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Sponsorship and Appreciation

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The unique relationship between research and practice is appreciated, recognizing the mutual benefit to those educators who conduct the research and seek out evidence-based practice and those educators whose responsibility it is to carry out the mission of school districts in the education of children.

Without the support of AASA and Kenneth Mitchell, the *AASA Journal of Scholarship and Practice* would not be possible.



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The Superintendent-Principal Learning Partnership

Ken Mitchell, EdD
Editor

AASA Journal of Scholarship and Practice

The top priority for a board of education is to hire a superintendent whose skills and experience best match the needs of their schools. When they do this well, they enhance their success for implementing a strategic agenda delegated to the superintendent and unimpeded by ambiguities about roles and responsibilities. Effective superintendents enter a school district understanding these dynamics and possessing the skills for cultivating this clearly defined partnership.

Similarly, perhaps the most significant job of the superintendent is to hire the most skilled principals. Just as the superintendent is the board's agent for implementing policy and providing the support, resources, and oversight for maximizing student success across the system, the principals represent and bring the district's mission to the learners in their school—the students and their teachers.

This delegation of authority to lead must be supported by a partnership of learning undergirded by confidence in the leader's competence. Superintendents and principals have presumably served in other educational roles within the larger system. Promotion and hiring are based on evidence of one's success in these roles. But when roles change, new responsibilities that require different perspectives and expertise emerge, no matter their experience. Learning begins anew, but it does not have to be alone.

Each leader's perspective has the advantage of approaching the work with a different set of information. Yet, each is also limited by their vantage points: Principals, closer to the instruction, may not see systemwide connections. Superintendents, overseeing the interdependent whole, can be limited by a lack of information from the ground. Successful organizations use both perspectives through a superintendent-principal partnership characterized by a continual process of understanding each other's work. Such interdependence has become even more indispensable during the current COVID-19 pandemic, as the system-wide and local learning environments have become radically transformed and unfamiliar.

The Fall 2020 issue of the *AASA Journal of Scholarship and Practice* is designed to assist in such learning. The contributors present research and ideas around various topics related to the importance of the principal-superintendent partnership: teacher evaluation, technology implementation, student learning, and school safety and security.

Here is a summary of the articles:

The issue begins with Nixon, Packard, Kimbrel, and Nhekairo's "Principals Tackle Teacher Performance," which examines barriers that challenge the principal's ability to supervise and evaluate ineffective teachers and the importance of the superintendent-principal partnership in overcoming them.

In their piece, "School Administrators' Perceptions of STEM Awareness and Resources," Watson, Cothorn, and Peters explore a gap between how school principals and superintendents perceive STEM awareness and the related resources of their district. Among their findings and recommendations, the authors caution, "District and school administrators often mistakenly believe professional development designed for use in the classroom setting should be left to instructional personnel."

In "The Effect of Demographics on the Implementation of the Principal Walkthrough," Gutmore and Marx share a study of a principal's efforts to get closer to the learning through instructional walkthroughs and how these might affect student learning. The researchers warn that "Change can only occur if everyone in the school setting is receptive to change: Principals need to prove their worth as instructional leaders, and teachers need to develop a sense of trust in their principals." The researchers' ideas signal ways for superintendents to consider how to apply such an approach to district-wide learning.

The issue closes with "Superintendent Perceptions of School Safety and Arming Teachers in Public Schools in Nebraska," by Lenihan, De Jong, Aderhold, Ossian, and Robinson who study the perceptions of school superintendents regarding safety and security emergency management protocols as these pertain to arming teachers at the building level. Concerns about the safety of having trained teachers armed without understanding the responsibility of firing at an active shooter were raised by many of the superintendents in the study

Principals Tackle Teacher Performance

Andy Nixon, EdD
Associate Professor
Department of Leadership, Research, and
School Improvement
University of West Georgia
Carrollton, Georgia

Laurie Kimbrel, EdD
Assistant Professor
Department of Leadership, Research, and
School Improvement
University of West Georgia
Carrollton, Georgia

Abbot Packard, PhD
Professor
Department of Leadership, Research, and
School Improvement
University of West Georgia
Carrollton, Georgia

Natasha Nhekairo,
Student
Department of Leadership, Research, and
School Improvement
University of West Georgia
Carrollton, Georgia

Abstract

Research provides an undeniable connection between teacher quality and student outcomes. This quantitative study investigated reasons that principals recommend non-renewal of a teacher's contract and the barriers that challenge their ability to address ineffective teachers. Data were gathered using a survey that was completed by over 3,200 principals in 35 states over a nine-year time period. Principals are most likely to non-renew a teacher's contract for incompetence or ethical violations and less likely to do so for lack of student achievement. Principals felt supported by their superintendent and school boards; they identified time and laws protecting teachers as the most significant barriers. Findings of this study are valuable for superintendents as they plan for the professional development of principals.

Key Words

teacher contract non-renewal; teacher effectiveness; principal development; teacher evaluation; teacher dismissal

Success for students in the 21st century increasingly relies on competencies and proficiencies typically accessible through formal educational processes. Numerous researchers have noted the paramount importance of quality teaching as the important criterion for student success (Darling-Hammond 2006; Hanushek, 2008; Haycock, 1998; Kane, Rockoff, & Staiger, 2007; Marzano, 2006; Stronge & Tucker, 2000; Stronge, Ward, & Grant, 2011). While many variables impact student learning (curriculum, student demographics, poverty, among others) the teacher's instructional skill is the most critical factor in student learning (Leithwood, Seashore Louis, Anderson, & Wahlstrom, 2004; Stronge & Hindman, 2003).

Generally, effective teachers are expected to support student's growth measured by grade level equivalents on standardized tests (Hanushek, 2010). School principals face pressure from state accountability legislation to produce evidence of student learning, often using standardized assessments.

