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TEACHER SHORTAGES AND STUDENT LEARNING

A MASTER'S THESIS

SUBMITTED TO THE FACULTY

OF BETHEL UNIVERSITY

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JULIA ELLIOTT

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TEACHER SHORTAGES AND STUDENT LEARNING

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APPROVED

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Abstract

Staffing shortages have been a growing area of concern for school districts, which has driven research over the years. This literature review examined the effects that staffing shortages have on student learning and student achievement. Additionally, many components of staffing shortages, such as the potential causes behind staffing shortages and recommendations for best practice strategies and interventions to successfully overcome staffing shortages, were also addressed throughout the literature review. Many researchers discovered that staffing shortages were caused by a variety of reasons, including working conditions, compensation, support from administration or school leaders, and stress, leading to burnout. Although there are a variety of factors related to teacher turnover and staffing shortages across school districts, comprehensive strategies must be considered to effectively overcome the challenges associated with staffing concerns. Studies have shown that staffing shortages can be addressed through best practice strategies and interventions that increase support towards educators, enhance working conditions and decrease stress, allow for alternative licensing opportunities, and provide incentives to increase the number of candidates being prepared to teach within each school district. Research has shown that due to the variety of factors related to staffing shortages, school districts cannot simply look for a single solution, as this problem is far too complex. A multitude of proactive strategies must be put in place and sustained overtime to allow all students to experience success throughout their educational experiences.

Table of Contents

Signature Page.....	2
Acknowledgements.....	3
Abstract	4
Table of Contents.....	5
Chapter I: Introduction.....	6
Research Rationale.....	7
Definition of Terms.....	9
Guiding Question.....	10
Chapter II: Literature Review.....	11
Teacher Turnover and Attrition.....	11
Teacher Supply and Demand.....	19
Causes of Turnover.....	26
Quality of Working Conditions and Experiences.....	31
Student Learning and Achievement.....	36
Best Practice Strategies and Interventions.....	42
Chapter III: Discussion and Conclusion.....	55
Summary of Literature.....	55
Professional Application.....	61
Limitations of Research.....	62
Implications for Future Research.....	63
Conclusion.....	64
References.....	65

CHAPTER 1: INTRODUCCION

School districts are constantly in a current state of “thrive” or “survive,” with each day bringing its own set of unique challenges to overcome. In particular, school districts of all sizes across the United States are experiencing major problems with teacher shortages; school districts are not only struggling to recruit fully certified educators, but also to retain them (Barth et al., 2016). Staffing shortages occur for a variety of reasons, making it difficult for school districts to have fully qualified teams, especially in the area of special education (Mason-Williams et al., 2020). According to Sutchter et al. (2016), 48 states have identified a shortage of special education teachers and other related service providers. In addition, half of all schools in the United States and 90% of high-poverty schools struggle to find qualified special education teachers. These statistics reflect how special education teacher shortages have the potential to impact student learning, especially learners with the highest needs.

Teacher turnover in high-needs schools (HNS), or schools that serve a larger number of students with disabilities, economic disadvantages, or other educational obstacles, is a critical issue (Ansley et al., 2019). The amount of teacher turnover is detrimental to student learning, as there are many necessary specific student needs in order for students to experience academic success (Ansley et al., 2019). There has been a growing number of teacher shortages in conjunction with an increase in special education student enrollment (Barth et al., 2016). In order to overcome the negative impact that staffing shortages have on student learning, schools must identify and implement strategies to build a stronger teaching profession. To develop strategies that will be utilized in school districts over time, policymakers must directly address the reasons teacher candidates decide to not enter the field or decide to leave the profession.

I have been teaching in the field of special education for four years, and have gained first-hand experience with the complexities of not only the teaching shortages, but also the

paraprofessional shortages, within my school district and across other school districts. As the number of teacher candidates available to teach in open positions seems to continually decrease, the difficulty of finding qualified substitutes and available candidates willing to teach over the school years has proven problematic. The shortages within my school district have not only increased the work and responsibilities for each teacher, but also cultivated stressful working conditions that hindered both teacher-teacher relationships and student-teacher relationships. The stressful environment and increased workloads made it difficult to adequately prepare materials for each lesson and to have adequate time to collaborate with other professionals to enhance the learning environment. Throughout my experience, other educators and I have gone without proper lunch and prep time due to shortages and the need to cover classrooms that are short staffed. When covering other classrooms, students with special education needs would not be able to be offered proper services, as the special education teachers would be unavailable due to unforeseen staffing shortages. This lack of proper instruction hinders the students' ability to receive consistent instruction, diminishing their ability to make adequate progress and achieve at their highest potential. Through all of my personal and witnessed experiences, I have been perplexed by the ever-growing concerns associated with staffing shortages. Seeing the detrimental effects on student learning and achievement, I found myself wanting to dig deeper into the potential causes such that I could foster strategies in my school district.

Research Rationale

Educators choose to leave a school district for many reasons. It is critical to gain an understanding of the potential causes for staffing shortages in order to develop strategies that cause teachers to seek other jobs or remain in their current positions (Carver-Thomas & Darling-Hammond, 2017). According to Dee and Goldhaber (2017), concerns about how school districts recruit, train, and compensate their educators have sparked research revolving around teacher

turnover and teacher shortages. It is important to recognize that turnover happens across all career paths; however, the teaching profession has struggled with consistent shortages that have progressed over the last few years. Although low rates of turnover have the potential to reap positive benefits for schools, especially if ineffective teachers leave, high turnover rates result in greater struggles for students, staff, and school leaders (Dee & Goldhaber, 2017). Research could help shed light on the causes of high turnover rates, which would allow districts to implement effective strategies to lower this number. Ansley et al. (2019) reported that teachers are more likely to stay, even in HNS, when the work climate is positive and supportive. Although staffing shortages exist across the field of education, they are most prominent in specific content areas, such as special education (Nichols et al., 2008). Special education leaders must address each factor contributing to staffing shortages in order to foster a positive environment that benefits both educators and students.

Staffing shortages are not only detrimental to student outcomes, but they also have the potential to adversely influence the satisfaction of current educators. One of the biggest recommendations I see currently working in the field of special education is to think of educators as “people first.” Ansley et al. (2019) identifies that school leaders can build a positive school environment if they maintain work relationships that are built on respect and trust. This can create favorable outcomes for students and favorable outcomes for educators in the form of increased job commitment and job satisfaction. As the concerns with teacher shortages continue to rise in many United States school districts, it is important that each district develop multiple strategies and approaches to combat the negative effects of teacher shortages; this problem is too complex to be solved with one simple solution. A comprehensive set of strategies must be put in place at the federal, state, and local levels to build a stable teaching profession (Sutcher et al., 2019).

Definitions

The important definitions in this paper are:

Effective Teachers: those that are knowledgeable about their content area, knowledgeable and care for their students, address higher and lower cognitive objectives, and accept responsibility for their student outcomes and success (Etim et al., 2020).

Free and Appropriate Public Education (FAPE): A legal right for all students with disabilities to be provided with proper education to meet their unique needs. (U. S. Department of Education, 2017c)

High-Needs Schools (HNS): schools that serve a larger number of students with disabilities, economic disadvantages, or other educational obstacles (Ansley et al., 2019).

Individuals with Disabilities Education Act (IDEA): Legislation that ensures all students with disabilities are provided a free and appropriate public education. (U. S. Government Publishing Office, 2004).

Retention: the teachers who remained in the same teaching positions as the previous school year (Billingsley, 2004).

Student Achievement: The students' performance in all academic areas (Ronfeldt et al., 2013).

Student Learning: the measurable skills of a specific learner related to the participation in educational activities (Carver-Thomas & Darling-Hammond, 2017).

Teacher Attrition: The percentage of teachers leaving the teaching profession in a given school year (Berry & Shields, 2017).

Teacher Demand: the total number of teachers that are required to effectively educate the nation's student population (Darling-Hammond & Carver-Thomas, 2019).

Teacher Shortage: the extent to which there are not enough fully certified teachers to fill needed teaching positions (Boe & Cook, 2006).

Teacher Stress: a mismatch between the pressures and demands of a position and an educator's ability to cope with the demands of the position (McCarthy, 2019).

Teacher Supply: The number of individuals willing and able to teach at the current wages and working conditions (Berry & Shields, 2017).

Teacher Turnover: the rate at which teachers are needed to be replaced (Berry & Shields, 2017).

Working Conditions: the demands placed on teachers, responsibilities, tasks, paperwork, administrative support, school culture, planning time, and other resources provided to fulfill all work-related demands effectively (Mason-Williams et al., 2020).

Guiding Question

The guiding question for this literature review is: how have teacher shortages impacted special education student learning? There are many factors to consider when attempting to answer this question. First, one must understand the teacher shortages and the potential causes of these shortages. Special education leaders must gain an understanding of the causes of teacher shortages to identify strategies that can be implemented in today's school districts. Second, it is important to consider the impact that teacher shortages have on student learning. Researching the impacts of teacher shortages could help special education leaders identify opportunities for innovation and growth in order to overcome barriers or challenges associated with staffing shortages (Rosenberg et al., 2021). Third, it is critical to investigate comprehensive strategies to help school districts overcome staffing shortages. Because staffing shortages are very complex, many strategies and interventions will be necessary to successfully address the reasons for staffing shortages.

CHAPTER II: LITERATURE REVIEW

This chapter will identify how teacher shortages impact student learning as well as different strategies and methods that should be implemented to successfully overcome the impact of teacher shortages. Topics pertaining to the impact of teacher shortages include: understanding teacher turnover and attrition, identifying teacher supply and demand, identifying the causes of teacher turnover, recognizing the quality of working conditions and experiences, addressing student learning and achievement, and identifying and implementing best practice strategies and interventions.

Teacher Turnover and Attrition

Gaining a deeper understanding of teacher turnover and teacher shortages is necessary to determine the impact on student learning. Ingersoll (2001) conducted an organizational analysis investigating factors that impacted teacher shortages. The purpose of the study was to utilize an organizational perspective with the Schools and Staffing Survey (SASS) and the Teacher Follow-Up Survey (TFS) data to analyze staffing concerns and teacher turnover. The study utilized the U.S. Census Bureau data which was gathered from a random sample of schools in order to investigate staffing problems in school districts and to determine how school characteristics and organizational conditions influenced the rate of teacher turnover. Ingersoll (2001) conducted this study in three different stages which allowed for a detailed examination of teacher shortages and turnover. The first stage focused on identifying the impact of teacher turnover on staffing shortages or concerns. The second stage utilized several analyses to identify how individual teacher characteristics or organizational conditions impacted teacher turnover and shortages. The third and final stage, investigated specific reasons that teachers left their positions or careers. This study was based on the ability to identify teacher shortages; however, this

required an examination of individual characteristics and the specific conditions of the workplace.

Ingersoll (2001) identified the high turnover rates as a critical focal point of research. The study investigated the possible causes for teacher turnover and shortages to address this major point of concern. Educators represented 4% of the workforce, almost more than double the number of registered nurses and five times the number of lawyers, making this profession a relatively large occupation group (Ingersoll, 2001). While the average percentage of nationwide employee departures was about 11%, the teaching profession had higher turnover rates at above 15%; other professions, such as nursing, were below 12%. Recent research indicates that the nursing turnover rates have increased by approximately 9%, partly due to the stressors associated with the national pandemic (Colosi, 2022). The higher turnover rates in the teaching profession result in a greater demand for qualified candidates to be recruited into open positions in order to meet student needs (Ingersoll, 2001).

The National Center for Education Statistics (NCES) data revealed an increase in the demand for teachers, the number of student enrollments, and the number of job openings available in school districts which have proven difficult to fill (Ingersoll, 2001). Special education teachers, representing 27% of job openings in school districts, were more likely to leave their current position than teachers in other job placements. In fact, teachers reported departing from their current positions for a variety of reasons: retirement, staffing concerns, personal reasons, pursuing other opportunities, and job dissatisfaction. According to Ingersoll (2001), job dissatisfaction was influenced by a variety of factors, such as; compensation, lack of support, and the overall culture of the organization. The results of the study indicated that retirement accounts only for a small number of job openings within schools, while the largest portion of teacher turnover resulted from personal reasons and job dissatisfaction. Employee

turnover was low in an organization that was well-managed and had a positive sense of community.

