Why New Career & Technical Education Teachers Leave, Why New Ones Stay and How Principals Affect Attrition and Retention Rates

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Abstract

New teacher attrition rates represent one of the largest operating costs for school districts. What may be the most significant problem concerning the profession's dismal new teacher retention rates is that it seriously impacts the education of students. Studies have shown that when students have a new teacher three times, altogether they lose up to a year of schooling. This study looks at the estimated numbers of new teachers who leave the profession within the first few years of teaching and does so not only for general education teachers in core curricula courses but also examines how the attrition rates of new career & technical instructors compare. Most importantly, this study looks at how the supervisory styles of principals can be seen as one of the largest contributing factors to new teacher dissatisfaction, and conversely, one of the strongest influencing factors for retaining new talent in the classroom. Concerns around teacher retention with the external contexts and challenges of COVID-19 are also raised.

Introduction

Moving from the workplace into the classroom is a difficult transition. In common with a high percentage of new teachers, one member of our research team first entered the profession of teaching, only to leave it eighteen months later. Fortunately, after leaving the profession in one state, a neighboring state made an offer of income and college opportunities that were too good to turn down, and therefore our team member re-entered the field of education and stayed with it. For most new teachers, however, leaving an education career is forever.

The memory of that leaving and re-entering the field was exemplified when a good friend and colleague of ours suddenly left the field after having only been in it for fourteen months. This news came as such a surprise that it motivated our research team to embark on a quest for knowledge into the reasons why not only such a high number of new teachers leave early in their career but also to explore the different factors between those who leave and those who stay. Moreover, we sought to get a deep enough overview of this topic to determine how closely the variables that seem to be responsible for new teacher attrition and retention rates among general education teachers compare to attrition and retention rates among career & technical instructors.

Statement of the Problem

Avoidable teacher attrition among educators in all academic fields represent one of the largest money drains on the economy of state and district educational budgets. Revealing reports along these lines have shown that teacher attrition is the number one reason for teacher shortages across the country (Carver-Thomas & Darling-Hammond, 2019). Equally important in these studies is the conclusion that teacher attrition is a detriment to learning and that it represents a major factor in undermining the quality and stability of a wide range of educational programs (Nguyen, Pham, Springer & Crouch, 2019; Brown & Wynn, 2007). Newer teachers have neither the knowledge nor the skills to teach to the best of their future abilities, and due to this limiting reality, it has been estimated that a student who experiences new teacher turnover three times over the course of a few years may actually have lost the equivalent of an entire year of schooling (Darling-Hammond, 2006).

Past Studies Versus the Present

One would think that in this day and age where new job opportunities are more scarce, statistics concerning teacher retention rates in 2020 would seem to be much different from school statistics prior to 2010.

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However, according to the research, dissatisfaction is as much at issue in education attrition today as it has been over the past two decades (Carver-Thomas & Darling-Hammond, 2019; Tricarico, Jacobs, & Yendol-Hoppey, 2015). One of the most exhaustive studies of this kind was published in book form in 2012 (Dainty), where career & technical education teachers from the fields of family and consumer sciences, trade and industrial, health occupations, and agriculture, across the state of Kansas, were intensively interviewed to determine the major factors that led to their decision to leave the education field. An interesting facet of the aforementioned study was to point out a number of formerly, and possibly ill-perceived reasons why new career & technical teachers often leave. What the study discovered was that attrition did not seem to be due to a faulty college or in-service preparation, or lack of teaching experience, or lack of skills in their trade, or lack of commitment to the students. In short, it appeared that the main factor was that the new CTE teachers just did not enjoy teaching at that school (Dainty, 2012).

When it comes to estimates of how many new teachers (those who have taught three years or less) leave the profession, more than one alarming study shows that the national average is approximately 33% (Brown & Wynn, 2009). Even more astounding are the reports that reveal 50% or more of all new teachers quit within the first five years (Greiner & Smith, 2009; Tamberg, 2007; Ingersoll, 2006; Lambert, 2006). In fact, high attrition rates among new teachers have prompted some researchers as early as this reference to refer to education as "the profession that eats its young" (Halford, 1998, p. 33).

To further highlight the eye-opening statistics that came out of this research, as well as to illustrate the teacher turnover crisis that exists just as strongly today as it did a decade ago among new career & technical teachers, an interesting study was found that compared the numbers of first year CTE teachers leaving, as opposed to first year general education teachers (Mordan, 2012). The study, which was conducted through Pennsylvania State University, found that fully 16.1% of first year CTE teachers decided to leave the profession, as opposed to 10.3% of first year general education teachers who also quit. What seems most significant about that study is that new CTE teachers had a 6.64 times greater chance of staying in the profession if only people were there to help mentor and guide them in the areas of classroom management, student discipline, interacting with parents, offering help with obtaining required instructional materials, and giving assistance on preparing lesson plans (Mordan, 2012).

Taxpayer Cost of Attrition

In terms of dollars, teacher attrition is estimated to cost U.S. taxpayers $2.2 billion a year, an estimate that is increased to $4.9 billion per year when also including the cost of teacher transfers (Alliance for Excellent Education, 2005). Due to these many adverse effects on both educational quality and its drain on the economy, teacher attrition has been a widely studied subject in the field of education (Crossman & Harris, 2006). It is also an equally important focus of study in the field of human resource development (Song, Martens, McCharen & Ausburn, 2011).