In this high-stakes environment, principals' decisions play a vital part in determining teacher effectiveness and strategies to address ineffective teacher performance. Bridges (1992), Lavelly, Berger, and Follman (1992), and Tucker (2001) estimated the number of incompetent teachers ranges from five to fifteen percent.

When an ineffective teacher is identified, principals may employ several strategies including professional growth plans, changing assignments, securing a resignation, or contract non-renewal. This study focuses primarily on contract non-renewal, noting that Bridges (1992) and Tucker (2001) found the teacher dismissal rate is less than one percent. Inevitably, principals and superintendents confront challenges to addressing ineffective

teaching such as time, teacher unions, collective bargaining agreements, and laws protecting teachers (Nixon, Packard, & Dam 2014; Painter, 2000). Learning more about the criteria and decision making that principals apply to ineffective teacher situations and contract non-renewals affords an opportunity to determine if principals have the tools that they need to work toward the critical outcome of an effective teacher in every classroom. Results from this study may help determine what is needed for superintendents and district office administrators to better support principals.

Summary of the Literature

Legal reasons for contract non-renewals

Teacher contract non-renewals are legal procedures that are defined in courts, by hearing examiners, through state statutes, and by means of master contracts and local policies and procedures. All states uniquely define the requirements for ending the employment of teachers, depending on the teachers' tenure status. More recent versions of school reform, however, have led to conditions where it is becoming easier to dismiss teachers who are ineffective (Darden, 2013; Zirkel, 2013). Zirkel (2013) found that in published court rulings since 1982, the school district won the dismissal conclusively 81% of the time.

Even though probationary teachers may have their contracts non-renewed without cause, common reasons exist. Legal reasons are defined in state statutes and often include incompetency, insubordination, immorality, reduction in force, contract violations, and good and just cause. The legal reasons manifest themselves in behaviors such as excessive absenteeism and tardiness, neglect of duty, abusive language, administering corporal punishment, unethical conduct, sexual misconduct, abuse of a controlled substance, theft or fraud, misuse of a school computer, criminal misconduct outside the work setting,

and conduct unbecoming a teacher, among others. (Lawrence, Vashon, Leake, & Leake, 2005). Saultz (2018) found that “most teachers are terminated or non-renewed because they violated terms of their contract relating to communication, the use of force, or not following a specific directive” (p. 8). Saultz (2018) found that only about four percent of teacher dismissal cases mentioned teacher effectiveness, teacher quality, instruction, or student learning (p. 8).

A primary legal reason for contract non-renewal, teacher incompetence, is viewed as a pattern of behavior rather than a single event. Significant legal and bureaucratic hurdles must be met to establish incompetency (Range, Duncan, Scherz, & Haines, 2012). Alexander and Alexander (2009) defined incompetence in the context of fitness to teach, noting that “fitness to teach is essential and contains a broad range of factors...lack of knowledge of subject matter, lack of discipline, unreasonable discipline, unprofessional conduct, and willful neglect of duty” (p. 796).

Another legal reason for contract non-renewal is immorality. Immorality has been viewed as a course of conduct that offends the morals of the community (Van Berkum, Richardson, Broe, & Lane, 2008). The standards of dismissal for immorality are vague, often leaving a principal in the difficult position to evaluate whether teacher actions are immoral by a community standard.

Barriers for principals in dealing with ineffective teachers

Principals calculate whether the inevitable conflict and unpleasantness of a contract non-renewal are worth the emotional toll and whether the superintendent or board of education will ultimately support the recommendations to non-renew. The issues regarding teacher contract non-renewal are arguably the most stressful, demanding, time-consuming, and emotional task required of a school

principal (Lawrence, et al., 2005; Menuey, 2005). The principal walks a fine line between predictable claims from teachers that there is too little documentation or not enough help being given to the teacher along with assertions that the principal has developed so much documentation that the effect is harassment of the teacher.

Principals identify lack of time as one of the largest barriers to their opportunity to adequately address ineffective teachers (Nixon, Packard, & Dam, 2014; Painter, 2000). Other identified or perceived hurdles include inadequate support from the superintendent and board, limited financial support for all phases of the process, personality characteristics of the evaluator, laws protecting teachers, reluctance to pursue a dismissal without a good chance of prevailing, and the high costs of litigation (Bridges, 1992; Schweizer, 1998). Another factor is that ineffective teachers are enabled and given cover by principals who avoid writing honest performance appraisals.

Evaluations are often written euphemistically, in which satisfactory really means unsatisfactory (Bridges, 1993; Waintroob, 1995; Zirkel, 2010). In another tactic, principals may mute their evaluation criticisms by wrapping them into words of constructive suggestions. Frels and Horton (2007) noted that there is unwillingness by principals to move toward a teacher dismissal. The result, therefore, is a contract non-renewal rate that lags well below the estimated percentage of incompetent teachers. Principals most certainly calculate whether the conflict and unpleasantness of a contract non-renewal are worth the emotional toll and whether the superintendent or board of education will ultimately support the recommendation to non-renew.

Contrary to common perceptions, Zirkel (2010; 2013) pointed out that in legal disputes, defendant school districts prevail over plaintiff

teachers by a better than four-to-one ratio. This raises the question as to whether the non-renewal issue is one of principal competence, will, commitment, and other reasons rather than the improbability of success.

Research Methods

Research questions

With a large data set collected over several years, researchers have demographic and other information that will address narrow issues in future papers. For this manuscript, it is most appropriate to address the large questions of greatest interest to principals and superintendents. Therefore, the study answered three research questions:

- 1) What is the priority of reasons that school principals will recommend non-renewal of a teacher's contract?
- 2) Which behaviors do principals observe most frequently from ineffective teachers?
- 3) Which barriers challenge school principals' ability to deal with ineffective teachers?

