student teacher efficacy versus a 16-week experience. Likewise, a 90-hour practicum experience helped pre-service teachers start building their identity as a classroom teacher in another study (Dassa & Derose, 2017). Veteran teachers have also identified that their field experiences were very important parts of their teacher preparation program (Beck et al., 2020) and the authentic experience they had contributed to their retention.

Research has identified ways in which teacher preparation programs have faltered. The data gathered from these studies can provide insight on ways to improve the programs in order to retain and support future teachers (DiCamillo, 2020; Sayman, Chiu, & Lusk, 2018; Stites, Rakes, Noggle, & Shah, 2018; Uribe-Zarain, Liang, Sottile, & Watson, 2019; Van Overschelde, Saunders, & Ash, 2017). Research participants have indicated that they lacked instruction or experience in classroom management and were not properly trained to prevent negative classroom behaviors, how to use Positive Behavioral Interventions and Supports, or to implement differentiated instruction methods (Sayman et al., 2018; Uribe-Zarain et al., 2019). New teachers have also reported feeling prepared to teach in inclusive settings, but researchers found that it was clear the training did not actually give participants an understanding of what inclusion in the classroom really meant or how to teach in that type of setting (Stites et al., 2018).

One alternative pathway to certification is Teach for America which has been in existence for almost 30 years. National studies have indicated that nearly 2/3 of TFA corps members continue in education after their two-year commitment and the majority of principals (81%) are highly satisfied with corps members in their schools (Backes & Hansen, 2023; Rudnick, Edelman, Kharel, & Lewis, 2015). To better understand the Teach for America (TFA) program, researchers have surveyed the perceptions of TFA members and highlighted the ways

in which the TFA program could improve. The problems that members identified included: the content and scope/sequence were out of order, the instructors should mentor and teach simultaneously, and the online courses were not helpful (DiCamillo, 2020; Thomas & Mockler, 2018). If pre-service teachers are not shown varying strategies or essential teaching skills, the struggle to manage their own classroom, prevent negative behaviors, encourage positive behavior, teach in an inclusive setting, and individualize instruction for students can lead to burnout and early exit from the profession (DiCamillo, 2020; Sayman et al., 2018; Stites et al., 2018; Uribe-Zarain et al., 2019; Van Overschelde et al., 2017).

Research also highlights the positive aspects of teacher preparation programs so that those aspects can be replicated in other programs. Programs that required two field blocks prior to student teaching or offered pre-service courses specifically designed to prevent teacher burnout were noted as positive programs (Valtierra & Michalec, 2017; Van Overschelde et al., 2017). The two field blocks provided pre-service teachers the opportunity to see and experience true classrooms thus leading to realistic expectations and better retention. The course specifically focused on encouraging participant reflection, addressing fears, and bolstering the creation of teacher identity.

Statement of the Problem

There are teacher attrition issues nationwide and rates vary state by state (Carver-Thomas & Darling-Hammond, 2017; Education Commission of the States, 2019a; Education Commission of the States, 2019c; Education Commission of the States, 2019d; Elfers, Plecki, & Van Windekens, 2017; Utah Education Policy Center, 2017). The teacher attrition rate nationally is at 8%, while states that surround Idaho include Washington identifying 7% attrition and Utah 12% attrition (Carver-Thomas & Darling-Hammond, 2017; Elfers et al., 2017; Utah Education Policy Center, 2017). Not only are teachers leaving the profession, but some states

are struggling to recruit candidates to become teachers. Washington has seen a 6% increase in education program completers from 2015-16 to 2016-17, while Utah identified an 11% decrease and Idaho identified a 7% decrease in completers during the same time frame (Education Commission of the States, 2019a; Education Commission of the States, 2019b; Education Commission of the States, 2019c; Education Commission of the States, 2019d).

Research has also shown an association between teacher attrition and academic struggles of students (Carver-Thomas & Darling-Hammond, 2017; Ronfeldt, Loeb, & Wyckoff, 2012; Sorensen & Ladd, 2020). The attrition of teachers can cause a disruption to the educational organization itself, and thus affect student achievement, regardless of whether the replacement teacher is just as effective as the teacher that left (Ronfeldt et al., 2012). Conversely, researchers have identified that teacher turnover in Math and English/Language Arts classes often leads to the replacement having less experience and lacking full licensure or certification. In turn, this correlates with lower math and ELA test scores for the students in those classrooms (Sorensen & Ladd, 2020).

Data analyzed from Idaho for 2019-2020 discloses that the attrition rate was 8.3%, which equated to over 1,400 teachers leaving the profession that year alone (Dean, 2022). The age of the teaching force in Idaho also seems to be shifting as the Teacher Pipeline Report (Dean, 2022) indicated an increase in staff with 13+ years of experience and a large drop in those with seven to 11 years of experience, indicating insufficient growth of less experienced staff to offset the potential retirement aged educators in the next 10 years. Alternative authorizations in Idaho have seen a spike as well with 25.8% of the new teaching force holding an alternative authorization in 2016-2017 to 43% of the new teaching force holding an alternative authorization in 2020-2021 (Dean, 2022).

Idaho is utilizing non-traditional pathways to encourage candidates to become teachers. The American Board for Certification of Teacher Excellence (ABCTE) program, Teach for America - Idaho (TFA-I), and the Non-traditional Educator Preparation Program at the College of Southern Idaho (CSI) are examples of these pathways (Idaho State Board of Education, 2023). These non-traditional pathways account for 35% of Idaho's education graduates (Education Commission of the States, 2019b). According to the Idaho State Department of Education (2021), the districts across the state currently employ 999 non-traditional route candidates while they complete their education. The majority of those, 785, are a part of the ABCTE program, 161 are a part of the CSI program, and 53 are utilizing TFA. This accounts for 4.83% of the 20,673 teachers in the state of Idaho employed in the 2020-2021 school year. This percentage continues to increase and has done so since 2015.

In order to stay in education, many teachers have found ways to bolster their pay by taking additional jobs/responsibilities or traveling to teach in an area that pays more. According to the Idaho Center for Fiscal Policy (2021), teacher pay in the state of Idaho has not recovered from pre-Great Recession levels. According to the Digest of Education Statistics (2021), Idaho's average teacher salary ranked #45 in the nation at $51,817 with the national average sitting at $65,090 for 2020-2021. On top of this, neighboring states have increased salaries to keep up with rising cost-of-living expenses and for some teachers the drive across the border is worth the extra pay (Idaho Center for Fiscal Policy, 2021). Oregon's average teacher salary for 2021 was $68,671 and Washington's was $79,529 (Digest of Education Statistics, 2021). In response, Idaho has introduced a Career Ladder pay structure that allows teachers to earn more than just the base they would be paid for years of experience and education. The Career Ladder introduced the Professional Endorsement and Advanced Professional Endorsement, each with

specific qualification requirements or additional duties needed to qualify for the increase in pay (Idaho State Department of Education, 2021). According to the most recent Teacher Pipeline Report, the Career Ladder seems to be working as initially devised as Idaho has seen an increase in retention rates of teachers with zero to two years of experience of 1.3% and the retention rate of those with three to seven years of experience has increased 3.7% from 2015-16 to 2019- 2020 (Dean, 2022).

Despite ongoing efforts to recruit and retain highly qualified teachers, attrition continues to be an issue across the state of Idaho (Dean, 2022; Linder & McHugh, n.d.). The long-term impact of Idaho's efforts to address teacher retention remains unknown. The purpose of this baseline study was to examine the relationship between retention rates of Idaho teachers and the type of certification program completed.

Background

Research in the area of teacher attrition has yielded substantive information regarding what causes teachers to leave the profession. Many of these studies have indicated that there are several different pressures on teachers that may cause burnout and early attrition from the profession (Bowen et al., 2019; Carver-Thomas & Darling-Hammond, 2017; Flower et al., 2017; Harris et al., 2019; Podolsky et al., 2016; Ponnock et al., 2018; Redding et al., 2019).

The research covering the myriad of certification (alternative and traditional) programs available have not yielded clear results in regards to which type of program best prepares teachers for the pressures mentioned above (Beck et al., 2020; Colson et al., 2017; Dassa & Derose, 2017; Doran, 2020; Ng et al., 2018; Olmstead et al., 2020; Pearman & Lefever-Davis, 2012). None of the studies above addressed teacher attrition rates as a function of the types of certification programs available in the state of Idaho.

The purpose of this quantitative baseline study was to examine the relationship between the type of preparation program a teacher completed and teacher retention.

Research Questions

The following research questions will guide this study:

1. How long do teachers who go through non-traditional educator preparation pathways stay in the classroom?

2. How does the attrition rate of alternatively authorized teachers compare to the attrition rate of traditionally certified teachers at one, two, and three-year intervals from initial certification?

3. How does the attrition rate of specific non-traditional educator preparation programs compare?

Description of Terms

Understanding the common terms utilized in peer-reviewed literature is important as there can be confusion around the many programs offered. The terms below are provided for clarity for this current study.

504. Requires schools to provide to students with disabilities appropriate educational services designed to meet the individual needs of such students to the same extent as the needs of students without disabilities are met. An appropriate education for a student with a disability under the Section 504 regulations could consist of education in regular classrooms, education in regular classes with supplementary services, and/or special education and related services (Office of Civil Rights, 2020).

Alternative certification program (ACP). A general term for nontraditional avenues that lead to teacher licensure. Alternative teacher certification programs (ACPs) are generally geared toward aspiring teachers who already have a baccalaureate degree but who require additional education methods coursework and classroom experience (Mikulecky, Shkodriani, & Wilner, 2004).

ABCTE. Acronym to represent alternative certification program American Board for Certification of Teacher Excellence.

Burnout. A state of chronic stress that leads to exhaustion, detachment, and feelings of ineffectiveness. (Bourg Carter, 2013)

Clinical Practice. Student teaching or internship opportunities that provide candidates with an intensive and extensive culminating field-based set of responsibilities, assignments, tasks, activities, and assessments that demonstrate candidates' progressive development of the professional knowledge, skills, and dispositions to be effective educators. Clinical practice includes student teaching and internship (IDAPA 08 - Idaho State Board-Department of Education, n.d.).

ELL. An acronym for English Language Learner, and refers to anyone who does not learn English as their first and primary language.

Field Experience. Early and ongoing practice opportunities to apply content and pedagogical knowledge in Pre-K-12 settings to progressively develop and demonstrate knowledge, skills, and dispositions (IDAPA 08 - Idaho State Board-Department of Education, n.d.).

IEP. The annually written record of an eligible individual's special education and related services, describing the unique educational needs of the student and the manner in which those educational needs will be met (Idaho State Department of Education, 2022).

Mentor. The primary school-based educator that supervises a student teacher (Olmstead et al., 2020).

Non-traditional educator preparation program through Institute of Higher Education (IHE). An alternative teacher preparation program that serves candidates that are the teacher of record in a classroom while participating in the program, often attracting candidates

who already hold a bachelor's degree in a specific content area and may have prior work experience but are seeking to switch careers (U.S. Department of Education, n.d.).

Non-traditional educator preparation program not IHE-based. An alternative teacher preparation program that serves candidates that are the teacher of record in a classroom while participating in the program, often attracting candidates who already hold a bachelor's degree in a specific content area and may have prior work experience but are seeking to switch careers. Offered by a variety of organizations, including states, nonprofits, for-profit entities, districts, and various partnerships (U.S. Department of Education, n.d.).

Teacher attrition. The intention of a teacher to leave the teaching profession.

Teacher identity. A set of beliefs, values, and commitments that an individual connects towards being a teacher (Khelfa, n.d.).

Teacher retention. The intention of a teacher to stay in the profession and continue teaching.

TFA. An acronym to represent the alternative certification program Teach for America.

Traditional certification program (TCP). Traditional certification programs typically offer undergraduate programs, and often attract individuals who enter college with the goal of becoming a teacher (U.S. Department of Education, n.d.).

Significance of Study

Research results nationally are mixed when evaluating the effectiveness of alternative certification programs (Haj-Broussard et al., 2016; Latham et al., 2015; Sorensen & Ladd, 2020; Weinberger & Donita-Schmidt, 2016; Zhang & Zeller, 2016). None of the studies cited above specifically evaluate Idaho's non-traditional educator preparation programs. This baseline study contributes to the education field by providing evidence regarding whether non-traditional

educator preparation pathways are a successful alternative for recruiting, training, and retaining teachers in the state of Idaho. The results of this study will inform the certification program providers across the state of Idaho as to the ability to train and retain teachers for the long term. Information gained from this study may provide insight to state-level administrators who are working to improve teacher recruitment, training, and retention.

Overview of Research Methods

With this baseline study, the researcher aimed to identify whether there was an association between the type of certification program a teacher in the state of Idaho completed and whether they were still employed in Idaho one, two, and three years after initial certification. The research sample of participants included any first-year teacher in the state of Idaho holding an alternative or traditional instructional certification for the following school years: 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, and 2019-20. A quantitative explanatory design was selected as it is used to explain the association between or among variables (Creswell & Guetterman, 2019). To examine this data, the researcher contacted the Office of the State Board of Education (OSBE) directly and requested the data from a data analyst via email. The quantitative data collected consisted of the type of preparation program completed by the teacher and whether the teacher was employed in Idaho after the intervals indicated above. This baseline study did not include any teachers that may have moved during the study period into administrative positions, teachers that may be working out of state but living in Idaho, and teachers that are working in private or religious schools in the state of Idaho.

Chapter II

Review of Literature

Introduction

   This literature review examines current and historical attrition rates of teachers, identifies reasons teachers leave the profession or move schools, delineates between the types of certification programs in existence, outlines the positive and negative features of these current programs, and describes the effects of these programs on student achievement. When examining the current and historical trends, teacher attrition rates will be identified by special populations, areas of concentration, and region. The reasons teachers leave the profession will be separated by issues with administration, classroom issues, type of certification program completed, and job satisfaction/embeddedness. To identify the teacher preparation programs available, the literature will be separated into alternative certification programs (ACP) and traditional certification programs (TCP). The positive and negative features of the above programs will also be identified. Finally, the effects of the certification programs on student achievement will be examined.

Teacher Attrition Rates

   Attrition rates for teachers have continued to increase since the 1990s according to Carver-Thomas and Darling-Hammond (2017) when it hovered around 8%. The combination of teachers leaving the profession or moving schools has doubled that rate to 16% currently. Gray and Taie (2015) with the National Center for Educational Statistics (NCES) identified that in a longitudinal study of the teachers who began teaching in the 2007-2008 school year, 10% did not teach in 2008-2009, 12% did not teach in 2009-2010, 15% did not teach in 2010-2011, and 17% did not teach in 2011-2012.

This upward trend is only magnified in schools with differing populations. The predicted turnover rate for special education is 46% higher than for elementary teachers, and for foreign language teachers the turnover rate jumps to 87% higher (Carver-Thomas & Darling-Hammond, 2017). A 26% three-year turnover rate is observed in middle school Math and ELA classrooms, and a predicted turnover rate nationally of math and science teachers is 37% greater than the turnover rate for general education elementary teachers (Sorensen & Ladd, 2020). In special education classrooms, Garwood, Werts, Varghese, and Gosey (2018) indicated unrealistic expectations, unfair caseload distributions, exhaustion, and challenging behavior management as reasons for increased burnout, which can lead to attrition. Researchers also note that schools with a higher concentration of poverty, rural schools, and schools with larger concentrations of students of color have higher rates (16-17% attrition versus 10% overall) of teacher attrition (Carver-Thomas & Darling-Hammond, 2017; Nguyen, 2020; Sorensen & Ladd, 2020).

The attrition rate also varies by region of the country and the data is confounding when looking at multiple studies. Attrition rates in the south are higher at 16% and in the Northeast are lower at 10% (Carver-Thomas & Darling-Hammond, 2017). Most of this attrition is concentrated in urban areas, except for in the West, where it is highest in small towns and rural schools (Carver-Thomas & Darling-Hammond, 2017; Sorensen & Ladd, 2020). However, Nguyen (2020) conducted a study that indicated that attrition rates in less urbanized states mirrors national trends while turnover is higher in sparsely populated states, and lower in rural schools with rural teachers being less likely to leave than those in urbanized settings.

Why Are Teachers Leaving?