When new teacher attrition applies to career & technical education (CTE), it can cost the taxpayers double, since the cost of both recruitment and teacher training is compounded by a lower standard of graduating CTE students, and in some cases by school districts having to disband important career programs altogether. In sheer numbers, this can mean tens of thousands of less skilled workers in critical service industries entering the American workplace, which could further cripple America's economy (Kane, 2009). Teacher turnover is particularly critical in CTE because many vocational teachers come to classrooms directly from industry and are very difficult to replace if lost to attrition (Song, Martens, McCharen, & Ausburn, 2011). In one eye-opening paper, written during the past decade, Kazis (2005) reported that CTE is absolutely vital to students who have lower academic motivations and for the nation's at-risk youth to stay enrolled in high school and to graduate. Along these lines, numerous studies point to the fact that classroom teachers represent the greatest influence in the success of students, which means that classroom teachers should be considered a school's most treasured commodity. Therefore, it should be a major goal of education to figure out means of inspiring teachers to continue their careers of working as teachers (Shaw & Newton, 2014).

Significance

Just how serious is this problem among CTE teachers? It's interesting to note that in January 2010, the *Association for Career and Technical Education (ACTE)* dedicated their entire issue of *Techniques* (Volume 85, No. 1) to the topic of CTE teacher shortages nationwide, specifically looking at recruitment, attrition, and retention studies (Wilkin &Nwoke, 2011).

This issue was a direct response to such events as the Department of Education of the State of Virginia issuing a statement listing CTE teachers as being a part of a critical shortage since 2003, a designation that it continues to publish to this day.

Likewise, the governor of Michigan granted an exemption to teacher retirees in 2009-2010, for areas of critical shortages, including many CTE positions (Vaughn, 2009) and this may be the case again in the context of the Covid-19 pandemic (Hoang,2020). Other states reporting shortages of CTE teachers include Alabama, California, Iowa, Kentucky, Missouri, Nebraska, New York, North Dakota, Oklahoma, Oregon, South Carolina, Texas, Utah, Washington, and Wyoming (Pytel, 2008).

Sounding the Teacher Shortage Alarm

In 2009, this same alarm was sounded by the *National Commission on Teaching and America's Future*, which warned that between 2009-2013, states across the country could expect to experience a reduction of one-third of their teaching staff to retirement. The same struggle that schools are experiencing in trying to retain new teachers is precisely the same struggle that is occurring simultaneously with business teachers (Gaytan, 2008). It's worth noting that one older study that took a careful look at the attrition rates of CTE teachers (Heath-Camp & Camp, 1990), found that 15% of first-year CTE teachers leave the profession their starting year, and even more astounding was the report that revealed 48% of trade and industrial arts teachers resign their position and quit teaching altogether before even three years have elapsed. At this writing, it is unclear what attrition rates to expect considering the ramifications of the Covid-19 pandemic external threat and its effects on teachers returning to work during and after this world-wide disaster (Hoang, A., 2020; Pfefferbaum & North, 2020).

Perhaps the most important question, in order to diagnose the problem, centers on what is driving new teachers away. According to an important study conducted in South Carolina (Hirsch, 2005), approximately 25% of new teachers who decided to leave the profession credited their decision to supervisory dissatisfaction. It is for such reasons that this research is taking a close look at the effects that various supervisory styles - practiced generally by principals - have on the decisions of new CTE teachers to remain in the profession or leave. Specifically, it is the express purpose of this study to gain important insight into how particular supervisory styles produce either a positive or negative effect on the retention rates of new CTE teachers. An important question would be, now that 2019 has come and gone, is the teacher shortage alarm still being sounded? According to recent studies as well as consideration of returning to schools during the Covid-19 outbreak, the answer seems to be a resounding "yes," and hence the continued importance and timeliness of this study (Kramer & Kramer, 2020; Sorensen & McKim, 2014; and Tippens, Ricketts, Morgan, Navarro, & Flanders, 2013).

Purpose

It's nothing new to hear researchers exhort that principals must develop new and better ways of collaboratively working with new teachers, and that they must make it their goal to do what they can to see that those new teachers stay (Roberson & Roberson, 2008). It is the contention of these researchers that developing a strategy to retain a greater percentage of new CTE teachers and choosing an appropriate supervisory style for principals and lower-ranking supervising administrators are synonymous. The purpose of this research is three-fold: 1) This study seeks to fill in the gap of knowledge that currently exists in the many studies that have been conducted in this field by combining the topics of supervisory style with new CTE teacher attrition/retention rates; 2) plus it is the aim of this study to identify what supervisory styles produces a significantly adverse effect on new CTE teacher retention; 3) while at the same time identifying what supervisory style practiced by principals produces a significantly beneficial effect on new CTE teacher retention. Accomplishing these three purposes required carefully interviewing new CTE teachers who have stayed in their position for five or more years, and also attempting to survey new CTE teachers who left the position after teaching for five years or less.

Theoretical Framework

The various supervisory styles being analyzed in this study revolve around major leadership theories, in order to determine their impact on CTE retention, which in other words implies that this study focuses heavily on how a principal is perceived by new teachers as supporting or hindering their faculty. The main supervisory styles that are being focused upon are Leader Member Exchange, Transformational Leadership, Servant Leadership, and Team Leadership. The following descriptions will summarize what each supervisory style contains and how it is used by principals to influence faculty.

Leader Member Exchange Theory

The Leader Member Exchange Theory, or LMX for short, describes supervision as a process, and focuses mainly on the interactions between the principal and their faculty.

It also attempts to focus on the relationship that a principal would have with their faculty during one-on-one situations. This challenges the assumptions that principals treat their faculty in a collective way. The earliest studies on this topic suggest that there are two types of relationships that could occur, which were nicknamed the in-group and the out-group. The ingroup is a relationship created through trust and respect from both the supervisor and subordinate. According to theory, it results in increased information, influence, and concern for the subordinate from the supervisor. The out-group is a relationship created through more formal means such as an employment contract (Northouse, 2013).