Instrumentation

In this study, 3,221 principals in 35 states completed an online survey. The data were collected between 2009 and 2018. The initial instrument was created after extensive review of the literature on teacher contract non-renewals and was piloted and validated with 60 principals in the Southeastern United States. In subsequent data collection cycles, survey questions and format were validated and refined multiple times by subject content experts.

For research question one, principals were asked to "Rank order the following possible reasons that might lead you to recommend non-renewal of a teacher. Select most likely (8) for one of the reasons for

termination; second most likely (7) for another one; very likely (6) for another one; and so on."

The eight answer choices provided included:

- absenteeism/tardiness,
- classroom management,
- ethical violations,
- incompetence,
- professional demeanor,
- insubordination,
- lack of student achievement, and
- poor relationship/inadequate collaboration.

Further, principals were asked to "Rank order the importance of the following criteria in deciding whether to recommend non-renewal of a teacher. Select (3) for most important, (2) second most important, and (1) less important."

The three answer choices included:

- subject content knowledge,
- instructional skills, and
- disposition/interpersonal skills.

For research question two, principals responded to "Which behaviors do you observe most frequently from ineffective teachers?" The three answer choices included lack of subject content knowledge, lack of instructional skills, and unacceptable disposition/poor interpersonal skills.

For research question three, principals responded to "Which of the following reasons complicate your ability to deal with ineffective teachers?" Principals had eleven answer choices which included "time, teacher union, inadequate support from the superintendent, inadequate support from the board of education, high cost of litigation, desire to avoid conflict and confrontation, laws protecting teachers, collective bargaining

agreement, lack of familiarity with processes, uncertainty over definition of ineffective teaching, and extent of teacher's community connections." Respondents were given a four-point Likert scale, ranging from "strongly disagree" to "strongly agree." Because these data are self-reported, it is understood that respondents may be consciously or subconsciously influenced by social desirability.

Results

Reasons for contract non-renewal

To address research question number one, principals arranged eight reasons for non-renewal in rank order from eight (8) as the most important to one (1) as the least important. Positive response rates were calculated by combining all answers in the range of four (5) through eight (8). The categories that received the highest positive response rate from principals were "incompetence" and "ethical violations." Eighty-seven percent of principals had positive responses to "incompetence" and 86% of principals had positive responses to "ethical violations," which indicated that they would be most likely to recommend contract non-renewal for these reasons.

Principals' responses to the category of "lack of student achievement" were of interest, given that the purpose of schooling is to ensure student growth. The positive response rate of 50% was considerably lower than the top categories of ethical violations and incompetence. It is, however, important to remember that the question was structured to force principals to rank categories based on their interpretation of the terms. As indicated in the literature, principals typically view "incompetence" as an omnibus term that includes issues such as "lack of student achievement" (Alexander & Alexander, 2009).

Principals were also asked to rank the importance of "subject content knowledge," "instructional skills," and "disposition/interpersonal skills" in their non-renewal decision-making process. The results indicated that principals placed a strong emphasis on instructional skills with 67% of participants who ranked it as the most important, and 27% rated it as the second most important category. Principals indicated that subject content knowledge was somewhat important with 11% who ranked it as the most important consideration and 40% who ranked it as the second most important.

Behaviors observed most frequently from ineffective teachers

In response to the survey question designed to address research question two, 68% of principals indicated that they observe "lack of instructional skills" most frequently and 28% indicated that it was the category they observed with the second most frequency. The responses to this question further reiterated the principal's beliefs that the instructional skill of the teacher is of great importance as they make decisions about contract non-renewal.

Barriers that challenge school principals' ability to deal with ineffective teachers

In responding to the third research question, principals indicated that they saw time as the most significant challenge to their ability to deal with ineffective teachers (Table 1). Sixty-eight percent of principals either strongly agreed or agreed that time was a complicating factor. The next highest indicated barriers were "laws protecting teachers," "teacher union," and "collective bargaining agreements." Although these results are lower than the category of time, it is important to note that 67% of principals surveyed indicated that their teachers belong to a union and 33% of

principals reported that their teachers did not belong to a union. Considering that a third of the principals who responded do not have unionized teachers and therefore, collective bargaining agreements, this result becomes more significant.

Principals overwhelmingly indicated that they felt supported by their superintendent and school boards during the contract non-renewal of teachers. Only 15% of principals indicated that support from the superintendent or school board was a barrier.

Table 1

Barriers That Challenge School Principals

Question	Strongly Agree		Strongly Disagree	
	Agree	Disagree	Agree	Disagree
Time	27%	41%	23%	8%
Teacher union	22%	25%	27%	26%
Inadequate support from the superintendent	5%	10%	41%	45%
Inadequate support from the board of education	4%	11%	44%	40%
High cost of litigation	10%	25%	42%	23%
Desire to avoid conflict and confrontation	2%	22%	43%	32%
Laws protecting teachers	15%	38%	34%	13%
Collective bargaining agreement	15%	27%	32%	25%
Lack of familiarity with processes	1%	13%	51%	35%
Uncertainty over definition of ineffective teaching	2%	13%	45%	40%
Extent of ineffective teacher's community connections	5%	28%	42%	25%

Discussion

Over the past decade, significant reforms have been made to teacher evaluation systems to assist principals in recognizing teacher effectiveness and to act on remediating or removing ineffective teachers (Kraft & Gilmour, 2017). The impact of these reforms was recently measured by researchers at Brown University, who found that less than one-third of teachers perceived as ineffective by their principals were rated as such. As was true before reforms, less than 1% of teachers were annually rated as unsatisfactory (Kraft & Gilmour, 2017). Low rates of teacher dismissals have remained constant over time. According to the Schools and Staffing Survey,

the percentage of teachers dismissed each year has held constant at around 2% from 1999 until the last time the survey was given in 2012 (NCES, n.d.). Given these unchanging numbers, the researchers sought to clarify why contract non-renewal is not pursued in proportion to the number of teachers who are identified as ineffective by their principals.

