

Developing Solutions To Teacher Attrition
And Retention In A Rural New England Setting

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Abstract

This research paper explores why there is a public education shortage of teachers. It discusses what causes a teacher shortage. The research reveals where the teacher shortages are most predominant. The literature highlights the most common reasons teachers leave the career field. Teacher burnout, retirement, COVID-19, supply and demand of teachers, and Maslow's Hierarchy of Needs are addressed in the research. The literature offers short-term as well as long-term solutions to the shortage. The research explains alternative teacher licensure, college relationships, and the relevancy of training. The literature review was derived primarily from peer-review papers located in the Granite State College library. A few statistics were retrieved from the Vermont Agency of Education website which included a table to demonstrate attrition. Statistical data from the website for the Education Commission of the States was also retrieved. Information from the Vermont Agency of Education website was used to explain various teacher licensure options. These websites are industry government sites. A multiple-choice survey was also used to collect Vermont-specific data from human resource directors. The survey results list the reasons for attrition in Vermont. The research reveals ways to mitigate the attrition of teachers such as reducing teacher burnout, mentors in the first year of employment, and collaborative efforts with styles of leadership.

Keywords: teachers, attrition, burnout, leadership styles, COVID-19

Developing Solutions To Teacher Attrition And Retention In A Rural New England Setting

A teacher shortage is present. I have worked in public education as a human resource director since 2013. In the last couple of years, I have noticed that the number of applicants for job postings has decreased. In fact, this school year, we were unable to fill all the teaching positions leaving several vacancies. This has never occurred in the supervisory union's history. We have always had a candidate to fill the positions.

I also noticed more provisional licenses were issued than in previous school years. A provisional license is a temporary teaching license where the employee earns the teaching credentials while simultaneously employed as a teacher for two school years.

As a result of this revelation, I pondered if we were experiencing a public education teacher shortage. My capstone research project started as Is there a public education teacher shortage? Once I began the research it was evident that there had been a teacher shortage since 1950. A peer review from the Granite State Library indicates "Certain subject areas, such math, and science, have seen shortages since at least the 1950s, and special education has had perennial shortages since the 1960s" (Sutcher et al., 2019, p. 3).

The research paper explores the teacher staff shortages and ways school districts can attract and retain teachers. It explains whether it is a New England, national and worldly crisis. The research explains what a teacher shortage is and the issues that cause a teacher shortage in certain regions. I have researched such information to understand why there is perceived attrition within the public education sector. I seek answers, from the research, that will reveal what I can do to ameliorate the situation.

In a leadership role, it is important to understand all aspects of the employees. Knowledge of why employees leave will be useful to reduce the reasons. A better understanding

of the employee's needs or desires may reduce attrition. Understanding why they remain employed is also important.

Styles of leadership impact employee attrition versus retention. The reason is explained in this quote about principals. "Because they are uniquely positioned to impact levels of satisfaction and dissatisfaction, Bogler (2001) found that principals had the ability to influence whether certain instructors decided to stay in the profession" (Frahm & Cianca, 2021, p. 3). The article also states, "The problem can be exacerbated by the fact that approximately 25% of principals leave their schools each year" (Frahm & Cianca, 2021, p. 3). This has been a common issue in Vermont. Turnover of principals is quite high in Vermont. The average number of years a principal remains in a position in Vermont is three years. Turnover in leadership impacts teacher retention.

Another aspect of attrition is that it is costly to the employer. In the United States "Teacher-replacement costs -- estimated at \$8 billion annually" (Will, 2016, para. 11). As a leader in a non-profit organization, it is instrumental to do everything to be fiscally responsible with taxpayer money.

This research will provide useful information to offer stability within schools, by increasing employee job satisfaction, which is known to increase engagement and productivity. The goal is to understand what causes attrition and what can be done to increase retention.

Literature Review

The literature review will provide facts about teacher shortages such as where and why it is more prevalent in one region compared to another. Information about the reasons teachers leave the field of education will be addressed. Solutions to retain teachers will be included in the literature review.

Many career fields are experiencing shortages of sufficient workers to handle the workload demands in the United States. At the time of this writing, a Google search using the phrase “Employment in Vermont” reveals 19,955 jobs advertised on Indeed. Public teaching is not immune to shortages. To understand a shortage, we must understand the reasons behind what is driving the situation. Sutchter et al. (2019) define teacher shortage as:

To refer to an insufficient production of new teachers, given the size of student enrollments and teacher retirements. In this narrow definition, a teacher shortage is measured only by teacher production in relation to these factors associated with teacher demand. However, a large body of research indicates that teacher staffing problems are driven by a myriad of factors, including not only production of new teachers in various fields, but also teacher turnover, changes in educational programs and pupil-teacher ratios, and the attractiveness of teaching generally and in specific locations. (p. 4)

One concern is how many new entrants there are to the field of education. The concern is also why are the current educators leaving the field. Interestingly, some believe that “Teacher shortages are, for the most part, not national in nature, and one can argue that there are, in fact, 50 separate state labor markets for teaching, plus local labor markets nested within states” (Sutchter et al. 2019, p. 5). If the teacher shortage is a state issue, then we will read why certain labor markets are worse in one state compared to another state. Will’s (2016) article indicates:

In addition to a high price tag attached to teacher-replacement costs -- estimated at \$8 billion annually -- the shortages have led to stopgap policy solutions like hiring teachers with emergency or temporary credentials, increasing class sizes, or using short-term substitutes. (para. 11)

The national average cost of \$8 billion on attrition is quite significant. “Reducing attrition from the current 8% to about 4%—the norm in high-achieving nations like Finland, Singapore, and Ontario, Canada, and a few states—could virtually eliminate overall teacher shortages” (Sutcher et al. 2019, p. 27). Some countries have been able to reduce teacher attrition. The United States may be able to achieve similar results. Will’s (2016) study found the following:

Darling-Hammond said these proposals could get to what she called the 4-percent solution. The annual attrition rate for U.S. teachers is currently at 8 percent, about twice as high as teacher attrition rates in high-performing countries like Finland and Singapore. If it was halved, she said, the significant reduction in hiring needs would virtually eliminate teacher shortages and allow for increased selectivity in hiring, which could improve teacher quality. (para. 14)

The United States could implement the 4% solution. However, it is not being addressed at a national level in this country. The cost of attrition is a state-by-state issue. Many states are implementing changes in an effort to reduce the cost of attrition within their state. We will review solutions in the conclusion section of this paper.

Each year the Vermont Agency of Education releases a report listing the number of full-time-equivalency (FTE) teachers employed during the school year. Table 1 below shows that in

2008 413 more teachers were teaching elementary school than in 2020. Table 1 also shows that in 2008 779 more secondary school teachers were teaching than in 2020.

Table 1

Teacher Staff FTE Report – Vermont FY-2008 to FY2020

Teacher Staff FTE Report - Vermont FY-2008 to FY2020		
Staff Category	Fiscal Year	Sum of TOTFTE
103-Elementary Teachers (Grades 1-6)	2007-2008	2942.68
103-Elementary Teachers (Grades 1-6)	2008-2009	2880.98
103-Elementary Teachers (Grades 1-6)	2009-2010	2876.07
103-Elementary Teachers (Grades 1-6)	2010-2011	2842.45
103-Elementary Teachers (Grades 1-6)	2011-2012	2858.87
103-Elementary Teachers (Grades 1-6)	2012-2013	2846.88
103-Elementary Teachers (Grades 1-6)	2013-2014	2841.95
103-Elementary Teachers (Grades 1-6)	2014-2015	2688.33
103-Elementary Teachers (Grades 1-6)	2015-2016	2753.1
103-Elementary Teachers (Grades 1-6)	2016-2017	2714.25
103-Elementary Teachers (Grades 1-6)	2017-2018	2601.49
103-Elementary Teachers (Grades 1-6)	2018-2019	2549.13
103-Elementary Teachers (Grades 1-6)	2019-2020	2528.76
104-Secondary Teachers (Grades 7-12)	2007-2008	3100.83
104-Secondary Teachers (Grades 7-12)	2008-2009	3030.93
104-Secondary Teachers (Grades 7-12)	2009-2010	3050.65
104-Secondary Teachers (Grades 7-12)	2010-2011	3013.53
104-Secondary Teachers (Grades 7-12)	2011-2012	2924.66
104-Secondary Teachers (Grades 7-12)	2012-2013	2896.01
104-Secondary Teachers (Grades 7-12)	2013-2014	2858.83
104-Secondary Teachers (Grades 7-12)	2014-2015	2666.69
104-Secondary Teachers (Grades 7-12)	2015-2016	2667
104-Secondary Teachers (Grades 7-12)	2016-2017	2559.43
104-Secondary Teachers (Grades 7-12)	2017-2018	2461.89
104-Secondary Teachers (Grades 7-12)	2018-2019	2463.8
104-Secondary Teachers (Grades 7-12)	2019-2020	2321.81

State of Vermont Agency of Education website (2022).

Table 1 is evidence that the State of Vermont had 1,192 more teachers employed in these two categories in 2008 than teachers employed in 2020. The reduction of 1,192 employed teachers demonstrates attrition. There are several reasons for attrition.

Retirement

Retirement would be the most logical reason for attrition. However, “Only about one-third of teacher attrition is due to retirement, the LPI report notes” (Will, 2016, para. 22). What causes the public education teacher attrition if only one-third are due to retirement then?

Rasanen’s et al., (2020) research states:

Experienced teachers describe that the nature of their work has changed as expected and the workload has increased (Buchanan et al. 2013). Moreover, health issues and aging have a greater effect on experienced teachers’ decision to leave the teaching profession earlier than planned. (p. 5)

The teacher career field has changed in recent years. There are more factors that teachers must endure in the field of teaching than simply educating a classroom of students.