The early studies suggested that those in the out-group could enter the in-group, but it would count on them working to gain the trust of the supervisor through negotiating more activities outside their formal job description. This process could create something similar to a haves and have-nots' idea, where those in the out-group would be given less attention and training than those in the in-group. In later studies, this idea was changed to creating higher quality relationships with every employee. A high-quality relationship carried with it the benefits of less employee turnover, greater organizational commitment, and better job attitudes. These relationships were focused on three different phases of new employment, which were the stranger phase, the acquaintance phase, and the mature partnership phase.

In the stranger phase, things focused more on a supervisor telling a subordinate what to do and were more based on a contractual agreement. This phase was similar to the outgroup of earlier studies. As a supervisor and subordinate worked with each other more, they could move into the acquaintance phase, which would start with an exchange of ideas between the supervisor and subordinate. As opposed to the earlier studies, this phase could be started by either the supervisor or the subordinate. Finally, once a supervisor and subordinate trusted each other, they would move into the mature partnership phase. This phase was much like the in-group idea from earlier studies. While creating a high-quality relationship with every teacher a principal works with might prove hard, it could mean the difference between keeping a lifetime employee or losing one after only a few years.

Transformational Leadership

Transformational leadership is a process of engaging with others to create a connection that increases the motivation of both the supervisor and subordinate. It happens when a supervisor is attentive to their subordinates needs and tries to help them reach their potential (Northouse, 2013). This should not be confused with supervisors that use a pseudo-transformational style, which focuses on the supervisor's needs while seeming to put his subordinates first. When this style first started, it focused mainly on charismatic supervisors or those that could transform the identity of their followers from self to an organization. The original idea of transformational leadership felt that charisma was the main factor in whether a supervisor would be effective or not (Northouse, 2013).

Servant Leader

Later studies would suggest that while charisma was a necessary part of supervision, it was not the only thing that would determine if a supervisor could be transformational. What was discovered was that the principal also needed to be a servant, or more precisely a servant leader. From these later studies, the world was introduced to the idea of the four "I's." They are idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Idealized influence focused on the supervisor and how they carried themselves. By setting a strong example of being someone that should be followed, they would set themselves apart. Inspirational motivation focused on a supervisor setting worthy expectations for their subordinates. This would create a group of people focused on the group, more than on themselves. Intellectual stimulation centered on a supervisor allowing and pushing subordinates to be more creative with their ideas. By not stifling questions or ideas, they could come up with new action plans. Finally, individualized consideration focused on the supervisor's ability to help their subordinates do the things they needed to do and to provide coaching if they needed help. When these were combined, a subordinate would be able to do much more than they thought possible on their own. When looked at from the perspective of teaching, a transformational leader type of principal should be able to create a group that feels that they are a part of something bigger than themselves at their school.

Desire To Serve Rather Than Rule

To define a servant leader, it could be said that such supervisors are people who want to serve their staff, and that they want to serve more than they want to rule. What this means is that they make it their highest priority that the needs of their staff are met. The manner in which it can be seen that a servant leader is effective is if those whom they serve grow into better people who are freer, healthier, wiser, and have more autonomy in how they accomplish their jobs (Northouse, 2004).

The idea of a servant leader is that they act from behind to support their subordinates in their activities. They were first described as having ten characteristics which were: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people, and building community. If a supervisor had these qualities, they would be able to support their subordinates with any problems that they would face. Later models focused on certain behaviors that a servant leader could take to create better outcomes and what conditions could help to strengthen this type of leadership. The three major conditions that could affect a servant leader's ability are the context and culture, the supervisor's attributes, and follower receptivity. If any of these conditions are not favorable to a servant leader, the style would most likely fail. The behaviors that a servant leader exhibits follow a similar idea as the characteristics of a servant leader. They should be able to conceptualize, understand emotional healing, put followers first, help followers grow, behave ethically, empower, and create value for the community. These attributes combined can affect follower performance and growth, organizational performance, and societal impact. The idea of servant leadership, while not seeming to create a powerful leader, does help create a stronger group. If the servant leader is taken away, it could cause a group to fail because they don't have the support that they once had.

Team Leadership

Team leadership sets up a road map that a supervisor is able to follow that can help to figure out what problems people are having and what actions to take to solve them. The idea behind team leadership is that while the members are focusing on their task, the supervising administrator should be on the lookout to head off any problems. The supervisor's ability to create a conducive working environment could be accomplished in a few tasks. They need to monitor or take action, determine if the problem is task or relational-oriented, and determine if the problem is internal or external. By determining if the problem is a task or relational issue, and if it is internal or external, the supervisor can figure out what action they need to take. The effect on the team is that they aren't interrupted by this problem in their work environment, allowing them to be more effective and efficient. This style can require a supervising administrator to switch between being an active participant to being a background participant. It can also help to identify which team members might make good supervisors in the future, as well as providing members an opportunity to see that their work in helping out.

From the studies reviewed for this paper, our research team feels that these four theoretical supervisory styles could have the greatest impact on how a new CTE teacher views their job and whether or not they will stay with it after the initial five years.

Research Questions

The main discoveries this research specifically sought to uncover are found in the following five research questions that have been designed to guide the collection of data for this study, and whose collective answers help to fill a gap in the literature:

1. Do Career and Technical Education (CTE) teachers feel well compensated for the work they do?
2. Do Career and Technical Education teachers feel that administration understands their job requirements and what their needs are to be successful at the job?
3. Do schools with Career and Technical Education departments create positive work environments?
4. Do certain negatively-perceived principal supervisory styles produce an adverse effect on new CTE teacher retention rates?
5. Do specific positively-perceived principal supervisory styles produce a beneficial effect concerning the problem of new CTE teacher attrition rates?