While Ingersoll (2001) focused on teacher turnover and shortages, Boe and Cook (2006) identified reasons for special education teacher shortages in comparison to the general education staff. Boe and Cook (2006) reported that the shortage of qualified teachers, especially special education teachers, had been a well-documented concern for the field of education. The main source of data utilized for their study was teacher responses to the Public-School Teacher Questionnaire (PSTQ), a component of the Schools and Staffing Survey (SASS) that was utilized by Ingersoll (2001). The PSTQ data specifically provided details about teacher supply, teacher preparation, various teaching positions, and teacher qualifications (Boe & Cook, 2006). This research was intended to utilize a national perspective to analyze special education teacher supply in comparison to general education teacher employment throughout a given school year.

The results were organized into different categories that addressed the national shortage of both special and general education certified staff (Boe & Cook, 2006). The researchers reported that there had been an increase in staffing shortages for certified special education teachers. The shortage of fully certified special education teachers was greater than the shortage of fully certified general education teachers. Schools need to take the necessary steps to create a profession that is desirable to pursue as a career path, for as Boe and Cook (2006) claimed, school districts must increase the supply of new teachers specifically qualified in special education to effectively address the current shortage.

The growing number of teacher shortages nationally has created a problem with filling teaching positions with qualified personnel. Carver-Thomas and Darling-Hammond (2017) identified specific trends in teacher turnover at a national level, regional level, state level, and across subject areas. At a national level, the percentage of teachers leaving the profession had

increased by 3% over the past two decades. In addition to teachers leaving, approximately 8% of teachers transitioned to different school districts. The combination of teachers leaving and transitioning to different school districts accumulated to an average turnover rate of 16% within the teaching profession. State levels vary due to teaching conditions such as compensation, working conditions, and certification requirements. The study identified that the South had a higher teacher turnover rate (16.7%) than the Northeast (10%). In addition, other regions within the Midwest and West had an average of 13% teacher turnover annually. The state-by-state comparison of turnover varied more significantly than national or regional averages. For example, Utah had a low teacher turnover rate of 8%, while Arizona averaged at 24% annually (Carver-Thomas & Darling-Hammond, 2017).

Teacher turnover not only impacts staffing shortages, but it also has the potential to create major costs for the school districts they are leaving. Carver-Thomas and Darling-Hammond (2017) identified teacher attrition as the rate that teachers leave the teaching profession. Teacher turnover and teacher attrition both contribute to teaching shortages within districts across the nation. Due to teacher turnover and teacher attrition, school districts often resort to hiring inexperienced teachers or teachers who are underqualified to fill certain positions. They may also increase class sizes or cut classes that are typically offered, all impacting student learning (Carver-Thomas & Darling-Hammond, 2017).

Although Carver-Thomas and Darling-Hammond (2017) addressed staffing shortages across state, regional and national levels, perhaps one of the most significant and pronounced staffing shortage variations occurs within licensure areas, such as general education versus special education. Over the past few years, a severe shortage has been identified in teachers that are qualified in the areas of mathematics, science, special education, and English Language Learner development across school districts. Special education had one of the highest turnover

rates in comparison to other subject areas, at 13% annually (Carver-Thomas & Darling-Hammond, 2017). When the Free and Appropriate Public Education (FAPE) Act and the Individuals with Disabilities Education Act (IDEA) were passed, schools needed to ensure they have qualified special education teachers who could differentiate their instruction, promote inclusivity, and meet the needs of each unique individual (U. S. Department of Education, 2017; U. S. Government Publishing Office, 2004). Teacher shortages within the special education field continue to prove consistent and detrimental, as they are often left unfilled or filled with teachers who are uncertified or underqualified to teach in this specific field. The study identified two specific reasons, based on previous research, that influence the special education teacher shortages - not enough special education teachers are being prepared to teach in this field and the amount of attrition and turnover is too high. An additional factor that is important to note is the difficulty of working conditions that influenced a special education teacher's decision to leave the profession altogether, transition to another school district, or transfer to general education teaching (Carver-Thomas & Darling-Hammond, 2017).

Studies thus far have identified the teacher shortages in relation to teacher attrition and teacher turnover, Mason-Williams et al. (2020), addressed the specifics of the complexity of the special education teacher shortage. In this study a variety of factors were considered that influenced special education teacher shortages from specific to general aspects. Teacher turnover and attrition have influenced that power of the special education teaching workforce, as there are always positions that need qualified teachers in order to properly provide FAPE for all students with disabilities. Special education teacher turnover ranged from 17% to 29% annually. Mason-Williams, et al. (2020), identified aspects of attrition, which included special education teachers leaving the profession and teachers transferring to different content areas. It is important to understand that low rates of teacher turnover may be beneficial for school districts. For example,

if underperforming teachers are the educators leaving the district, qualified teachers could potentially fill the positions. However, this cycle may have a negative impact on student outcomes, as teaching positions are becoming difficult to fill with qualified personnel. In addition, Mason-Williams, et al. (2020), identified attrition as being very costly for school districts. With teacher turnover being 50% greater in high poverty schools, attrition can negatively impact the resources available to students in need, as the cost of teacher turnover averages approximately \$2.2 billion annually at a national level (Mason-Williams, et al., 2020).

Specific contributions to the special education teacher shortage fall under five categories: staffing high poverty schools, staffing schools in remote and rural areas, recruiting and retaining teachers of color, staffing alternative educational placements, and combating attrition (Mason-Williams, et al., 2020). Since high poverty schools serve a diverse population of students with a variety of needs, licensed teachers are critical in order to promote student success. High poverty schools require licensed teachers due to the diverse population of students being serviced. When compared to wealthier districts, high poverty schools often have a difficult time finding and retaining qualified special education teachers. In addition to high poverty school needs, remote and rural schools also face challenges with staffing shortages due to geographic isolation, low enrollment, lack of teacher preparation programs, and higher teacher attrition (Mason-Williams, et al., 2020). The concerns with staffing shortages were pervasive within high poverty and rural schools, as attracting and retaining qualified teachers proved complicated. The study facilitated by Mason-Williams et al. (2020) found that staffing special education positions within alternative educational settings is crucial, as these schools often have special education teachers who are less experienced, less qualified, and are less likely to have an adequate degree. Such findings suggest that there are difficulties with hiring qualified special education teachers that hold proper credentials across all settings, which is problematic as these teachers have not

received proper preparation to meet each student's unique needs. Mason-Williams et al. (2020), identified that professional attractiveness, stemming attrition, working conditions, and compensation were a few of the general factors that contributed to the special education teacher shortages across school districts.

Another study conducted by Sutchter et al. (2019) utilized different analyses of teacher supply and demand to gain a deeper understanding of the teacher shortages across the United States. Current trends in the teacher supply and demand are useful to help identify the reasons behind the teacher shortages and prompt discussions to identify impacts on students and schools. Examinations by Sutchter et al. (2019) showed an imbalance in the supply and demand of teachers in the workforce. Throughout this study, the framework behind supply and demand that was utilized to identify teacher shortages was described as an inadequate quantity of candidates that were qualified to provide services to students. A teacher shortage occurs when the number of teachers demanded for a certain position is greater than the number of qualified candidates willing to fulfill the positions in demand. A common misconception with staffing shortages is the desire to fill needed positions with a "warm body." However, Sutchter et al. (2019) identified the key concern with staffing shortages was not simply to fill the positions, but to fill the positions with candidates that are well-qualified within their content area to provide adequate services to students.

A report conducted by Ingersoll (2003), identified a series of analyses to identify each characteristic behind school staffing difficulties. The data utilized in this study was from the Schools and Staffing Survey (SASS) and the Teacher Follow-Up Survey (TFS) that was conducted by the National Center for Education Statistics. Both samples were relatively large, the SASS administered to 53,000 teachers, 12,000 principals, and 4,500 districts to ensure the sample represented all types of teachers and school districts across the nation. In addition, the

TFS represented a large sample of 7,000 teachers to ensure a comprehensive and representative sample of teachers was utilized to determine a wide variety of information revolving around teacher turnover. The data showed that the demand for teachers has increased in recent years, as well as student enrollments. Ingersoll (2003), reported that 58% of all schools reported some difficulty with filling job openings within their district, demonstrating concerns with recruitment across the nation. The data showed that the demand for teachers and the resulting staffing difficulties are not strictly due to student enrollment and teacher retirement, but instead are largely due to the amount of teacher turnover. In this study, teacher turnover is defined as teachers that are moving from their current position or leaving their teaching jobs (Ingersoll, 2003). From an organizational perspective, the key question is not to discuss and compare the turnover rates to other professions, but instead identify how teacher turnover is a problem for school districts.

Ingersoll (2003), reports that the data suggests there is a strong link between teacher turnover and the difficulties schools have to retain qualified teachers. The data indicated that the demand for new teachers and the staffing challenges associated with this are due to pre-retirement teacher turnover, not strictly student enrollment or increased teacher retirement as previously thought. The idea of the “revolving door,” varies among different content areas and school characteristics. Data indicate that teachers in math, science, and special education have higher turnover rates than teachers in the content areas of English and social students. Similar to Mason-Williams et al. (2020), Ingersoll (2003), found that high-poverty schools have higher turnover rates than other public-school districts. The data suggested that teachers are departing for reasons other than retirement, such as job dissatisfaction. Ingersoll (2003) suggested the need to focus on other solutions than simply teacher recruitment programs, as this will not address each organizational source of teacher turnover.

Although each study examined unique areas of teacher turnover or teacher shortages, the results from each study made connections regarding the impacts of staffing shortages. Ingersoll (2001) specifically identified the factors associated with teacher turnover through the use of organizational methods. The study utilized Schools and Staffing Survey (SASS) and the Teacher Follow-Up Survey (TFS) data to gather and examine results. Boe and Cook (2006) as well as Carver-Thomas and Darling-Hammond (2019) also utilized portions of the SASS data to gather information about their specific questions related to teacher turnover and teacher shortages. Each study identified similar reasons that impacted the increasing number of staffing shortages across U. S. school districts. Compensation, teacher characteristics, and working conditions were common themes identified as potential reasons for teacher turnover and staffing shortages. Ingersoll (2001) identified that a positive work environment that is well-organized resulted in a lower level of turnover, as there was a sense of community and support. The results gathered from each study play an important role in developing a plan moving forward that allows school districts to recruit and retain well-qualified staff members that can serve all students appropriately.

Teacher Supply and Demand

The persistent problem of recruitment and retention influences the teacher shortage, especially in special education. According to Nichols et al. (2008), the supply of qualified special education teachers was a critical problem that has persisted for decades. The problem was not only a serious concern with recruiting qualified candidates, but also with retaining qualified special educators to meet the needs of each diverse student population. Research indicated that the limited supply of qualified teachers increased the demand, leading to the overall shortage of special education teachers (Nichols, et al., 2008).

There are a range of concerns that prevent candidates from pursuing a career in special education; the low graduation rates for preparation programs, discouragement from entering the special education field, low status of teachers, low salaries, and the working conditions within the schools (Nichols, et. al, 2008). The knowledge of the special education teaching shortage has been highlighted since 1983, however, it is clear that the problem still exists today, with no apparent signs of relief. The study identified a need to diversify the special education teaching pool, as this will enhance the supply of teachers qualified to meet student needs. Although providing a high-quality education is no simple task, it is important to implement strategies that not only enhance the interest of teachers to go into special education, as well as increasing the likelihood that they will remain in the field (Nichols et al., 2008).

Research conducted by Liuzzi (2021) reported on the Professional Educator Licensing and Standards Board (PELSB) supply and demand information regarding educators in the 2019 to 2020 school year. This research provided useful information to policy-makers and education stakeholders about the overall teaching profession. The findings suggested that during the 2019-2020 school year, 54% of all school districts had trouble filling teaching positions, resulting in teachers holding a Tier 1 License or variance. Majority of school districts across Minnesota (70%) reported being significantly impacted by the teacher shortages and (88%) by the substitute teacher shortage (Liuzzi, 2021). Utilizing the Staff Automated Reported System (STAR) Compliance Report, Educators Online, the Tiered Licensure Report, effective data analyses were able to be completed regarding the supply and demand of teachers in Minnesota. Liuzzi (2021) identified the use of the new Tiered Licensure system, describing various ways for individuals to be qualified under Tier 1, Tier 2, Tier 3, and Tier 4 licensures. A Tier 1 license is a one-year license that is granted with requirements of a bachelor's degree and proof that no teacher with a Tier 2, Tier 3, or Tier 4 license applied for the position. A Tier 2 license differs in that it is a two-

year license that is granted with the requirements of a master's degree, enrollment in teacher preparation, or other criteria aligning with content knowledge and skills, as well as a job offer from a Minnesota school district. According to Liuzzi (2021), Tier 3 and Tier 4 are referred to as 'professional licenses,' which have specific requirements and necessary professional development hours for renewal.