Multiple studies indicate that lack of administrative support leads to teacher attrition (Arnup & Bowles, 2016; Carver-Thomas & Darling-Hammond, 2017; De Jong & Campoli,

2018; Gaikhorst et al., 2017; Harris et al., 2019; Holmes et al., 2019; Kutsyuruba, Walker, Al Makhamreh, & Stasel, 2018; Latifoglu, 2016; Payne, 2005; Redding et al., 2019; Zhang & Zeller, 2016). Lack of administrative support can be broken down into tangible categories to identify specific ways this has led to teacher attrition. Researchers identify that administration has an influence on teacher attrition through direct methods (mentors, professional development) or indirect methods (shared vision and instructional expectations), leadership correlates strongly with the desire to move schools or possibly leave the profession, and influences overall job satisfaction (Carver-Thomas & Darling-Hammond, 2017; Redding et al., 2019; Sims, 2020). A look into schools with high, mixed, and low socioeconomic status (SES) found that high SES (low poverty) teachers felt that there was no support and guidance while low SES (high poverty) teachers believed there was plenty – mainly in part due to the money that flows to low SES schools for support (Gaikhorst et al., 2017). A study of beginning teachers reported that lack of support in those first years, increasing/unclear demands, and inconsistent communication all led to their attrition (Kutsyuruba et al., 2018).

A study of teachers on special contract status in Australia identified the perceptions of these beginning teachers - known as "casual relieving" teachers (Latifoglu, 2016). These teachers perceived that the administrators valued the full-time contracted teachers more than the special contract teachers, the workload was unmanageable and there was an unhealthy work-life balance, and the workplace had exploitative workplace practices. In addition, it was perceived that there was a lack of support and guidance, that there were premature promotions into leadership when the person was unprepared, the professional development experiences were negative, and that there was an absence of autonomy and discretion which all hindered the retention of these teachers (Latifoglu, 2016).

A review of the presence or absence of a curricular coach, another form of administrative support, showed that teachers were two times more likely to leave in the absence of this support (De Jong & Campoli, 2018). Researchers analyzing the effects of a coaching/mentoring program in North Dakota for new teachers and retention rate identified greater retention of teachers in the coaching/mentoring program than those not in the mentoring program (88.3% retained versus 77.2% not mentored, 82.2% overall) (Jacobson, Leibel, Pitkin, & Clifton, 2020).

Research also indicates a significant dissonance between teachers' beliefs regarding their administration's expectations and the administration's beliefs of those expectations that may have led to teacher attrition. When addressing student misbehavior, only 44% of teachers believed administrators effectively dealt with students where 86% of administrators responded that they addressed behavior and safety issues effectively (Harris et al., 2019). In a survey conducted by Arnup and Bowles (2016), it was revealed that teachers' intentions to leave were rated much higher when questioned about aspects of supervision. According to Carver-Thomas and Darling-Hammond (2017), 21% of teachers who left the profession disagreed that their administration was supportive.

In special education, teachers expressed concerns about administrator's ambiguous expectations and how administration's absence left them to complete paperwork and make placement decisions they were uncomfortable with (Garwood, Werts, Varghese, & Gosey, 2018). In the general education classroom, another study identified an association between the number of students with disabilities (SWDs) and an increase in the odds of teacher turnover – with the higher the number of SWDs in the classroom being associated to a higher turnover intention (Gilmour & Wehby, 2020).

Student behavior is also indicated as a reason for teachers to leave the profession (Harmsen, Helms-Lorenz, Maulana, & van Veen, 2018; Harris et al., 2019; Holmes et al., 2019). A survey conducted by Harris et al. (2019) indicated that only 19% of teachers believed that students were well behaved and cared about their learning. This disparate number creates a working condition that can be highly predictive of teacher attrition (Harris et al., 2019). Burnout is happening at an alarming rate due to the increase in student aggression and behaviors in the classroom - where hostile behavior by students compromises school culture and raises the stress levels of teachers throughout the day (Holmes et al., 2019). Harmsen, Helms-Lorenz, Maulana, and van Veen (2018) studied beginning teachers in the Netherlands and discovered that negative pupil interactions led to higher tension, negative emotions, discontent, and those teachers being 1.61 times more likely to leave the profession.

Working conditions are also indicative of teacher intention to leave (Arnup & Bowles, 2016; Carver-Thomas & Darling-Hammond, 2017; Lindqvist, Weurlander, Wernerson, & Thornberg, 2019; Payne, 2005; Ponnock et al., 2018). Arnup and Bowles (2016) identified poor working conditions, increased responsibility, and dissatisfaction with the daily tasks of a teacher as areas that are highly predictive of a teacher's intention to leave the profession. Carver-Thomas and Darling-Hammond (2017) note that large class sizes and lack of resources or facilities may also lead to teacher attrition. An imbalance between the resources and demands of teaching as observed by student teachers led them to build boundaries as a coping strategy in distressing situations (Lindqvist et al., 2019). Teachers have also noted that the "business of teaching" is what shocked them the most (DiCicco et al., 2019). The daily experiences of things not directly associated with teaching such as taking attendance, the concept of time (both non instructional and personal being taken up with other duties), how to attain/utilize school

resources, planning and preparation, and the paperwork side of working with students who are ELL or on IEPs or 504s was taxing (DiCicco et al., 2019). High workload, lack of support, absence of autonomy and discretion are all identified as causing significant stress and anxiety as well as an unhealthy work/life balance which hinders retention of teachers (Gaikhorst et al., 2017; Kutsyuruba et al., 2018; Latifoglu, 2016). Workplace satisfaction was the second-most influential predictor of how often a teacher considered leaving the profession in a study by Hanks et al. (2020). Correlating working conditions and intention to leave the profession, researchers found that math and science teachers employed at schools with better support administratively, less student truancy, and more support/involvement from student families showed more intention to stay in the profession (McConnell, 2017). The pressures of testing and accountability are also mentioned by one quarter of those who left (Carver-Thomas & Darling-Hammond, 2017). Many special education teachers are disillusioned by the time required to meet the demands of the job: giving up lunch to do paperwork, changing diapers, helping with daily living functions, and running a full inclusion model in a resource setting (Garwood et al., 2018).

Literature also suggests that job satisfaction and job embeddedness also play a role in whether teachers leave the profession (Arnup & Bowles, 2016; Carver-Thomas & Darling-Hammond, 2017; Watson, 2018). Watson (2018) defines job embeddedness as the degree to which employees are integrated into the organization and the community in where they work. There was a direct association between low job satisfaction in all areas (except salary) and intention to leave the profession when teachers were surveyed by Arnup and Bowles (2016). Carver-Thomas and Darling-Hammond (2017) identified that 21% of the teachers that left indicated dissatisfaction with the career of teaching – which included their specific teaching

assignment, no input opportunities, and no advancement opportunities. Additionally, a study that observed how well the teacher perceived their fit within the organization (school/district) identified that if there was the perception of a positive fit, the early career teacher was more likely to stay at the school or district (Miller, Youngs, Perrone, & Grogan, 2020).

Watson (2018) used a 42-item Likert-type survey with novice teachers (those currently teaching and those that had left the profession) in the state of California in order to quantitatively determine how job embeddedness affected intention to leave the profession. A multivariate analysis of variance (MANOVA) was used to determine if the subjects' responses could distinguish the teachers that left from the teachers that were still in the classroom. The study found that there was a difference in responses, indicating that the degree to which a teacher is connected to their school or community can explain the difference between teachers who stay and those who leave (Watson, 2018).

Researchers have also looked at the type of certification program a teacher completes as a possible indicator of attrition (Haj-Broussard et al., 2016; Zhang & Zeller, 2016) but these studies show mixed results. Haj-Broussard et al. (2016) surveyed two cohorts of teachers that completed an alternative certification program and found a retention rate of 83% and 92% respectively using frequency analysis and descriptive statistics. A large percentage (63% and 66% respectively) of those that left after their initial year cited personal or undisclosed reasons for leaving (Haj-Broussard et al., 2016).

Zhang and Zeller (2016) conducted interviews with individuals that were part of a regular teacher education program, a lateral entry program (identified as a "sink or swim" alternative licensure program), or NC (North Carolina) Teach (a statewide alternative licensure program for mid-career professionals). The interviews were coded and quantitatively studied to determine

links between retention and teacher preparation type. This study identified that teachers who entered teaching through the lateral entry program were more likely to leave the profession each year than those who entered through the regular teacher education program or NC Teach through a seven-year span (Zhang & Zeller, 2016).

Types of Certification Programs

Traditional

Traditional certification programs are usually offered to undergraduate students that have no teaching or work experience and the goal is to attain a bachelor's degree or teaching credential (Whitford, Zhang, & Katsiyannis, 2018). Generally, these programs include four years of studying both pedagogy and content as well as at least one full semester of student teaching (Zhang & Zeller, 2016).

Alternative Certification/Licensure

Alternative certification programs vary in regards to requirements and actual licensure attained in the process (Beck, 2020; Bowling & Ball, 2018; Devier, 2019; DiCamillo, 2020; Fisher-Ari, Martin, Burgess, Cox, & Ejike, 2018; Haj-Broussard et al., 2016; Shwartz & Dori, 2020; Thomas & Mockler, 2018; Whitford et al., 2018; Zhang & Zeller, 2016). According to Whitford, Zhang, and Katsiyannis (2018), alternative programs were created to ease the teacher shortage by allowing someone without a certification to change careers and enter a classroom. Bowling and Ball (2018) and Devier (2019) have identified over 100 different alternative certification pathways across the nation, all with different entry requirements, rigor of coursework, and length of program. Devier (2019) explains that alternative certification programs focus on content area mastery and on-the-job training. One aspect of alternative programs is that they may employ the person as the "teacher of record" while they consecutively complete coursework

towards certification (Haj-Broussard et al., 2016). In the state of Idaho, there are non-traditional routes to certification as well as alternative authorizations, where a school or district is looking to temporarily fill a need with a candidate who does not hold an appropriate certificate or endorsement (Idaho State Department of Education, 2021).

NC Teach/Lateral Entry.   In the study by Zhang and Zeller (2016), the two alternative programs, NC Teach and lateral entry, had varying requirements. Teachers in the NC Teach program went full time one summer and part time for two semesters studying pedagogy while the lateral entry teachers had not studied pedagogy before entry into the classroom; they only took classes part time after they started teaching (Zhang & Zeller, 2016).

Views. In a descriptive case study of three second-career teachers that completed a non-traditional program called *Views*, researchers looked inside the minds of potential teachers coming from a prior career and how that affected their teaching (Shwartz & Dori, 2020). This study combined data from semi-structured interviews, open and closed-ended questionnaires, and analysis of participants' designed assignments to describe how second career novice teachers perceive themselves while creating their teacher identity. Among the suggestions for improvement are opportunities to engage in critical discussions, reflections, and feedback about practice and pedagogy, practicing teaching in authentic situations, enhancing the integration of career changers' expertise in the previous career, and providing opportunities for meaningful recognition by others (Shwartz & Dori, 2020).

Teach for America/Teach First New Zealand.   Special attention needs to be paid to the Teach for America program (and any affiliate programs) as it is one of the most prolific alternative certification programs in existence. Teach for America (2020) reports that there are over 5,450 corps members working in over 50 urban and rural regions across the United States

today. Studies reveal mixed results when researching the effectiveness of this program

(Clement, 2018; Crawford-Garrett, 2020; DiCamillo, 2020; Thomas & Mockler, 2018). In a

year-long qualitative study of TFA members, DiCamillo (2020) interviewed 14 TFA corps

members' (CMs) and identified their perspectives in regards to the benefits and challenges of the

program. Benefits included serving others, developing leadership skills, and being part of a

flexible organization while challenges identified were inadequate preparation for teaching, taking

qualified teachers' jobs, and inexperienced TFA staff (DiCamillo, 2020).

A study of TFA corps members (CMs) identified that there are inherent structures within

the TFA program that may hinder the cultivation of a robust professional identity (Thomas &

Mockler, 2018). The members in the above study assumed one of five sub-identities while in

the program; all-star, outsider, apprentice, TFA Corps Member, or free agent. These identities,

with their unique viewpoints and struggles, may have ultimately hindered the participant's

abilities to create a professional identity as a teacher (Thomas & Mockler, 2018). The all-star

CM was used to succeeding greatly and being recognized or affirmed for the success. Some all-

stars could not get past the lack of recognition, others needed that affirmation to feel valued and

so struggled in building their teacher identity. The outsider CM was a student that had pursued

other majors or areas of interest before joining TFA. Through the Summer Institute and two-

year commitment, these CMs struggled to gain their teacher identity and, because they had

alternate career paths, only saw themselves as temporary teachers. The apprentice CM felt as if

they were surrounded by seasoned or veteran teachers. For some this hindered their ability as

they believed they were masquerading as a teacher and for others it helped them gain an identity

in teaching. The TFA Corps Member was one that struggled within the confines of Teach for

America. For some, going outside the script and creating a respectful classroom helped them

feel more success and others saw the flaws within the TFA scripted program and what it

designated as good teaching practice. Finally, the free agent CM felt that they were out of control of their own destiny. These CMs struggled because they did not have control over placement, grade level, or subject matter where they were placed. Some struggled because they saw themselves in one grade band or subject area only to be moved to a completely different placement later. The short time these CMs had to build pedagogical knowledge and mastery as well as build their teacher identity led to struggles (Thomas & Mockler, 2018).

TeachFirst New Zealand (TFNZ) participants identified the main reason they joined the program as financially motivated where they would not only receive a postgraduate degree for free but would also be earning a salary as the teacher of record (Crawford-Garrett, 2020). Much farther down the line of priorities for these participants was the main mission of the program; addressing inequality in education.

In a study of potential TFA corps members, Clement (2018) identified the pursuit of "*Ed cred*" as a reason for the study participants to even apply to TFA. This "*Ed cred*" framework consisted of the need for credibility, the desire for convenience, and the ability to have a credential after only a short time (Clement, 2018). The classroom seemed to be a short stay in the future careers of these members as they looked for bigger and better opportunities.

School-University Partnerships

School-University partnerships are a specific model that may help reduce teacher attrition (Bebas, 2016; Beck, 2020; Morgan, Rodriquez, Jones, Telez, & Musanti, 2020). In this model, pre-service teachers become a part of the program early and have the support of both university faculty and mentor teachers throughout their preparation program (Bebas, 2016). A study by Morgan, Rodriquez, Jones, Telez, and Musanti (2020) identified via a survey that the teachers that move through a school-university partnership score as effective beginning teachers, have principals that are satisfied with their preparation, and are themselves happy with their

preparation program. A longitudinal, qualitative case study of one pre-service teacher's experience going through a residency program within a school-university partnership identified the process by which the teacher moved from worry and feeling overwhelmed towards building relationships with the students and classroom management – a shift from self-focused to student focused (Beck, 2020). Researchers have also studied Professional Development Schools (PDS), which are a form of school-university partnership, and noted that there is a need to engage in recruitment of potential PDS teachers, a need for mentor matching, a need for balanced workloads, and a need for a supportive professional network to increase retention (Fisher-Ari et al., 2018).

Features of Certification Programs

Coursework

There are positive and negative aspects of the coursework requirements for any certification program (Basit & Khurshid, 2018; Beck et al., 2020; Doran, 2020; Farinde-Wu, Griffen, & Young, 2019; Green, Eady, & Andersen, 2018; Izci & Siegel, 2019; Van Overschelde et al., 2017). Eight graduates of an urban teacher preparation program were interviewed in the Beck, Lunsmann, and Garza (2020) study and indicated that their frustration with the coursework was the inauthentic or redundant classes that they had to take.

Doran (2020) interviewed both traditional preparation program graduates (13 total) and one alternative certification route graduate at two different schools and these teachers indicated that they felt comfortable with lesson planning, differentiating instruction, and understanding the Common Core Standards. However, they indicated a need to know more about day-to-day planning, special education requirements, classroom management, informal assessments, and building relationships with students and families (Doran, 2020).

Researchers studying a teacher preparation program at Texas State University identified ways in which this program helped retain 85% of its graduating teachers in the field after a five-year span (Van Overschelde et al., 2017). The program strived to be innovative by placing future teachers in schools that reflected the demographics of the state's classrooms, providing students with full-time, experienced, tenure-track or tenured faculty, modeling an inquiry-based approach to teaching and learning, and planning reflexively within and for the program so it may adapt quickly to changes in education laws or regulations (Van Overschelde et al., 2017).

In a survey of 465 traditional or alternatively certified special education teachers regarding satisfaction of preparation, Bruno, Scott, and Willis (2018) identified no statistically significant differences in their perceptions of preparation, regardless of preparation route. The teachers had an overwhelmingly positive rating of their programs, agreeing that the programs provided professional knowledge, provided effective strategies to plan instruction, delivered a variety of instructional strategies, and properly assessed student learning.