The Dream to Teach Versus the Reality

The dream to teach is often a lifelong dream for new teachers. In this respect, few studies for such individuals could be more significant than one with the potential to keep those dreamers where they belong. The foundations of this study have already been established, as will be seen momentarily in the literature that permeates this topic. Researchers have already ascertained that beginning teachers are more likely to remain in the profession if they are satisfied with the principal's supervisory style and school climate (Wynn, 2006). The significance of this study is in searching for the best and worst climates that school principals create, so future principals will have a much more informed idea concerning what climates are most beneficial to cultivate and what climates are ones to let lie fallow.

For the past twenty-five years, it was found that the reasons that new career and technology education teachers commonly left the profession had to do primarily with administrative and economic dissatisfaction. In an important study, it was found that the attrition rates of CTE teachers were equivalent to the worst estimates of attrition rates (50%) of academic teachers (McCaslin & Parks, 2002). Certainly, a great deal of more information is needed concerning the supervisory styles that play a major factor in the attrition rates among CTE teachers.

Definitions

The following important and commonly repeated terms in this study can have a variety of connotations and meanings, depending upon the different type of organization or profession in which it is used. Therefore, the meanings of these terms, in regard to how they are interpreted in this study, have been listed below:

Attrition: A reduction in numbers of teachers, usually as a result of resignation.

Administrator: A person whose job it is to manage a school and who is most generally referred to in this study as the principal.

CTE (Career & Technical Education): A term applied to schools, institutions, and educational programs that specialize in skilled trades, applied sciences, modern technologies, and career preparation.

New Teacher: One whose occupation is to instruct and who is in their first five years or less of the profession.

Servant Leader: A servant-leader principal is a supervisor who focuses primarily on the growth and well-being of the people and the communities to which they belong.

Transactional Leadership Style: A supervisory style in which the principal promotes compliance of his/her faculty through both rewards and punishments.

Transformational Leadership Style: A supervisory style of principals that enhances the motivation, morale, and job performance of their faculty through a variety of positive mechanisms.

Literature Review

The literature in the field of new teacher attrition and retention generally falls under six categories: 1) studies on how widespread the phenomenon of teacher turnover is according to available percentages and statistics; 2) how significant the negative effects of new teacher turnover are upon education in regards to both the financial drain to the nation, as well as the damage to the learning efficacy of students; 3) explorations of the general reasons for the high turnover rate among new teachers; 4) studies that look at the predictive possibilities of determining what type of candidates are most likely to have the highest attrition rates among new teachers; 5) research findings on possible ways to reduce the trend; and 6) reports on states and districts that have actually come up with effective means to reduce new teacher turnover (Warren, 2018; Song, Martens, McCharen, & Ausburn, 2011; Crossman & Harris, 2006). The subcategories of literature in this field generally fall under the two headings of studies on discipline specific attrition in particular teaching fields and studies on specific reasons that new teachers quit within the first five years.

Teachers Attrition

Overall, what appears to be the most important research for this study centers on the guiding questions, "What reasons do new teachers cite most often for leaving the profession?" and "What supervisory style did their principals employ?" It was a set of questions that led the researchers to survey 350 potential papers and articles on the topic. While retirement and school staffing cutbacks cause some teachers to leave, for instance during recessions, studies found that personal/family matters and job dissatisfaction are more frequently cited as primary reasons over any others.

In a meta-analysis (Nguyen, Pham, Springer & Crouch, 2019), and also two separate studies by Ingersoll (2001, 2000), it was reported that 42% of new teachers leaving the profession did so either due to job dissatisfaction or to find a better job, which are two reasons that are most likely directly related to each other. According to these studies, the major reasons for job dissatisfaction were the low pay, poor supervision or lack of administrative support, low student motivation and accompanying bad classroom behavior, lack of respect, and a shortage of the autonomy that new hires had expected as teachers. Other researchers added to that list of dissatisfaction with such cited items as lack of classroom resources and an inadequate amount of allowable input in regard to the curriculum (Claycomb, 2000).

Reasons for Attrition

Two major studies that took a look at the reasons behind the dissatisfaction and attrition of agriculture teachers, found that there were four major reasons why they left, which included low pay, poor working conditions (which the study defined as lack of administrative support), lack of teacher preparation, and personal and family matters resulting from needing to spend an inordinate amount of time at work before and after hours (Sorensen & McKim, 2014; and Tippens, Ricketts, Morgan, Navarro, & Flanders, 2013).

In common with these reports, according to many slightly older studies, a lack of support for new teachers was found to be a significant contributor in their dissatisfaction and desire to leave the industry. Even where new teachers are assigned mentors, it was found by one researcher that little time or opportunity existed for any significant collaboration to occur with that mentor (Johnson et al., 2001). Some studies went so far as to infer that how principals act in support of new teachers is the key to the overall perception of schooling and the education field that new teachers develop. If the principal's supervisory skills and support is lacking, employment in the education field is considered to be unsatisfactory, and vice versa (Quinn & Andrews, 2004).