Teacher Burnout

There are several reasons teachers leave the field. “The most common reasons for leaving the profession are unsatisfactory teaching conditions (like class sizes and salaries), unhappiness with administrators, and policy issues, such as high-stakes testing and accountability pressures” (Will, 2016, para. 22). Sykes & Martin (2019) state, “Complementing this focus on schools’ social conditions, district policies and procedures contribute as well to teacher mobility patterns” (p. 9). Styles of leadership, and job satisfaction rate highly for teacher attrition. “The teaching profession is perceived to be one of the most stressful professions, involving numerous tasks

(e.g., class preparation and classroom management) and interactions with multiple groups of people (e.g., students, colleagues, and parents)” (Kim & Buric, 2020, p. 1). Teaching regulations change frequently. A teacher may be required to learn new ways of teaching students from one year to the next. New programs to deliver direct services to students, new software, and new practices are common. Rasanen’s et al. (2020) research states, “The educational reforms in schools are simultaneously often experienced as challenging and may lead to increased teacher stress, risk for burnout, and career turnover” (p. 5). Continuous new learning by the teacher is daunting because the teacher cannot teach the same lessons from year to year. The stress of the demanding job can cause decreased self-confidence, disengagement, mental health issues, and exhaustion. This describes teacher burnout. A teacher experiencing burnout tends to be less able to manage the behaviors within their classroom and tends to call out sick more often. This exacerbates an already dissatisfied teaching environment. This attitude can overcome morale and create a negative impact on other teachers. Teacher burnout is detrimental to the learning environment for all stakeholders. Burnout of teachers affects student outcomes as well. Once a teacher experiences burnout, it is hard to rebound from it. (Kim & Buric, 2020; Luthar et al., 2021; Will, 2016).

The burnout rate is so high that “In fact, many schools serving America’s neediest children lose over half of their teaching staff every five years...and in New York City middle schools, 66% of teachers exit within five years of entry” (Sykes & Martin, 2019, p. 7). This is due to overwhelmed teachers. The demands of teaching in the most economically challenged and ethnically diverse populations, lead to higher teacher burnout. There are additional workload pressures in these types of social environments. Sykes and Martin’s (2019) study states the following:

While preparation programs vary widely, those that provide more training in teaching methods and pedagogy—especially practice teaching coupled with observations of others’ teaching and feedback on one’s own teaching—yielded greater retention after the first year in the classroom. (p. 9)

The cost of the additional training to economically challenged schools may be an upfront burden. However, minimizing teacher burnout may help to reduce turnover. A climate of support during the first few years can reduce turnover and overhead costs are not incurred. Rasanen’s et al. (2020) research states, “Research findings suggest that a positive collegial climate and social support seem to be essential for keeping novice teachers in the teaching profession” (p. 4). New teachers that experience positive work relationships are less likely to get burnt out because they do not feel isolated. The article also states, “Novice teachers are usually distracted from teaching either by the work itself (e.g. excessive workload) or by problems that occur in social interaction in the school community” (Rasanen et al., 2020, p. 4). A teacher that feels supported by colleagues will overcome such problems. Educators will not leave the profession if burnout does not occur. Reducing burnout will reduce attrition, thereby retaining teachers for longer employment.

Supply and Demand of Teachers

Another contributing factor to the teacher shortage is supply and demand. “Over the years, researchers have tried to measure the severity of shortages; however, data limitations at the national level have often precluded precise estimates of the size of shortages” (Sutcher et al., 2019, p. 3). The growing student population requires more teachers to teach the students. Sutcher, Darling-Hamond, and Carter-Thomas’ (2019) article states the following:

Based on our analysis we found that teacher demand is projected to increase over the next decade, based on expectations that the school-aged population will increase by roughly 3 million students, student-teacher ratios will return to pre-recession levels (suggesting a decrease from 16:1 to 15:1), and teacher attrition rates will remain steady at 8% annually. Teacher supply, meanwhile, has been declining. (p. 4)

“In an annual national survey of college freshmen, only 4.2% of students indicated their probable field of study would be education” (Sutcher et al., 2019, p. 19). This demonstrates that the demand for teachers has increased, and at the same time fewer teachers are graduating with education degrees. “Teacher shortages emerge in different fields and locations when there is an imbalance between the number of teachers demanded and the number of qualified teachers willing to offer their services to fill these demanded positions” (Sutcher et al., 2019, p. 4). The supply and demand in rural states and towns may affect the quality of people hired to teach. Vermont’s total population is the 51st smallest in the nation at 643,077 (PopulationU.com, 2022). “Vermont had the highest teacher-equity rating, with a low ratio of the percentage of both uncertified and inexperienced teachers in high-minority versus low-minority schools” (Will, 2016, para. 33). Teacher-equity rates Vermont teachers with the least amount of education and experience. This occurs in low-income areas, as well as rural areas. Sutcher et al. (2019) article states, “These schools often experience difficulty hiring and high turnover on a regular basis, and they are the most severely affected when teacher shortages become widespread.” Furthermore, the article states, “This happens, in part, because inequitable funding of schools leaves many low-wealth urban and rural communities with inadequate resources, so they pay lower salaries and typically have poorer working conditions” (Sutcher et al., 2019, p. 7). School funding at the

state level rather than by city or town could minimize salary differences within a state. This would create salary equity state-wide.

Certain teaching fields are harder to fill which creates another supply and demand issue. “Certain subject areas, such math, and science have seen shortages since at least the 1950s, and special education has had perennial shortages since the 1960s” (Sutcher et al., 2019, p. 3). The demand for teachers certified to work as special educators, math teachers, and science teachers are all larger to fill. These fields require more specialized training to obtain the credentials. A person educated in science can generally make more money in the private sector than in public education. “The competitiveness of teachers’ wages to those of non-teaching occupations requiring similar levels of education can be just as important as teacher salaries themselves” (Sutcher et al., 2019, p. 22). A nonprofit cannot always compete with salary scales at for-profit businesses. Rasanen’s et al. (2020) article states, “Salary and improving career opportunities by pursuing another career also have a greater impact on the male intention to quit than on the female intention” (p. 4). Teacher’s leave the field for higher paying positions.