The findings concluded that there is a smaller supply of teachers than the demand from each school district, especially in targeted licensure fields, such as special education (Liuzzi, 2021). Although addressing all aspects of teacher shortages are important, a more effective policy approach should focus on targeting the three specific areas in education where the demand of teachers is the highest, with the lowest supply available. The first area in need of educators identified by Liuzzi (2021) is the special education field. While many multiple licensure fields, such as language programs, have a need for teachers, the special education field with a high number of available positions and a low supply of applicants is a major target area for policymakers. A second area of focus is the need to increase the supply of professionally licensed teachers working within charter schools. A vast majority of educators teaching within charter schools hold a Tier 1 or Tier 2 license, demonstrating a need to increase professional licensure opportunities to increase the supply to such school districts. Finally, policymakers need to address teachers of color, as they remain in short supply throughout Minnesota (Liuzzi, 2021). The percentage of teachers of color remains significantly lower than the students of color in the state. This finding is important, as the lack of teachers of color could be a key element to addressing the dramatic achievement gap between students of color and white students in Minnesota. Needed policy objectives that support increased recruitment, preparation, and support for teachers could enhance the supply of teachers of color with professional licensure (Liuzzi, 2021).

According to Jacob (2007), supply and demand concerns influenced the ability to hire effective teachers within school districts. Urban schools specifically may experience teacher shortages based on supply factors and demand factors. One of the most obvious reasons for the teaching shortage was to address the supply or the number of teachers that were going into the teaching profession. Wages play a major role in influencing the supply of teachers. The higher the wages, the more likely a school district is to not only recruit new teachers, but also retain qualified candidates for an extended period of time. In addition to wages, another factor in supplying qualified teachers was the appearance of the working conditions. According to Jacob (2007), research showed that salaries and the characteristics of the schools tend to be potential reasons for a teacher's desire to enter the field and remain in the field. Another reason for the supply shortage of teachers was the idea of geography. Research has highlighted the idea that teachers tend to accept positions that are close to where they grew up or in areas similar to their hometown (Jacob, 2007). Education is a field that operates highly on local labor markets, making it critical to increase the likelihood that high quality teachers will enter urban school districts and remain.

In addition to supply, Jacob (2007) highlights specific demand factors that influence the teacher shortages. One of the main demand factors addressed is the idea that “high-quality” educator may have different meanings to different schools according to their locations. Principals and administrators in high-poverty schools versus a school in a wealthier district may have a different view of what “high-quality” means. In addition, principals and administrators cannot measure the effectiveness of an educator within a job interview. It is easier for principals to identify the best and the worst quality teachers in an interview, however, teachers ranging in the 20th and 80th percentile make determining effectiveness difficult. Jacob (2007) identified the last demand factor as dysfunctional bureaucracy, such as late hiring, late notifications of

transfers or retirement, late state budget deadlines, and dysfunctional human resources departments have caused districts to lose good, qualified candidates.

A few supply-oriented and demand-oriented strategies have been identified as potential solutions to increase the supply of teacher candidates (Jacob, 2007). Supply-oriented strategies would allow districts to focus on increasing their salaries, which could be done with uniform wage increases or targeted bonuses that would attract and retain teachers in hard-to-staff schools. In addition, improving working conditions and adjusting the structure of the teaching career would help to enhance the quality of the teaching profession. Other supply-oriented strategies included specific recruitment strategies and enhanced teacher mentoring programs that increase the supply of teachers and reduce the attrition rates. Focusing on demand-oriented strategies was just as important as addressing the supply concerns for the teaching profession. Jacob (2007) identified improved hiring practices and dismissing underperforming or ineffective teachers as two potential demand-oriented strategies that could resolve staffing shortages in the field of education. Although there appeared to be limited focus on supply and demand understanding in the teaching profession, there is no one right answer to resolve this issue. Jacob (2007) identified that demand-oriented strategies should be the focus, as this would increase the likelihood of hiring effective candidates from the start of the process. Focusing energy on the strategies that will prove effective for the long-term is important, as this problem is too large and too complex to be solved with one approach.

The demand for teachers has continued to explode over the past few decades (Barth et al., 2016). Specific policies to lower the student-teacher ratio influenced the demand for more teachers and the need to grow the teaching force to fill needed positions with qualified teachers. Another factor influencing the demand reports was the increase in teacher vacancies. Although it appears that teaching shortages are overwhelming, Barth et al. (2016) reported that looking at the

current supply of teachers there should be enough to meet the demand, however the challenge to fill needed positions still exists. Reports indicated a need to ensure best practice strategies are in place to address staffing shortages in the areas of preparation, recruitment, and retention to ensure all school districts get the same opportunity to hire and retain well qualified teachers (Barth et al., 2016).

An analysis of the teacher supply and demand was conducted by Sutchter et al. (2019), in which compelling evidence of staffing shortages across the nation. The analysis found that many states have resorted to hiring teachers who were not fully certified simply to fill needed positions. In accordance with other studies, Sutchter et al. (2019) found that the teaching shortages vary significantly across subject areas. Special education has been an identified field with severe shortages. The study suggested that the staffing shortage concerns have less to do with underproduction of special education teachers, but instead are due to the higher levels of attrition for these teachers. With the demand continuing to increase within all areas of special education, the results indicated that these positions may only become more challenging to fill.

According to Sutchter et al. (2019) there are different components to effectively examine supply and demand concerns in education. To better explain the teacher labor market, teacher demand must be broken down into two components. The first component is to examine how many well-qualified teachers are needed in order to sufficiently provide students with appropriate educational opportunities. The second component is to identify the annual need for teachers that are needed to fill vacant positions. It is critical to understand the difference between ideal demand and actual demand, as districts must determine the desired teacher distributions and placements versus the reality of teachers that are actually hired. Some of the critical factors that influenced the demand for teachers were student enrollment, pupil-teacher ratios and attrition (Sutchter et al., 2019).

After analyzing the teacher demand, the second component to explore is the components of the teacher supply. The first component of teacher supply is to identify the enrollments into teacher preparation programs and graduation rates. Once the number of potential teaching candidates is identified, analyses can reveal the potential teacher supply over time. Similar to understanding demand, Sutchter et al. (2019) found that teacher supply can be looked at in two ways; the total teacher supply and the number of potential teacher entrants. Using both of these analyses' methods, districts can effectively identify the supply pool of teachers. Sutchter et al. (2019) stated that the supply factors of new entrants and re-entrants has the potential to meet the high teacher demand with appropriate policies in place to provide a high-quality workforce that has the ability to sustain teachers.

Barth et al. (2016) utilized basic economics to identify the teacher shortages as a simple function of supply and demand. Viewing aspects of supply, the number of students entering teacher preparation programs, special education licensure programs, or alternative programs has declined by about 30%. Although the supply of teachers has clearly declined, the percentages identified may not be accurate, as there are an additional number of teachers that complete their degree and decide to not enter the teaching field. These estimates concluded that between one quarter and one half of the teachers that have completed their degrees do not teach the year after they graduate (Barth et al., 2016). Strictly focusing on the shrinking supply of teachers is inconclusive alone, as the demand factors must also be taken into consideration.

According to Grimmitt and Echols (2000) the youth culture is constantly changing, which influences students' attitudes, as well as student learning. Each change associated with education from demographics to working conditions has influenced the supply and demand of not only teachers, but administrators as well. The teacher supply and demand issue is a concern nationwide. With student enrollments decreasing and teacher retirements increasing, teachers are

in high demand. However, the supply of teachers is not increasing due to the desire to enter higher-paying careers. The focus of this study was to investigate how changes in demographics influence the supply and demand in the teaching profession across 12 different school districts. The results of the study found that there were teaching shortages across all 12 of the school districts investigated. Being that each school district was unique, Grimmert and Echols (2000) showed that the teacher shortages vary across districts and subject area. It is clear that teacher shortages are a concern at the state and local levels. The changing demographics and less favorable working conditions influence the supply of teachers, as well as the retention of teachers. Although supply is a major concern associated with the teaching shortage, hiring less qualified candidates without proper experience simply to keep schools running does not resolve the issue, instead creates a larger problem. It is time for policymakers to become proactive in order to address the concerns of supply and demand (Grimmett & Echols, 2000).

Causes of Turnover

To effectively combat the effects of teacher turnover, it is critical to gain an understanding of the variable causes of this trend. According to Podolsky et al. (2017), more than half of the teachers leaving the profession do so for reasons other than retirement. In this study, teachers were allowed to select multiple factors that lead to the decision to leave their current positions. The potential factors that lead to the teacher turnover included personal life reasons, pursuing a different career or position, dissatisfied with the school policies, dissatisfied with administration, dissatisfied with the teaching profession as a whole, too many classroom intrusions, student discipline problems, dissatisfied with support for student assessment, lack of autonomy, need or desire for greater compensation, lack of influence over school policies, enrolled in courses to improve career opportunities, dissatisfied with job assignments, and moved or geographical issues (Podolsky et al., 2017). Although there are many factors that cause

teachers to leave, administrative support was reported as the highest factor that caused teachers to stay or leave their current positions. The results of the study indicated specific ways to keep adequate teachers in their positions, school districts must strengthen teacher preparation, improve the hiring process, increase compensation, improve working conditions, and most importantly improve teacher support. It is critical that policymakers find ways to attract talented teachers who are committed to their profession, as students deserve to be taught by well-prepared educators that are satisfied with their position.

In relation to the findings of Podolsky et al. (2017), Fore III et al. (2002) studied the causes of teacher burnout, specifically in the field of special education. National survey results conducted by the Council for Exceptional Children (CEC) found that poor working conditions is a major contributor to teacher turnover. In addition to poor working conditions, such as; lack of support, limited collaboration and teamwork, and overwhelming work responsibilities, teachers decided to leave the profession due to the stress of being unsupported, underprepared, and overwhelmed by student needs and job responsibilities. Unfortunately, Fore III et al. (2002) reported that once teachers left the profession, they found little to no incentive to return to the profession. Teachers reported consideration to return if districts made changes to the support provided to teachers, as well as other policy changes. Overall, a combination of factors led to the decision of educators to leave the profession.

Although many factors have been identified as potential causes of turnover, Fore III et al. (2002) reported that higher levels of stress within the work environment are predictive of teachers deciding to leave the special education classroom. Survey results returned by educators showed that poor working climate, lack of administrative support, poor job preparation, large caseload responsibilities, and low salary as factors related to job stress and teacher turnover. The results of this study indicated that a relationship between job stress or perceived job stress and

special education teacher turnover exists. Useful data from the surveys indicated that educators who remained in the special education field reported better job preparation opportunities, higher satisfaction with their caseload, enhanced teacher efficacy, and perceived support from school district leaders. This combination of factors led to less stress or perceived stress within the workplace, leading teachers to desire to stay within their current position (Fore III et al., 2002).

Wanat (2021) studied the relationship between various independent variables (i.e., emotional stressors, personality type, etc.) and special education teacher burnout. Burnout, as a term, is far too generalized, as there are different components of burnout that include emotional exhaustion, depersonalization/cynicism, and decreased estimation of personal contribution to work responsibilities. This study included 692 Tier 4 licensed Minnesota teacher participants that completed a survey related to their personal level of burnout related to the areas listed above. The participants were emailed a self-administered electronic survey that was sent via Qualtrics after a consent form was collected. Once participants completed the survey, the results were analyzed using the available data.

As reported by Wanat (2021), the number of students with special education needs continues to increase in Minnesota, while the number of available licensed educators continues to decrease. This supply and demand concern cannot be attributed to simply one cause, as there are a variety of contributing factors. One factor contributing to the supply issue is the limited enrollment in special education licensure programs, resulting in districts hiring candidates without a degree in education to fill vacant special education positions (Liuzzi, 2021). Another common contributor to the shortage of qualified educators is burnout. The role of special educators has been identified as more stressful than the role of general educators (Wanat, 2021). Special educators can deal with stressors that stem from mismatch between employees, job responsibilities, and their role in the school district as a teacher and case manager. This ongoing

stress can eventually lead to burnout, which in this study is identified as a state of mental distress. This state of mental distress stems from the combination of internal and external factors that contribute to the emotional exhaustion, cynicism, and decreased self-efficacy of a special educator (Wanat, 2021).