Important studies found that what new teachers desired of their principal is someone that would actually be there in the classroom with them, offer helpful and instructive guidance, provide timely feedback on improvements, interact with the new teacher on a regular basis, play an active role in instruction throughout the campus, and be respectful toward them (Johnson & The Project on the Next Generation of Teachers, 2006; Johnson & Birkeland,
2003). Extensive research revealed time and again that one of the most common reasons for new teacher attrition is that it appears to be a lack of administrative support that is the deciding factor for many new teachers to leave the profession (Lambert, 2006). More specific to the field of CTE, in one significant study conducted among business education teachers (Gaytan, 2005), it was shown that new CTE teachers' perceptions of the teaching profession (both positive and negative) were directly influenced by the attitudes and abilities of their supervising administrators.

Teacher Expectations

A common theme in the research is that new teachers typically hold high expectations of principals going into the field of education and find themselves terribly disappointed a short time later when they leave the profession. While it may seem naive, a large percentage of new teachers enter the profession with the mistaken assumption that principals are wise, principals are there to help them with difficult parents, and that a principal is the one person they can expect the most from. Sadly, in far too many cases, principals are the people from which they receive the least support or advice. Common comments among new teachers exiting the profession centered on their opinions that seeking advice from principals was a waste of time, principals tended to look down on them, and the typical answers to desperate questions they might have on classroom management could generally be summarized by principals as, "Don't worry, you'll find a solution." While most new teachers feel a real responsibility to be great teachers for their students and are desperate to get constructive feedback from the person who is supposed to know best, most report that their principal never spent an entire class period in their room (Anhorn, 2008).

Supervisory Styles That Have the Greatest Effect

It is extremely clear that the attitudes and actions of a principal are directly related to the satisfaction or dissatisfaction of new teachers, but what isn't precisely known is what styles of supervision directly affect new teacher turnover most profoundly, either by causing them to want to leave or by offering support in just the right way and at just the right time so that it encourages them to stay. A large number of studies on the general reasons for new teacher attrition point to the importance of looking at supervision. However, out of a survey of 350 potential studies identified by these researchers on educational databases, while a number of studies exist on the attrition benefits of the "servant leader," only one other type of study was actually conducted by a researcher with a knowledge of other leadership theories/supervisory styles. In other words, apart from a handful of "servant leader" studies that presently exist, only one other study specifically tied the type of supervisory style to the effect it had on the attrition or retention rates of new teachers. Alas, that one study occurred not in the United States but in Israel, and that particular study did not focus on career and technical education. The same shortcoming was true of studies that highlighted the benefits of a servant leader among new teachers, none of which took a look at the effects of such a supervision style on new CTE teachers.

In the Israeli study previously mentioned (Bogler, 2002), it was found that the satisfaction or dissatisfaction of new teachers could be correlated to the degree that the principal exercised either a transformational or transactional approach to their supervisory style. Out of 930 possible subjects, 745 people responded to the researcher's questionnaire. Of these numbers, based on the results of a research-validated questionnaire instrument (Tarabeh, 1995), 116 subjects were categorized as LS (low satisfaction), 106 subjects were categorized as HS (high satisfaction), and the scores of the remaining 523 subjects placed them in a mid-range level in regards to job satisfaction. In that study, it was seen that a major difference between new teachers with low or high job satisfaction centered on the variables of the principal's transformation style of leadership, the principal's transactional style of leadership, pre-conceived perceptions of how the job should be, level of college education, and gender of the teacher (Bogler, 2002).

Categories of Job Dissatisfaction

As could be expected, the results of that study showed that the categories of job satisfaction/dissatisfaction that produced the strongest scores were in the following order: occupational perception (0.769) and then the principal's supervisory style. In regard to the principal's supervisory style, a transformational style rated most significantly (0.672), followed by a transactional style.

In the only other significant study that specifically looked at supervisory styles, researchers (Shaw & Newton, 2014) performed a quasi-experimental quantitative study that looked at three interesting variables: perception of servant leader traits in the principal, job satisfaction of the teacher, and whether the teacher intended to remain working at that school.

Using a research-validated instrument (Patterson, 2003) called the Servant Leadership Assessment Instrument (SLAI), 50 schools were randomly chosen from the 63 most populated high schools in the state. Once contacted, 15 schools were willing to participate, at which time surveys were sent out to the faculty of those schools, representing a total of 1,092 subjects. During the process of data collection, three different e-mails were sent out to solicit responses, which eventually yielded 288 respondents. Of the 288 surveys that were returned via Survey Monkey, a total of 234 were considered usable. From those surveys, it was found that a significant positive correlation existed with those teachers who perceived a servant leader principal at their school, since they showed much higher levels of job satisfaction in combination with higher retention rates. The findings of that study were that the positive transformational effect of a servant leader on their staff was truly "astounding." According to the researchers, such principals had the power to raise a mediocre school to one that was a great school (Newton & Shaw, 2014).

New CTE Job Turnover

As for studies that specifically pertain to the CTE environment, one noteworthy study was found on teacher retention in general (Vagi, Pivovarova & Miedel, 2019), and the retention of CTE teachers in specifically (Song, Martens, McCharen, & Ausburn, 2011). Another study was located on technical education teachers (Steinke & Putnam, 2007), one on business education teachers (Gaytan, 2008), one on construction teachers (McCandless & Sauer, 2010), and one study was located on consumer science teachers (Dainty, Sandford, Su, & Belcher, 2011).

In a look at new CTE teacher turnover in general, as opposed to a specific career and technical field, a pertinent comment by Song. et. al. (2011) could be summarized by saying that preventing the loss of career & technical instructors should be made an extremely high priority, and that such losses were especially critical in such competitive salary fields as automotive service, engineering, and health care. What they found was that when one considered the many causal factors for teacher turnover, the most critical factor appeared to be the lack of a supportive and innovative climate. Moreover, this finding has been supported by earlier findings (Certo & Fox, 2002).