Supply and demand are determined by need and availability. A demand that can be predicted is student enrollment. When a school experiences student population growth it must hire more teachers. The National Center for Education Statistics (“NCES”) data on student population shows “NCES estimates a steady increase in public school student enrollment starting in 2016, growing from 50 million to 53 million by 2025” (Sutcher et al., 2019, p. 10). States have policies of the student-to-teacher ratio. An example would be that a preschool classroom may require more adult supervision than a sixth-grade classroom. One preschool classroom may require one adult to ten students, whereas a sixth-grade classroom may allow one adult to fifteen students.

The special education field has experienced growth with a larger number of students that need an Individualized Education Program (“IEP”). The ramifications of COVID-19 have caused many children to exhibit heightened anxiety and behavioral disorders. This has increased the demand for special education teachers. Allowable student caseloads may differ from state to state. Sutchter, Darling-Hammond, and Carter-Thomas state, “These ratios vary across states, from a high of 24-to-1 in California to a low of 11-to-1 in Vermont (NCES 2015d).” (2019, p. 11). Furthermore, “The NCES projects that pupil-teacher ratios will slowly dip downward to the pre-Recession level of 15.3-to-1 by 2025” (Sutchter et al., 2019, p. 10). When the student-to-teacher ratios are lower more teachers are needed.

With the demand increasing, where do we find the supply of teachers? Many teachers are re-entering the field either through relocation or coming back from leave. Employers that want to capture the re-entrants should ensure that a teacher experiences job satisfaction before leaving employment. “Research suggests that many re-entrants left with the intention of returning, including teachers who stepped out for child-rearing or other personal reasons” (Sutchter et al., 2019, p. 17). Focusing on teacher needs and job satisfaction while employed would help to reduce attrition. Teachers that feel supported by their leadership are less likely to leave. Teachers are less likely to leave if the leadership recognizes the importance of a manageable workload, professional training, and offers a supportive culture. Quality mentor programs and employee assistance programs are both valuable to a positive work culture. (Kim & Buric, 2020; Luthar et al., 2021; Sutchter et al., 2019; Will, 2019). Sutchter, Darling-Hammond, and Carter-Thomas’s (2019) study states:

A comprehensive approach to reducing attrition would effectively both lessen the demand for teacher hiring and save money that could be better spent on mentoring and

other evidence-based approaches to supporting teacher development. Attrition is one of the most important aspects of demand to focus on, both because it is such a large component of demand and because it is policy malleable. (p. 26)

There are many economically disadvantaged states in the United States. Some states do not have colleges to capture new entrants while other states do not have the financial means to increase salaries or benefits. Establishing school cultures that are supportive to teachers to minimize burnout symptoms are a solution. Sykes and Martin state, “Schools featuring strong student discipline oriented to shared norms of behavior and good relationships with parents contributes to positive school cultures that support teachers in their work” (2019, p. 8). Leadership and policies that address behavioral acceptable norms that support that teacher. Offering, “working conditions that are social in nature likely supersede marginal improvements to pay or teaching schedules in importance” (Sykes & Martin, 2019, p. 8). There are several ways to better prepare teachers with areas that often increase stress. In-service training to help teachers with classroom management skills would reduce stress. Emotion regulation training is a way to manage emotional stress. Offering mentors to assist with transitioning to the new field, or when entering a new school district. Offering “collegial support among teachers, and a shared set of professional goals and purposes” (Sykes & Martin, 2019, p. 8). Cultural training of the particular region. Less work demands in the first few years of employment while the teacher focuses on the more important aspects of the profession. (Frahm & Cianca, 2021; Kim & Buric, 2020; Luthar et al., 2021; Sutchter et al., 2019; Will, 2016).

Teacher Certificates

Another contributing factor for attrition is, when teachers try to transfer their teaching certificates to a different state, teachers are met with challenges between state licensing. The

reciprocity of educator licensing is not recognized in every state in the United States. Each state has its own teacher licensing requirements. Sometimes these challenges are a deterrent to remaining in the teaching field. The National Association of State Directors of Teacher Education and Certification (“NASDTEC”) agreement is mentioned on the Vermont Agency of Education website. This is what it states:

What does it mean to apply under the NASDTEC Interstate Agreement? The NASDTEC Interstate Agreement is a statement by Vermont outlining which other states' educator certificates will be accepted. Specifically, the agreement outlines which particular types of educator certificates (teachers, administrators, service personnel, or career/technical), and which particular styles of certifications (titles, fields, etc.) will be accepted. (Vermont Agency of Education Website, 2022).

Teachers can review the information to see what each state requires to be licensed. A state that is more lenient may be more desirable to relocate to. State licensing should consider this for eligible teachers moving into the state. “About 25% of teachers cross state lines in their careers, and many leave the profession because of barriers to transfer their licenses and pensions, so solving these national labor market problems is part of the solution” (Sutcher et al., 2019, p. 5).