Researchers qualitatively interviewed 12 African American female teachers and their teacher preparation experiences (Farinde-Wu et al., 2019). The teachers in this study came from different programs, both traditional and alternative, and four themes emerged through their perceived experiences. First, special education knowledge was provided, but only the types of disabilities. Many of these teachers knew of their legal requirement to service students but were unaware of the necessary paperwork that needed to be completed. Second, the teachers' perceptions were that there was a lack of culturally responsive teaching and instead were taught a one-size-fits-all approach. Third, there was little preparation for teaching low-income students of color. Finally, the amount of time spent on preparation and developing their skills as a teacher was insufficient (Farinde-Wu et al., 2019).

In an in-depth look at the courses offered in the final year of a Bachelor's program, Green, Eady, and Andersen (2018) interviewed 154 teachers at the end of a four-year program as well as six months later. Researchers identified that the coursework was effective due to the integration of theory and practice throughout the courses. These courses properly contextualized what the pre-service teachers were learning and adequately prepared them for the realities of teaching (Green et al., 2018).

A case study by Izci and Siegel (2019) followed an alternatively certified teacher and explored the teacher's assessment literacy. It was noted by the researchers that there was an absence of pedagogy as well as content in her program. Researchers suggested that this caused her to have a theoretical understanding of assessment but a lack of practical application of assessment in her classroom (Izci & Siegel, 2019).

An analysis of prospective teachers and teacher educators regarding an Honors and regular Bachelor's program in both the private and public sector in Pakistan yielded interesting results and feedback (Basit & Khurshid, 2018). Researchers noted the prospective teachers in the Honors program were dissatisfied with the institutional environment, the practical work assigned, and assessments used by the instructors. The prospective teachers in the regular Bachelor's program were only dissatisfied with the program's duration. The teacher educators in the Honors program were dissatisfied with physical resources, teacher's competencies, teaching strategies, assessment techniques, professional skills, and the institutional efforts to raise the quality of the program (Basit & Khurshid, 2018).

Field Experiences

There are many variations of field experiences in education from observing teachers in a classroom to student teaching with a mentor teacher. These variations have both positive and negative aspects (Beck et al., 2020; Christophersen et al., 2016; Colson et al., 2017; Dassa &

Derose, 2017; Ng et al., 2018; Olmstead et al., 2020; Van Overschelde et al., 2017). The

participants in the Beck et al. (2020) study indicated that their field experience was authentic to

being a real teacher and they had excellent teacher mentors through the process.   Student

teachers appreciated the classrooms they entered reflecting the actual demographics of the area

they were in as well (Van Overschelde et al., 2017). Colson et al. (2017) identified that a one-

year placement created more satisfaction for the participants in engaging students and classroom

management than a traditional one-semester placement.   On the same note, Ng, Lim, Low, and

Hui (2018) noted that a three to 30-month contract teaching experience in Singapore yielded

teachers that could cope with stress and overcome challenges that the four-week enhanced

experience teachers could not.

Field experiences are also the place where students begin to think of themselves as

teachers and begin building their own teacher identity (Dassa & Derose, 2017). Student

placement in these field experiences can also be associated with the pre-service teacher's

planned persistence in education (Shirrell & Reininger, 2017). If the working conditions in the

placement are considered challenging, the student's planned years in education decreases even

while controlling for other factors that may influence persistence (Shirrell & Reininger, 2017).

Olmstead, Ashton, and Wilkens (2020) interviewed participants that had a negative field

experience and they identified the mentor relationship as the most negative aspect. These

participants felt like they were either left completely alone as a student teacher or controlled by

the mentor to teach as they did (Olmstead et al., 2020). The feedback they received was not

helpful or constructive and they had to deal with negativity by their mentors (Olmstead et al.,

2020). Another study identified that the mentoring process is more strongly associated with a

pre-service teacher's affective commitment and turnover intention (Christophersen et al., 2016).

The quality of a good mentor can overshadow even the negative teaching experiences if the pre-service teacher is able to learn from the experience and grow as a professional (Christophersen et al., 2016).

Certification Program versus Student Achievement

Studies show mixed results when addressing student achievement based on the type of teacher preparation program the teacher completed (Backes, Hansen, Xu, & Brady, 2019; Carver-Thomas & Darling-Hammond, 2017; Chiang, Clark, & McConnell, 2017; Curry, Reeves, McIntyre, & Capps, 2018; Marder, David, & Hamrock, 2020; Ruiz de Castilla, 2018; Salgado, Mundy, Kupczynski, & Challoo, 2018; Sorensen & Ladd, 2020). Curry, Reeves, McIntyre, and Capps (2018) looked at a teacher's certification route (traditional versus alternative) and measured it against their students' fourth-grade reading NAEP test results. The data indicated that students scored higher on the fourth-grade reading NAEP when their teacher had been through a traditional certification route as opposed to an alternative certification route (Curry et al., 2018).

Looking at the process of bilingual certification routes and student achievement in the state of Texas, Ruiz de Castilla (2018) observed inconsistent achievement results across grade levels and subjects. A study of alternative and standard preparation programs in Texas identified significant student achievement effects in Algebra I and weaker effects in Biology in favor of teachers with the standard certification (Marder et al., 2020). Conversely, a study by Salgado, Mundy, Kupczynski, and Challoo (2018) identified that there was no statistical evidence to support alternatively versus traditionally certified teachers in regards to student achievement on the eighth-grade science STAAR test.

A study conducted around the alternative certification program Teach for America (TFA) wanted to identify whether there were spillover effects onto non-TFA teachers in the same

schools that improved overall student achievement and found no significant evidence of these spillover effects (Backes et al., 2019).   An interesting multiple school district study involving TFA found that TFA math teachers in high poverty middle and high schools are more effective than non-TFA teachers teaching the same classes in the same schools. TFA teachers were able to improve math scores equivalent to approximately 2.6 months of math instruction (Chiang et al., 2017).

Improving Teacher Retention

Research is clear when it comes to the factors that can improve teacher retention through all stages of a teacher's career (Guo et al., 2021; Hasselquist & Graves, 2020; Reitman & Karge, 2019; Shuls & Flores, 2020). Researchers interviewed three key central office figures in several of Missouri's top retaining districts and found that there were no explicit teacher retention policies in these districts (Shuls & Flores, 2020).   Instead, the researchers found several common programs, policies and values after horizontal analysis of the interviews.   These included a supportive administration, a culture of trust, openness, and academic freedom, personalized PD opportunities, induction that includes mentorship, and an opportunity for leadership training (Shuls & Flores, 2020).

Researchers interviewed 10 teachers out of a 60-teacher cohort group that had received multiple supports as a part of an induction program for new teachers (Reitman & Karge, 2019). These teachers identified individualized support from staff, training in pedagogical knowledge, mentoring, professional learning, and the opportunity to reflect as positive supports that attributed to their success (Reitman & Karge, 2019). It is interesting to note that the program has had a 100% success rate and all teachers that have gone through this induction program were still teaching at the time of the study (Reitman & Karge, 2019).

Researchers surveyed 1,693 preschool teachers in China to assess the impact social support has on their intention to stay in the profession (Guo et al., 2021). Using descriptive statistics and a correlation matrix, researchers identified that the intention to stay was positively correlated with social support, work engagement, and resilience (Guo et al., 2021). The more resilient the teacher, the more engaged in the work they are, and the amount of support they receive from both inside and outside the school can determine whether the teacher stays in the profession or leaves.

In regards to mid-career (7-15 years teaching) teachers' retention, a qualitative focus group study of 4 CTE (Career & Technical Education) teachers identified the ways in which these teachers have adapted their careers to prevent burnout (Hasselquist & Graves, 2020). Adaptations include setting proper boundaries, shifting their focus from planning to mentoring and getting to know students better, building a professional support network, and innovating in the classroom (Hasselquist & Graves, 2020).

Conclusion

There are many factors that determine whether a teacher leaves the profession and research has shown that many of those factors are not in the teacher's control. Their experiences from pre-service to certified teacher will vary from teacher to teacher. These experiences can be negative, prompting early attrition and a beginning teacher leaving the profession. Other experiences can be positive and solidify a person's desire to be a teacher and build a career in the classroom. More research needs to be conducted to determine whether the type of certification program a teacher goes through will influence their longevity in the profession.

According to Idaho's 2020-21 Teacher Pipeline Report (Dean, 2022), Idaho's teacher attrition rate has slowly dropped towards the national average and is 8.3%. Of specific interest

to this study are attrition rates by years of experience, attrition rates specific to traditional and non- traditional routes, and new Idaho certificates with instructional endorsements that did not teach in Idaho previously. Attrition rates of teachers with zero to two years of experience and those with three to seven years of experience have decreased by 1.3% and 3.7% from the 2015-16 to 2019-20 school years, respectively (Dean, 2022). This data seems to align with the implementation of the Career Ladder in Idaho where the focus of the salary-based increases was within these two experience ranges (Dean, 2022). Also of concern is that from the 2013-14 to 2020-21 school years, a large majority (over 70%) of any type of certificate issued is not associated with a teacher contracted in public education in Idaho in the year the certificate was issued (Dean, 2022). A partial explanation of this could be that those teachers are in private schools still in Idaho or have taken their certificate to another state for a variety of reasons. For teachers living near the border, better pay and a short commute to either Oregon or Washington schools could be what takes these teachers out of Idaho. Another explanation for this number could be that Idaho's largest producer of completers, BYU-Idaho, has a comparatively small number of teachers that choose to serve in Idaho schools (Dean, 2022). The Teacher Pipeline Report also identified that instructional staff certified through public routes in Idaho tended to have better retention rates over a five-year period than those certified from the non-public routes (Dean, 2022). This means that public colleges and universities that train and certify teachers have better retention rates than private schools in the state such as College of Idaho, Northwest Nazarene University, or BYU – Idaho. Northwest Nazarene University is the exception in this group as it continually has high retention rates (Dean, 2022). Dean (2022) also identifies that BYU-Idaho is the largest producer of completers yet has substantially lower rates of retention than other programs in the state of Idaho which helps explain the lower retention rates of the private schools overall.

Idaho recognizes traditional educator preparation programs at Boise State University, BYU-Idaho, BYU-Utah, Idaho State University, College of Idaho, Lewis-Clark State College, Northwest Nazarene University, Western Governor's University, and the University of Idaho. There are also a number of recognized alternative pathways available through institutes of higher education such as Boise State University, BYU-Idaho, BYU-Utah, Idaho State University, Lewis-Clark State College, Northwest Nazarene University, College of Idaho, University of Idaho, the College of Southern Idaho, and Western Governor's University. There are also non-traditional certification programs that are provided by organizations such as the American Board for Certified Teachers of Excellence (ABCTE), and Teach for America - Idaho (TFA-I).

Chapter III

Design and Methodology

Introduction

The state of Idaho's teacher attrition rate is around 8.3% compared to just 8% nationally given the most recently available data (Carver-Thomas & Darling-Hammond, 2017; Dean, 2022). Since 2015, Idaho has had over 4,133 teacher candidates go through alternative programs such as the ABCTE, TFA - I, or newly-formed non-traditional route through CSI. In order to identify whether the type of preparation program was more highly associated with a teacher's employment status, a quantitative study was initiated. This chapter will include an explanation of the researcher's role, detail the methodology as well as the population studied and discuss the limitations of the study.

Research Questions

1. How long do teachers who go through non-traditional educator preparation pathways stay in the classroom?

2. How does the attrition rate of alternatively authorized teachers compare to the attrition rate of traditionally certified teachers at one, two, and three-year intervals from initial certification?

3. How does the attrition rate of specific non-traditional educator preparation programs compare?

Research Design

This quantitative study utilized an explanatory research design. According to Creswell and Guetterman (2019), explanatory research design is used to explain the association between or among variables. In order to determine if the variable of preparation program type was

associated with teaching status after one, two, and three-year periods, data from six consecutive years was collected and analyzed. In order to understand these patterns over time and determine if preparation program type was related to retention, the preparation type along with employment status was pooled together as an overall group and as individual cohorts at the one, two, and three-year intervals and statistical tests were conducted. A logistic regression for the overall group as well as the individual cohorts was conducted in order to calculate the Wald chi-squared statistic and maximum likelihood estimates using the traditional certification program as the constant. A logistic regression model is the appropriate statistical model for response variables for which the response measurement is binary (employed versus no longer employed). It estimates the effect each explanatory variable has on the categorical outcome variable (Zhang & Zeller, 2016). The explanatory variable of teacher preparation type has four categories: traditional, nontraditional through institute of higher education, ABCTE, and TFA-I. The Wald-chi-squared value along with the maximum likelihood estimate allowed the researcher to identify the type of relationship that existed between the other variables and the constant of the traditional certification program. It allowed for an understanding as to whether the alternative programs in the study were providing teachers that were more likely or less likely to be employed as compared to the traditionally certified programs. Significance testing was measured at the $p = .05$ level. See Appendix A for evidence of Human Subject and Ethics Certification of researcher.

Sample

The study population consisted of all initially certified teachers employed in the state of Idaho from the 2014-2015 school year and through the 2019-2020 school year. Each set of initially certified teachers was separated into a cohort based on the year of initial certification. This study population includes 6,572 teachers across the six cohorts. This baseline study

includes only instructional certificates and excludes pupil personnel certificates. As a reminder, nontraditional programs offered through an institute of higher education (NT-IHE) includes the following programs: Boise State University, BYU-Idaho, BYU-Utah, Idaho State University, Lewis-Clark State College, Northwest Nazarene University, College of Idaho, University of Idaho, the College of Southern Idaho, and Western Governor's University. This study sample does not include any Teacher-to-New alternative authorizations due to that option only being available for candidates that already are certificated in Idaho (Idaho State Department of Education, 2022). This baseline study also did not include any teachers that may have moved during the study period into administrative positions, teachers that may be working out of state but living in Idaho, and teachers that are working in private or religious schools in the state of Idaho.

Data Collection

The study population consisted of all initially certified teachers in the state of Idaho from the 2014-2015 school year to the 2019-2020 school year ($N = 6,572$). The data was received by the researcher with no personally identifiable information (PII) and consisted of an Excel file with the numbers of teachers who received initial certification in the years 2014-15 through 2019-20 and the corresponding retention rates of those teachers for the following three school years past initial certification. If the initially certified teacher signed a contract for the next year (second year of teaching), the data indicated employment in Year 1. If the initially certified teacher signed a contract for the following year (third year of teaching), the data indicated employment in Year 2. Finally, if the certified teacher signed a contract for the year after that (fourth year of teaching), the data indicated employment in Year 3. Data was collected by contacting the Idaho State Board of Education and speaking directly with a data analyst employed within the Board of Education. Data for each participant was already sorted by the

variable for teacher preparation type; traditional, non-traditional through institute of higher education (NT-IHE), TFA-I, or ABCTE when the researcher received the data from the Idaho State Board of Education.

In order to determine the longevity of employment for all participants in the study, employment data was already sorted by employment status after one, two, and three-year data points when the data was received. Employment status data was collected through the same data analyst contact at the Idaho State Board of Education. In order to understand these patterns over time and to determine if preparation program type was related to attrition, the data was pooled together at Year 1, 2 and 3 and statistical tests were conducted. Teachers that signed a contract for the following school year were categorized as employed for that year and those that did not sign a contract were categorized as no longer employed. Both options were assigned a numerical value (employed = 1, no longer employed = 2) to allow for calculation of the Wald chi-squared statistic.

All Cohorts Combined

As can be seen in Tables 1 and 2, every type of certification program in this study identified some level of attrition from the Year 1 to Year 3 ($N = 6,572$). Retention rates for the traditional certification program teachers ($n = 4,656$) ranged from 85.74% in Year 1 to 68.04% in Year 3, which equates to 1488 teachers leaving the profession in Idaho who were trained in these programs. The non-traditional certification programs ($n = 1,094$) mirrored this result with an 81.25% retention rate in Year 1 and 68.88% by Year 3, which is a total of 342 teachers leaving the profession in Idaho who were trained in these programs. The ABCTE certification program ($n = 735$) teachers had a higher retention rate of 91.29% in Year 1, and a low retention rate of 78.64% by Year 3, which equates to 157 teachers leaving the profession that were trained in this program. Teach for America-Idaho ($n = 82$) had the highest Year 1 retention rate of 96.34% and

the lowest Year 3 retention rate of 39.02%, which equates to 50 teachers leaving the profession

that were trained in this program. Overall, a total of 2,037 teachers left the profession within the

three years after initial certification which is 30.99% of the population.