Reasons for teacher contract non-renewal

Principals reported that the extreme circumstances presented by a teacher who demonstrates incompetence or commits an ethical violation are most likely to elicit the response of contract non-renewal. These

situations can be detrimental to students and highly visible to internal and external stakeholders. The extreme nature of ethical violations and the judgment by a principal of teacher incompetence often compels a strong reaction such as the removal of the teacher from the school.

By comparison, principals did not react as strongly to teachers who fail to produce the expected level of student achievement. When forced to rank eight possible considerations, 87% of principals rated incompetence while 86% ranked ethical violations as one of their top four considerations compared to only 50% of principals who rated lack of student achievement as one of their top four considerations.

This result was somewhat unexpected given that schools have now been subject to almost two decades of heightened federal and state accountability for student achievement and ten years of teacher evaluation reform. “Lack of student achievement” may not be a consistent reason for non-renewal because principals view it as a remediable problem that can be addressed through a professional growth plan. Additionally, because terms were not defined in the survey instrument, it is possible that principals include “Lack of student achievement” within the broader category of incompetence.

When the extreme categories of ethical violations and incompetence are taken out of the equation and principals are asked to rank reasons for contract non-renewal related more specifically to classroom performance, they indicated that teachers’ instructional skills were a more important consideration than subject area knowledge. Since the purpose of school is to cause student learning and growth, then it follows that subject area knowledge alone is insufficient for teacher success. A teacher who

understands the content but cannot deliver instruction in a manner that allows students to acquire knowledge and skills would not be considered effective.

This finding is supported by Hattie & Zierer (2018), who describe the most critical factors for teacher success as the abilities to understand learning from the perspective of the student and an understanding of how teachers’ beliefs and behaviors impact student outcomes. When asked to identify the most frequent behavior principals observe in ineffective teachers, instructional skill was again identified as the most important factor. This finding is consistent with and reinforces principals’ ranking in this study of instructional skills as the most critical classroom consideration in their contract non-renewal decisions.

Barriers to teacher contract non-renewal

The question regarding barriers to teacher contract non-renewal yielded, interesting, if not unexpected results. Principals identified time, laws protecting teachers, teacher unions, and collective bargaining agreements as the most likely barriers. These results are especially important to consider given that roughly one-third of the principals who participated in the study indicated that their teachers were not in unions. Principals continue to view unions as problematic in their quest to remove ineffective teachers, although, over the past decade, teacher union membership has declined (unionstats.com, n.d.). In 2018, 44.9% of U.S. elementary and middle school teachers were union members, down from 46.9% in 2016. High school teachers have a slightly higher rate of unionization with 50.2% membership in 2018, down from 52.3% in 2016 (unionstats.com, nd).

It is also interesting that principals continue to view collective bargaining agreements as barriers given that between 2010

and 2017 eight states passed legislation that weakened teachers' unions by reducing their ability to collectively bargain (Roth, 2017). Act 10 in Wisconsin was among the first of these laws and resulted in a 40% decrease in union membership in the state in the six years after its passage (unionstats, n.d.). Perhaps insufficient time has elapsed since the passage of the legislation for principals to fully realize a reduction in barriers from collective bargaining agreements.

Results of this study indicate that despite these changes in the culture of unions in K-12 school settings, principals still view rules regarding teacher contract non-renewal as cumbersome and unions themselves as unhelpful in implementing the often-complicated process to non-renew a teacher contract. It is likely that the barrier of "time" is also related to the complex rules set forth for teacher dismissal within collective bargaining agreements. The procedures required to contract non-renew a teacher appear to remain skewed towards protecting teachers, which may lead principals to select other strategies rather than initiating contract non-renewal.

Roughly one-third of principals also indicated concern about the political ramifications of teacher non-renewal that results in backlash from the teacher's community connections. This reluctance to create community discord may result in action by the principal to secure a voluntary resignation rather than contract non-renewal. Future research into the prevalence of the use of this strategy may produce results of use to both superintendents and principals.

The issues that principals did not see as barriers were also of interest and create opportunities for further research. "Lack of familiarity with the processes and/or resources" and "uncertainty over the definition of

ineffective teaching" were among the least identified barriers. Principals reported that they understand the contract non-renewal process and understand how to identify the qualities of effective teachers, and yet actual dismissal rates of teachers remain consistently in the low single digits. If principals understand the criteria and the process, why don't teacher non-renewal rates reflect the rates of ineffective teachers? Perhaps principals address ineffective teachers through other means such as securing a resignation or placing the teacher on a professional growth plan, but further research is necessary to determine if these types of strategies impede student growth and further deplete principal time.

Despite the other barriers, principals felt strongly supported by their superintendents and school boards as they pursue the contract non-renewal of teachers. Although data were gathered using a survey in which principals may have felt the desire to characterize their relationships in the most positive light, these findings do suggest that at a minimum, there is effective communication between school and district leaders. Given that superintendents are the primary communicators with school boards, it also implies healthy relationships between boards and superintendents and boards that support the policies and procedures that they themselves establish.

Fourteen percent of principals in this study cited lack of familiarity with the dismissal process and 15% were uncertain of the definition of effective teaching. Although these are small proportions of the overall population, superintendents and district office administrators can continue to support principals by ensuring that both the district definition of effective instruction and the dismissal process are clear and well known to all principals.

Conclusion

In order to accurately assess the experience of principals as it relates to teacher contract non-renewal and ineffective teachers, data were gathered from over 3,200 principals in 35 states over a span of ten years. Analysis of survey responses from this large group of principals across the United States made it evident that principals have a clear definition of good teaching and they recognize that teacher quality is an important consideration in ensuring student growth and meeting accountability demands.