The results of this study indicated that burnout is positively associated with special education teachers' pre-retirement attrition (Wanat, 2021). Retaining licensed special education teachers has proven difficult and has been a shared concern for school districts across Minnesota. As the problem continues to prevail, school districts and administrators continue to neglect their own behaviors or organizational factors that impact special education teacher stress, burnout, and attrition. Wanat (2021) reported that special education teacher attrition can be improved if school districts implement strategies to sustain teacher energy, engagement, and feelings of self-efficacy, ultimately decreasing any feelings of burnout.

Sutcher et al. (2016) addressed the following four focal factors that influenced the ability of districts to effectively recruit and retain educators: compensation, preparation, mentoring and induction, and teaching conditions. Research suggested that professionals are more likely to select the teaching profession when teacher salaries become more competitive with other professions. Teacher salaries have an impact on teacher turnover, as lower teacher salaries cause new and veteran teachers to leave the profession. In addition to compensation, evidence suggests that attrition rates increase when school districts lack effective preparation programs. Data showed that teachers receiving little to no preparation support are two to three times more likely to leave the teaching profession after their first year in comparison to teachers receiving effective preparation (Sutcher et al., 2016). An additional factor associated with teacher turnover is mentoring and induction; effective mentoring programs have the potential to not only improve retention rates, but also enhance teacher attitudes, feelings of efficacy, and instructional skills.

Teaching conditions is another factor that plays a major role in teacher decisions to stay in the profession (Sutcher et al., 2016). Poor teaching conditions, resulting in job dissatisfaction, cause teachers to leave the profession at a rate two times higher than school districts with more positive working conditions. Research showed a number of factors that relate to a positive or negative work environment. The factors that directly influence teacher turnover include: the quality of leadership, the school culture, collegial relationships, the quality of collaboration and planning, teacher power in decision making, experiences with professional development, workplace facilities, parental support, and teaching resources (Sutcher et al., 2016). These factors provide an opportunity for policymakers to create long-term comprehensive strategies that positively impact the teaching profession.

Ingersoll et al. (2014) examined whether pre-service education and preparation are causes of teacher turnover. This study focused on two sets of questions - the levels of teacher education and preparation and the association between teacher education and preparation on attrition. Ingersoll et al. (2014) utilized Schools and Staffing Survey (SASS) and the Teacher Follow-Up Survey (TFS) to collect and analyze data in three stages (i.e., descriptive data, logistic regression analysis, and the effects of pedagogical preparation). The results of this study indicated that beginning educators vary widely in their education and preparation experiences. Ingersoll et al. (2014) reported that their analyses conclude the differences in education and preparation are significantly related to the degree at which teachers leave the profession. Enhancing basic pedagogical preparation for new teachers is important to enhance teacher methods and skills, increasing effectiveness and reducing turnover.

Although many factors have contributed to teacher turnover over the past few decades, recent research has identified the current pandemic that relates to concerns in education. Rosenberg et al. (2020) reported that COVID-19 has created enormous consequences for student

learning, teachers, and teacher preparation programs. COVID-19 has proven to not only be a short-term threat, but also cause lasting concerns impacting the special education teaching supply. Preparation programs influence teacher retention and turnover, demonstrating how important it is for new special education teacher to feel prepared in their role (Rosenberg et al., 2020). COVID-19 has impacted teacher candidates' ability to complete educational programs, as well as abbreviated field experiences, impacting teacher confidence leading to feelings of inadequacy.

According to Rosenberg et al. (2020), in addition to teacher candidates, school districts as a whole have been impacted by COVID-19. School districts across the nation are facing reduced budgets, uncertainties with instructional deliveries, and challenges of safety protocols. Creative problem-solving is necessary to achieve positive outcomes for school districts and its personnel despite the effects of COVID-19. Rosenberg et al. (2020) recommend viewing teacher candidates as an asset to the educational field since field experiences are one of the most important components of preparing effective teachers. Enhancing teacher candidate preparation opportunities should not be seen as a hassle; rather, this should be viewed as an opportunity to foster effective teachers to build up the teaching profession. Developing teachers should be provided with opportunities to participate in professional learning opportunities that allow for a seamless transition into the workforce when certification allows (Rosenberg et al., 2020). Disruptive events occur throughout time; however, instead of allowing COVID-19 disrupt education over-time, it is important to view this pandemic as an opportunity for innovation and growth within the educational field.

Quality of Working Conditions and Experiences

A common theme amongst each factor associated with teacher turnover is the quality of the work environment. Ansley et al. (2019) addressed the power of a positive work environment

and how this relates to job satisfaction and teacher retention. Staffing shortages are a common concern across the U.S., even more problematic in high-needs schools (Ansley et al., 2019). This study suggested that even in difficult settings, such as high-needs schools, teachers are more likely to stay when the working conditions are satisfactory and the overall climate of the school is positive (Ansley et al., 2019). Working conditions and school climate continue to impact teacher job satisfaction. When teachers have high job satisfaction, they are less likely to experience occupational stress, have higher efficacy and performance, and have positive interpersonal interactions, which cultivates stronger commitment to their jobs.

In order for policymakers and school districts to make a difference in education, it is important to understand how working conditions relate to job satisfaction and teacher turnover. According to Ansley et al. (2019), the most important factors associated with working conditions involve school leadership, workplace relationships, and job design. One of the strongest factors associated with job satisfaction is school leadership. Effective school leadership is identified with consistent enforcement of policies, support for behavior management, consistent communication and feedback, flexibility for teacher autonomy, teacher inclusion, appropriate resources, and proper mentoring (Ansley et al., 2019). Positive school leadership is critical to ensure teachers that feel supported by their administrators, leading to greater job satisfaction and commitment to their positions.

Although school leadership is reported to be a greater influencer of turnover, workplace relationships are just as important to cultivate a positive work environment (Ansley et al., 2019). Teachers who report greater collaboration and interactions with colleagues identify greater job satisfaction than educators with limited collegial relationships. Teachers who communicate and collaborate cohesively maintain a positive work environment that foster an overall positive school climate. In addition to school leadership and workplace relationships, job design as

another factor contributing to turnover. Job design relates to the structures, systems, and processes needed to complete job responsibilities. There are certain job designs that are common amongst school districts such as the need to manage student behaviors, engage students in learning, and be held accountable for student achievement or success. Although these are the overarching job designs, certain school districts have more obstacles than others related to resources, support, and greater student needs. According to Ansley et al. (2019), effective leadership, collegial support, and positive working conditions are associated with job satisfaction and length of the teaching career.

According to McCarthy (2019), teaching can be a stressful occupation when working conditions do not appropriately support educators during challenging times. The demands of the teaching profession have the potential to create job dissatisfaction, fatigue, or burnout as well as a reduced commitment or interest in this career. This researcher found that between 19% and 30% of new teachers leave the profession before their fifth year of teaching. Workplace conditions are one of the main factors associated with occupational health and longevity. Stressful workplace conditions (i.e., funding, effective leadership, etc.) related to the amount of stress reported by teachers within the workplace. Even though workplace conditions relate to teacher stress, they are not the only piece of the puzzle. McCarthy (2019) reported that teacher stress is not only a result of poor working conditions, but also a result of an imbalance between the pressures of the teaching profession and one's ability to cope with its demands. Viewing teacher stress in this light allows school leaders to understand why some teachers are more stressed than others; one teacher may view their demands as greater than the available resources, while others may view their demands within the limits of the resources available to them. These resources could include positive leadership, helpful colleagues, and proper support (McCarthy, 2019).

To assist with identifying teachers at risk of burnout and attrition, school leaders need to gain a better understanding of coping strategies and stress interventions. Coping is the ability of an individual to address a potential stressor (McCarthy, 2019). Administrators can utilize different coping strategies to assist their teachers. These strategies include problem-focused coping (changing the stressful situation) and emotion-focused coping (managing the emotions with the stress). McCarthy (2019) reported that school leaders can utilize informal check-ins and peer mentors to keep track of their teaching staff to effectively identify those in need of interventions. These periodic check-ins can assist teachers in need to effectively work through stressful situations, decreasing the probability of burnout or turnover.

To address the lack of qualified special education teachers, Billingsley (2004) analyzed four major themes related to teacher characteristics and personal factors, teacher qualifications, work environments, and teachers' affective reactions to work. One of the biggest challenges identified in this study is to determine how to develop an effective, qualified workforce with positive work environments that sustain special education teachers throughout their career. There are two conceptual models that can identify the variety of factors that lead to special education teachers' decision to leave the profession. The first model includes a systematic representation of external factors, employment factors, and personal factors. The second model focuses on building on Bronfenbrenner's model associated with microsystems, mesosystems, exosystems, and macrosystems (Billingsley, 2004). Utilizing these models, Billingsley (2004) identified the power that personal circumstances (i.e., age, gender, race, personal factors, etc.) play on a teacher's decision to leave. Age is one of the only personal circumstances that consistently links to attrition, as research shows that younger special education teachers are more likely to or express their intent to leave the profession than educators that are older.

In addition to personal circumstances, Billingsley (2004) found that certified teachers were less likely to leave the profession than uncertified teachers. These reports demonstrate a clear relationship between certification status and teacher turnover. Similar to other findings, Billingsley (2004) reported that the work environment is a critical factor relating to job satisfaction and career decisions of educators. The components of the working environment are salary, school climate, administrative support, collegial support, support through induction and mentoring, professional development, teacher roles and role problems, paperwork, and students and caseload issues (Billingsley, 2004). Each component of the work environment plays a role, either small or large, in a teachers' decision to leave the profession.

Excessive or continued negative work environments and work problems relate to negative affective responses to work, such as increased stress, decreased job satisfaction, and reduced work commitment. Billingsley (2004) documented that stress is one of the most, if not the top, predictor of special education teacher turnover. Stress has a multitude of levels, ultimately the worst leading to burnout. The factors that cause the stress leading to burnout are also associated with the factors related to attrition and turnover. Stress management workshops and enhanced peer collaboration programs improve job satisfaction and commitment to the teaching profession, as well as reducing burnout and attrition. Higher commitment in the teaching profession, specifically in the field of special education, is associated with greater support from administration and educational leaders. According to Billingsley (2004) work environment factors that have a positive impact on commitment and retention include higher compensation, positive school climates, adequate support systems, opportunities for professional development, and reasonable responsibilities or demands. In order to combat attrition rates, policymakers must look at the quality of the working conditions to cultivate positive

environments to appropriately reduce attrition and increase the sustainability of the special education teaching profession.

The current COVID-19 pandemic has created personnel crises in teaching and has caused disruptions within the workplace conditions across the nation (Bailey & Schurz, 2020). School closures, switching learning models (i.e., hybrid, distance, in-person), safety precautions, and social distancing measures created a variety of barriers within the school system increasing the demands placed on teachers. Although the demands placed on educators pre-COVID-19 were high, the focus for school districts currently is to ensure students are safe to attend school in-person. This creates additional challenges, as school leaders must ensure proper physical distance between students, lower class sizes, ever-changing school schedules, aggressive hygiene practices, and mandated masks. These additional demands have caused teachers to ponder early retirement and potential career changes. The overall effects of COVID-19 in the field of education are still unknown, however, it is important for policymakers and school leaders to think about how to create a school environment that is conducive to learning and sustainable for teachers (Bailey & Schurz, 2020). This will alleviate some of the stress associated with new demands associated with COVID-19.

Student Learning and Achievement

Carver-Thomas and Darling-Hammond (2019) examined teacher turnover and how it impacted school effectiveness and student learning. The study also investigated the factors associated with teacher turnover rates in order to identify strategies that could assist in addressing staffing shortages. School districts across the United States had been dealing with the constant struggle of recruiting qualified teachers to meet the needs of their students. This study is important because it addressed previous research that identified the negative impact teacher turnover can have on school systems and students. This study is unique as it delved into various

factors that were associated with teacher turnover at a national level. Carver-Thomas and Darling-Hammond (2019) gathered data from the U. S. Department of Education, the National Center for Education Statistics (NCES), the Schools and Staffing Survey (SASS) and the Teacher Follow-Up Survey (TFS). The study utilized descriptive statistics to analyze the results of teacher turnover and its relationship to school and teacher characteristics, students, and workplace conditions.