Twelve Top Reasons for Attrition

It's interesting to note that the aforementioned study looked at the problem of CTE teacher retention, not through the eyes of education, but through the lens of organizational management concepts that utilized research-validated human resource development strategies. One of the major conclusions of this study (Song, et. al., 2011) that was particularly relevant to this research was that teacher persistence decisions are directly linked to whether a principal is merely a supervisor or a true leader that promotes innovation and fosters a positive organizational climate among the staff.

In the realm of technology education, one often cited older study (Wright, 1991), focused on the attrition rate of CTE teachers in Illinois, where turnover statistics showed that 14% of first year CTE teachers were leaving the profession. This particular study revealed that the top twelve reasons for attrition were 1) lack of administrative support; 2) low salary/lack of benefits; 3) budget restrictions; 4) lack of academic freedom/choice of teaching, assignments, etc.; 5) student apathy and lack of respect for teachers; 6) lack of facilities/equipment; 7) student conduct; 8) lack of opportunity for promotion; 9) lack of basic job satisfaction; 10) low status in community; 11) extra duties i.e., lunchroom monitor, etc.; and 12) forced participation in extracurricular assignments. Out of these twelve reasons, it's quite revealing to see that lack of administrative support topped the list of those twelve realms of teacher dissatisfaction.

Three Main Reasons for Staying

Other technology education studies (Nguyen, Pham, Springer & Crouch, 2019) focused on the factors that caused new career and technology teachers to stay, which produced quite different results from the previous study that focused on why new technology teachers tended to leave. In this particular research, it was determined that the most influential reasons for not leaving the job had to do with 1) the provision for yearly raises, 2) having an appropriate amount of school resources available for professional development, and 3) that they worked at a school which they perceived as being one with a collaborative work environment (Steinke & Putnam, 2007).   A portion of one informative business education study was dedicated to determining what characteristics of a campus are responsible for helping a school to retain its business education teachers. In the survey conducted during that particular research, fully 86% (n = 146) of the respondents were convinced that poor working conditions negatively impacted the retention rate of business education teachers. In a study that took a close look at the reasons why new construction teachers left the education profession, conducted from the points of view of both stayers and leavers (McCandless & Sauer, 2010), it was seen that pay scale, although perceived to be important, was not nearly as much a factor in deciding to leave as was student discipline problems and poor administrative supervisory styles.

Staying Power and Empowering Teachers

When considering the retention problem among consumer science teachers, 448 teachers in the state of Kansas were surveyed for a study that produced some eye-opening data (Dainty, et. al, 2011). According to respondent ratings on the factors that most affected their willingness to remain in the teaching profession, the most significant factors were tallied in the following order: Knowing that they're doing a good job (M=4.59, SD=0.589), sufficient time to adequately complete job responsibilities (M=4.52, SD=0.603), and administrative/principal support (M=4.52, SD=0.660). These results were echoed in a similar study that found that staying power may be a result of empowering teachers as leaders, which implies giving them responsibility and support (Warren, 2018; Tricarico, Jacobs & Yendol-Hoppey, 2015). All of these factors were rated as extremely important. According to Gaytan (2008), perhaps the most crucial factor in retaining new career & technical teachers centered on the supervisor showing legitimate concern for staff as a whole and taking appropriate action to improve the working conditions of the faculty. Without discovering what conditions are to their teacher's disliking, no matter how good the recruitment strategies of the district, they will be constantly looking for new talent.

Granted, the studies that are credited in this research are typical of those that have been accomplished in this subject area for decades. While they add much in the way of knowledge and suggestions to enlighten the education profession, they also reflect a major gap in the knowledge that concerns how supervisory styles produce an effect on the attrition and retention rates of new CTE teachers in particular. The successful follow-up of this study will be the first step toward the goal of filling in that gap in the literature and possibly even in retaining what may be this nation's greatest human asset, which is the professional people who have a passion to share their knowledge, skills, expertise, insights, acumen, resources, and experience with like-minded students.

Discussion

A majority of studies on new teacher rates of retention focus on the new teachers themselves, rather than the effects of their surrounding influences. In such studies, it seems to be the underlying suggestion that there is something inherently inferior with the new teachers who choose not to remain working in the field of education, and something inherently superior about those who stay. Such a limiting outlook could be one of the major reasons why adequate solutions for new teacher turnover rates seem to have not quite yet been found. This particular study has sought to bring attention to the relationship of the new teachers and their supervising principals, who represent their major source of contacts, their perceived source of vital information and insider's knowledge may stand as their most influential role models for becoming effective educators.

As this study has shown, the unintended messages of unrealistic expectations and "trial by fire" philosophies that are too often sent out by principals, in combination with the lack of support that is perceived by their actions and inactions, potentially represent the greatest factor in the decisions of new teachers to permanently leave the profession.

Implications

The implications for this study include the opinions of research-validated scholars that the ability to retain new teachers, and inspire them to remain in the profession, stands as one of the major factors in offering students a high-quality education. After all, it is safe to say that no new teacher realistically has the knowledge base or classroom management experience that would allow them to be as successful in their first years of teaching as they will be with an adequate amount of experience under their belts. Furthermore, the huge amount of money saved on recruiting and training, including the size of human resource departments, could be put to better use, such as improved teaching facilities and equipment, as well as fairer raises for teachers, all of which represent additional reasons for high turnover rates among educators who are new to the profession. Certainly, another major implication of this research is that it suggests that all it might take to vastly improve new teacher retention rates for both general education teachers and career & technical instructors is for principals to provide a better operating philosophy for their faculty by supporting new teachers via more caring attitudes and information. Only then will the actions of principals be perceived by new teachers as representing true leadership. In short, research makes it abundantly clear that principals must choose and implement the types of supervisory styles that are seen as being transformational in nature.