These findings suggest that the focus over the past decade by both researchers and practitioners on teacher quality has impacted the way principals do their jobs. It is also positive that principals reported their willingness to implement the often difficult and time-consuming task of teacher contract non-renewals when faced with the egregious issues of incompetence and ethical violations of teachers that impact the education of their students. Furthermore, principals recognize that a teacher's ability to deliver high quality instruction is the most important issue when assessing teacher performance in the classroom.

Principals reported that while laws protecting teachers, unions, and collective bargaining agreements remain problematic, they nevertheless understand the non-renewal process and feel supported by their superintendents and school boards when they do choose to non-renew a teacher. The support to principals from superintendents even during one of the most difficult and often publicly challenging tasks is an encouraging finding and implies that strong and productive relationships exist between district and school leaders.

Superintendents should remain mindful of the difficulty principals face politically and

socially when they make the challenging decision to non-renew a teacher contract. The technical and emotional support of the superintendent must continue so that principals persist in their efforts to non-renew the contracts of teachers who have been deemed incompetent. Similarly, as the primary communicator with boards of education, superintendents must ensure that board members are well informed about the imperative to ensure that only competent teachers remain employed so that students can achieve at the highest possible levels.

Despite these positive findings, work remains to ensure that every student has access to a teacher with the skill to deliver high-quality instruction. The disconnect between the number of teachers whom principals identify with poor instructional skills and the very low numbers of teachers whose contracts are non-renewed must be examined further.

Superintendents and district office administrators can assist principals so that teacher contract non-renewal is a viable tool for school improvement in more than just the most egregious cases of incompetence and ethical violations. This assistance can come in the form of ongoing training regarding the technicality's teacher contract non-renewal processes, further refinement of definitions of high-quality instruction, and enhanced communication with teachers regarding the district expectations of teachers.

Additionally, superintendents can support principals' efforts by continuing to work with their teachers' unions to create collective bargaining agreements that include streamlined and well-defined teacher evaluation and remediation processes that simplify the process but continue to protect the due process rights of teachers. In states without teachers' unions, superintendents should work

with policy makers to ensure that teacher dismissal laws reflect a balance between teacher due process rights and school leaders' need to non-renew a teacher contract in a manner that is not overly burdensome or disruptive.

In addition to the considerations for practitioners, future research is required to determine if principals are addressing poor

performance through professional growth plans, securing resignations rather than terminations, reassignment, or some other methods.

If these methods are used as alternatives to contract non-renewal, study is needed to determine the impact to student outcomes, other teachers in the school, and principals' time.

Author Biographies

Andy Nixon is a former principal and superintendent of schools in Indiana. E-mail: anixon@westga.edu

Abbot Packard is a professor of research methodology. He specializes in quantitative research methods. E-mail: apackard@westga.edu

Laurie Kimbrel is a former principal and superintendent of schools in Illinois and California. E-mail: lkimbrel@westga.edu

Natasha Nhekairo is an international student from South Africa. Email tashnhex@gmail.com

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School Administrators' Perceptions of STEM Awareness and Resources

Sandra White Watson, EdD
Associate Professor
College of Education
University of Houston-Clear Lake
Houston, TX

Thomas L. Cothorn, EdD
Assistant Professor
College of Education
University of Houston-Clear Lake
Houston, TX

Michelle L. Peters, EdD
Professor
College of Education
University of Houston-Clear Lake
Houston, TX

Abstract

The purpose of this mixed methods study was to assess the perceptions of K-12 school administrators regarding school and community STEM awareness and to elicit their suggestions for promoting Science, Technology, Engineering and Mathematics (STEM) awareness among schools and communities. A purposeful sample of 175 Texas administrators provided responses to the *STEM Awareness Community Survey* (SACS) assessing their perceptions of their overall STEM awareness of the districts and schools they served. Findings indicated a 77% disconnect between school principals' and superintendents' perceptions regarding STEM awareness/resources of their districts, schools, parents and communities, with superintendents consistently reporting more positive perceptions of the STEM awareness and resources of their districts in comparison to school principals.

Key Words

STEM perceptions, STEM awareness, K-12 administrators, STEM education

Introduction

For the past decade, the United States (U.S.) federal government and all 50 states have invested substantial dollars in Science, Technology, Engineering and Mathematics (STEM) education (Tofel-Grehl & Callahan, 2014) in response to legislation such as America COMPETES (Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science) legislation (H.R. 2272, America COMPETES Act, 2007), reports such as the National Academy of Sciences study, *Rising Above the Gathering Storm* (2007), and enterprises such as President Obama's initiative to commission 1,000 STEM-focused high schools (President's Council of Advisors on Science and Technology, 2010) that highlighted the critical shortage of STEM professionals and students in STEM career pipelines in the U.S. (Stearns, Morgan, Capraro, & Capraro, 2012).

While the number of STEM related jobs has "doubled that of all other fields over the past decade" (Angle et al., 2016, p. 43), the number of students pursuing those jobs has declined. This critical shortage of STEM professionals is negatively affecting America's educational standing in the world and its economic competitiveness among other nations (National Science Board [NSB], 2010).

K-12 educators have responded to the problem of the shortage of students pursuing STEM coursework and STEM related careers by implementing a number of different endeavors including the adoption of specialized STEM curricula; provision of more advanced STEM courses; introduction of STEM-related curricula earlier in childhood; increased collaboration with STEM professionals; incorporation of inquiry-based and problem-based learning strategies in STEM; provision of extracurricular STEM exploration activities

such as coding for kindergarteners; offering summer camps related to STEM and STEM after school initiatives, etc. Despite of all of these measures, the U.S. has not been able to effectively motivate enough students to pursue STEM careers and thus an underprepared and inadequate STEM workforce continues to persist.

There is a great need to implement STEM programs with fidelity in order to address the myriad of demands for educators, students, and administrators with a STEM focused expertise.