Carver-Thomas and Darling-Hammond (2019) reported the teacher turnover rate to be about 16%. Special education teachers were 80% more likely to turn over than other certified teachers. The main predictors of teacher turnover were based on compensation, students, teacher preparation and certifications, support, and working conditions. The greatest predictor of teacher turnover was the workplace condition that demonstrated a lack of administrative support. Teachers that felt supported by their administration were twice as likely to stay in their current position than teachers who strongly disagreed with their administration. Carver-Thomas and Darling-Hammond (2019) also identified a comprehensive approach that could help school districts retain qualified teachers through addressing compensation issues, providing teachers with appropriate preparation and support, and developing strong administration leaders.

In addition to the results found in 2019, Carver-Thomas and Darling-Hammond (2017), found that teacher turnover contributes to teacher shortages, which results in school districts hiring staff that are underqualified with less experience which impact student learning. The research is clear, teacher inexperience and high teacher turnover rates negatively impact student learning, resulting in educational disadvantages for schools and for students. In addition, teacher turnover impacts all students in the school system, due to disruptions in school stability, negative collegial relationships, limited collaboration, and financial costs. To address teacher turnover, school districts spend on average \$20,000 or more for each teacher that leaves a school

district in an urban area (Carver-Thomas & Darling-Hammond, 2017). These effects are more detrimental in high-needs schools, as these schools are often resulting in hiring uncertified teachers as a last resort, as fully certified teachers are unavailable or are not applying to districts in need. This negatively impacts student success, as high-needs schools are the students that may need effective teachers the most.

Using a unique identification strategy, Ronfeldt et al. (2013), utilized grade level turnover to estimate how teacher turnover impacts fourth and fifth grade students over the course of eight years. Approximately 850,000 student observations were studied to identify the relationship between teacher turnover and student achievement. Although turnover can result in negative outcomes, some teacher turnover may be beneficial. The only ways turnover can be beneficial for an institution and for student learning is if the less effective teachers are the ones that leave (Ronfeldt et al., 2013). Although there are a few potential benefits of turnover, majority of research has identified a negative correlation between teacher turnover and student achievement.

Correlational evidence identified by Ronfeldt et al. (2013) suggested that schools with higher turnover rates tend to have lower student achievement. Although negative correlations have been observed, it is important to take into consideration a variety of third factors that could influence student achievement, such as; poverty, school working conditions, and school leadership. According to Ronfeldt et al. (2013), identified regardless of the effectiveness of the teacher, turnover still has the potential to impact student achievement and success. Teacher turnover is larger than just focusing on teacher movement out of the profession or between schools. Research demonstrates that staff cohesion and a sense of community within the school district impact student engagement and student achievement. When teacher turnover is high, the quality of the relationships and trust that is built between teachers and teachers, and teachers and

students suffer. According to Ronfeldt et al. (2013) the quality of the relationships, staff cohesion, and trust predicts student achievement.

Teacher turnover inevitably takes resources away from students, as newly hired teachers require training and support that costs the district money (Ronfeldt et al., 2013). These costs influence money that would originally be spent on program improvements to enhance working conditions. Newly hired teachers often are lacking knowledge and experience to meet student needs, impacting student achievement (Ronfeldt et al., 2013). The results indicate that teacher turnover harms student achievement, with the effects being more severe and most harmful in school districts with underserved student populations, potentially the students with the most needs.

In addition to addressing teacher turnover, Etim et al. (2020), identified specific teacher qualities that influence student outcomes. A major goal for school districts is to ensure students are experiencing success and are achieving at their highest potential. The study discussed specific strategies to improve student performance and the overall quality of the school environment. Teachers are a critical component in student learning and achievement. The effectiveness of the teacher has a major impact on whether or not a student makes gains in their learning. Effective teachers are those that are knowledgeable about their content area, understand their students and how to support their needs, and take responsibility for the success of their students. The quality and effectiveness of the teacher is identified by Etim et al. (2020), as one of the most important school-based factors that influence student achievement and student learning.

Some of the qualities effective teachers possess are flexibility, enthusiasm for their profession, fairness, and set high expectations for their students. Effective teachers take the time to ensure they have obtained the proper skills and knowledge within their subject area before they begin to teach, as this impacts the students' ability to learn (Etim et al., 2020). The purpose

of the study was to advance on the research identifying the relationship between teacher qualities and student achievement. This study utilized measures of school performance, years of teaching experience, and teacher qualifications and certifications to determine how each piece influences student outcomes. The results of this study indicate that students taught by fully qualified teachers with proper licensing have higher school performance, specifically in the areas of math and reading (Etim et al., 2020). It was found that teaching experience is positively related to student achievement and the amount of gains a student may make throughout the year. These results demonstrate a need for policy to encourage teachers to remain in their teaching profession for longer periods of time, as teacher experience contributes positively to student success. Results also indicate a negative impact between teacher turnover and student performance, as the greater the teacher turnover, the lower the school performance scores (Etim et al., 2020).

Quality educators are an important factor in student achievement. Stronge and Hindman (2003) identified six domains related to teacher effectiveness that can promote student achievement. Students can identify “good” teachers based on their experiences with educators that genuinely care for them as an individual student. According to Stronge and Hindman (2003), an effective teacher is one that possesses knowledge and skills of curriculum content, contains the strategies and resources necessary to support learner needs, and fosters a motivating learning environment that is built on trust and mutual respect. Although questions arise determining whether or not teacher quality matters in student achievement, Stronge and Hindman (2003) argue that they matter significantly.

According to Stronge and Hindman (2003), curriculum, class size, resources and funding, school involvement, and other school related factors influence student achievement, however, the most important and influential school-based factor related to student achievement is the effectiveness of the teacher. Research shows a strong connection between teaching and learning,

as students placed with a highly effective teacher for a minimum of three consecutive years score at least 52 percentile points higher on achievement tests than students placed with a lower performing educator. Effective teachers not only influence student achievement, but also how well a student can learn the material being taught. Stronge and Hindman (2003) reported that in a single school year, students placed with a high quality teacher remain ahead of his or her peers over the next few school years. Unfortunately, while quality teachers influence students in a positive way, ineffective teachers have a negative influence on student achievement and learning. These findings suggest that teacher effectiveness proves to be a common factor in student success (Stronge & Hindman, 2003).

The six categories identified by Stronge and Hindman (2003) included prerequisites of effective teachers, the teacher as a person, classroom management and organization, organizing for instruction, implementing instruction, and monitoring student progress and potential. These six categories collectively showed each of the attributes, behaviors, and attitudes necessary to become an effective teacher. An effective teacher is one that has appropriate certifications, knowledge, and skills to work with a variety of students and meet their needs accordingly. Effective teachers exhibit care and fairness to their students, as well as a positive attitude throughout each day to motivate students to reach their highest potential. Stronge and Hindman (2003) reported that effective teachers have the skills and strategies to maintain a safe, orderly, and productive learning environment for all students. To organize effective instruction as a high quality educator, setting priorities, planning ahead, allocating adequate time and establishing high expectations, each leading to higher student achievement. To implement instruction that meets student needs, effective teachers provide instruction that uses a variety of strategies that include hands-on opportunities, problem solving techniques, guided practice and feedback to enhance student motivation (Stronge & Hindman, 2003). Each characteristic associated with

effective teachers is critical to ensure students are receiving high quality instruction in a classroom to increase the likelihood of student success.

According to Mason-Williams, et al. (2019), exploring the effects of the special education teacher shortage and how this influenced providing all students with the opportunity to succeed at school was a must. Similar to the findings of Etim et al. (2020), Mason-Williams et al. (2019), found that fully qualified teachers that are prepared to educate students play a major role in providing an equal educational opportunity to all students. In order to serve students with special education needs, school districts need to provide educators that are well-equipped to meet the needs of each individual. However, the inability to supply educators that were not only willing, but also adequately prepared and licensed to serve this population, due to the staffing shortages, complicated matters. As reported by Mason-Williams, et al. (2019), the staffing shortages and staffing turnover has gone unresolved for the last 40 years. It is time for leaders to take action in order to combat the negative effects of teacher turnover and staffing shortages.

Best Practice Strategies and Interventions

After identifying the context behind teacher shortages, the potential factors related to supply and demand, as well as the quality of the working environment, Dee and Goldhaber (2017) found importance in addressing the potential causes of teacher turnover and attrition to identify potential solutions. Although districts are reporting teacher shortages across the country, it is important to stress that the staffing shortages appear to be concentrated in specific high-need areas, such as special education. Dee and Goldhaber (2017) identified two potential causes for the staffing challenges. The first being policy efforts are not targeting specific concerns in special education to combat shortages. In addition, there are consistent challenges to recruit teachers in hard-to-staff schools, proving that existing policies, practices, and strategies have proved ineffective.

Dee and Goldhaber (2017) conducted research to gain a deeper understanding of the teacher shortages and how to effectively address these concerns. An important feature associated with teacher shortages is the number of teachers that do not hold proper credentials, specifically in the field of special education. According to Dee and Goldhaber (2017), nearly 50 percent of the total special education and Science, Technology, Engineering, and Mathematics (STEM) teachers were administered emergency permits or waivers in the 2015 to 2016 school year. These results provide evidence to support a need for several policies or practices to be put in place to help increase the supply of qualified teachers, specifically in the hard-to-staff schools.

According to Dee and Goldhaber (2017), the two main issues that need to be addressed in relation to teacher shortages are staffing problems in particular content areas (i.e., special education) and the challenges certain schools face to provide, recruit, and retain qualified teachers. There are a variety of initiatives that Dee and Goldhaber (2017) have identified to combat the concerns with staffing shortages. One of the most direct ways to address staffing issues is to increase the use of targeted financial initiatives. Compensation-based incentives can be utilized to address skill shortages and school shortages, as teachers in high-needs subjects and schools will be financially rewarded for their efforts. Although this is a potential solution, implementing such a strategy only creates an increased cost of an already expensive reform, essentially adding an additional problem to staffing shortages. A second area of focus for policies is to create earlier and more aggressive recruitment practices. This would promote local school districts to become more strategic in their hiring process, as current human-resource departments in schools tend to be dysfunctional and ineffective when it comes to teacher recruitment (Dee & Goldhaber, 2017).

A key component to addressing staffing shortages is student teaching, as student teaching has the potential to influence teacher effectiveness and retention (Dee & Goldhaber, 2017).

Offering proper attention to the developmental pipeline of new teachers is key to address teacher supply issues, specifically in high-needs schools. Additionally, it is important to consider the potential for modifying the licensure requirements, specifically in high-need areas. Although there is not consistent evidence to support the outcomes of alternative licensures, it is important that the state explore alternative licensure programs as a potential option to overcome staffing shortages (Dee & Goldhaber, 2017). Given the difficulties with proper recruitment and retention, it is important for districts to consider providing teacher candidates with better information about their job responsibilities to assist with matching quality teachers to appropriate positions.

Even though staffing shortages have been identified within the teaching profession, Billingsley and McLeskey (2008) decided to focus on identifying the implementation and use of specific practices to overcome the teacher shortages in special education. Overtime, there has been a slight push to enhance the effective, research-based practices implemented into special education to ensure student needs are being met within schools. Although a need for policies has been identified, implementing policies accurately and continually has proven difficult. A few problems associated with the difficulty to maintain policy implications are teacher preparation both preservice and in-service and the limited research conducted to identify the effective practices to utilize, which influence the research-to-practice gap (Billingsley & McLeskey, 2008).

Staffing schools with well-qualified, high quality educators is essential to providing proper instruction to students, especially within the special education field, as research has provided evidence regarding the influence quality educators have on student learning and student achievement (Billingsley & McLeskey, 2008). Data suggests that students who are assigned to effective teachers for three consecutive years score as many as 50 percentile points higher on achievement tests than students assigned to less effective teachers. Although this evidence has

been well documented for general education teachers, data available for special education teacher specifically is limited. This evidence suggests that special education teachers are required to have knowledge, skills, and expertise that general education teachers do not to ensure progress is occurring for students with unique needs (Billingsley & McLeskey, 2008).