Teachers are able to be licensed in non-traditional ways, rather than through a post-graduate program. These are generally people that become teachers as a second career choice. “Currently all states but two have alternative teacher certification: Minnesota and Rhode Island” (All Education Schools.Com, 2022). In New York, a person must have a master’s degree to be a teacher, but in Vermont, a person only needs a bachelor’s degree to be a teacher. This is most likely because “States that prepare fewer teachers must attract out-of-state candidates to fill their

vacancies, which can be even more difficult in times of shortage” (Sutcher et al., 2019, p. 22). In some states when an employer cannot fill an open position with a licensed teacher, the employer can use an alternative method, which in Vermont would be an emergency license or provisional license. This allows non-teacher degrees to enter the field of education. This is important to recognize alternative licensing because, “Such hires are usually prohibited unless there are no candidates meeting the state’s requirements for full certification, all indicate shortages” (Sutcher et al., 2019, p. 5). Employers utilizing this method are indicating there are not enough qualified candidates. Table 1 shows 1,192 fewer teachers employed in two categories in the year 2020 compared to the year 2008, yet the student population has increased. A state experiencing challenges with hiring is more apt to use the alternative routes to teacher licensing to fill the vacancies as a solution to teacher attrition.

Colleges: Supply chain

A state with fewer colleges has fewer graduates with teaching degrees available to fill vacancies. There are fewer college graduates; therefore, the supply chain is smaller. States that have more colleges have an enlarged pool of graduates with teaching degrees to draw from. Several states have started to take steps other countries have to lower the percentage of attrition. Sutcher, Darling-Hamond, and Carter-Thomas’s (2019) study states:

Several American states, including Massachusetts and other New England states, have attrition rates well below 5%. It is not surprising that, like the countries we noted, these states also have policies and conditions associated with increased retention, such as competitive compensation, high-quality training, few entrants through low-quality backdoor routes, and positive working conditions. (p. 26)

This would explain why some states are more affected by teacher shortages than other states. States that have policies such as advanced teacher training, competitive salaries, and licensing flexibility in place seem to experience less attrition. A state such as the Commonwealth of Massachusetts has colleges with graduates to fill the high demand for teachers. Massachusetts has many graduates to fill the vacancies. “In Massachusetts, where there are many teacher preparing institutions and generally higher teacher salaries, recent supply and demand projections showed an overall surplus” (Sutcher et al., 2019, p. 7). Rural states do not have as many colleges as Massachusetts. Also, people tend to remain in areas where they completed college. “Student teaching assignments predict where an individual finds her first teaching job, with higher qualified candidates assigned to more advantaged schools” (Sykes & Martin, 2019, p. 7). Vermont has fewer colleges than Massachusetts, is more rural, and is economically disadvantaged compared to Massachusetts. The college graduates in Massachusetts are more likely to remain in Massachusetts and fill the teacher vacancies. Vermont does not have a large number of graduates; therefore, Vermont requires recruitment from other states. States in this situation should have relationships with colleges that have an abundance of students, and may offer student teaching assignments in a neighboring state. Recruiting at those colleges would be a solution.

COVID-19 and Attrition

Abraham Maslow’s Hierarchy of Needs is a well-known theory based on a pyramid of levels outlining human abilities based on their survival needs. There are five levels of needs. Abraham Maslow’s (1943) theory states:

(1) There are at least five sets of goals, which we may call basic needs. These are briefly physiological, safety, love, esteem, and self-actualization. In addition, we are motivated by the desire to achieve or maintain the various conditions upon which these basic satisfactions rest and by certain more intellectual desires.

(2) These basic goals are related to each other, being arranged in a hierarchy of prepotency. This means that the most prepotent goal will monopolize consciousness and will tend of itself to organize the recruitment of the various capacities of the organism. The less prepotent needs are minimized, even forgotten or denied. But when a need is fairly well satisfied, the next prepotent ('higher') need emerges, in turn to dominate the conscious life and to serve as the center of organization of behavior, since gratified needs are not active motivators. (p. 370)

Maslow's Hierarchy of Needs is a theory that can be used throughout a person's life. Life-changing events such as graduation, careers, marriage, parentage, and losses influence how an individual perceives life. Rasanen's et al. (2020) article states "The factors that activate teacher turnover intention have been found to vary at different career points, in teacher sub-groups and over time" (p. 4). The experience of the COVID-19 pandemic has been a life-changing event. The pandemic has influenced and changed people's needs and desires. Most businesses were required to close during the pandemic, which affected employment, income, education; every aspect of a person's life. At the beginning of the pandemic, only essential businesses were open. Education was deemed essential. Pham's et al. (2021) study states:

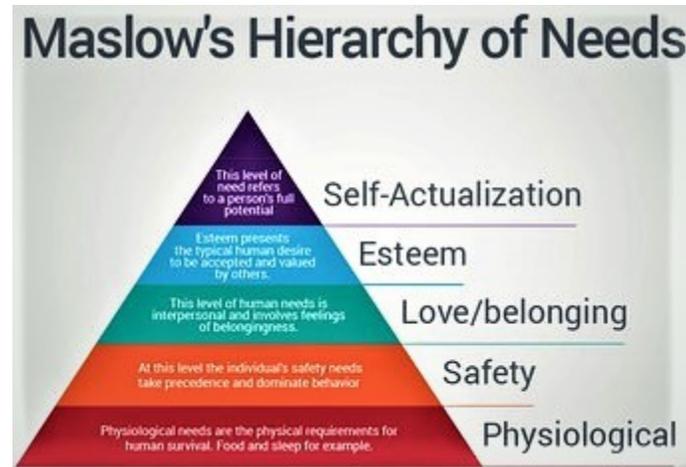
It was generally viewed that air, travel and tourism were the worst affected sectors, but the biggest change was in education whereby a record number of students at all levels were forced to study online because of class suspension. (p. 1)