Table 1
All Cohorts Combined – Classification of Retention in Years 1,
2, and 3 by Preparation Type

	Preparation Type	Retained	Left	Totals
Year 1				
	Traditional	3992	664	4656
	ABCTE	671	64	735
	TFA-I	79	3	82
	NT-IHE	893	206	1099
Year 2				
	Traditional	3516	1140	4656
	ABCTE	632	103	735
	TFA-I	44	38	82
	NT-IHE	803	296	1099
Year 3				
	Traditional	3168	1488	4656
	ABCTE	578	157	735
	TFA-I	32	50	82
	NT-IHE	757	342	1099
	Totals	4535	2037	6572

Note: Data from Idaho State Board of Education (2023). Public Domain.

Table 2
All Cohorts Combined – Retention
Rate by Preparation Type

		Year		
Preparation Type (%)	Initial	Y1	Y2	Y3
Traditional	100%	85.74%	75.52%	68.04%
ABCTE	100%	91.29%	85.99%	78.64%
TFA	100%	96.34%	53.66%	39.02%
NT-IHE	100%	81.25%	73.06%	68.88%

Note: Data from Idaho State Board of Education (2023). Public Domain.

Cohort 1 (2014-15)

Tables 3 and 4 below indicate the actual numbers of teachers retained and left in the

three-year period for this cohort ($N = 986$). As can be seen in Table 4 below, Teach for

America-Idaho (TFA-I) was not a certification option in the 2014-15 school year so has been left

out of the data for this specific cohort. Retention rates for the traditional certification program

teachers ($n = 873$) ranged from 82.93% in Year 1 to 66.89% in Year 3, which equates to 289

teachers leaving that were trained in this program.   The ABCTE certification program teachers

($n = 66$) had a low retention rate of just 78.78% in Year 2, and a maximum retention rate of

84.84% in Year 1. Notably, the ABCTE program saw an increase from Year 2 to Year 3, which

means 2 teachers did not have a position in Year 2 but were back in the classroom in Year 3.

Non- traditional routes ($n = 47$) mirrored the traditional routes with 82.94% retention in Year 1

and a low of 68.08% in Years 2 and 3, which equates to a total of 15 teachers leaving the

profession that were trained in this program.

Table 3
Cohort 1 Classification of Retention in Years 1, 2, and 3 by
Preparation Type

	Preparation Type	Retained	Left
Year 1			
	Traditional	724	149
	ABCTE	56	10
	NH-IHE	39	8
Year 2			
	Traditional	655	218
	ABCTE	52	14
	NH-IHE	32	15
Year 3			
	Traditional	584	289
	ABCTE	54	12
	NH-IHE	32	15

Note: Data from Idaho State Board of Education (2023). Public Domain.

Table 4
Cohort 1 Retention Rate by
Preparation Type

		Year		
Preparation Type (%)	Initial	Y1	Y2	Y3
Traditional	100%	82.93%	75.02%	66.89%
ABCTE	100%	84.84%	78.78%	81.81%
NT-IHE	100%	82.97%	68.08%	68.08%

Note: Data from Idaho State Board of Education (2023).
Public Domain.

Cohort 2 (2015-2016)

Tables 5 and 6 below indicate the actual numbers and corresponding percentages of

teachers retained and left in the three-year period for this cohort ($N = 1,132$). Retention rates for

the traditional certification program teachers ($n = 827$) ranged from 85.24% in Year 1 to 68.68%

in Year 3, which equates to 259 total teachers leaving the profession that were trained through

this program. The ABCTE certification program teachers ($n = 100$) had a low retention rate of

just 76.00% in Year 3, and a maximum retention rate of 89.00% in Year 1, which equates to 24

teachers leaving the profession and trained in this program. Non-traditional routes ($n = 194$) for

this cohort had 77.31% retention in Year 1 and a low of 67.01% in Year 3, which equates to 64

teachers leaving the profession and trained in this program. TFA-I ($n = 11$) route saw a high of

90.90% retention in Year 1 but a low of 27.27% by Year 3, which translates to eight of the 11

teachers leaving the profession within the first three years after initial certification.

Table 5
Cohort 2 Classification of Retention in Years 1, 2, and 3 by
Preparation Type

	Preparation Type	Retained	Left
Year 1			
	Traditional	705	122
	ABCTE	89	11
	TFA-I	10	1
	NH-IHE	150	44
Year 2			
	Traditional	621	206
	ABCTE	79	21
	TFA-I	5	6
	NH-IHE	137	57
Year 3			
	Traditional	568	259
	ABCTE	76	24
	TFA-I	3	8
	NH-IHE	130	64

Note: Data from Idaho State Board of Education (2023). Public Domain.

Table 6
Cohort 2 Retention Rate by Preparation Type

	Year			
Preparation Type (%)	Initial	Y1	Y2	Y3
Traditional	100%	85.24%	75.09%	68.68%
ABCTE	100%	89.00%	79.00%	76.00%
TFA-I	100%	90.90%	45.45%	27.27%
NT-IHE	100%	77.31%	70.61%	67.01%

Note: Data from Idaho State Board of Education (2023).
Public Domain.

Cohort 3 (2016-2017)

Tables 7 and 8 below indicate the actual numbers and corresponding percentages of teachers retained and left in the three-year period for this cohort ($N = 1,146$). Retention rates for the traditionally certified teachers ($n = 794$) ranged from 84.76% in Year 1 to 67.88% in Year 3, which equates to 255 teachers leaving the profession within three years after initial certification. ABCTE certified teachers ($n = 88$) had 89.77% retention in Year 1 to 76.14% in Year 3, which equates to 21 teachers leaving the profession that were trained in this program. Non-traditionally certified teachers' ($n = 252$) retention rates had a smaller range with 86.51% for Year 1 and a Year 3 retention rate of 76.19%, which equates to 60 teachers leaving the profession. TFA-I ($n = 12$) shows a high initial retention rate with Year 1 being 91.67% but a much lower ending retention rate with Year 3 being 41.67%, which means that seven out of the 12 teachers trained in this program left the profession within three years post initial certification.

Table 7
Cohort 3 Classification of Retention in Years 1, 2, and 3 by Preparation
Type

	Preparation Type	Retained	Left
Year 1			
	Traditional	673	121
	ABCTE	79	9
	TFA-I	11	1
	NH-IHE	218	34
Year 2			
	Traditional	587	207
	ABCTE	74	14
	TFA-I	7	5
	NH-IHE	204	48
Year 3			
	Traditional	539	255
	ABCTE	67	21
	TFA-I	5	7
	NH-IHE	192	60

Note: Data from Idaho State Board of Education (2023). Public Domain.

Table 8
Cohort 3 Retention Rate by Preparation Type

Preparation Type (%)	Year			
	Initial	Y1	Y2	Y3
Traditional	100%	84.76%	73.93%	67.88%
ABCTE	100%	89.77%	84.09%	76.14%
TFA-I	100%	91.67%	58.33%	41.67%
NT-IHE	100%	86.51%	80.95%	76.19%

Note: Data from Idaho State Board of Education (2023).
Public Domain.

Cohort 4 (2017-2018)

Tables 9 and 10 below indicate the actual numbers and corresponding percentages of

teachers retained and left in the three-year period for this cohort ($N = 1,097$). Retention rates

for traditionally certified teachers ($n = 720$) ranged from 85.41% in Year 1 to 66.67% by Year 3

for this cohort. This equates to 240 teachers leaving the profession and trained in this program.

ABCTE teachers ($n = 99$) had retention rates between 90.90% for Year 2 to 81.81% for Year 3,

which equates to 18 teachers leaving the profession. Non-traditionally certified ($n = 261$)

retention rates varied from a high of 83.91% in Year 1 to 71.64% in Year 3, equating to 74

teachers leaving within the three years after initial certification. TFA-I ($n = 17$) saw 100% retention in Year 1 but a low of 41.17% retention for Year 3, which means that 10 of the 17 teachers trained in this program left the profession within the three years.

Table 9
Cohort 4 Classification of Retention in Years 1, 2, and 3 by Preparation Type

	Preparation Type	Retained	Left
Year 1			
	Traditional	615	105
	ABCTE	89	10
	TFA-I	17	0
	NH-IHE	219	42
Year 2			
	Traditional	535	185
	ABCTE	90	9
	TFA-I	9	8
	NH-IHE	199	62
Year 3			
	Traditional	480	240
	ABCTE	81	18
	TFA-I	7	10
	NH-IHE	187	74

Note: Data from Idaho State Board of Education (2023). Public Domain.

Table 10
Cohort 4 Retention Rate by Preparation Type

Preparation Type (%)	Year			
	Initial	Y1	Y2	Y3
Traditional	100%	85.41%	74.30%	66.67%
ABCTE	100%	89.89%	90.90%	81.81%
TFA-I	100%	100%	52.94%	41.17%
NT-IHE	100%	83.91%	76.24%	71.64%

Note: Data from Idaho State Board of Education (2023). Public Domain.

Cohort 5 (2018-2019)

Tables 11 and 12 below indicate the actual numbers and corresponding percentages of teachers retained and left in the three-year period for this cohort ($N = 1,127$). Retention rates for traditionally certified teachers ($n = 731$) in the 2018-19 cohort ranged from 88.37% in Year 1 to 70.45% in Year 3, which equates to 216 teachers leaving the profession within three years after

initial certification. ABCTE (*n* = 188) retention ranged from 91.48% in Year 1 to 76.06% in

Year 3, which equates to 45 teachers leaving the profession. TFA-I (*n* = 21) saw a Year 1

retention rate of 100% but a drop to 57.14% retention by Year 3, which equals nine teachers

leaving within three years after initial certification. Non-traditional (*n* = 187) rates were lower

than the other groups ranging from 75.93% in Year 1 to 61.49% by Year 3, which equates to 72

teachers leaving the profession.

Table 11
Cohort 4 Classification of Retention in Years 1, 2, and 3 by
Preparation Type

	Preparation Type	Retained	Left
Year 1			
	Traditional	646	85
	ABCTE	172	16
	TFA-I	21	0
	NH-IHE	142	64
Year 2			
	Traditional	576	155
	ABCTE	165	23
	TFA-I	14	7
	NH-IHE	123	64
Year 3			
	Traditional	515	216
	ABCTE	143	45
	TFA-I	12	9
	NH-IHE	115	72

Note: Data from Idaho State Board of Education (2023). Public Domain.

Table 12
Cohort 5 Retention Rate by Preparation Type

	Year			
Preparation Type (%)	Initial	Y1	Y2	Y3
Traditional	100%	88.37%	78.79%	70.45%
ABCTE	100%	91.48%	87.76%	76.06%
TFA	100%	100%	66.67%	57.14%
NT-IHE	100%	75.93%	65.77%	61.49%

Note: Data from Idaho State Board of Education (2023).
Public Domain.

Cohort 6 (2019-2020)

Tables 13 and 14 below indicate the actual numbers and corresponding percentages of teachers retained and left in the three-year period for this cohort ($N = 1,084$). Retention rates for traditionally certified teachers ($n = 711$) in this cohort ranged from 88.46% in Year 1 to 67.79% in Year 3, which equates to over 229 teachers leaving the profession. ABCTE ($n = 194$) retention rates showed a narrow range from 95.87% to 80.92%, which equates to 37 teachers leaving within the first three years after initial certification. Non-traditionally certified ($n = 158$) retention was lower than traditional but ranged from 79.74% to 64.55%, which equates to 56 teachers leaving the profession. Finally, TFA-I ($n = 21$) retention rates had the largest variance in range from 95.23% in Year 1 to 23.80% by Year 3, which equates to 16 of the 21 teachers trained within this program leaving the profession within three years after initial certification.

Table 13
Cohort 6 Classification of Retention in Years 1, 2, and 3 by
Preparation Type

	Preparation Type	Retained	Left
Year 1			
	Traditional	629	82
	ABCTE	186	8
	TFA-I	20	1
	NH-IHE	126	32
Year 2			
	Traditional	542	169
	ABCTE	172	22
	TFA-I	9	12
	NH-IHE	109	49
Year 3			
	Traditional	482	229
	ABCTE	157	37
	TFA-I	5	16
	NH-IHE	102	56

Note: Data from Idaho State Board of Education (2023). Public Domain.

Table 14
Cohort 6 Retention Rate by Preparation Type

	Year			
Preparation Type (%)	Initial	Y1	Y2	Y3
Traditional	100%	88.46%	76.23%	67.79%
ABCTE	100%	95.87%	88.65%	80.92%
TFA-I	100%	95.23%	42.85%	23.80%
NT-IHE	100%	79.74%	68.98%	64.55%

Note: Data from Idaho State Board of Education (2023).
Public Domain.

Analytical Methods

Data was organized by teacher prep program (traditional, NT-IHE, ABCTE, TFA-I) and whether the teacher was still employed after one, two, and three-year data points (Coded as 1 for employed, 2 for no longer employed). A logistic regression model was selected in order to relate the explanatory variables' effect on the categorical outcome variable being measured (Creswell & Guetterman, 2019; Zhang & Zeller, 2016). The explanatory variable of teacher preparation program is a categorical variable with four categories; traditional, ABCTE, TFA-I, and NT-IHE. The Wald chi-squared statistic (χ^2) was obtained measuring the predictor's effects.

Limitations

A limitation of this study is the sample size of Teach for America – Idaho certified teachers. It would have been beneficial to have a more robust n for this preparation type ($n =$ 82).

Delimitations

A delimitation of this study was that the researcher chose not to identify the control variables (age, gender, or race) with the given data. The researcher also chose not to disaggregate the data by specific institution that provided the varying preparation programs. The data was also not disaggregated by the school placement of the teacher as urban, suburban, or rural. The researcher also specifically selected years that were minimally impacted by the COVID-19 pandemic to minimize the influence of the pandemic on the attrition/retention

numbers in the study. This baseline study also did not include any teachers that may have

moved during the study period into administrative positions, teachers that may be working out

of state but living in Idaho, and teachers that are working in private or religious schools in the

state of Idaho. The variables mentioned above may have an unseen influence on the

participant's reasons for leaving the profession that are not addressed in this study.

Chapter IV

Results

Introduction

The focus of this quantitative study was to determine if the variable of teacher preparation type had a statistically significant impact on teacher retention rates in the state of Idaho. To summarize the data collection procedure, the Idaho State Board of Education's data analyst was contacted via email and worked with the researcher to provide the data needed for this study. The researcher was provided with six years of longitudinal data separated out by school year and then following each cohort of certified teachers through their next three years of employment in instructional positions. The teachers were certified in the state of Idaho in their initial year in one of the following ways; traditionally certified, non-traditionally certified through an institute of higher education, through the ABCTE program, or through Teach for America – Idaho. The number of teachers that were employed in the state were then reported for the following three years aligned with the certification program.

For adequate summarization and statistical analysis, the six cohorts were combined into one large cohort (n = 6,572). For example, the ABCTE preparation method in Year 2 indicated 632 out of 735 were still teaching and 103 were no longer teaching, whereas for the traditional preparation method, 3,516 out of 4,656 were still teaching and 1,140 were no longer teaching. As a reminder, Year 1 indicates that a teacher completed their initial year of teaching and signed a contract for a second year of teaching, Year 2 indicates completion of the second year and signature of a contract for third year, and Year 3 indicates completion of third year of teaching and signature of a contract for a fourth year of teaching to be indicated as employed in each year of this study.

The data was also disaggregated into each separate initial certification year and the corresponding three-year span of employment in instructional positions in order to identify trends across those specific years. The retention percentages as well as statistical analysis of each cohort is also outlined below in more detail. For example, the data for the 2014-15 cohort indicated a total of 986 teachers had their initial certification that year with 873 traditionally certified, 66 ABCTE certified, and 47 non-traditionally certified through an institute of higher education. It should be noted that Teach for America – Idaho was not a state-recognized program in this year so there is no data for that certification type. Of those initially certified in 2014-15, by Year 3, 584 traditionally certified teachers were still teaching while 289 were no longer teaching, 54 ABCTE certified teachers were still in the classroom while 12 were not, and 32 non-traditionally certified were still teaching while 15 were not.