The answer to how this might occur is rather simple. By merely offering better, more egalitarian leadership training for principals and other supervising administrators, and by opening their eyes to the methods of leadership, attitudes, unselfish goals, and positive personal philosophies that qualify as transformational, the education profession might eventually cast off its dark shadow of being known as, "The profession that eats its young" (Anghorn, 2008). If the day can arrive that educational recruits can see that the educational field is highly supportive of its new teachers, it stands to reason that it will be much easier to recruit more and better candidates in the future. Moreover, working conditions and pay could logically increase beneficially because of the money that districts save due to lower turnover rates among new recruits, and that even colleges of education around the country can reap the benefits of such changes by finding themselves in a position of having no shortage of eager new teacher candidates with realistic expectations to educate and train. Difficult to predict at this time is which leadership styles will be most effective in the time of Covid-19. Organizational management concepts, by necessity will include safety for teachers, their students, their colleagues and their families, income stability, teacher familiarity and degree of comfort using technologies for remote or distance learning, and other such considerations; but the effect of these external variables is unknown.

Directions for Further Study

Changes to school structures, delivery systems, teacher/parent/administrators. Which leadership styles would be the most effective? While the focus of this study has mostly been on new CTE teachers and the positive or negative power of their relationship with principals in regard to attrition and retention rates, it is a study whose potential implications go beyond career & technical education. The knowledge gained by finding the answers to the five research questions that were posed in this exploration of attrition have the potential to be applied not only to CTE education in particular, but also to any level of education from primary to secondary, and from academic subject teachers to specialists. Moreover, future continuations of this study must definitely focus on the successful navigation by all administrators and teachers through the Covid-19 pandemic (Kramer & Kramer, 2020). Future studies might also show that the insights gained through this research may also be successfully applied to such fields as human resource development, as well as most business and industry organizations, most of which experience higher new hire turnover rates than necessary.

References

Alliance for Excellent Education. (2005). *Teacher attrition: A costly loss to the nation and to the states.* Issue Brief (August, 2005). Retrieved May 2, 2020, from http://www.all4ed.org/publications/TeacherAttrition.pdf

Anhorn, R. (2008). The profession that eats its young. *The Delta Kappa Gamma Bulletin,* 1526.

Bang, E., Kern, A.L., Luft, J.A., & Roehrig, G.H. (2007). First-year secondary science teachers. *School Science and Mathematics*, 107(6), 258-261.

Bogler, R. (2002). Two profiles of schoolteachers: A discriminant analysis of job satisfaction. *Teaching and Teacher Education*, 18, 665–673.

Brown, K. M., & Wynn, S. R. (2007). Teacher retention issues: How some principals are supporting and keeping new teachers. *Journal of School Leadership*, 17, 664-698.

Certo, J., & Fox, J. (2002). Retaining quality teachers. *The High School Journal*, 86(1), 57.

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.

Claycomb, C. (2000). High-quality urban schoolteachers: What they need to enter and to remain in hard-to-staff schools. *The State Education Standard*, 1(1), 17-21.

Crossman, A., & Harris, P. (2006). Job satisfaction of secondary school teachers. *Educational Management Administration and Leadership*, 34(1), 29-46.

Dainty, J.D. (2012). *Predicting influential factors of secondary career and technical education teachers' intent to stay in the profession.* University of Arkansas.

Dainty, J.D., Sandford, B.A., Su, S., & Belcher, G.G. (2011). Factors influencing the retention of secondary family and consumer sciences teachers. *Journal of Career & Technical Information*, 26(2), 1-13.

Darling-Hammond, L. (2006, October). Securing the right to learn: Policy and practice for powerful teaching and learning. *Educational Researcher*, 35(7), 13-24.

Gaytan, J. (2008). Teacher recruitment and retention: An essential step in the development of a system of quality teaching. *Career and Technical Education Research*, 33(2), 117132.

Gaytan, J. (2005). New business education teachers' experiences with teaching careers, professional culture, curriculum and assessment, and incentives and rewards. *NABTE Review, 32,* 48-54.

Guarino, C. M., Santibañez, L., & Daley, G. A. (2006). Teacher recruitment and retention: Review of the recent empirical literature. *Review of Educational Research,* 76,173208.

Halford. J.M. (1998). Easing the way for new teachers, *Leadership.* 55(5). 33-34.

Heath-Camp B., & Camp, W. G. (1990). Induction experiences and needs of beginning vocational teachers without teacher education backgrounds. *Occupational Education Forum*, 19(1), 6-16.

Hoang, A. (2020). Pandemic and teacher retention: Empirical evidence from ex-pat teachers in southeast Asia during COVID-19. Available at SSRN 3595413, Retrieved May 4, 2020 from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3595413

Ingersoll, R. M. (2006). Understanding supply and demand among mathematics and science teachers. In J. Rhoton & P. Shane (Eds.), *Teaching Science in the 21st Century,* (197211). Arlington, VA: NSTA Press.

Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499-534.

Ingersoll, R. (2000, November). A different approach to solving the teacher shortage problem. *Policy Perspectives*, 2(2), 6-8.

Johnson, S. M., & Birkelang, S. C. (2003). Pursuing a 'sense of success': New teachers explain their career decisions. *American Educational Research Association,* 40(3), 581-617.