According to Billingsley and McLeskey (2008) teacher attrition was influenced by many factors, including teacher characteristics, personal factors, and qualifications. Special education teachers experience additional working conditions that may impact attrition rates and educational success for students. The umbrella of “working environment” or “working conditions” contribute majorly to turnover, specifically in special education, as a higher percentage seek to leave their position than general education teachers do. Specific factors of the working environment that may increase the desire to leave are low salaries, poor school climate, lack of support from leaders, high caseloads, staff conflict, and excessive responsibilities (Billingsley & McLeskey, 2008). Analyzing these factors collectively, the results suggest that each factor contributes to special educators’ job dissatisfaction, stress, and quality of work.

The influence that workplace conditions have on job satisfaction can promote the development and implementation of research-based practices within schools. In order to effectively implement research-based practices, a school must create a collaborative school environment that allows teachers to interact frequently, problem solve together, and work together to adapt practices to help their school. According to Billingsley and McLeskey (2008) many special education teachers did not feel they had the ability or time to collaborate with general education teachers. Special education teachers are required to not only teach but also case manage students and paraprofessionals, many end up doing the work of paraprofessionals, as well as serving an increasingly diverse population with multiple primary disabilities. These barriers create obstacles for special education teachers to learn and incorporate research-based

practices and collaborate with general education teachers frequently to ensure success of such practices (Billingsley & McLeskey, 2008). These findings emphasize the importance of a well organized school environment that supports special and general education teachers throughout the learning process to enhance collaboration and support with the implementation of best-practice strategies.

The new demands, limited supply, and high attrition levels have all contributed to the crisis in special education. The persistent teacher shortages have created challenges to adequately hire and retain well qualified teachers, requiring proactive recommendations to be put in place to address the shortages (Thornton, et al., 2007; Liuzzi, 2021). To effectively create policy recommendations to meet the needs of school districts, it is important to understand the causes of the shortages to take effective steps to increase the supply and lower the attrition rates. Special education positions continue to prove difficult to fill (Liuzzi, 2021). Thornton, et al. (2007) reported that of 300,000 open positions, more than 30,000 were filled with under qualified candidates with an additional 6,000 positions left unfilled due to lack of candidates. Since the supply appears limited, it almost seems impossible to ensure needed positions are filled with well-qualified personnel. In addition to the limited supply, the high rate of attrition is a significant contributor to the complex problem of teacher shortages. There are a variety of reasons special education teachers reported leaving their field. These reasons fit into the following categories; employment issues, working conditions, personal issues, lack of support, student concerns, and other (i.e., retirement, better job opportunities, etc.). According to Thornton et al. (2007) the attrition rate of special education teachers was estimated to be around 20% annually, double the general education attrition rates of only 8% annually. Especially in the field of special education, it is critical to ensure stability within the school environment to

promote success of students in need, emphasizing the importance that the profession cannot continue to be a revolving door of teachers deciding to leave.

Thornton et al. (2007) identified specific recommendations to reduce rates of attrition and increase the supply of teachers, in attempts to maintain effective special education teacher staff employed. The first recommendation is to increase the number of special education teacher candidates through programs such as; Troops-to-Teachers and Teacher for America, as well as growing special education teachers within school districts with the use of incentives and 'Grow Your Own' grants. In addition, districts can continue to investigate scholarship opportunities or other funding resources to support teachers to complete courses to enhance their qualifications within the district. School districts can also utilize their resources to support general education teachers or paraprofessionals that would make excellent special education teachers receive encouragement and support to obtain necessary licensure (Thornton, et al., 2007). Such programs can help increase the number of qualified teachers prepared to teach.

Another area of focus to combat teacher shortages is to develop proactive strategies to market job opportunities in education (Thornton, et al., 2007). Principals, human resources, and other school leaders should utilize their platforms to develop strong relationships with universities, job fairs, or community outreach to increase hiring opportunities. Recruitment materials reflect the quality of the district, as recruitment strategies must be current, accurate, and inclusive to maximize efforts to obtain teacher candidates (Thornton, et al., 2007).

One of the most important methods to address teacher shortages is focusing on retention to keep quality special education teachers. The first area of retention is for policymakers and educational leaders to address certification requirements to ensure a variety of opportunities to ensure teachers are well prepared to teach (Thornton et al., 2007). Teacher induction programs are another area of focus for retention. Implementing systematic and responsive teacher

induction programs is critical for all beginning teachers, as teachers who are familiar with the supports and resources available to them within a district are less likely to leave or switch careers. In addition to induction programs, the importance of mentoring programs cannot be optional for beginning teachers. Thornton et al., (2007) reported mentoring programs as useful for strengthening the performance of teachers. Mentoring capitalizes on existing resources by gaining knowledge and skills from an accomplished teacher, mentoring can be cost effective, and mentoring can increase retention and teacher satisfaction inevitably enhancing school performance. Retention can also be impacted by enhancing professional development opportunities to improve teaching and learning, improving working conditions, and increasing the amount of administrative support teachers receive from leaders in the district.

Educational leaders need to take the time to change the culture of the teacher profession to elevate the status of educators (Thornton et al., 2007). Proactive leadership is critical to addressing issues of aggressive marketing strategies, additional recruitment strategies, decreasing teacher turnover, staff development opportunities, and increase compensation. Proactive strategies are key, as reactive strategies will not address identified concerns with staffing shortages. School districts can be proactive by cultivating an atmosphere that respects its educators, providing positive working conditions, and support each professional. The systematic changes that would allow districts to change the culture of the school and adequately attract and retain highly qualified teachers would be to implement proactive principal leadership, fostering support for special education teachers, employing certified teachers, and increase retainment through mentorships, staff development opportunities, and support (Thornton et al., 2007). In order for students with disabilities to receive instruction by a highly qualified special educator, proactive methods are necessary to diminish the effects of staffing shortages.

The challenge with strategies for staffing shortages is not designing and implementing them, but sustaining these supports over time (Berry & Shields, 2017). As the challenges with teacher shortages have been previously identified, evidence showed the importance of ensuring strong preparation and mentoring programs, increasing compensation and equalizing salaries across districts, providing supports for high quality teaching, enhancing professional working conditions, enhanced leadership, increased time for collaboration, and valuing teachers. Evidence shows that nearly 60% of teachers nationwide utilize technology for online networking and interaction with other teaching colleagues (Berry & Shields, 2017). Teachers nationwide are actively engaging in professional exchanges, as collaboration and support are needed within this profession. Research by Berry and Shields (2017) emphasized the value of strong social networks among teachers, as this allows educators to learn from each other, connect with other educators, and enhance collaboration to change and create positive work environments. Teacher networking is useful for decreasing teacher isolation and reducing attrition, as networks empower teachers to advocate their needs to enhance the profession with needed policies and practices. According to Berry and Shields (2017) having forceful advocates amongst members of the teaching community is important to strengthen the teaching profession, which will inevitably lead to powerful results for students.

There have been many ideas addressed in attempts to combat the effects of teacher shortages. Gunderson and Karge (1992) discussed whether or not emergency permits can ease the special education teacher shortage. The purpose of the study was to utilize surveys to describe the personal and professional characteristics, as well as perceived effectiveness and support, of emergency certified educators. Gunderson and Karge (1992) surveyed 239 teachers, with 53 individuals currently teaching in special education with the use of an emergency permit. A Survey of Teacher Effectiveness and Support (STES) was utilized to gather data for this study.

Gunderson and Karge (1992) reported the STES surveyed four areas of general information, teacher effectiveness, teacher support, and emergency certification programs.

The results of Gunderson and Karge (1992) found that self ratings of effectiveness were fairly high, with no direct relationship to perceived supports. Respondents reported positive feelings about emergency certification programs with high correlations to professional support to increase job satisfaction. These findings indicate that special educators teaching under emergency permits desire and need support from other special educators and education leaders (Gunderson & Karge, 1992). Another important finding was the long-term effects of emergency permits. Emergency permits may be a short-term answer to an immediate concern, however, identifying concerns with retention and attrition rates must be identified. Only 50% of the respondents in the study indicated they plan to continue teaching special education after five years, indicating that emergency certifications may be a band aid approach to a more complex problem. Although Gunderson & Karge (1992) studied emergency permits in the past, staffing shortages continue to have a variety of potential causes, demonstrating a need to review literature that identifies different approaches that can provide answers to the persistent problem many school districts are facing today. Previous research conducted by Gunderson & Karge (1992) can be useful for policymakers as it provides insight into strategies used in the past that were successful and potentially implement strategies or spark new ideas for issues today.

As staffing shortages have been a major concern for decades, recently Lachlan et al. (2020) addressed the impact that the coronavirus disease 2019 (COVID-19) had on the teaching workforce, as well as strategies to address these effects. The impact of the pandemic has had considerable impacts on the teaching profession, as Lachlan et al. (2020) reported decreased enrollment in education preparation programs, decreased interest in staying in education, and increased consideration for retirement. In addition, the significant changes to the working

conditions, such as uncertainty with schooling formats (i.e., in-person, distance learning, hybrid, etc.), a focus on remote learning, and new protocols for health and safety have created stress within the teaching profession. According to Lachlan et al. (2020) the current need for qualified, excellent teachers and educational leaders is greater now, especially for students that have been significantly impacted by the pandemic.

State educational agencies must work to consider specific aspects of attracting, preparing, and retaining educators (Lachlan et al., 2020). In the area of attracting educators, districts must look into unemployment in other job sectors, which would increase the supply of educators. In addition, school districts should implement Grow Your Own programs to build the teaching profession within each district. Once districts can adequately attract teacher candidates, it is important to effectively prepare through field experiences, induction, and state policy about licensure and certifications (Lachlan et al., 2020). The final aspect to consider is better retention of educators. This can be done through reduced district budget cuts, enhanced working conditions, and decrease the desire for early retirement.

According to Lachlan et al. (2020) to ensure equitable access for all students, districts should focus on developing, supporting, and retaining educators through a comprehensive viewpoint. During the COVID-19 pandemic, states may have been tempted to address shortages or other issues with short-term management without looking into the potential unintended consequences or long-term impacts it may have on education. In order to gain a better understanding of the problems associated with teacher shortages, Lachlan et al. (2020) emphasized the importance of disaggregating data by school-level and subject-area. In doing so, states can determine which students, teachers, regions, and subject areas are impacted directly by teacher shortages. According to Lachlan et al. (2020) disaggregating the findings revolving

around teacher shortages, strategic decisions about appropriate funding, incentives, and other proactive programs or supports can be made to positively impact staffing decisions.

Brownell et al. (2004) analyzed the dilemma related to meeting the demand for quality special education teachers. A comprehensive set of key strategies are a powerful tool to ensure an adequate supply of qualified, effective teachers are available in special education. Brownell et al (2004) reported that beginning special education teachers are at a higher risk of attrition due to the demanding nature of the work responsibilities. To address this attrition risk, policy makers must craft induction programs that have clear goals for improving the teaching profession, provide sufficient opportunities for new teachers to work with qualified mentors, extensive professional development activities, and adequate fiscal and political support. Induction is most effective with strong partnerships between preparation programs and school districts to cultivate coherence between teacher prep and classroom experiences. This collaboration will allow new educators to utilize the skills they have learned in preparation programs in the classroom environment (Brownell et al., 2004). To effectively design induction programs for special education teachers, programs must consider strategies for inclusion of new special education teachers and supporting each special education teacher based on his or her prior experiences. Comprehensive induction programs are not only effective for new and current educators, but also prove cost effective for school districts (Brownell et al., 2004). Well-designed induction programs have the potential to be a powerful strategy that can reduce teacher turnover and enhance teacher quality.

Although many practices have been analyzed to address teacher shortages, Jensen et al. (1992) addressed on-the-job-training as a potential solution to the special education teaching shortage. Teachers' personal characteristics and educational preparation, as well as external factors account for a teachers' commitment to the educational field. Teachers whose initial

assignments have high stress lead to decreased commitment in their teaching career. Jensen et al. (1992) recognized the importance of early experiences to overall job satisfaction and commitment to the profession. This study focused on addressing the perceptions of special education on-the-job trainees regarding their satisfaction with their position, congruence between their expectations and reality of working conditions, and their commitment to the profession (Jensen et al., 1992). Data was collected via questionnaires that included multiple choice and open ended questions to gather information on special education on-the-job trainees.