Using the data obtained, the retention percentages for the entirety of the group as well as the cohorts separately are calculated and available numerically and visually below. A logistic regression model (Wald chi-square) was used as it is the appropriate statistical model where there is one predictor variable (preparation type) and a single criterion variable (employment status) with just two variables – employed versus unemployed (Frey, 2016). In this study, the Wald chi-square test uses the traditional preparation program as the constant and measures how the other programs in the study are associated with the traditional preparation program. The Wald chi-square test provides a maximum likelihood estimate value (B) that specifically identifies whether teachers associated with the program are more likely to be employed or less likely to be employed in comparison with the traditional certification program participants. The Exp(B) value gives a percentage value to explain how much more or less likely the teachers are to be employed as compared to the traditional program. For example, the maximum likelihood

estimate for Year 1 of the combined cohorts for the ABCTE program is -.556. This value

indicates a negative in the relationship, meaning that the ABCTE program teachers are less likely

to be unemployed. Continuing further to the Exp(B) value for the same group, it is .573. When

this value is subtracted from one, it provides an explanation of how much less likely the ABCTE

program teachers are to be unemployed, which is 43% in this example.

With the logistic regression, PrepType(1) is the ABCTE program, PrepType(2) is the NT-

IHE group, and PrepType(3) is the TFA-I program. Associations were calculated using SPSS

for the entire group of teachers as well as each cohort separately and are outlined below. It is

important to understand whether there is an association between teacher preparation type and

teacher retention in the field of education. The data will provide insight as to whether one

preparation type is more likely to have those teachers remain in the profession or if all are

equally likely to remain no matter the preparation type.

Results

All Cohorts - Teacher Preparation and Retention Analysis

Utilizing SPSS, a logistic regression model was utilized to test for the dependency

between the outcome variable of retention and the explanatory variable of teacher preparation

type. Retention rates for the traditional certification program teachers ($n = 4,656$) ranged from

85.74% in Year 1 to 68.04% in Year 3, which equates to 1488 teachers leaving the profession in

Idaho who were trained in these programs. The non-traditional certification programs ($n = 1,094$) mirrored this result with an 81.25% retention rate in Year 1 and 68.88% by Year 3, which

is a total of 342 teachers leaving the profession in Idaho who were trained in these programs.

The ABCTE certification program ($n = 735$) teachers had a retention rate of 91.29% in Year 1,

and a retention rate of 78.64% by Year 3, which equates to 157 teachers leaving the profession

that were trained in this program. Teach for America-Idaho ($n = 82$) had the highest Year 1

retention rate of 96.34% and a Year 3 retention rate of 39.02%, which equates to 50 teachers

leaving the profession that were trained in this program. Figures 1 and 2 visually represent the

retention rates for each preparation type through initial certification and Years 1, 2, and 3.

Figure 1
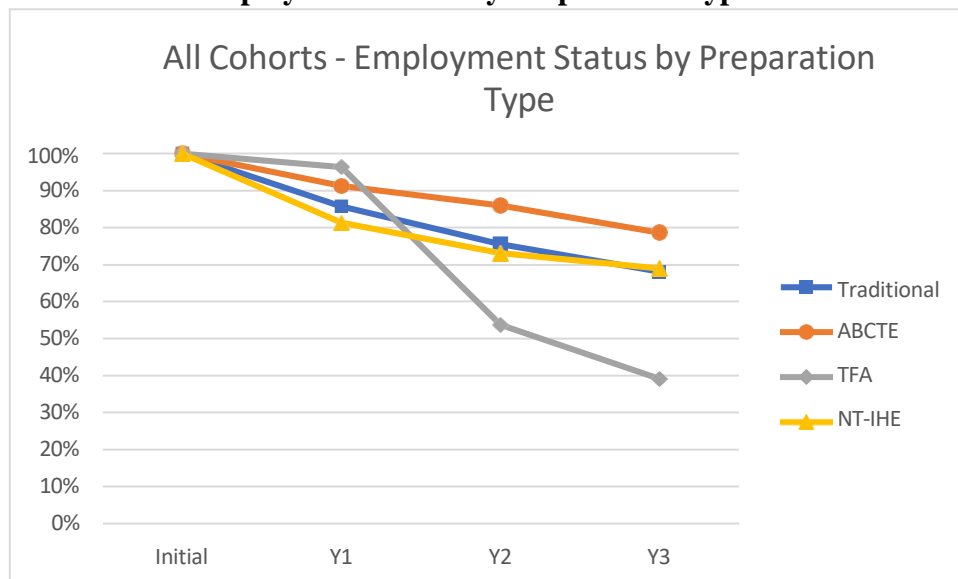**All Cohorts - Employment Status by Preparation Type**

Figure 2
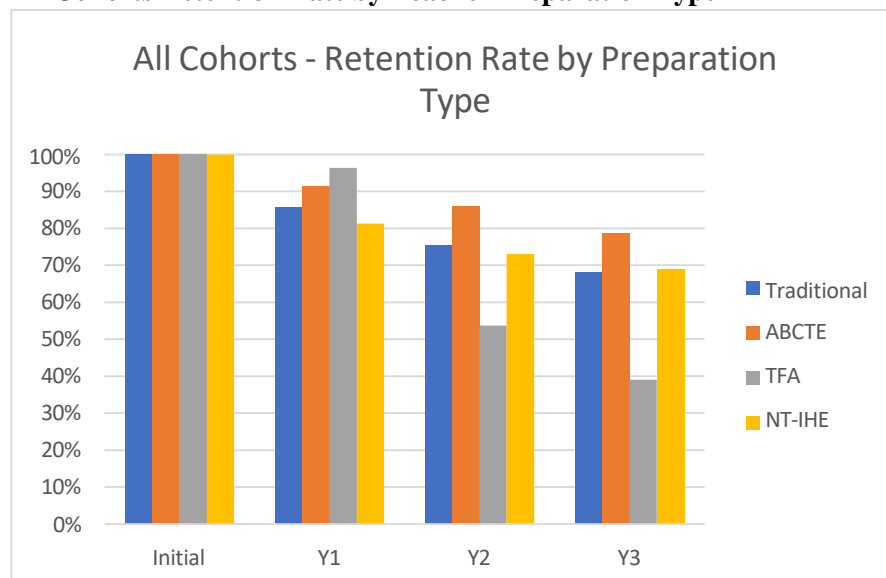**All Cohorts Retention Rate by Teacher Preparation Type**

Table 15 shares the results of the logistic regression for Year 1 (second year teaching) for the combined cohorts where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. It indicates that ABCTE certified teachers are 43% less likely to be unemployed than traditionally certified teachers (maximum likelihood estimates = -.556, Wald χ^2 = 16.388, p < .001, Exp(B) = .573). Examining Exp(B) in the logistic regression in Table 15 identifies that nontraditionally certified teachers are 1.3 times more likely to be unemployed that traditionally certified teachers (maximum likelihood estimates = .327, Wald χ^2 = 13.388, p < .001, Exp(B) = 1.387).

Table 15
All Cohorts, Year 1 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			41.875	3	<.001	
	PrepType(1)	-.556	.137	16.388	1	<.001	.573
	PrepType(2)	.327	.088	13.836	1	<.001	1.387
	PrepType(3)	-1.477	.590	6.274	1	.012	.228
	Constant	-1.794	.042	1831.795	1	<.001	.166

a. Variable(s) entered on step 1: PrepType.

Table 16 shares the results of the logistic regression for Year 2 (third year teaching) for the combined cohorts where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Results indicate that ABCTE certified teachers are 50% less likely to be unemployed than traditionally certified teachers in Year 2 (maximum likelihood estimates = -.688, Wald χ^2 = 37.997, p < .001, Exp(B) = .503). TFA-I certified teachers were found to be 2.6 times more likely to be unemployed in Year 2 (maximum likelihood estimates = .980, Wald χ^2 = 19.118, p < .001, Exp(B) = 2.664). There was no statistically significant difference in retention likelihood between nontraditionally and traditionally certified teachers in Year 2.

Table 16
All Cohorts, Year 2 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			64.889	3	<.001	
	PrepType(1)	-.688	.112	37.997	1	<.001	.503
	PrepType(2)	.128	.076	2.845	1	.092	1.137
	PrepType(3)	.980	.224	19.118	1	<.001	2.664
	Constant	-1.126	.034	1092.058	1	<.001	.324

a. Variable(s) entered on step 1: PrepType.

Table 17 shares the results of the logistic regression for Year 3 (fourth year teaching) for the combined cohorts where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Results indicate that ABCTE certified teachers are 43% less likely to be unemployed than traditionally certified teachers (maximum likelihood estimates = -.548, Wald χ^2 = 33.006, p < .001, Exp(B) = .578). The data also indicates that TFA certified teachers are 3.3 times more likely to be unemployed in Year 3 (; maximum likelihood estimates = 1.202, Wald χ^2 = 27.656, p < .001, Exp(B) = 3.327). There was also found to be no statistically significant difference in retention likelihood between non-traditionally and traditionally certified teachers in Year 3.

Table 17
All Cohorts, Year 3 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			63.532	3	<.001	
	PrepType(1)	-.548	.095	33.006	1	<.001	.578
	PrepType(2)	-.039	.072	.289	1	.591	.962
	PrepType(3)	1.202	.229	27.656	1	<.001	3.327
	Constant	-.756	.031	578.145	1	<.001	.470

a. Variable(s) entered on step 1: PrepType.

Teacher Preparation and Retention Analysis – Cohorts 1 through 6

Cohort 1 (2014-15). Utilizing SPSS, a logistic regression model was utilized to test for the dependency between the outcome variable of retention and the explanatory variable of teacher preparation type. Retention rates for the traditional certification program teachers ($n = 873$) ranged from 82.93% in Year 1 to 66.89% in Year 3, which equates to 289 teachers leaving that were trained in this program. The ABCTE certification program teachers ($n = 66$) had a retention rate of just 78.78% in Year 2, and a maximum retention rate of 84.84% in Year 1. Notably, the ABCTE program saw an increase from Year 2 to Year 3, which means two teachers did not have a position in Year 2 but were back in the classroom in Year 3. Non-traditional routes ($n = 47$) mirrored the traditional routes with 82.94% retention in Year 1 and 68.08% in Years 2 and 3, which equates to a total of 15 teachers leaving the profession that were trained in this program. Figures 3 and 4 visually represent the retention percentages for each preparation type through initial certification and Years 1, 2, and 3.

Figure 3
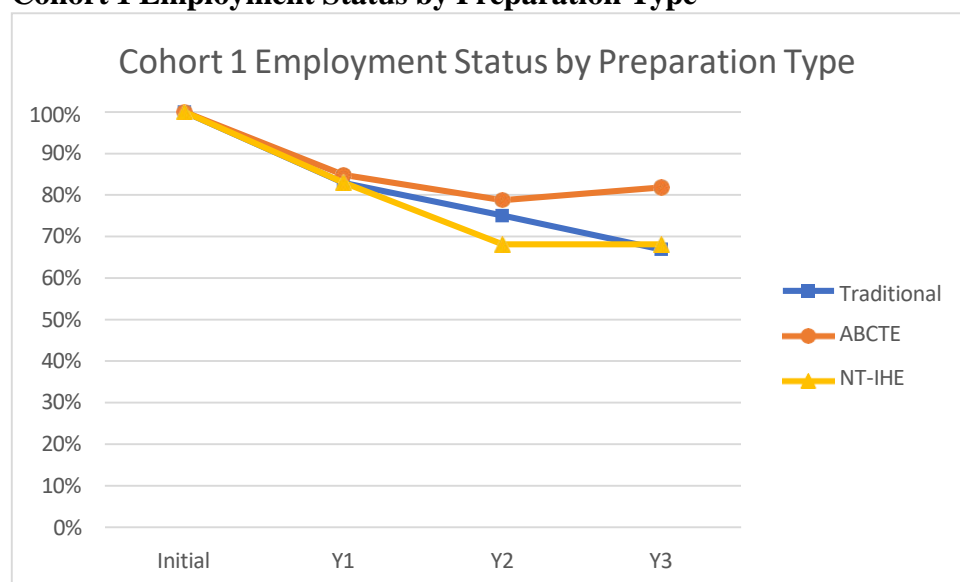**Cohort 1 Employment Status by Preparation Type**

Figure 4
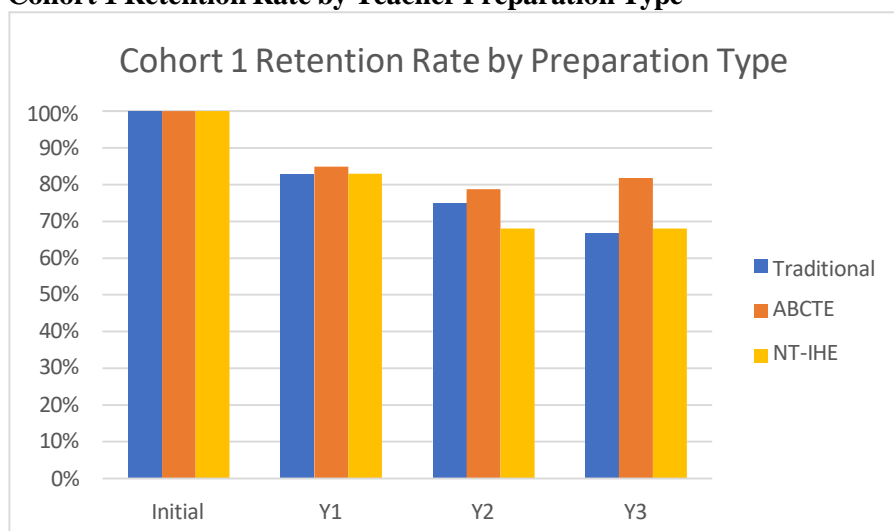**Cohort 1 Retention Rate by Teacher Preparation Type**

Table 18 shares the results of the logistic regression for Year 3 (fourth year teaching) for

Cohort 1 where the traditional program is the constant, PrepType(1) is ABCTE and PrepType(2)

is nontraditional.   The logistic regression model for Year 3, which measured the variables

against the traditional certification program, identified that ABCTE-certified teachers were 55%

less likely to be unemployed compared to the traditionally-certified teachers (maximum

likelihood estimate = -.801, Wald χ^2 = 5.989, p = .014, Exp(B) = .449).

Table 18
Cohort 1, Year 3 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			5.991	2	.050	
	PrepType(1)	-.801	.327	5.989	1	.014	.449
	PrepType(2)	-.054	.321	.029	1	.866	.947
	Constant	-.703	.072	95.674	1	<.001	.495

a. Variable(s) entered on step 1: PrepType.

Cohort 2 (2015-2016). Utilizing SPSS, a logistic regression model was utilized to test

for the dependency between the outcome variable of retention and the explanatory variable of

teacher preparation

type. Retention rates for the traditional certification program teachers ($n = 827$) ranged from 85.24% in Year 1 to 68.68% in Year 3, which equates to 259 total teachers leaving the profession that were trained through this program.   The ABCTE certification program teachers ($n = 100$) had retention rate of 76.00% in Year 3, and a maximum retention rate of 89.00% in Year 1, which equates to 24 teachers leaving the profession and trained in this program. Non-traditional routes ($n = 194$) for this cohort had 77.31% retention in Year 1 and 67.01% in Year 3, which equates to 64 teachers leaving the profession and trained in this program. TFA-I ($n = 11$) route saw a 90.90% retention in Year 1 but a retention rate of 27.27% by Year 3, which translates to eight of the 11 teachers leaving the profession within the first three years after initial certification. Figures 5 and 6 visually represent the retention numbers and corresponding percentages for each preparation type through initial certification and Years 1, 2, and 3.