Kane, G.C. (2009). Report: *Teacher shortage undermines career and technical education, potentially economic growth.* Retrieved May 3, 2020 from http://www.connecticutte.blogspot.com/2009/2008/report-teachershortageundermines.html

Kazis, R. (2005). Remaking career and technical education for the 21st century: What role for high school programs? Jobs for the future. *The Aspen Institute Education and Society Program.* Retrieved May 3, 2020, from http://www.iff.org/iff/kc/librarv/0252

Kramer, A., & Kramer, K. Z. (2020). The potential impact of the Covid-19 pandemic on occupational status, work from home, and occupational mobility. Journal of Vocational Behavior, (in press).

Lambert, L. (2006, May 9). *Half of teachers quit in 5 years.* Retrieved May 3, 2020, from the Washingtonpost.com Web site: http://www.washingtonpost.com/wpdyn/content/article/2006 /05/08/AR2006050801344.html

McCandless, D., & Sauer, A. (2010). Retention of construction teachers engaged in Missouri's secondary school system. *Journal of Career & Technical Information*, 25(2), 1-15.

McCaslin, N. L., & Parks, D. (2002). *Teacher education in career and technical education: Background and policy implications for the new millennium.* Columbus, OH: National

Dissemination Center for Career and Technical Education. (ERIC Document Reproduction Service No. ED462546)

Mordan, B. R. (2012). *Retention and professional mentoring of beginning career and technical education teachers* (Doctoral dissertation, The Pennsylvania State University). Retrieved May 3, 2020, from http://gradworks.umi.com/35/69/3569237.html

Nguyen, T. D., Pham, L., Springer, M. G., & Crouch, M. (2019). The factors of teacher attrition and retention: An updated and expanded meta-analysis of the literature. Annenberg Institute at Brown University, 19-149.

Northouse, P.G. (2013). *Leadership theory and practice* (6th edition). New Delhi: India, Sage Publishing.

Northouse, P. G. (2004). *Leadership: Theory and practice*. Thousand Oaks, CA: Sage. What Is Servant Leadership? Greenleaf Center for Servant Leadership. (n.d.). Retrieved May 3, 2020 from https://greenleaf.org/what-is-servant-leadership/

Patterson, K. (2003). *Servant leadership: A theoretical model*. Servant Leadership Research Round Table. Retrieved May 3, 2020 from http://www.regent.edu

Pfefferbaum, B., & North, C. S. (2020). Mental health and the covid-19 pandemic. New England Journal of Medicine, Retrieved May 3, 2020 from https://www.nejm.org/doi/full/10.1056/NEJMp2008017

Pytel, B. (2008). *Shortage of vocational workers: Baby boomers retiring - Who will fill their shoes?* Retrieved May 3, 2020 from http://www.educationissues.suite101.com/article.cfm/shortage of vocational workers

Quinn, R, J. & D'Amato Andrews, B, (2004), The struggles of first-year teachers: Investigating support mechanisms. *The Clearinghouse.* 77(4), 164-168.

Song, J., Martens, J. McCharen, B., & Ausburn, L. (2011). Multi-structural relationships among organizational culture, job autonomy, and CTE teacher turnover intention. *Career and Technical Education Research*, 36(1), 3-26.

Shaw, J., & Newton, J. (2014). Teacher retention and satisfaction with a servant leader as principal. *Education*, 135(1), 101-106.

Sorensen, T.J., & McKim, A.J. (2014). Perceived Work-Life Balance Ability, Job Satisfaction, and Professional Commitment among Agriculture Teachers. *Novice Agriculture Teachers' General Self Efficacy and Sense of Community Connectedness*, 55(4), 116132.

Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes, and consequences*. Thousand Oaks, CA.: Sage.

Steinke, L.J., & Putnam, A.R. (2007). Why should I stay? Factors influencing technology education teachers to stay in teaching positions. *Journal of Technology Education*, 19(1), 71-84.

Tamberg, M. B. (2007). *Teachers are using the Internet to find jobs and then keep them with online support from mentors and peers*. Retrieved May 3, 2020, from http://www.edtechmag.comr/k 12/issues/fall-2005/teacher-to-teacher.html

Tarabeh, H. (1995). *Principals' and teachers' job satisfaction as a function of the gap between principal's perception and teacher's perception of the principal's role*. Unpublished Master's thesis. Israel: University of Haifa (Hebrew).

Tippens, A., Ricketts, J. C., Morgan, A. C., Navarro, M., & Flanders, F. B. (2013). Factors related to teachers' intention to leave the classroom early. *Journal of Agricultural Education*, 54(4), 58-72.
        doi: 10.5032/jae.2013.04058

Tricarico, K. M., Jacobs, J., & Yendol-Hoppey, D. (2015). Reflection on their first five years of teaching: understanding staying and impact power. *Teachers and Teaching*, 21(3), 237259.

Vaughn, S. June 23, 2009, Memorandum. Subject: *2009-2010 Teacher and administrator shortages areas for employment*. State of Michigan Department of Education. Retrieved May 3, 2020 from
        http://www.michigan.gov/mde

Warren, L. (2018). The relationship between teacher leaders and teacher attrition. Teacher Education and Curriculum Studies, 3(4), 34.

Wilkin, T., & Nwoke, G.I. (2011). Career and technical education teacher shortage: A successful model for recruitment and retention. *Journal of STEM Teacher Education*, 48(1), 22-35.

Wright, M.D. (1991). Retaining teachers in technology education: Probable causes, possible solutions. *The Journal of Technology Education*, 3(1), 55-69.

Wynn, S. (October 30, 2014). *Principal leadership, school climate critical to retaining beginning teachers*. Duke University Report. Retrieved May 3, 2020 from http://today.duke.edu/2006/04/retention.html