Education was the field most effected by COVID-19. Education had to be taught virtually. Teachers switched from in-person classroom teaching to a virtual classroom using technology. Most teachers had never taught in this manner previously. Many teachers had never used Zoom or Google. Pham's et al. (2021) article states, "From technological aspect, it seems that applications like Zoom and Google Meet were opted by many institutions; however, there were issues with Internet security, bandwidth for both teachers and students" (p. 2). The study goes on to state, "The main purpose of using these applications was to maintain traditional classes in an online mode due to social distancing and meeting the need of students and teachers to see and support one another in learning" (Pham et al, 2021, p. 2). Learning new software and how to teach virtually increased the teachers work demands.

If a business was open, the government issued strict rules on how to function. The rules included social distancing or limitations of people allowed in a store at one time and facial mask requirements. A general fear of public contact existed. People that experienced high self-esteem or confidence before COVID-19 may no longer feel that confidence. Friendship and family may have been affected during the pandemic which changed people's desires. The isolation during the pandemic affected many people's sense of belonging and safety. Here is a figure of the five steps to Abraham Maslow's Hierarchy of Needs.

Figure 1

Maslow's Hierarchy of Needs



Farfane, Teresa. (2014). Maslow's Hierarchy of Needs image.

Abraham Maslow's pyramid has a step for safety which includes employment and health. If items in a level become non-functional, destruction on that level may occur because the levels of desire change. "All five levels of human needs in the original Maslow's hypothesis are interdependent and a change in one level of need would affect the satisfaction of one or more needs at the same or different level" (Shoib et al., 2022, p. 2). A teacher already struggling with their career field would most likely be overwhelmed to a state beyond where Maslow's pyramid would deem them healthy. "A vital component of professional wellness is what Maslow defines as esteem, which is used to define respect, fairness, and control as the four levels of needs" (Shoib et al., 2022, p. 2). The loss of control over the situation exacerbated by the COVID-19 pandemic would be a turning point for a teacher suffering from low self-esteem. A teacher that was experiencing teacher burnout before the pandemic is at high risk to leave the public education teacher field entirely. Shoib et al. (2022) article states the following:

In creating models for psychosocial interventions that are molded after Maslow's hierarchy of needs, flexibility is required to link all tiers of the hierarchy interdependently and view the individual in equilibrium. This means that each need can be linked to many

other needs despite their arrangement in the hierarchy, and a cause-effect model can be used to explain or predict the changes in needs an individual goes through. (p. 2)

COVID-19 has affected the teachers, students, and parents in many ways. Teachers had to handle COVID-19 issues of safety for themselves, classroom students, ongoing changes in handling the pandemic from Department of Health rule changes, and their mental health. “These ongoing demands on educators’ resources inevitably threaten their own wellbeing” (Luthar et al., 2021, p. 52). Since the pandemic began teachers have had to learn new ways to teach the curriculum. Pressley’s et al. (2021) study states, “Specifically, teachers felt overworked due to the implantation of new curriculums and initiatives, hectic workdays, and limited time to complete tasks such as preparing for teaching, making necessary copies, and communicating with stakeholders” (p. 2). This created more stress to an already stressed environment. At the beginning of the pandemic, it was mandatory remote teaching for all grades, all levels, and all teachers. Luthar, Pao & Kumar’s (2021) study states:

There's nothing normal about this school year, and to try to go about teaching and learning the same way we did last year because that's how we've always done it has got to stop. This is a wake-up call for education. (p. 54)

No training was provided to the teachers on how to teach students remotely. The teachers were in the classroom one day and suddenly working from within their own homes the next day. Many teachers did not have the necessary internet infrastructure to access such teaching strategies. For teachers with early education and elementary level students, this was nearly impossible to facilitate zoom without a parent or adult involved. Many teachers had never used online teaching methods previously. Teachers of students with special needs were especially challenging to implement. Many teachers had their children at home while they were teaching

remotely with their classroom of students. Pressley's et al. (2021) study states "Teachers may feel stress and anxiety during COVID-19 due to the challenges of balancing teaching while supporting their own children's education, learning online instruction, or the consistent media coverage of returning to learning plans" (p. 6).

Using the Vermont Agency of Education Table 1 above, and comparing the number of teachers in elementary education indicates that there were 2,601 teachers employed in 2018, 2,549 teachers employed in 2019, and 2,528 teachers employed in 2020. The reduction of 72 teachers employed in the elementary grades since COVID-19 started is an indicator that the additional stress of COVID-19 has been a factor in the attrition. The amount of stress the demand of COVID-19 has placed on educators has caused a massive increase in anxiety and emotional orders. COVID-19 has exacerbated burnout. Luthar Pao & Kumar's (2021) study states:

To urge a group of emotionally and physically exhausted caregivers that they must prioritize good self-care is unrealistic at best and at worst, perceived as offensive (in the words of a teacher in the late fall, 2020, "The term 'self-care' has become triggering for me; please stop. I can't do it. (p. 52-53)

The effects of COVID-19 have challenged and changed education as we knew it. This has challenged many teachers to rethink if they want to relearn how to do their jobs. COVID-19 is affecting teacher retention. COVID-19 is contributing to teacher burnout. Luthar's et al. (2021) article states:

Addressing educators' burnout will have to be a national priority. In August 2020, a poll by the National Education Association had shown that nearly one in three teachers said COVID-19 had made them more likely to resign or retire early. (p. 52)

The effects of COVID-19 have been hard for students, their caregivers, mental health issues, learning deficiencies, and in particular the educators. "Without attention to the psychological vulnerability of school adults and students, children's learning will remain limited, and their risk for serious disorders will escalate" (Luthar et al., 2021, p. 57). Supports must be offered to the teachers directly as a result of COVID-19 to reduce anxiety.