If the vision of a successful STEM program is to be transformed into practice, there must be collaboration and communication of the desired outcomes among stakeholders, especially among district and school administrators. In spite of recent efforts to reform school districts to become less bureaucratic, education continues to have a great many tendencies founded in bureaucracy, including a "top-down" system of communication.

Many of the educational reform efforts currently call for shared decision making and collaboration between school district leaders and principals with regard to program implementation. Principals and superintendents have critical roles in the implementation of any reform efforts, including curriculum-based programs such as STEM. According to Fullan (2005), reform is successful when district leaders have a "compelling conceptualization" and "envisions both content of reform and includes a special commitment to capacity-building strategies" (p. 211). He goes on to state that building capacity occurs when key leaders are supported and trained.

Knowledge and awareness can help shape an individual's perceptions. Collaboration and communication between stakeholders provide the means necessary to gain knowledge and awareness. In keeping with the "top-down" or hierarchical framework of bureaucracies, when district-wide programs are being implemented, much of the direction given in order to implement the programs originates from the district levels and permeates down to the actual instructional settings.

This is the antithesis of findings of a study conducted by Johnson and Chrispeels (2010). The researchers indicated there must be a clear and coherent message delivered to the schools regarding the reform initiative. The second pattern vital to the reform process was the communication from principals to staff members and back to the central office administrators. This directly contradicts how schools generally operate. Johnson and Chrispeels (2010) also found that principals are the critical link in the communication chain as information is transferred from district administrators to the teachers.

In interviews conducted with teachers in the study, some of the teachers expressed concerns the information was not always delivered correctly which often resulted in "inconsistencies" among the teachers implementing the programs. Two-way communication was essential to the process and the superintendent included in the study saw the need for a clear message from central office leaders, but also expected central office administrators to be open to communication from the principals and teachers. The professional development of principals was a "primary source" linking the district to the schools.

There is a clear demarcation between responsibilities at the district administrative

levels and local administrators. According to Sanders (2014), district leaders facilitate a school's capacity to change by providing the infrastructures and professional development necessary to "anchor" reform efforts. District leadership create the context necessary for reforms to be implemented and maintained over a period of time. Principals provide the leadership necessary for successful implementation of school reform. Without their guidance and leadership, most efforts prove to be unsuccessful.

One might assume that something as important as implementing a STEM program would encourage and foster two-way communication between school and district level administrators and that the collaboration and communication regarding the implementation would be intensive and those individuals representing both the schools and districts would have similar points of view with respect to implementing such programs as STEM.

There is scant research regarding principals and superintendents and their perceptions of STEM programs in their schools or districts. However, a need exists to explore these perceptions and their awareness of the implementation efforts and resources devoted to STEM. As a result, this mixed methods study assesses the perceptions of K-12 Texas school administrators regarding STEM awareness/resources in their districts/schools and provides a basis of comparison between what district superintendents.

Review of Related Literature

Role of school superintendents

Over the last three decades (1988-2018), the role of public school superintendents has shifted from instructional leader of teachers to encompassing much more complex functions, requiring involvement in local, state, and national politics; in-depth knowledge of school

finance; comprehensive understanding of standards based reform; and, thorough familiarity with student performance demands associated with legislation such as *No Child Left Behind* (2001) (Farkas, Johnson, Duffett, & Foleno, 2001; Feuerstein & Dietrich, 2003; Lecker, 2002; Sherman & Grogan, 2003). In addition, public school superintendents are expected to establish their district's vision; develop worthy dimensions of teaching and learning; introduce and execute policies; and, build quality relationships with integral groups (Carter & Cunningham, 1997; Sharp & Walter, 1997; Waters & Marzano, 2006).

Bjork, Browne-Ferrigno, and Kowalski (2014) conceptualized the work of superintendents into five distinct roles: (a) superintendent as teacher-scholar; (b) superintendent as manager; (c) superintendent as democratic-political leader; (d) superintendent as applied social scientist; and, (e) superintendent as communicator.

According to Bjork et al. (2014), superintendents are considered to be master teachers, and in fact, a 2000 report stated that 40% of superintendents perceived their primary role as that of educational leader (Glass, Bjork, & Brunner, 2000). Similarly, greater than one-third of the superintendents involved in the Glass, Bjork, and Brunner study (2000) stated that effective management was one of the roles their school boards expected them to fulfill. Management tasks of superintendents include budgeting, educational accountability, and compliance with state and federal directives (Glass et al, 2000).

The political savvy of superintendents has also been a critical attribute as superintendents must increasingly handle bond and local school tax issues that require a penchant for inciting support from school board members, parents, citizens and teachers regarding district endeavors (Howlett, 1993).

Moreover, 83% of superintendents indicated school board relations requiring micro-politics were particularly challenging (Glass et al., 2000). Kowalski et al. (2010) characterized superintendents as applied social scientists because they utilize their knowledge of research to inform the educational decisions they make.

Historically, superintendents have worked in an isolated environment, protected from potential interference by parents, citizens, and teachers (Blase & Anderson, 1995). Superintendents were likened to corporate executives, and their communication styles were unilateral and impersonal (Achilles & Lintz, 1983).

Conventional communication methodologies changed when the U.S. became a more information-based society, and superintendents were then expected to maintain communication with the public and interested stakeholders regarding school and student matters (Kowalski, 2001). As a result, the traditional top-down communication model was exchanged for a more interpersonal model that was intended to diminish power disparities. In summary, superintendents have found themselves taking on much broader responsibilities without a substantial reconceptualization of associated training and authority (Fuller et al., 2003).

Role of principals

The formal position of principal was created in response to larger and more complex schools; the growth of secondary education; the change in secondary students themselves; the increase in knowledge about school administration; and, the differing attitudes to specialization in education (Rousmaniere, 2014).