Jensen et al. (1992) reported that 68% of the respondents stated that working with the students was the most satisfying aspect of their job as a special education teacher. At the same time, respondents identified meeting student needs as the greatest challenge of a special education teacher. This could be due to diverse student needs and difficulties with managing behavioral and emotional needs. In addition to challenges in meeting student needs, respondents report challenges with interpersonal relations and collaboration, communication with parents and administrators, and inadequate resources (Jensen et al., 1992). Respondents continued to report not only on the satisfying and challenging aspects of their position, but also on their expectations of their career. According to Jensen et al. (1992) 45% of the respondents reported their current teaching position was worse than they had expected coming into the profession. These results indicate that respondents choosing to teach students with special education needs find job satisfaction when able to promote growth in their students.

The results of Jensen et al. (1992) found that on-the-job special education training may address teacher shortages right away, the long-term effects may not be as positive. Only 51% of the trainees reported commitment to the special education teaching profession. On-the-job training for special education teachers may negatively influence the teaching profession, as it has the potential to discourage candidates if they are exposed to challenging positions during their

training. The link between the quality of the first teaching experience and the commitment to the special education profession is apparent. Due to this connection, Jensen et al. (1992) suggested that districts and policymakers provide protected assignments for new special education teachers or on-the-job trainees. These protected assignments can cultivate a positive experience for the first year of teaching, enhancing the probability of commitment to the profession. The findings of Jensen et al. (1992) prove useful today, as policymakers can utilize this information moving forward when creating policies for addressing staffing shortages. This research provides insight into on-the-job training that allows policymakers and stakeholders to avoid making the same mistakes that occurred in the past, as on-the-job training may not yield the best results when compared to other long-term best practice strategies and solutions.

CHAPTER III: DISCUSSION AND CONCLUSION

Summary of Literature

Teacher shortages and its effects have been a growing concern over the years. To gain a deeper understanding of the impacts of teacher shortages, literature has been broken down into the following categories: teacher turnover and attrition, teacher supply and demand, causes of turnover, quality of working conditions and experiences, student learning and achievement, and best practice strategies and interventions.

Ingersoll (2001) reported that high turnover rates have been critical for research, as job vacancies have proven difficult to fill, especially in the field of special education. According to Boe and Cook (2006), the shortage of certified special education teachers was greater than the shortage of general education teachers. A few of the largest reasons for teacher turnover were reported as personal reasons and job dissatisfaction. To reduce employee turnover, school districts must work towards a well-managed school culture that fosters a positive sense of community (Ingersoll, 2001). Teacher turnover not only has the potential to impact staffing shortages, but it can also result in major costs for the school districts they are leaving. Carver-Thomas and Darling-Hammond (2017) identified several reasons for the high teacher turnover rate, including not enough special education teachers enrolled in teacher preparation programs, compensation, and difficult working conditions. With higher turnover rates, schools have resorted to hiring unqualified candidates to fill needed positions.

According to Mason-Williams et al. (2020), low rates of turnover may be beneficial for school districts, specifically if it is underperforming teachers that are leaving. Underperforming educator turnover benefits districts by allowing them to rebuild their school culture with more effective educators. A key concern with staffing shortages is not to simply fill the open

positions, but rather to fill these positions with candidates who are well-qualified and effective within their content area (Sutcher et al., 2019). There is a strong relationship between teacher turnover and the difficulties schools face to retain qualified teachers. Ingersoll (2003) found that since educators are departing from their positions for reasons other than retirement, other solutions are needed in order to effectively address each source of teacher turnover.

According to Grimmert and Echols (2000), teachers remain in high demand; the supply of teachers continues to be critical, as many candidates desire to enter a higher-paying career. Nichols et al. (2008) reported that the concerns with teacher supply and demand result from challenges with recruitment and retention of qualified candidates. It is important to continue to work towards enhancing the interest of new teachers to enter the special education field and increase the likelihood that they will remain in their positions. A variety of supply and demand factors influence the teacher shortages (Jacob, 2007). Some factors influencing the supply of teachers are working conditions, compensation, and geography, while the teaching demand is influenced by different meanings of “high-quality” teachers, difficulty measuring effectiveness in a job interview, and a dysfunctional bureaucracy. In order to properly address concerns with shortages, Barth et al. (2016) found that both supply and demand factors must be taken into consideration to give all school districts, especially high-needs schools, the same opportunity to hire and retain qualified personnel. Although supply is a major concern, Grimmert and Echols (2000) concluded that hiring less qualified candidates to keep schools running can create a large problem, requiring policymakers to become proactive instead of reactive.

Podolsky et al. (2017) found that over half of the teachers leaving the profession do so for reasons other than retirement. Some of the identified factors leading to teacher turnover are personal reasons, pursuing a different career, job dissatisfaction, and lack of support. However,

the most powerful factor in a teacher's decision to leave the profession was the amount of administrative support they received. Fore III et al. (2002) found that poor working conditions was a major factor in teacher turnover as well. Poor working conditions tend to lead to increased job stressors and job dissatisfaction. A relationship between job stress and special education teacher turnover exists. A combination of factors, including job preparation opportunities, satisfaction with caseloads, teacher efficacy, and support from the district, lead to the amount of stress within the workplace (Fore III et al., 2002). Teachers also reported leaving the profession because of lack of support, under preparedness, and feeling overwhelmed by student needs and job responsibilities. Sadly, once a teacher has decided to leave the profession, there are minimal incentives that exist to return (Fore III et al., 2002).

Summarizing the causes of turnover, Sutchter et al. (2016) found that compensation, preparation, mentoring and induction, and teaching conditions were predictive of teacher turnover. Ingersoll et al. (2014) reported that enhanced preparation experiences for teachers is critical to improve teacher methods and skills, increase the effectiveness of the educator, and reduce the amount of turnover experienced by a district. The COVID-19 pandemic has also been found to impact the teaching supply. COVID-19 has influenced teachers' abilities to feel prepared in their role, as teacher candidates have dealt with abbreviated field experiences, impacting teacher confidence; this ultimately leads to turnover (Rosenberg et al., 2020). In addition, school districts have been negatively influenced, as they are facing challenges with budgets and safety protocols as well as instructional delivery changes. The factors that directly influence teacher turnover are the quality of the leadership, the school culture, relationships with colleagues, collaboration and planning, professional development, and workplace conditions (Sutchter et al., 2016).

Considering the various causes of turnover, a common theme found amongst the literature is the quality of the work environment. Ansley et al. (2019) concluded that even in the most difficult settings such as high-needs schools, teachers are more likely to stay when the working conditions are satisfactory and the overall climate of the school is positive. McCarthy (2019) found that the demands of the teaching profession, with poor working conditions, have the potential to create job dissatisfaction, increased stress, fatigue, burnout, and reduced commitment or interest in the career. Teacher stress is not only a result of the poor working conditions of the school district, but also an imbalance between the pressures of the teaching profession and ones' ability to cope with the challenges (McCarthy, 2019). Reducing teacher stress through support and peer collaboration can lead to a reduction of turnover rates. The work environment is critical to the job satisfaction of the educator, as continued negative work environments relate to increased stress, decreased job satisfaction, and reduced work commitment (Billingsley, 2004). Effective leadership, collegial support, administrative support, and positive working conditions are all predictors of job satisfaction and the length of their teaching career (Ansley et al., 2019).

With few benefits of teacher turnover, the majority of the research has identified a negative correlation between teacher turnover and student achievement. Schools with higher rates of turnover have lower student achievement (Rofeldt et al., 2013). Teacher turnover impacts all students within a school district, as turnover disrupts school stability, leads to negative collegial relationships, limits collaboration, and increases financial costs (Carver-Thomas & Darling-Hammond, 2017). Teacher turnover inevitably takes resources away from students, as newly hired teachers, especially unqualified personnel, require training and supports that cost the district money. These costs influence how district money is spent, which

originally could have been used on program improvements to enhance working conditions (Rofeldt et al., 2013).

The overall effectiveness of the teacher has a major impact on student learning. Students who have been taught by fully qualified teachers have higher school performance, as teaching experience positively impacts student achievement (Etim et al., 2020). A strong connection between teaching and learning exists, as students who are placed with a highly effective teacher for a minimum of three years score higher on their achievement tests than students placed with less effective educators. Unfortunately, the reverse of these findings is also true, with less effective teachers negatively impacting student achievement (Stronge & Hindman, 2003). Each characteristic associated with an effective teacher allows students to receive high quality instruction within their classroom environment, increasing the likelihood of student success and growth.

Each factor associated with teacher turnover has prompted the development of necessary strategies and interventions. A collaborative school environment that allows teachers to collaborate frequently, problem solve, and work together to adapt practices that can help their schools is the start to a well-organized school culture (Billingsley & McLeskey, 2008). Certain school districts have attempted to implement emergency permits to solve teacher turnover; however, this is only a short-term answer to a more complex problem (Gunderson & Large, 1992). In addition to emergency permits, Jensen et al. (1992) found that on-the-job training is a potential short-term solution, but the long-term effects may not be as positive. On-the-job training has the potential to discourage candidates from the teaching profession if they are exposed to challenging positions during their training experience. If school districts can

provide protected assignments for new teachers, on-the job training could lead to higher probabilities of commitment to the profession (Jensen et al., 1992).

Maintaining stability within school environments is critical to promoting the success of students in need. Thornton et al. (2007) recommended the use of Troops-to-Teachers programs and growing teacher candidates within school districts to reduce the rate of attrition and increase the supply of teachers. Districts can investigate scholarship opportunities and other funding resources to support teachers to enhance their qualifications, as well as supporting general education teachers and paraprofessionals to pursue a career in special education. Developing proactive strategies that market job opportunities and build relationships with universities, job fairs, or community outreach can increase hiring opportunities. Berry and Shields (2017) reported the importance of strong preparation programs, enhanced mentorship programs, increased compensation, enhanced support and collaboration, and improved opportunities for social networks as potential solutions to teacher turnover.

According to Dee and Goldhaber (2017), increasing the use of compensation-based incentives and more aggressive recruitment practices can allow districts to be more strategic in their hiring process increasing the supply of teachers. Paying close attention to the pipeline of new educators is key in addressing teacher shortages. Allowing teachers to have alternative licensure programs and a proper understanding of their job responsibilities can decrease the potential for teacher turnover (Dee & Goldhaber, 2017). COVID-19 has impacted the teaching progression by decreasing the number of educational preparation programs, decreasing interest in staying in education, and increasing consideration for early retirement (Lachlan et al., 2020). To combat these effects, districts must investigate unemployment in other job sectors, implement Grow Your Own programs, enhance field experiences and induction programs, and

disaggregate by school level and subject area to make decisions that will address staffing shortages comprehensively (Lachlan et al., 2020). According to Brownell et al. (2004), school districts must create induction programs that have clear goals for improving the teaching profession, providing sufficient opportunities for new teachers to work with qualified mentors, and enhancing professional development. Comprehensive strategies are a powerful method to address the complex issue of teacher shortages.

Professional Application

Research has shown that teacher shortages can have a negative impact on student achievement and student learning (Ronfeldt, Loeb, & Wyckoff, 2013). In order to influence student achievement in a positive manner, it is critical that school districts implement comprehensive strategies to combat teacher turnover and attrition that leads to teacher shortages. Knowing that staffing shortages stem from teacher turnover, which is caused by poor working conditions, compensation, limited support, and job dissatisfaction, school districts must implement strategies that overcome these factors.

One of the first steps school districts must take to combat teacher shortages is to increase support, staff mentoring, staff collaboration, social networks, and induction programs, which will empower teachers in their current positions (Berry & Shields, 2017). This sense of empowerment will enhance teacher efficacy and teamwork, leading to a positive school culture and work environment. Although these strategies will help teachers in their current placements, school districts cannot stop here. In order to overcome the challenges of teacher shortages, school district must become proactive in their hiring strategies and community relationships to increase the supply of teachers that are being prepared to teach in all school districts, especially high-needs schools (Darling-Hammond & Carver-Thomas, 2016).

Teachers, particularly those in special education, have various responsibilities that can quickly become overwhelming without proper training, certifications and licensure, and supports in place. Although schools are limited in the amount of resources they have available, it is important to be proactive in recruiting and retaining quality educators. If districts are unable to implement proactive strategies, resorting to short-term fixes such as emergency permits or on-the-job training will only cost the schools more money resulting in fewer resources for the students. Although it may seem overwhelming, school districts must start somewhere. Failing to implement comprehensive strategies that empower teachers to enter and remain in the field of education will only culminate in larger problems in the future (Carver-Thomas & Darling-Hammond, 2017). Implementing strategies that include clear goals for teacher improvement and support, increased compensation and incentives for teachers, and positive working conditions will decrease the number of teachers who are looking to leave the profession entirely. If policymakers are able to make a positive change to the teaching profession, teachers who have retired early or transitioned to a new career may feel the desire to return to teaching. All students deserve the right to receive a high-quality education, which begins with the school districts' ability to supply qualified, effective educators that are prepared to meet the needs of all students. This can only be accomplished with effective strategies put in place to empower and support teachers, increasing the longevity of their career.