School administrators should allow for open communication with teachers and provide support when able to ease teacher anxiety. Support might include instructional, technology, or emotional support. Specifically, school administrators should provide feedback on lessons through observations. In addition, administrators should continue to provide support throughout the year by providing feedback and establishing an environment that allows teachers to ask questions about instruction and technology.

(Pressley et al., 2021, pg. 8).

It is too soon to know the long-term effects of COVID-19, but we do know that the field of education has changed dramatically. If employers want to ameliorate the issues, then they will need to make sure these issues are being addressed. The combination of teacher burnout rates, mental health issues associated with COVID-19, work demands, and state-to-state licensing barriers will need to be addressed by the states that are affected by the teacher shortages to remedy the situation. Sutchter's et al. (2019) study found the following:

What is needed is a comprehensive set of strategies at the federal, state, and local levels that are focused on increasing the number of well-prepared entrants to the field of teaching, directing them to the fields and locations where they are needed, and plugging the leaky bucket of teacher attrition, which has high costs for both district budgets and student achievement. (p. 27)

Conclusion

There is a public education shortage affecting the nation. The majority of the states are experiencing the repercussions of teacher attrition. There are many ways to address the shortage, but it depends on each state's particular assets. Addressing teacher shortages at a national level may offer a more equitable career field for public education teachers across the United States. However, due to different state policies, varying populations, and political leadership, this is not being handled at a national level, but instead by each state. Reduction of teacher burnout must be a top priority. The COVID-19 pandemic changed most people's levels of needs and desires with lowered esteem, decreased sense of belonging, and little sense of safety which exacerbated the public teacher attrition. Addressing teachers' sense of safety and belonging will need to be addressed before attrition is reduced. Each state will need to assess their resources to determine what it can do to ameliorate the situation.

Framework and Methodology

The framework and methodology used for the research paper were derived primarily from the Granite State College Library, using peer review articles and journals as well as website searches. Statistics retrieved from the Vermont Agency of Education website included a table demonstrating attrition within Vermont. Statistical data from the Education Commission of the States was also retrieved. Vermont Agency of Education website data and All Education Schools data explained various teacher licensure options. These websites are industry government sites.

The information collected for the literature review was both qualitative data and quantitative data. The methodology used to gather relevant information was searching keywords such as attrition, burnout, leadership styles, teacher, education, and COVID-19.

The research revealed where the teacher shortages are most predominant. It explained why this occurs. The literature highlighted ways to mitigate the attrition of teachers. The literature revealed short-term, as well as long-term solutions to the shortage of public education teachers.

Quantitative information was also gathered for this research project. This data collected consisted of a survey approved by an Internal Review Board. The survey was conducted using Qualtrics, and electronic feedback was gathered (Appendix A).

The use of both qualitative data and quantitative information provided a well-rounded researched paper.

Results and Data

The survey is attached in Appendix A. The survey will help identify the reasons teachers leave employment in Vermont. The survey was emailed to a list of human resource directors in public education working in Vermont schools. Sixteen human resource directors replied. The participants consisted of men and women from all-size school districts and all regions of Vermont. All respondents agreed by volunteering in question one and then responded to the remaining ten questions collecting data. The data collected from the survey responses are that:

- 93.75% still have more than three positions to fill.
- 68.75% state it is normal to still have open positions while 31.25% stated that this is unusual in January. January represents fifty percent through the school year. This demonstrates continuous staffing shortages while school is in session.
- 62.5% agreed with this state, it is unusual that my organization cannot fill the open positions.
- 81.25% had to hire people specifically to handle COVID issues.
- 62.5% had an increase of applications for a temporary license to hire a viable teacher eligible to work in Vermont.
- 81.25% had more positions in 2021-2022 to staff the schools compared to the school year 2018-2019.
- 62.5% have more employees on leave this school year than any other school year.
- 50% anticipate the teachers on leave will return for the next school year.

The survey asked the respondents to rank the reasons that the employees left employment in the school year 2020-2021. Here are the rankings one being the most common reason:

1. The number one reason was retirement.
2. Leaving one district and taking a position closer to home was the second reason.
3. Leaving of absence/COVID/Retirement had the same number of responses.
4. The stress of the requirements in the education field.
5. Left the educational field to stay home with their children.
6. Left the educational field for a new career field.
7. Left the educational field to stay home with their children.
8. Left your district/SU for another higher salary
9. Moved out of Vermont

The collected data also reveals attrition since only fifty-percent of the respondents expect the employees on leave to return next school year. The data reveals that retirement and the stress of the position are in the top three reasons in the year before COVID, as well as during COVID.