Initially, principals were also teachers, known as principal teachers, but because these

individuals were spending the majority of their time on administrative tasks, school boards had to relieve them of their teaching positions, moving them to full-time principal work (Hart & Bredeson, 1996). Abundant research has been conducted on the tasks principals perform (Byrne, Hines, & McCleary, 1978; Gottfredson & Hybl, 1987), but most agree that writing reports, engaging in written communication, telephone correspondence, teacher concerns, student supervision, student discipline, extracurricular activities, meetings, contractual management, curricular development, teacher evaluation, special education and professional growth are consistent responsibilities (Hart & Bredeson, 1996).

Regardless of school or geographic location, school principals share similar experiences and goals (Bredeson, 1985). Their work is often fragmented, diverse, and pressing, causing principals to take on a fire-fighting mentality. Most of their daily school related conversations are brief (less than three minutes), resulting in little time for reflection or strategic planning (Kmetz & Willower, 1982; Martin & Willower, 1981). Kmetz and Willower's (1982) study found that elementary school principals "engaged in an average of 14.7 activities per hour;" (p. 72) their deskwork lasted no more than 10-minutes; telephone conversations lasted an average of 2.5-minutes and the longest length of time they spent at once on any one task was 35-minutes for scheduled meetings.

Furthermore, 43% of the time scheduled meetings were interrupted, often more than once. In contrast, secondary school principals engaged in even more activities per hour, had more interruptions, and spent less time at their desks (Kmetz & Willower, 1982). All of these responsibilities must be handled within increasingly unpredictable, conflict-ridden, and

sometimes hostile environments (Sergiovanni, 1995).

Superintendent and principal interaction

The value of effective communication among K-12 administrators has been infrequently discussed in the research literature for the last two decades (Carter & Cunningham, 1997; Stokes, 2013). Kowalski (2005) noted that although the critical need for communication is often discussed in administrator preparation documents, rarely is the intended level of proficiency reached.

Additionally, when superintendents utilize effective communication strategies with their principals, school culture and productivity is positively impacted (Friedkin & Slater, 1994; Young, Peterson, & Short, 2002). Norton (2005) emphasized that communication is an element essential to an effective school community and positive school climate.

STEM awareness/perceptions

Examining perceptions of STEM awareness is valuable because perceptions pertaining to STEM impact STEM attitudes and beliefs, which in turn influence behaviors and practices (National Science Board, 2010). The STEM awareness levels/perceptions of school administrators, school districts, schools, teachers, parents, and community business STEM stakeholders are serious concepts to explore because fostering critical STEM collaboration among all of these interested parties is greatly influenced (both positively and negatively) by individually held STEM beliefs.

Knowing administrators' perceptions of STEM for example, can provide practical value by informing where school/district STEM reformers should direct their efforts to move stakeholders to higher attitudinal levels. Knowing community stakeholders' (parents

and STEM business stakeholders for example) perceptions of STEM is also useful in drawing attention to specific needs and postulating attainable goals that will help advance and enhance any collaborative STEM effort (Breiner, et al., 2012).

K-12 administrators' perceptions of STEM awareness

K-12 school administrators play a significant role in the success of curricula implemented in their schools (Rogers, 2007). According to the Interstate School Leaders Licensure Consortium (ISLLC) Standards (Council of Chief State School Officers [CCSSO], 2008) to be effective school leaders, administrators must be: (a) visionary; (b) leaders of instruction; (c) organized; (d) ethical; (e) willing to collaborate with others; and, (f) advocates for their schools and faculty. Given their roles as the instructional leaders of their schools, administrators are essential to the successful implementation of STEM curricula and programs.

Additionally, the perceptions, mindsets, and viewpoints of administrators can influence their decision-making, actions, instructional development, curricular offerings, and school change initiatives (Davis & Leon, 2011; Davis & Darling-Hammond, 2012; Diaz, Cox, & Adams, 2013; Mendels & Mitgang, 2013; Miller, 2013; Praisner, 2003; Verrett, 2012; Versland, 2013). Praisner (2003) stated that attitudes, values, and beliefs held by school administrators affect the amount of support they might put toward implementing change in their schools. Furthermore, Mendels and Mitgang (2013) suggested that school administrator quality directly influences K-12 students' academic success.

While the literature is rife with studies relating to effective broad-spectrum K-12 school leadership practices, research delving

into specific school leadership skills required for K-12 STEM advancement is lacking (Brown, Brown, Reardon, & Merrill, 2011). Brown, Brown, Reardon, and Merrill (2011) interviewed 172 school administrators and teachers of STEM to determine their definitions of STEM. Barely half of the administrators and teachers were able to accurately define STEM, with administrators making up those who were least capable of eliciting accurate STEM definitions.

This inability of school administrators to adequately define STEM is indicative of gross STEM misunderstanding among school leadership, those very individuals whose support and guidance is critical to successful STEM initiatives in schools. In addition, Brown et al. (2011) found that science, technology and mathematics teachers had no clear concept of how to implement a school-wide STEM initiative.

Method

Participants

Principals. The majority of participating principals were female (61.5%, $n = 99$), while the remaining identified as male (38.5%, $n = 62$). The racial/ethnic representation of principals were as follows: 10.6% African American/Black ($n = 17$), 60.0% Caucasian/White ($n = 96$), 26.8% Hispanic/Latino ($n = 43$), and 2.5% two or more races ($n = 4$). Pertaining to years of experience, principals reported an average of 18 years of experience as administrators and 33 average years of educator experience. Finally, when principals were queried about the highest degree they held, 10.6% responded with Ph.D./Ed.D., 6.3% with Ed.S., 82.5% with MA/MS, and 0.6% identified as holding BA/BS degrees.

Superintendents. The majority of participating superintendents were female (64.3%, $n = 9$), while the remaining identified as male (35.7%,

$n = 5$). The racial/ethnic representation of superintendents were as follows: 21.4% African American/Black ($n = 3$), and 78.6% Caucasian/White ($n = 11$). Pertaining to years of experience, superintendents reported an average of 25 years of experience as administrators and 40 average years of educator experience. Finally, when superintendents were queried about the highest degree they held, 23.1% responded with Ph.D./Ed.D., 15.4% with EdS, 61.5% with MA/MS.