Figure 5
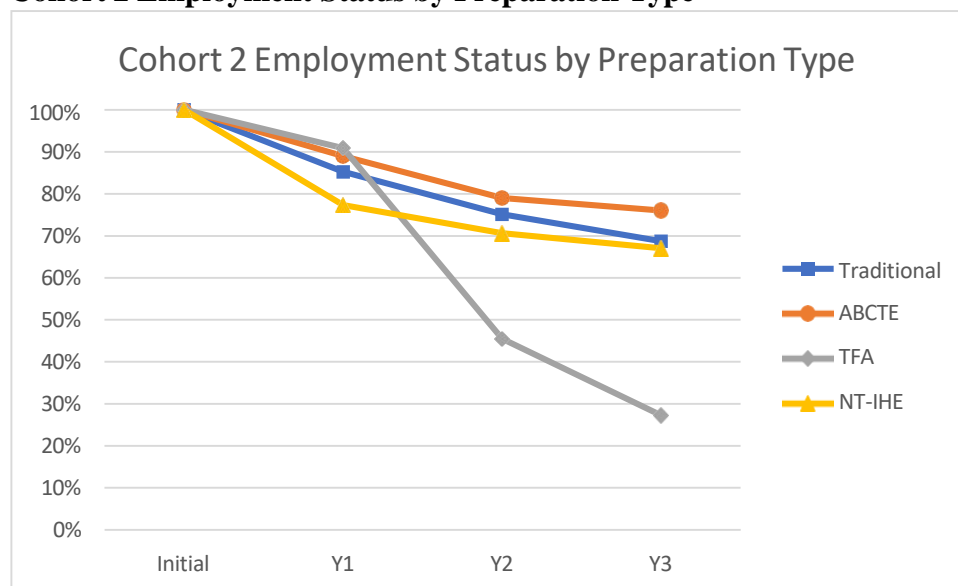**Cohort 2 Employment Status by Preparation Type**

Figure 6
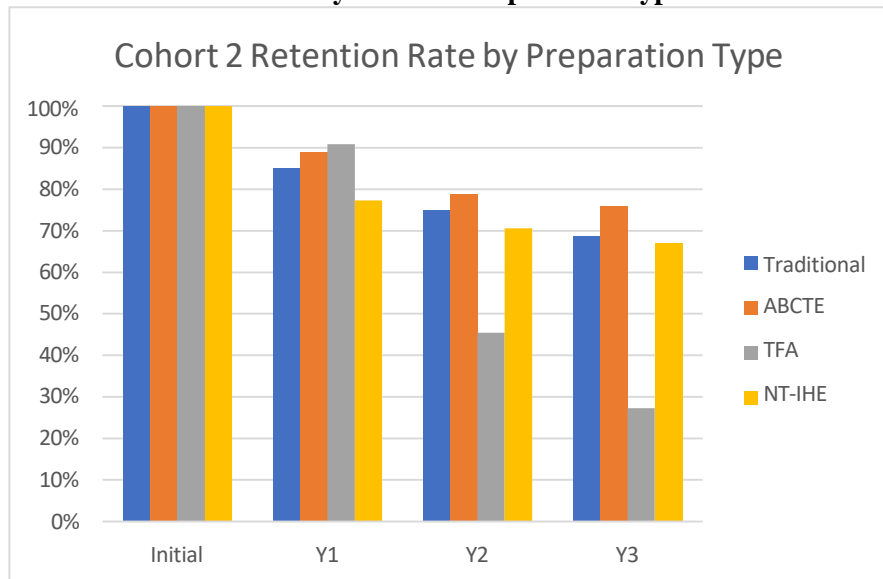**Cohort 2 Retention Rate by Teacher Preparation Type**

Table 19 shares the results of the logistic regression for Year 1 (second year teaching) for Cohort 2 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Logistic regression identified no significant differences for the ABCTE program or the TFA-I program as compared individually with the traditional preparation program. Non-traditionally certified teachers were found to be 1.7 times more likely to be unemployed in Year 1 as compared to traditionally certified teachers for this cohort (maximum likelihood estimate = .557, Wald χ^2 = 8.045, p = .005, Exp(B) = 1.745).

Table 19
Cohort 2, Year 1 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			10.501	3	.015	
	PrepType(1)	-.337	.334	1.014	1	.314	.714
	PrepType(2)	.557	.196	8.045	1	.005	1.745
	PrepType(3)	-.548	1.053	.271	1	.603	.578
	Constant	-1.754	.098	320.030	1	<.001	.173

a. Variable(s) entered on step 1: PrepType.

Table 20 shares the results of the logistic regression for Year 3 (fourth year teaching) for Cohort 2 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Logistic regression indicated there were no significant differences found with the ABCTE program or the nontraditional program when compared individually with the traditionally certified teachers.   TFA-I teachers were found to be 5.8 times more likely to be unemployed in Year 3 compared to traditionally certified teachers in this cohort (maximum likelihood estimate = 1.766, Wald χ^2 = 6.723, p = .01, Exp(B) = 5.848).

Table 20
Cohort 2, Year 3 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			9.690	3	.021	
	PrepType(1)	-.367	.246	2.233	1	.135	.693
	PrepType(2)	.100	.170	.347	1	.556	1.105
	PrepType(3)	1.766	.681	6.723	1	.010	5.848
	Constant	-.785	.075	109.700	1	<.001	.456

a. Variable(s) entered on step 1: PrepType.

Cohort 3 (2016-2017). Utilizing SPSS, a logistic regression model was utilized to test for the dependency between the outcome variable of retention and the explanatory variable of teacher preparation type. Retention rates for the traditionally certified teachers (n = 794) ranged from 84.76% in Year 1 to 67.88% in Year 3, which equates to 255 teachers leaving the profession within three years after initial certification. ABCTE certified teachers (n = 88) had 89.77% retention in Year 1 to 76.14% in Year 3, which equates to 21 teachers leaving the profession that were trained in this program. Non-traditionally certified teachers' (n = 252) retention rates were narrower at 86.51% for Year 1 and a Year 3 retention rate of 76.19%, which equates to 60 teachers leaving the profession. TFA-I (n = 12) had a Year 1 retention rate of 91.67% and a Year 3 retention rate of 41.67%, which means that seven out of the 12

teachers trained in this program left the profession within three years post initial certification.

Figures 7 and 8 visually represent the retention numbers and corresponding percentages for

each preparation type through initial certification and Years 1, 2, and 3.

Figure 7
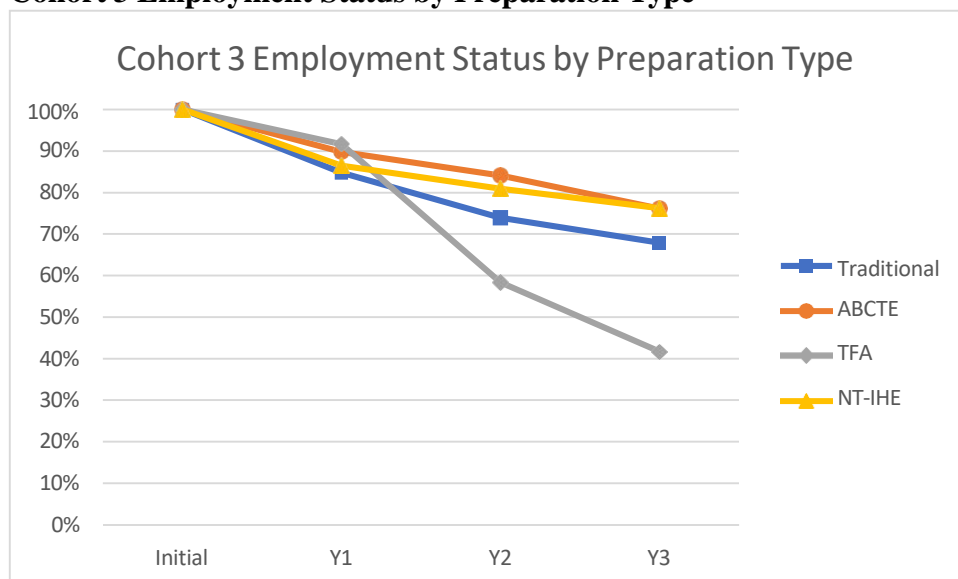**Cohort 3 Employment Status by Preparation Type**

Figure 8
Cohort 3 Retention Rate by Teacher Preparation Type

Table 21 shares the results of the logistic regression for Year 2 (third year teaching) for Cohort 3 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Logistic regression indicated no significant difference between the TFA-I certified teachers when compared to the traditionally certified teachers.   The ABCTE certified teachers were found to be 47% less likely to be unemployed (maximum likelihood estimates = -.623, Wald χ^2 = 4.239, p = .04, Exp(B) = .536) compared to the traditionally certified teachers while non-traditionally certified teachers were 34% less likely to be unemployed compared to the traditionally certified teachers in Year 2 (maximum likelihood estimates = -.405, Wald χ^2 = 5.073, p = .024, Exp(B) = .667).

Table 21
Cohort 3, Year 2 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			10.246	3	.017	
	PrepType(1)	-.623	.302	4.239	1	.040	.536
	PrepType(2)	-.405	.180	5.073	1	.024	.667
	PrepType(3)	.706	.591	1.426	1	.232	2.026
	Constant	-1.042	.081	166.256	1	<.001	.353

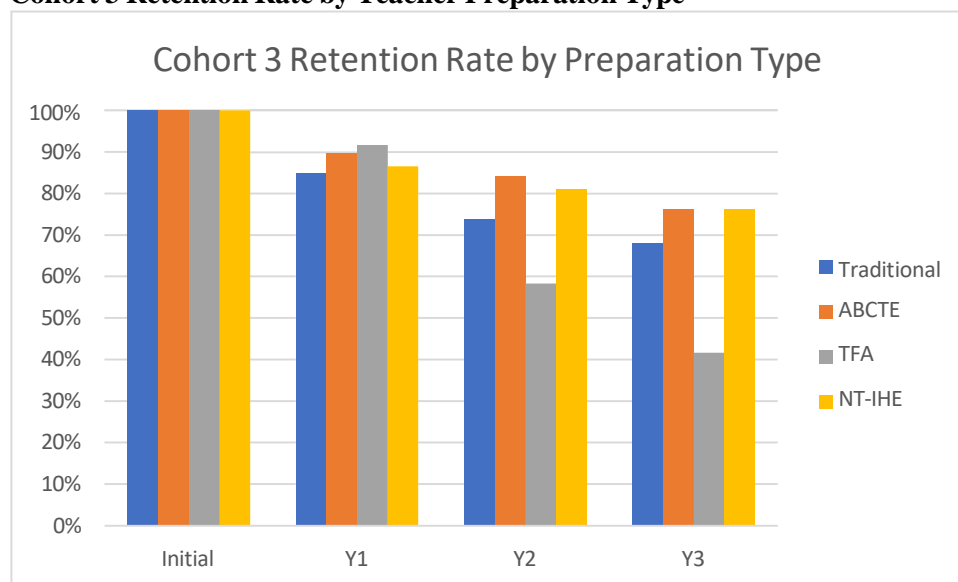a. Variable(s) entered on step 1: PrepType.

Table 22 shares the results of the logistic regression for Year 3 (fourth year teaching) for Cohort 3 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I.   Logistic regression indicated no significant differences between the ABCTE program or the TFA-I program when compared individually to the traditionally certified teachers.   However, it was found that the non-traditionally certified teachers were 34% less likely to be unemployed compared to the traditionally certified teachers in Year 3 (maximum likelihood estimates = -.415, Wald χ^2 = 6.219, p = .013, Exp(B) = .661).

Table 22
Cohort 3, Year 3 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			11.899	3	.008	
	PrepType(1)	-.412	.261	2.481	1	.115	.663
	PrepType(2)	-.415	.166	6.219	1	.013	.661
	PrepType(3)	1.085	.590	3.376	1	.066	2.959
	Constant	-.748	.076	96.970	1	<.001	.473

a. Variable(s) entered on step 1: PrepType.

Cohort 4 (2017-2018). Utilizing SPSS, a logistic regression model was utilized to test for the dependency between the outcome variable of retention and the explanatory variable of teacher preparation type. Retention rates for traditionally certified teachers ($n = 720$) ranged from 85.41% in Year 1 to 66.67% by Year 3 for this cohort. This equates to 240 teachers leaving the profession and trained in this program. ABCTE teachers ($n = 99$) had retention rates between 90.90% for Year 2 to 81.81% for Year 3, which equates to 18 teachers leaving the profession. Non-traditionally certified ($n = 261$) retention rates varied from 83.91% in Year 1 to 71.64% in Year 3, equating to 74 teachers leaving within the three years after initial certification. TFA-I ($n = 17$) saw 100% retention in Year 1 but 41.17% retention for Year 3, which means that 10 of the 17 teachers trained in this program left the profession within the three years. Figures 9 and 10 visually represent the retention numbers and corresponding percentages for each preparation type through initial certification and Years 1, 2, and 3.

Figure 9
Cohort 4 Employment Status by Preparation Type
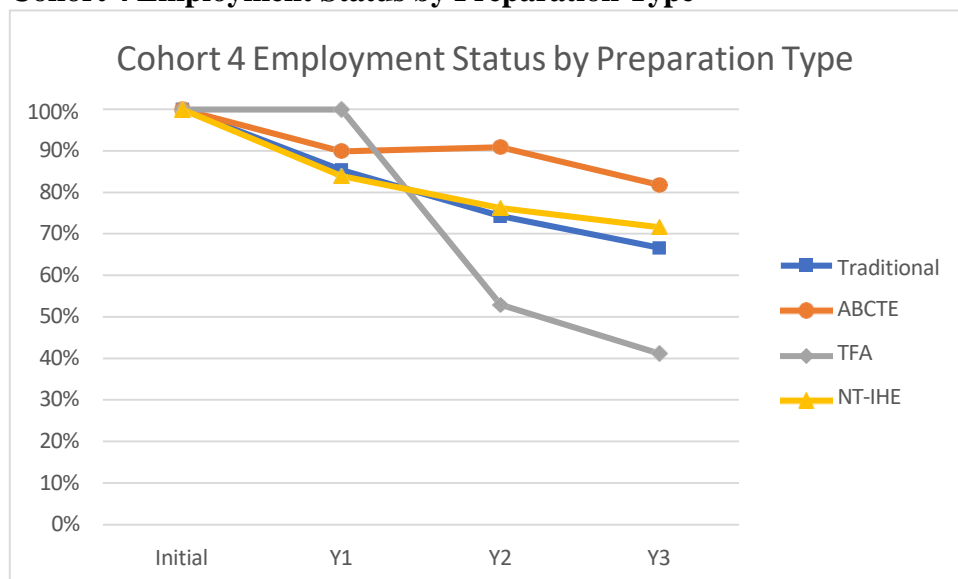
Figure 10
Cohort 4 Retention Rate by Teacher Preparation Type

Table 23 shares the results of the logistic regression for Year 2 (third year teaching) for

Cohort 4 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is

nontraditional, and PrepType(3) is TFA-I. Logistic regression indicated no significant

differences found between non-traditional or TFA-I certified teachers when compared

individually against the traditionally certified teachers.   The ABCTE certified teachers were

found to be 72% less likely to be unemployed compared to the traditionally certified teachers in

Year 2 (maximum likelihood estimates = -1.241, Wald χ^2 = 11.887, p <.001, Exp(B) = .289).

Table 23
Cohort 4, Year 2 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1ª	PrepType			16.260	3	.001	
	PrepType(1)	-1.241	.360	11.887	1	<.001	.289
	PrepType(2)	-.104	.169	.382	1	.536	.901
	PrepType(3)	.944	.493	3.662	1	.056	2.571
	Constant	-1.062	.085	155.013	1	<.001	.346

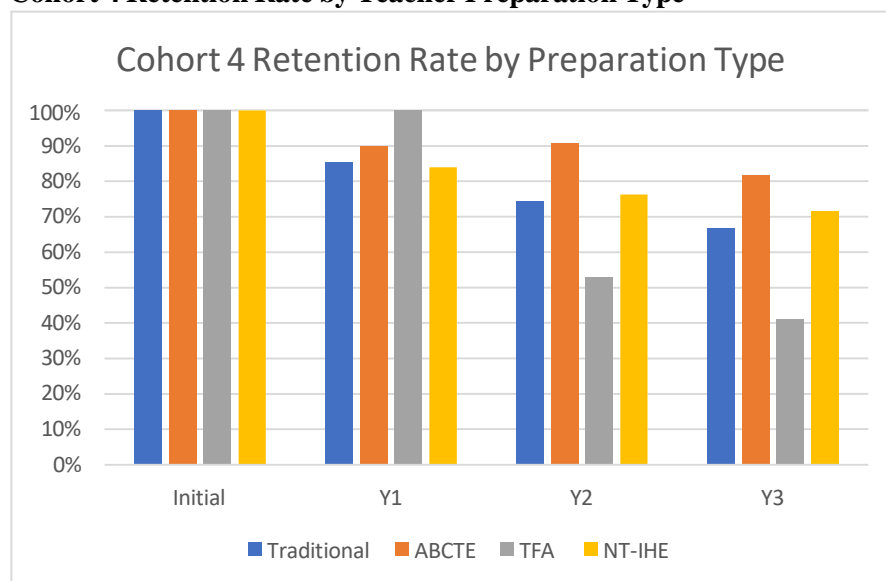a. Variable(s) entered on step 1: PrepType.

Table 24 shares the results of the logistic regression for Year 3 (fourth year teaching) for

Cohort 4 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is

nontraditional, and PrepType(3) is TFA-I.   Logistic regression indicated no significant

difference between the non-traditionally certified teachers and traditionally certified teachers.