Conclusion

The conclusions of the research are there is a public education teacher shortage and has been since 1950. There is no specific cause of attrition, but many different reasons for it. A teacher's decision to leave the field depends on many factors, primarily job satisfaction, societal influences, and a person's sense of belonging within the system. There are short-term and long-term solutions that leaders can use to reduce attrition. Teacher burnout must be reduced for mental health of the teachers and desirability for future teachers to enter the field. Improving teaching conditions and leadership support are necessary for sustainability. Teacher retention is vital to achieve stability of attrition. Massachusetts and a few states in New England have been able to reduce teacher attrition below the national average. Duplicating their systems would be beneficial to other states to develop solutions to teacher attrition.

Follow-up from the COVID-19 pandemic effects on teacher attrition is recommended for further study. There are very limited resources available at the time of this research project. There are unknown consequences from the pandemic that may continue to influence the teaching field and may affect attrition further.

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Appendix A

Teacher Shortage Survey

Informed Consent

Purpose of the Study: The purpose of this research is to gather self-reported data regarding the reasons employees leave your employment. A quantitative analysis approach will be employed, particularly the use of a questionnaire survey, for data collection.

Description/Procedures: The use of human participants in this project has been approved in compliance with Granite State College's Guidelines for the Protection of Human Subjects in Research. If you volunteer to participate in this study, we would ask you to provide honest answers to all questions found in the survey. Approximately 5-10 minutes will be required to complete participation in this research, including reading and consenting to the study. Only a single session will be required to complete participation in this research.

Potential Risks: This study poses minimal risk; the nature of the study involves no anticipated physical, emotional, or social risk to participants.

Potential Benefits: The potential benefit to participants would be that once the survey is complete, the participants may request a copy of the results. The data is all anonymous, and of statistical data in nature of teacher turnover within the State of Vermont. The participants may find this statistical data to be beneficial to reduce turnover in the future. A statistic that would be collected are the top three reasons teachers leave your employment. This is very useful data for a human resource director. None of the information collected can be harmful to any humans. The data will be presented by me during the capstone presentations via zoom at Granite State College on March 17, 2022. The presentation will be recorded and the data collected would be kept with Granite State College repository.

Participation and Withdrawal: Participation in this study is voluntary and anonymous. If you volunteer to be in this study, you may withdraw or be withdrawn at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. No coercion of any kind is used in seeking your participation. The survey consent is found before question one of the ten question survey. At any point, the participant may exit the survey and their information will not be retained.

Payment for Participation: Participants will not receive payment or any other incentive for their participation in the survey.

Confidentiality: Participation in this survey is anonymous, no personally identifiable information will be gathered or stored.

Identification of Investigators: This survey is being conducted by Vanessa Koch. Any questions or comments can be submitted via email to this address: vlkoch@Granite.edu.

The supervising faculty member is Dr. Kathy DesRoches, who can be reached via email at: Kathy.DesRoches@granite.edu.

Rights of Research Subjects: The results of the survey will be available by request at the conclusion of this study. Requests are to be submitted via email to vlkoch@Granite.edu. If you have questions regarding your rights as a research subject, please contact the Office of Academic Affairs at the Granite State College Administrative Center, 603-228-3000.

For online surveys: By clicking on the button below, you are consenting to participate in this research study. You may print out a copy of this informed consent to keep for your records. If you do not wish to participate, please exit this page now.

Teacher Shortage Survey

1. Please select one response:
 - a. My organization currently has 1-3 open positions
 - b. My organization currently has more than 3 open positions
 - c. My organization has no open positions
2. It is normal that my organization has open positions at this time (January)
 - a. Yes
 - b. No
3. It is unusual that my organization cannot fill the open positions
 - a. Yes
 - b. No
4. My organization has hired additional employees to assist with COVID mitigation
 - a. Yes
 - b. No
5. Of the teachers hired this year my organization has more on provisional or emergency license than in previous years?
 - a. Yes
 - b. No
 - c. I do not know
6. Why did employees leave your organization's employment 2020-2021? Rank them 1 through 10 with #1 being the category with the highest number of people leaving.

- a. COVID
 - b. Retirement
 - c. Left the educational field for a new career field
 - d. The stress of requirements of the educational field
 - e. Left the educational field to stay home with their children
 - f. Left the educational field because the salary was too low.
 - g. Left your District/SU for another education position closer to home
 - h. Left your District/SU for another for a higher salary
 - i. Moved out of Vermont
 - j. We do not ask so I do not know
7. Why did employees leave your organization's employment 2019-2020? Rank them 1 through 10 with #1 being the category highest number of people leaving.
- a. COVID
 - b. Retirement
 - c. Left the educational field for a new career field
 - d. The stress of requirements of the educational field
 - e. Left the educational field to stay home with their children
 - f. Left the educational field because the salary was too low.
 - g. Left your District/SU for another education position closer to home
 - h. Left your District/SU for another for a higher salary
 - i. Moved out of Vermont
 - j. We do not ask so I do not know.
8. Does your organization have fewer or more positions (FTEs) compared to 3 school years ago (2018-2019)?
- a. Fewer
 - b. More
 - c. I am unsure
9. Does your organization have fewer or more teachers on leave this school year?
- a. Fewer
 - b. More
 - c. I am unsure
10. Does your organization anticipate teachers on leave will return in 2022-2023 school year?
- a. Yes
 - b. No
 - c. 50/50
 - d. I do not know

Thank you very much for your time and participation.