Limitations of the Research

Much of the research conducted on staffing shortages focuses on aspects of teacher turnover, such as knowledge about turnover, attrition, causes, and strategies for overcoming turnover. Some researchers, such as Jensen, Mortorff, and Meyers (1992), utilized self-

reporting data and experiences, which should be interpreted with caution. Boe and Cook (2006) utilized national reports throughout their research, which has less generalizability towards state and local levels. Limited research has focused solely on the direct effects of teacher turnover on student achievement. Having additional studies focusing on the relationship between teacher turnover and what aspects of student achievement are impacted would be more impactful. Many studies identified specific strategies that would be helpful in combatting turnover; however, they did not identify how to effectively move forward with implementation into various districts. Each study identifying useful strategies to combat turnover have limitations, as Ingersoll (2003) identified that none of the policies worth adopting will be inexpensive or easy by nature. Another important limitation to identify is that this research is a small selection of articles on this topic, not an exhaustive selection.

Implications for Future Research

Research has concluded that turnover harms student achievement; however, it is important for future research to identify the specific aspects by which turnover harms student achievement (Ronfeldt et al., 2013). This would allow strategic implementations of practices to address the areas that are directly impacted by turnover. Future research needs to be done focusing on special education teacher shortages, as this content area has been identified as one of the greatest shortage areas in the field of education. According to Mason-Williams et al. (2019), one of the focal areas of future research should be looking into specific ways policymakers can identify, develop, and implement comprehensive strategies that will effectively address staffing shortages.

Teacher effectiveness has been a common theme discussed throughout research. Gunderson and Karge (1990) have indicated that future research should focus on identifying

the specific variables associated with teacher effectiveness. Not only is identifying the characteristics important, but it will also indicate how to develop these characteristics in future and current educators. There is much to be learned about how to make the field of special education more attractive to both current and future teachers. Another focal area of future research needs to be how the conditions within the school districts contribute to special educators' decisions to stay or leave. Billingsley and McCKleskey (2008) identified the importance of focusing on the effects of special education teacher quality on retention.

Conclusion

How have teacher shortages impacted special education student learning? Research has shown that the greater the teacher turnover, the lower the student's score on achievement tests (Etim et al., 2020). Students in special education benefit from stability and positive learning environments, which cannot be cultivated when turnover rates are high. Many teachers have self-reported in studies the reasons behind teacher turnover, which impacts teacher shortages (Ansley et a., 2019). The overall findings from numerous studies can conclude that school districts must develop strategies within their districts to decrease stress, improve working conditions, enhance collegial and administrative support, and increase compensation to lower the turnover rates in education. Implementing comprehensive strategies will allow districts to create a positive work environment at a holistic level, not only to reduce attrition but also to retain special education teachers. The time for change in education is now. With the help of powerful advocates, school districts can implement the kinds of teacher recruitment, preparation, and mentoring strategies that are known to not only strengthen the teaching profession, but also to yield powerful results for all students.

References

- Ansley, B. M., Houchins, D., & Varjas, K. (2019). Cultivating positive work contexts that promote teacher job satisfaction and retention in high-needs schools. *Journal of Special Education Leadership, 32*(1), 3-16. <https://scholars.cmich.edu/en/publications/cultivating-positive-work-contexts-that-promote-teacher-job-satis-2>
- Barth, P., Dillon, N., Hull, J., & Higgins, B. H. (2016). Fixing the holes in the teacher pipeline: An overview of teacher shortages. *Center for Public Education, 1-36*.
<https://files.eric.ed.gov/fulltext/ED608871.pdf>
- Bailey, J. P. & Schurz, J. (2020). COVID-19 creating a school personnel crisis. *American Enterprise Institute, 1-11*. <https://files.eric.ed.gov/fulltext/ED606250.pdf>
- Berry, B. & Shields, P. M. (2017). Solving the teacher shortage: Revisiting the lessons we've learned. *The Phi Delta Kappan, 98*(8), 8-18.
<http://dx.doi.org/10.1177/0031721717708289>
- Billingsley, B. S. (2004). Special education teacher retention and attrition: A critical analysis of the research literature. *The Journal of Special Education, 38*(1), 39-55.
<https://files.eric.ed.gov/fulltext/EJ693730.pdf>
- Billingsley, B., & McLeskey, J. (2008). How does the quality and stability of the teaching force influence the research-to-practice gap: A perspective on the teacher shortage in special education. *Hammill Institute on Disabilities and SAGE, 29*(5). 293-305.
<http://dx.doi.org/10.1177/0741932507312010>
- Boe, E. E., & Cook, L. H. (2006). The chronic and increasing shortage of fully certified teachers in special and general education. *Council for Exceptional Children, 72*(4), 443-460.
https://repository.upenn.edu/cgi/viewcontent.cgi?article=1148&context=gse_pubs

- Brownell, M. T., Hirsch, E., & Seo, S. (2004). Meeting the demand for highly qualified special education teachers during severe shortages: What should policymakers consider? *The Journal of Special Education, 38*(1), 56-61. <https://files.eric.ed.gov/fulltext/EJ693729.pdf>
- Carver-Thomas, D., & Darling-Hammond, L. (2017). Teacher turnover: Why it matters and what we can do about it. *Learning Policy Institute, 1*-48. <https://doi.org/10.54300/454.278>
- Carver-Thomas, D. & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. *Education Policy Analysis Archives, 27*(36), 1-31. <https://files.eric.ed.gov/fulltext/EJ1213629.pdf>
- Colosi, B. (2022). 2022 National health care retention and RN staffing report. *NSI Nursing Solutions, Inc.* 1-18. https://www.nsinursingsolutions.com/Documents/Library/NSI_National_Health_Care_Retention_Report.pdf
- Dee, T. S., & Goldhaber, D. (2017). Understanding and addressing teacher shortages in the United States. *The Hamilton Project, 1*-28. https://www.brookings.edu/wp-content/uploads/2017/04/es_20170426_understanding_and_addressing_teacher_shortages_in_us_pp_dee_goldhaber.pdf
- Etim, J. S., Etim, A. S., & Blizard, Z. D. (2020). Teacher effects, student attendance and student outcomes: Comparing low and high performing schools in North Carolina. *Educational Research Quarterly, 44*(2), 48-84. <http://erquarterly.org/index.php?pg=content>
- Fore, C., Martin, C., & Bender, W. N. (2002). Teacher burnout in special education: The causes and the recommended solutions. *University of North Carolina Press, 86*(1), 36-44. http://muse.jhu.edu/journals/high_school_journal/toc/hsj86.1.html
- Grimmett, P. P. & Echols, F. H. (2000). Teacher and administrator shortages in changing times. *Canadian Society for the Study of Education, 25*(4), 328-343. <http://journals.sfu.ca/cje/in>

dex.php/cje-rce/article/view/2790/2091

Gunderson, K. L. & Karge, B. D. (1992). Easing the special education teacher shortage: Are emergency permits the answer? *Teacher Education Quarterly*, 19(3), 79-90.

<https://go.gale.com/ps/i.do?p=AONE&u=googlescholar&id=GALE|A100806948&v=2.1&it=r&sid=AONE&asid=c24813cb>

Ingersoll, R. (2001). Teacher turnover and teacher shortages: An organizational analysis.

American Educational Research Journal, 38(5), 499-534.

https://repository.upenn.edu/cgi/viewcontent.cgi?article=1093&context=gse_pubs

Ingersoll, R. (2003). Is there really a teacher shortage? *Center for the Study of Teaching and*

Policy, 3-28. https://repository.upenn.edu/gse_pubs/133

Ingersoll, R., Merrill, L., & May, H. (2014). What are the effects of teacher education and

preparation on beginning teacher attrition? *Consortium for Policy Research in Education (CPRE)*, RR-82. 1-35. https://www.cpre.org/sites/default/files/researchreport/2018_prepeffects2014.pdf

Jacob, B. A. (2007). The challenges of staffing urban schools with effective teachers. *The Future of Children*, 17(1), 129-152. <https://files.eric.ed.gov/fulltext/EJ795883.pdf>

Jensen, M. C., Mortorff, S. A., & Meyers, S. P. (1992). On-the-job training: Is it the answer to a special education personnel shortage? *Caddo Gap Press*, 19(3), 91-101.

<https://www.jstor.org/stable/23475656>

Lachlan, L. Kimmel, L. Mizrav, E., & Holdheide, L. (2020). Advancing the quality teaching for

all schools: Examining the impact of COVID-19 on the teaching workforce. *American Institute for Research*, 1-20. https://gtlcenter.org/sites/default/files/Examining_Impact_COVID19_Workforce.pdf

- Liuzzi, A. (2021). Biennial report: Supply and demand of teachers in Minnesota. *Minnesota Professional Educator Licensing and Standards Board*, 1-52. file://Users/juliaschumann/Desktop/Supply%20and%20Demand%202021_Final_tcm1113-463801.pdf
- Mason-Williams, L., Bettini, E., Peyton, D., Harvey, A., Rosenberg, M., & Sindelar, P. T. (2020). Rethinking shortages in special education: Making good on the promise of an equal opportunity for students with disabilities. *Teacher Education and Special Education*, 43(1), 45-62. <https://journals.sagepub.com/doi/full/10.1177/0888406419880352>
- McCarthy, C. J. (2019). Teacher stress: Balancing demands and resources. *Phi Delta Kappa International*, 101(3), 8-14. <https://kappanonline.org/teacher-stress-balancing-demands-resources-mccarthy/>
- Nichols, S. M., Bicard, S. C., Bicard, D. F., & Baylot, L. (2008). A field at risk: The teacher shortage in special education. *Phi Delta Kappa International*, 89(8), 597-600. <https://eric.ed.gov/?id=EJ790559>
- Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2017). Sticky schools: How to find and keep teachers in the classroom. *Phi Delta Kappa International*, 98(8), 19-25. <https://eric.ed.gov/?id=EJ1139977>
- Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How teacher turnover harms student achievement. *American Research Journal*, 50(1), 4-36. DOI: 10.3102/0002831212463813
- Rosenberg, M. S., Mason-Williams, L., Kimmel, L., & Sindelar, P. T. (2021). Addressing teacher shortages in the COVID-19 landscape: Viewing teacher candidates as assets. *Excelsior: Leadership in Teaching and Learning*, 13(2), 86-95. <https://surface.syr.edu/cgi/viewconte>

nt.cgi?article=1060&context=excelsior

- Stronge, J. H. & Hindman, J. L. (2003). Hiring the best teachers. *Educational Leadership*, 60(8), 48-52. <http://www.esc4.net/Assets/hiring-the-best-teachers.pdf>
- Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S. *Learning Policy Institute*, 1-16. https://learningpolicyinstitute.org/sites/default/files/product-files/A_Coming_Crisis_in_Teaching_REPORT.pdf
- Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2019). Understanding teacher shortages: An analysis of teacher supply and demand in the United States. *Education Policy Analysis Archives*, 27(35). 1-40. <https://epaa.asu.edu/index.php/epaa/article/view/3696/2228>
- Thornton, B., Peltier, G., & Medina, R. (2007). Reducing the special education teacher shortage. *Heldref Publications*, 80(5), 233-238. <https://www.jstor.org/stable/30189925>
- U. S. Department of Education. (2017, May 3). *Sec. 300.101 free appropriate public education (FAPE)*. Individuals with Disabilities Education Act. <https://sites.ed.gov/idea/regs/b/b/300.101>
- U. S. Government Publishing Office. (2004, December 3). *Public law 108 - 446 Individuals with Disabilities Education Improvement Act of 2004*. GovInfo. <https://www.govinfo.gov/content/pkg/PLAW-108publ446/pdf/PLAW-108publ446.pdf>
- Wanat, E. L. (2021). A quantitative study of factors influencing special education teachers' attrition: The relationships between burnout, personality, and organizational factors. *Bethel University*, 3-204. <https://spark.bethel.edu/cgi/viewcontent.cgi?article=1645&context=etd>