The ABCTE teachers were found to be 56% less likely to be unemployed compared to the

traditionally certified teachers (maximum likelihood estimates = -.811, Wald χ^2 = 8.868, p =

.003, Exp(B) = .444).   TFA-certified teachers were 2.8 times more likely to be unemployed by

Year 3 for this cohort (maximum likelihood estimate = 1.050, Wald χ^2 = 4.424, p = .035, Exp(B)

= 2.857).

Table 24
Cohort 4, Year 3 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1ª	PrepType			15.395	3	.002	
	PrepType(1)	-.811	.272	8.868	1	.003	.444
	PrepType(2)	-.234	.158	2.179	1	.140	.791
	PrepType(3)	1.050	.499	4.424	1	.035	2.857
	Constant	-.693	.079	76.872	1	<.001	.500

a. Variable(s) entered on step 1: PrepType.

Cohort 5 (2018-2019). Utilizing SPSS, a logistic regression model was utilized to test for the dependency between the outcome variable of retention and the explanatory variable of teacher preparation type. Retention rates for traditionally certified teachers ($n = 731$) in the 2018-19 cohort ranged from 88.37% in Year 1 to 70.45% in Year 3, which equates to 216 teachers leaving the profession within three years after initial certification. ABCTE ($n = 188$) retention ranged from 91.48% in Year 1 to 76.06% in Year 3, which equates to 45 teachers leaving the profession.

TFA-I ($n = 21$) saw another Year 1 retention rate of 100% and a retention rate of 57.14% by Year 3, which equals nine teachers leaving within three years after initial certification. Non-traditional ($n = 187$) rates were lower than the other groups ranging from 75.93% in Year 1 to 61.49% by Year 3, which equates to 72 teachers leaving the profession. Figures 11 and 12 visually represent the retention numbers and corresponding percentages for each preparation type through initial certification and Years 1, 2, and 3.
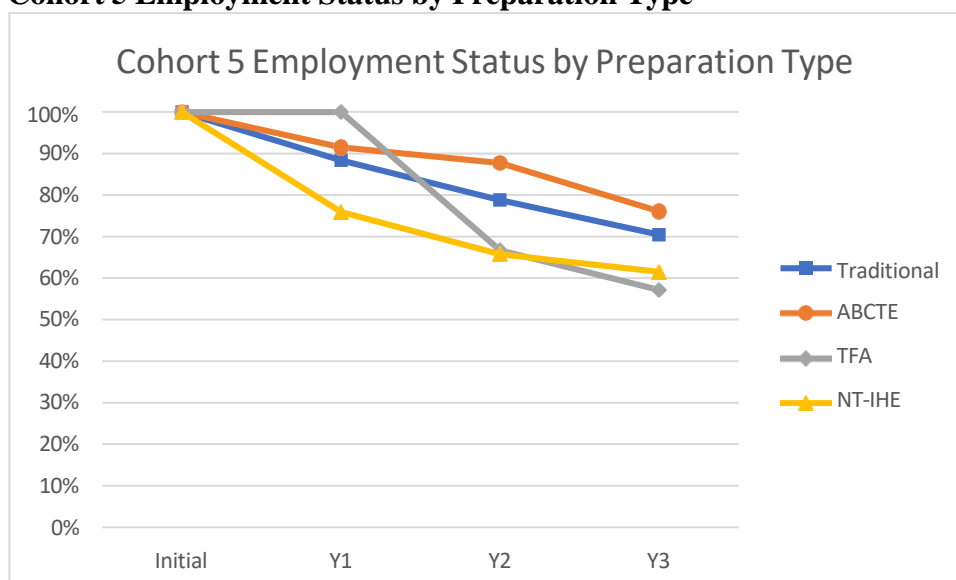
Figure 11
Cohort 5 Employment Status by Preparation Type

Figure 12
Cohort 5 Retention Rate by Teacher Preparation Type

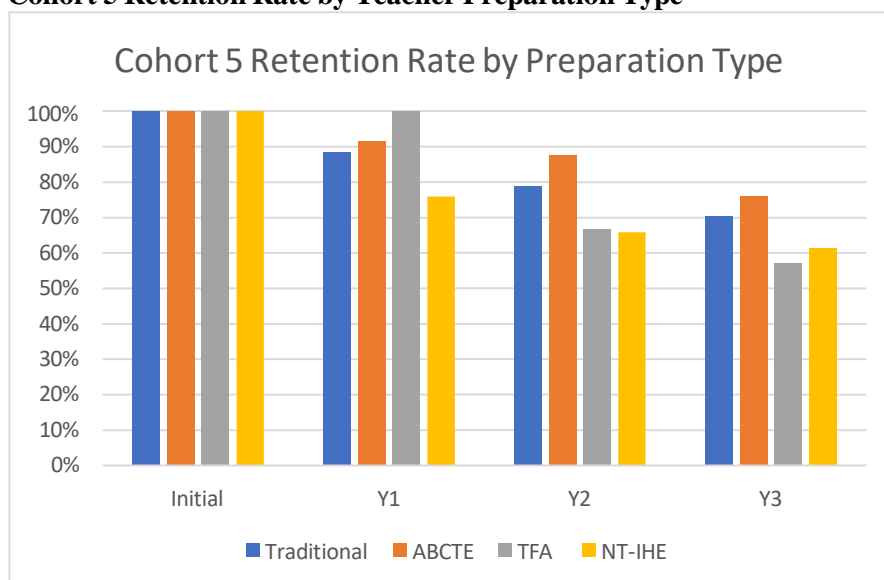Cohort 5 Retention Rate by Preparation Type

Table 25 shares the results of the logistic regression for Year 1 (second year teaching) for Cohort 5 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Logistic regression indicated that there were no significant differences between either the ABCTE or TFA certified teachers when compared individually to the traditionally certified teachers.   Non-traditionally certified teachers were found to be 2.4 times more likely to be unemployed as compared to traditionally certified teachers in Year 1 (maximum likelihood estimate = .879, Wald χ^2 = 18.146, p <.001, Exp(B) = 2.408).

Table 25
Cohort 5, Year 1 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			23.134	3	<.001	
	PrepType(1)	-.347	.286	1.473	1	.225	.707
	PrepType(2)	.879	.206	18.146	1	<.001	2.408
	PrepType(3)	-19.175	8770.825	.000	1	.998	.000
	Constant	-2.028	.115	308.982	1	<.001	.132

a. Variable(s) entered on step 1: PrepType.

Table 26 shares the results of the logistic regression for Year 2 (third year teaching) for Cohort 5 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Logistic regression indicated that there were no significant differences between the TFA and traditionally certified teachers. ABCTE teachers were 49% less likely to be unemployed (maximum likelihood estimate = -.658, Wald χ^2 = 7.495, p = .006, Exp(B) = .518) but non-traditional teachers were 1.9 times more likely to be unemployed as compared to traditionally certified teachers (maximum likelihood estimate = .659, Wald χ^2 = 13.611, p < .001, Exp(B) = 1.934).

Table 26
Cohort 5, Year 2 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			27.232	3	<.001	
	PrepType(1)	-.658	.240	7.495	1	.006	.518
	PrepType(2)	.659	.179	13.611	1	<.001	1.934
	PrepType(3)	.620	.472	1.725	1	.189	1.858
	Constant	-1.313	.090	210.454	1	<.001	.269

a. Variable(s) entered on step 1: PrepType.

Table 27 shares the results of the logistic regression for Year 3 (fourth year teaching) for Cohort 5 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. Logistic regression indicated that there were no significant differences found between either the ABCTE or TFA teachers when compared individually to the traditionally certified teachers.   It was found in Year 3 that non-traditionally certified teachers were 1.5 times more likely to be unemployed compared to the traditionally certified teachers (maximum likelihood estimate = .401, Wald χ^2 = 5.505, p = .019, Exp(B) = 1.493).

Table 27
Cohort 5, Year 3 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			11.166	3	.011	
	PrepType(1)	-.287	.189	2.306	1	.129	.750
	PrepType(2)	.401	.171	5.505	1	.019	1.493
	PrepType(3)	.581	.448	1.680	1	.195	1.788
	Constant	-.869	.081	114.887	1	<.001	.419

a. Variable(s) entered on step 1: PrepType.

Cohort 6 (2019-2020). Utilizing SPSS, a logistic regression model was utilized to test for the dependency between the outcome variable of retention and the explanatory variable of teacher preparation type). Retention rates for traditionally certified teachers ($n = 711$) in this cohort ranged from 88.46% in Year 1 to 67.79% in Year 3, which equates to over 229 teachers leaving the profession. ABCTE ($n = 194$) retention rates showed a narrow range from 95.87% to 80.92%, which equates to 37 teachers leaving within the first three years after initial certification. Non- traditionally certified ($n = 158$) retention was lower than traditional but ranged from 79.74% to 64.55%, which equates to 56 teachers leaving the profession. Finally, TFA-I ($n = 21$) retention rates had the largest variance in range from 95.23% in Year 1 to 23.80% by Year 3, which equates to 16 of the 21 teachers trained within this program leaving the profession within three years after initial certification. Figures 13 and 14 visually represent the retention numbers and corresponding percentages for each preparation type through initial certification and Years 1, 2, and 3.

Figure 13
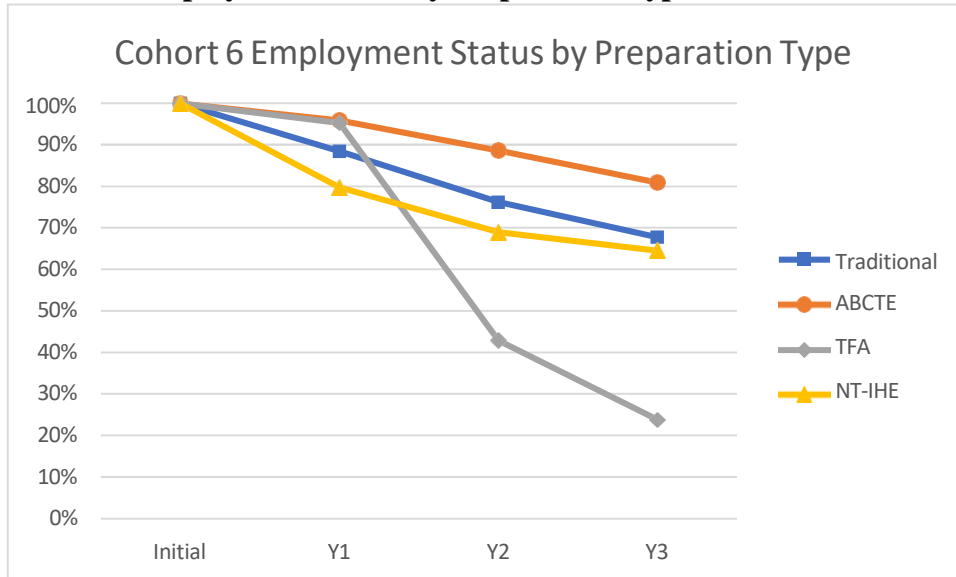**Cohort 6 Employment Status by Preparation Type**

Figure 14
Cohort 6 Retention Rate by Teacher Preparation Type
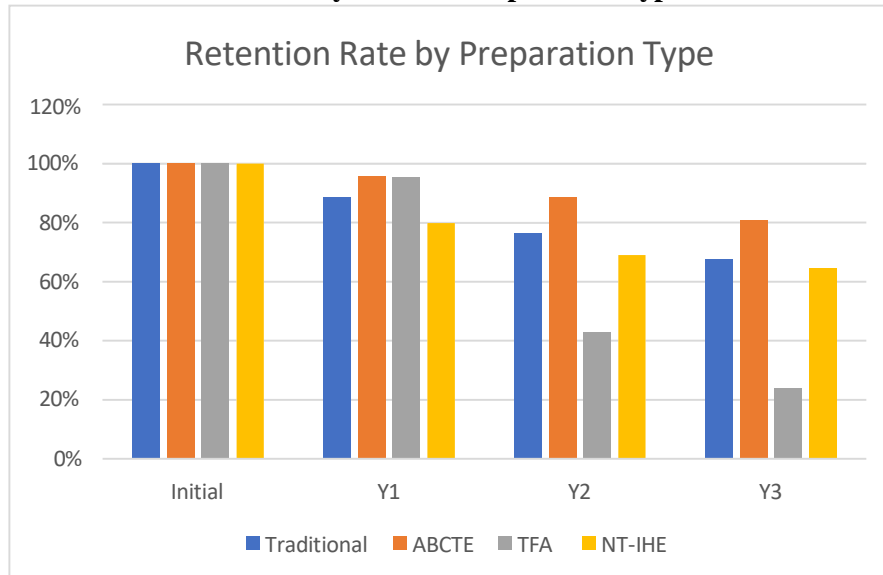
Table 28 shares the results of the logistic regression for Year 1 (second year teaching) for

Cohort 6 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is

nontraditional, and PrepType(3) is TFA-I.   Logistic regression for Year 1 indicated that there was

no significant difference between TFA certified teachers and traditionally certified teachers.

 ABCTE certified teachers were 67% less likely to be unemployed in Year 1(maximum likelihood

estimate = -1.109, Wald χ^2 = 8.530, p = .003, Exp(B) = .330). Non-traditionally certified

teachers were 1.9 times more likely to be unemployed when each group was compared to

traditionally certified teachers (maximum likelihood estimate = .667, Wald χ^2 = 8.395, p = .004,

Exp(B) = 1.948).

Table 28
Cohort 6, Year 1 Logistic Regression

Variables in the Equation

|		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			21.113	3	<.001	
	PrepType(1)	-1.109	.380	8.530	1	.003	.330
	PrepType(2)	.667	.230	8.395	1	.004	1.948
	PrepType(3)	-.958	1.031	.863	1	.353	.384
	Constant	-2.037	.117	301.129	1	<.001	.130

a. Variable(s) entered on step 1: PrepType.

Table 29 shares the results of the logistic regression for Year 2 (third year teaching) for

Cohort 6 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is

nontraditional, and PrepType(3) is TFA-I. Logistic regression of Year 2 indicated no significant

difference between non-traditionally certified and traditionally certified teachers. ABCTE

teachers were found to be 59% less likely to be unemployed (maximum likelihood estimate = -

.891, Wald χ^2 = 13.451, p < .001, Exp(B) = .410). TFA-I teachers were found to be 4.2 times

more likely to be unemployed when compared to traditionally certified teachers in Year 2

(maximum likelihood estimate = 1.453, Wald χ^2 = 10.442, p = .001, Exp(B) = 4.276).

Table 29
Cohort 6, Year 2 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			30.838	3	<.001	
	PrepType(1)	-.891	.243	13.451	1	<.001	.410
	PrepType(2)	.366	.193	3.584	1	.058	1.442
	PrepType(3)	1.453	.450	10.442	1	.001	4.276
	Constant	-1.165	.088	174.961	1	<.001	.312

a. Variable(s) entered on step 1: PrepType.

Table 30 shares the results of the logistic regression for Year 3 (fourth year teaching) for Cohort 6 where the traditional program is the constant, PrepType(1) is ABCTE, PrepType(2) is nontraditional, and PrepType(3) is TFA-I. In Year 3, no significant difference was found between non-traditional and traditionally certified teachers. ABCTE teachers were found to be 51% less likely to be unemployed (maximum likelihood estimate = -.701, Wald χ^2 = 12.339, p < .001, Exp(B) = .496). TFA-I teachers were found to be 6.7 times more likely to be unemployed than traditionally certified teachers in Year 3 (maximum likelihood estimate = 1.907, Wald χ^2 = 13.527, p < .001, Exp(B) = 6.735).

Table 30
Cohort 6, Year 3 Logistic Regression

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	PrepType			29.013	3	<.001	
	PrepType(1)	-.701	.200	12.339	1	<.001	.496
	PrepType(2)	.145	.185	.613	1	.434	1.156
	PrepType(3)	1.907	.519	13.527	1	<.001	6.735
	Constant	-.744	.080	85.984	1	<.001	.475

a. Variable(s) entered on step 1: PrepType.

Chapter V

Discussion

Introduction

Despite ongoing efforts to recruit and retain highly qualified teachers, attrition continues to be an issue across the state of Idaho (Dean, 2022; Linder & McHugh, n.d.). The impact of Idaho's efforts to address teacher retention remains unknown. The purpose of this study was to examine the relationship between retention rates of Idaho teachers and the type of certification program completed. The following research questions guided this study:

1. How long do teachers who go through non-traditional educator preparation pathways stay in the classroom?

2. How does the attrition rate of alternatively authorized teachers compare to the attrition rate of traditionally certified teachers at one, two, and three-year intervals from initial certification?

3. How does the attrition rate of specific non-traditional educator preparation programs differ?

Summary of the Results

Table 31 summarizes the logistic regression model's indications of significance for the ABCTE, TFA-I, and NT-IHE preparation programs as measured against the traditional certification program with the combined cohorts and each individual cohort separated. For example, significance was only found in Year 3 with the ABCTE program for Cohort 1 (2014-15). As a reminder, Year 1 indicates that a teacher completed their initial year of teaching and signed (or did not sign) a contract for a second year of teaching, Year 2 indicates completion of the second year and signature of contract for third year, and Year 3 indicates completion of third

year of teaching and signature of contract for a fourth year of teaching. It is interesting to note

that the ABCTE program, throughout all cohorts and years where significance was found, were

less likely to be unemployed. The TFA-I program, on the other hand, were found more likely to

be unemployed through all cohorts and years where significance was found. The non-traditional

programs only had a set of two significant years in Cohort 3 where they were found less likely to

be unemployed while all the other significant years, they were found to be more likely to be

unemployed.

Table 31

Significance Summary

Significance Summary	ABCTE	TFA-I	NT-IHE	
All combined	Y1, Y2, Y3	(Y2), (Y3)	(Y1)	**KEY:**
Cohort 1 (2014-15)	Y3			( ) = more likely to be unemployed*
Cohort 2 (2015-16)		(Y3)	(Y1)	__ = less likely to be unemployed*
Cohort 3 (2016-17)	Y2		Y2, Y3	
Cohort 4 (2017-18)	Y2, Y3	(Y3)		*Compared to traditional programs
Cohort 5 (2018-19)	Y2		(Y1), (Y2), (Y3)	
Cohort 6 (2019-20)	Y1, Y2, Y3	(Y2), (Y3)	(Y1)	

All Cohorts Combined

When examining retention percentages across the traditional, ABCTE, TFA-I, and non-

traditional certification routes, it is evident that retention differs across all routes in the three

years post initial certification for the entire group ($N = 6,572$). In Year 1 post initial certification,

TFA-I had the highest retention percentage (96.34%) which equates to three of the 82 teachers

leaving within the first year. ABCTE had the second-highest retention (91.29%) which equates

to 64 out of the 735 total teachers leaving. The traditional and non-traditional routes had the two

lower retention rates of 85.74% and 81.25% respectively. By Year 3, TFA-I had the lowest

retention rate of the certification programs (39.02%) which equates to 50 of the 82 teachers

having left the profession while the ABCTE program had the highest (78.64%). Again, the

traditional and non-traditional programs had the lowest retention rates in Year 3 of 68.88% and

68.04%, respectively.

The statistical analysis of this group indicates that there is no significant difference in the

retention likelihood of non-traditionally and traditionally certified teachers in the state of Idaho

specifically in Years 2 and 3 after initial certification. In Year 1, nontraditionally certified

teachers were 1.3 times more likely to be unemployed as compared to the traditionally certified

teachers. ABCTE certified teachers were less likely to be unemployed across the three years of

the study than traditionally certified teachers. On the contrary, TFA-I certified teachers were

from 2.6 to 3.3 times more likely to be unemployed in Years 2 and 3 after initial certification,

respectively. The results for the TFA certified teachers may be the result of sample size

differences within the population studied as TFA-I only certified a total of 82 teachers within the

years this study examined. However, this result is not surprising as TFA-I requires a two-year

commitment to the program and position. TFA-I teachers are usually put into hard-to-fill

positions in lower socioeconomic, more troubled areas and that can be a difficult job for anyone

to feel successful in.

The mixed results of this group partially support previous research results, namely a

study by Zhang and Zeller (2016) indicating a lower retention rate in lateral entry and NC Teach

programs when compared to a traditional program, but also introduce Idaho's own specific

variables into the discussion regarding retention rates of teachers coming from non-traditional

versus traditional certification programs. The results of this study also stand in contrast to the

findings by Donaldson and Johnson (2011) that over 60% of TFA teachers continued beyond

their two-year commitment. This study indicates that in Idaho, 53% stay after their two-year

commitment for an additional year and then only 39% are employed after that additional year.

Cohort 1 (2014-2015)

When examining retention percentages across the traditional, ABCTE, and non-

traditional certification routes for the 2014-15 cohort ($n = 986$), it is evident that retention differs

across all routes in the three years post initial certification. Traditional and nontraditionally

certified retention percentages mirrored each other starting at a high rate of 82.39% and 82.97%

in Year 1 and a low of 66.88% and 68.08% by Year 3, respectively. An interesting anomaly with

the ABCTE program is that in Year 2, the retention percentage dropped to 78.78% and then

increased in Year 3 to 81.81%. It looks as if two people in this specific cohort either took a year

off from teaching or did not have a position one year but then were picked up again in the

following year as a certified teacher in the state of Idaho.

In Years 1 and 2 for this cohort, there was no statistically significant association between

the teacher retention and preparation type. Year 3 indicated a significant association between

the preparation types and retention rates. Specifically, the ABCTE certified teachers were 55%

less likely to be unemployed as compared to the traditionally certified teachers in that cohort.

Cohort 2 (2015-2016)

When examining retention percentages across the traditional, ABCTE, TFA-I, and non-

traditional certification routes for the 2015-16 cohort ($n = 1,132$), it is evident that retention

differs across all routes in the three years post initial certification. The TFA-I certified teachers

had a retention rate of 90.90% in Year 1 but that number dropped precipitously in Year 2 to

45.45% and then by Year 3 to 27.27%. The majority of TFA-I trained teachers, eight out of 11,

were no longer in the classroom by Year 3 in this cohort which is an immediate call for concern. It would seem as if these teachers are not adequately trained to handle the classroom and decide to exit the profession early.

In this cohort of teachers, it is interesting to note that in Year 2 the non-traditionally certified teachers were 1.7 times more likely to be unemployed and in Year 3 the TFA-I teachers were 5.8 times more likely to be unemployed as compared to the traditionally certified teachers. The TFA-I data is not surprising as it supports the notion that after the initial commitment period of two years is over, these certified teachers are less likely to continue teaching in Idaho.

Cohort 3 (2016-2017)

When examining retention percentages across the traditional, ABCTE, TFA-I, and non-traditional certification routes for the 2016-17 cohort (n = 1,146), it is evident that retention differs across all routes in the three years post initial certification. Traditional, nontraditional, and ABCTE certified teachers had very similar retention percentages in this cohort which ranged from 84% to 89% in Year 1 and the low percentages in Year 3 ranging from 67% to 76%. TFA- I, again, has a high retention percentage in Year 1 of 91.07% and a drop to 58.33% in Year 2 and 41.67% by Year 3. Not a surprising result given the two-year commitment for the program.

In this cohort of teachers, the significant association occurred at Years 2 and 3. Specifically, in Year 2 the ABCTE and nontraditionally certified teachers were 47% and 34% less likely to be unemployed than the traditionally certified teachers, respectively. In Year 3, the nontraditionally certified teachers were found to be, again, 34% less likely to be unemployed. The data indicates that these teachers are retained in higher numbers than traditionally certified teachers and continue to work in the classroom.

Cohort 4 (2017-2018)

When examining retention percentages across the traditional, ABCTE, TFA-I, and non-traditional certification routes for the 2016-17 cohort ($n = 1,097$), it is evident that retention differs across all routes in the three years post initial certification. Traditional and nontraditionally certified teachers saw high retention percentages in Year 1 of 85.41% and 83.91% respectively. ABCTE certified teachers had a strong retention percentage in each of the three years with 89.89% in Year 1, 90.90% in Year 2, and 81.81% in Year 3. The anomaly in Year 2 is the result of one teacher that was not employed in Year 1 coming back to teach in Year 2. TFA-I certified teachers in this cohort had 100% retention in Year 1 but that soon dropped to 52.94% in Year 2 and 41.17% in Year 3. The pattern seen indicates that the TFA-I teachers choose to leave the classroom after the two-year commitment is up with this cohort as well.

In this cohort, the ABCTE certified teachers were found to be 72% less likely to be unemployed in Year 2. In Year 3, the ABCTE certified teachers were 56% less likely to be unemployed, while the TFA-I certified teachers were 2.8 times more likely to be unemployed. These results mirror the overall study results and show the statistically significant gap between the ABCTE teachers, TFA-I teachers, and the traditionally/nontraditionally certified teachers.

Cohort 5 (2018-2019)

When examining retention percentages across the traditional, ABCTE, TFA-I, and non-traditional certification routes for the 2018-19 cohort ($n = 1,127$), it is evident that retention differs across all routes in the three years post initial certification. Traditionally certified teachers had a retention percentage of 88.37% in Year 1 and it dropped to 70.45% in Year 3.

ABCTE certified teachers in this cohort had a 91.48% retention rate in Year 1 and that dropped to 76.06% by Year 3. TFA-I had another 100% retention year in Year 1 with this cohort, which would be the expected outcome in a two-year commitment program, but that percentage dropped to 57.14% by Year 3.

In this cohort, the nontraditionally certified teachers were 2.4 times, 1.9 times, and 1.48 times more likely to be unemployed than traditionally certified teachers in Years 1, 2, and 3, respectively. This year must have not produced teachers from the nontraditional programs that were fit to stay in the classroom as many left each year after initial certification. The ABCTE program only showed statistical significance in Year 2, with those teachers being 49% less likely to be unemployed.

Cohort 6 (2019-2020)

When examining retention percentages across the traditional, ABCTE, TFA-I, and non-traditional certification routes for the 2019-20 cohort ($n = 1,084$), it is evident that retention differs across all routes in the three years post initial certification. ABCTE certified teachers in this cohort showed exceptional retention percentages from 95.87% in Year 1 down to 80.92% in Year 3. TFA-I certified teachers were also impressive in this cohort with 95.87% retention in Year 1, but that again dropped in Year 2 to 42.85% and then to 23.80% in Year 3. Only five of the 21 teachers remained in the classroom for TFA-I in this cohort which is unfortunate turnover.

The final cohort of this study truly mirrored the overall study results. In Year 1, the ABCTE teachers were 67% less likely to be unemployed and nontraditionally certified teachers were 1.9 times more likely to be unemployed. In Year 2, the ABCTE teachers were 59% less likely to be unemployed while TFA-I teachers were 4.2 times more likely to be unemployed. In

Year 3, the ABCTE teachers were 51% less likely to be unemployed while the TFA-I teachers were 6.7 times more likely to be unemployed. Again, the TFA-I results are not surprising given the two-year commitment of the program and the overall data that shows those teachers less likely to stay in the classroom past that timeframe. It is interesting to see the ABCTE program show such high numbers of retention in the final years of this study. Though the percentages drop from Year 1 to Year 3, those teachers are far more likely to be employed than traditionally certified teachers.

Conclusion

The results of the overall combined cohorts in this study indicate that the non-traditional programs offered in Idaho through an Institute of Higher Education (NT-IHE) are producing teachers with no greater likelihood of leaving the profession than regular traditional certification programs in Years 2 and 3 after initial certification. This result is not surprising given that both programs, being through an institute of higher education (IHE), are required to follow the same accreditation process and so will have similar program requirements. The program as well as the specific requirements that teachers need to complete, though non-traditional in nature, must mirror the traditional programs so the learning that is occurring in these programs may be similar. It should be noted that these two types of programs have the largest numbers of teachers entering the profession each year by a large margin.

The retention percentages reported above need to be examined in terms of the actual numbers of teachers staying or leaving. For example, in the overall cohort numbers, there were 1,099 total nontraditionally certified teachers and 4,656 traditionally certified teachers. A retention percentage for nontraditionally certified teachers of 81.25% in Year 1 equated to 206 total teachers leaving that year. A similar retention percentage for the traditionally certified

teachers of 85.74% in Year 1 resulted in 664 teachers leaving. The impact and significance of the sheer numbers of teachers that leave the profession regardless of preparation type should be an eye-opening cause for concern. On the opposite side of this coin, a 96.34% retention rate for the TFA-I certified teachers means that three teachers out of a total of 82 did not return. Those three teachers that left are of concern in this but should weigh much less on the conscience than over 600 teachers leaving.

The ABCTE program in Idaho is producing teachers that stay in the profession and at greater rates than the traditional programs in the first three years after initial certification. The ABCTE program and its requirements allow for a future teacher to be the teacher of record while taking courses to become a teacher. This type of on-the-job training and coursework program is providing a solid foundation to keep teachers in the classroom at greater rates than any of the other programs in the State of Idaho. These teachers are living the day-to- day lives of teachers before becoming one and get to see the reality of teaching that other preparation programs may not provide. The ABCTE program is also built to encourage second-career teachers, those who choose to leave a career later in life and become a teacher. The type of person that consciously chooses to come into education later in life may be more established in their community, have a family with children in the school system, or feel more settled in their area which may lead to them staying as teachers for longer periods. The numbers of teachers that come out of this program has increased from 66 in the 2014-15 school year to 194 in the 2019-2020 school year. Though this number is small compared to the non-traditional and traditional programs in the state of Idaho, the growth is promising as well as the retention rates.

Teach for America-Idaho has the smallest sample size of the programs studied (82) over the six-year span and was only recognized in Idaho for five of those six years. TFA-I has a two-

year commitment process to the program and the results of this study indicate that just over half (53%) of the TFA-I teachers in Idaho stay past the two-year commitment. After the third year, that rate drops to 39%. The results in this study in regards to TFA-I may be partially due to sample size but the data should also be a reason for reconsidering the program's effectiveness in the state of Idaho. When broken down by the actual numbers, there were only 32 teachers that continued teaching past Year 3 of the 82 in the TFA-I group which is a loss of 50 teachers in a five-year span. Perhaps examining the return on investment would lead to suggestions for stronger outcomes related to retention of TFA-I candidates. Not to mention the effect on students of having such high turnover. Students need stability in order to learn and the data from this research indicates that TFA-I candidates do not provide that stability.

Recommendations for Further Research

Further research studies should examine the specifics requirements and courses within the ABCTE program as compared to the non-traditional and traditional certification programs in the state of Idaho. Effort should be invested in understanding why the retention rate of teachers coming out of the ABCTE program is higher than the other programs offered. Are there induction and mentoring programs in place for the ABCTE program? Does the alternative nature of this program, where participants are taking courses while a teacher of record, allow for immediate application of concepts or practice, thus improving the future teacher's ability to adapt and adjust in the classroom? Does the process of juggling both a job and classwork better prepare someone for the classroom? The ABCTE program is built specifically for second-career teachers, those that consciously choose to leave a career and enter education. Are these program participants, due to age, family status, or other aspects, more settled in their communities than those in the other programs in the study? The requirements and courses within the ABCTE

program should then be replicated, if possible, within the other programs to improve retention rates within those programs.

Research should also determine the effects of the teachers that are still employed. Are these teachers considered high quality? Do these teachers improve student test scores? Are they contributing members of the staff and school community? Measuring these effects can tell us whether having these teachers continue to teach is contributing to a positive or negative school environment or culture.

Qualitative studies should also evaluate the programs that these teachers have graduated from. Do the teachers leaving the programs feel as if they were properly trained? Did the programs adequately prepare these future teachers for their experienced life in the classroom? If these teachers felt prepared, what did the program specifically do that worked? If they were not, what specifically could be improved in the program to better prepare teachers?

Additionally, other variables may play a part in whether a teacher stays in the classroom or chooses to leave. These variables need to be examined either individually or in combination to determine what effect they have on a teacher's decision to stay or leave. These variables may include pay scale, family dynamics, and work environment to name a few from prior research.

Implications for Professional Practice

Teacher education programs are essential to the proper functioning of our school systems. Every effort should be made to improve these programs in order to help adequately prepare teachers for the classroom and improve retention rates of teachers nationwide. This baseline study only evaluates the retention rates of certified teachers in the state of Idaho and does not take into consideration teachers that have moved into administrative positions, teachers that live

in Idaho but teach in another state, or teachers that are currently teaching in private or religious schools in the state.

Though the ABCTE program produces teachers that are retained at higher rates, what is it about the program, districts that work with the program, or the program participants that makes it successful? A hard look should be taken at programs such as TFA-I which show low retention rates past the two-year required commitment to understand why those specific teachers are leaving and where they may be going.

The Idaho State Department of Education, State Board of Education, and teacher-training higher education institutions should consider this study as a baseline set of data that drives future studies. Evaluation of all programs via participant surveys and further data collection should occur in order to initiate changes at any level for certification programs in the state of Idaho. The data shows that attrition exists within all programs and there should be an interest in discovering what prevents or causes attrition in these programs.

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