Instrumentation

The *STEM Awareness Community Survey* (SACS) was developed by Sondergeld, Johnson, and Walten (2016) using Liu's (2010) framework for the creation of instruments used in the assessment of affective variables in science education. The instrument was validated using a convenience sample of 72 participants completed the initial pilot survey: 39 K-12 teachers, 17 higher education faculty, and 16 business community members.

For field testing purposes, a sample size of 72 is appropriate for this instrument since a 5-point Likert scale was used and the goal is to have a minimum of 10 participants per scale category, thus making 50 the minimum number of participants acceptable for this situation (Liu, 2010).

The 39-item survey consisted of a 4-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree) and four subscales:

- (a) Industry Engagement in STEM Education (8-items);
- (b) STEM Awareness and Resources (13-items);
- (c) Preparation of Students for Success in College & Careers (6-items); and
- (d) Regional STEM Careers and Workforce (12-items).

For purposes of this study, only data collected from the STEM Awareness and Resources subscale is reported (Cronbach's $\alpha = .81$).

Data collection & analysis

Following IRB permission, the SACS was emailed to all public-school K-12 Texas administrators (i.e. superintendents, principals, assistant principals) listed in the Texas Education Agency (TEA) administrators' database with information discussing the ethics, details and purpose of the study. In addition, the participants received a SurveyMonkey electronic link to access the survey containing the informed consent, demographic questions, and the SACS.

Data collection took place over a 6-week period of time with a reminder being sent out at 2- and 4-weeks. All quantitative data were analyzed using IBM SPSS. The data obtained from the SACS were analyzed by calculating percentages for each item of the SACS. The criteria used to determine the level of "agreement" versus "disagreement" was less than or greater than a 10% difference respectively.

An inductive coding process was used to analyze the qualitative data obtained from the open-ended survey items. Qualitative data analysis was initiated with data organization and interpretation utilizing MAXQDA analytics software. The researcher read and re-read all qualitative responses provided by participants to search for the emergence of categories of meaning. Once the work of generating categories and themes from the responses from questions two and four was initially completed, the identified categories and themes were coded using MAXQDA. Included in this phase was a period in which the data were reduced according to relevancy, eliminating digressive responses and

simplifying language. Peer debriefing was accomplished by having two researchers independently code the open-ended responses and discuss findings.

Findings

STEM awareness/resources

Superintendents and principals indicated 77.0% disagreement with regards to their perceptions of STEM awareness/resources of the districts and schools they served, demonstrating agreement in only three of 13 areas.

Specifically, superintendents and principals differed in their perceptions that their districts understand the importance of STEM education as 78.2% of principals and 100.0% of superintendents agreed with the statement, “My school district understands the importance of STEM education.”

Similarly, superintendents and principals differed in their perceptions of the statement, “The schools in this district understand the importance of STEM education” with 74.3% of principals and 100% of superintendents in agreement. In addition, differences existed between superintendents’ and principals’ perceptions that parents in their districts understand the importance of STEM education, with 36.3% of principals and 71.4% of superintendents agreeing.

Principals and superintendents also differed in perceptions regarding whether more work needs to be completed to spread awareness of STEM education, with 89.4% of principals and 78.6% of superintendents agreeing. Additionally, principals and superintendents differed in their perception that increasing the STEM talent pool is necessary for economic vitality, with 92.5% of principals and 85.7% of superintendents agreeing. Further differences were found regarding

perceptions that students with postsecondary education are more likely to secure a career in a STEM field with 83.2% of principals and 71.4% of superintendents agreeing.

Regarding the statement, “There are STEM education Web sites available for this region that include activities for teachers and students,” 63.1% of principals and 78.6% of superintendents indicated agreement. Principals and superintendents also differed in their perception that information on regional STEM career opportunities is available online, with 51.2% of principals and 64.3% of superintendents agreeing.

Principal and superintendent differences were also reported regarding perceptions that information related to STEM opportunities in their regions is available online with 51.0% of principals and 71.4% of superintendents agreeing. Finally, perceptions of whether or not STEM online tools are available to their districts differed, with 49.7% of principals agreeing and 71.4% of principals agreeing.

On the contrary, principals and superintendents were in agreement in only three of ten areas of perceptions. First, principals and superintendents agreed that STEM skills are integral to student success today (Principals 92.5%, Superintendents 85.6%).

Administrators also agreed that there are colleges, universities, and community colleges that offer scholarships for students to pursue STEM degrees in their regions (Principals 63.1%, Superintendents 57.1%). Finally, participants were united in their (dis)agreement that local organizations recruit STEM talent online with 30.3% of principals and 28.6% of superintendents agreeing.

Table 1 provides school administrator perceptions regarding STEM

awareness/resources in their respective districts/schools.

Table 1

STEM Awareness and Resources (%)

Survey Item		Disagree/ Strongly Disagree	Agree/ Strongly Agree
1. My school district understands the importance of STEM education.	Superintendent	0.0	100.0
	Principal	6.8	85.9
2. The schools in this district understand the importance of STEM education.	Superintendent	0.0	100.0
	Principal	9.4	74.38
3. Parents in this district understand the importance of STEM education.	Superintendent	14.3	71.4
	Principal	35.6	36.3
4. More work needs to be completed to spread awareness of STEM education.	Superintendent	7.2	78.6
	Principal	2.5	89.4
5. STEM skills are integral to student success today.	Superintendent	0.0	85.7
	Principal	1.9	92.5
6. Increasing the STEM talent pool is necessary for economic vitality.	Superintendent	7.1	78.6
	Principal	1.2	93.2
7. Students with postsecondary education are more likely to secure a career in a STEM field.	Superintendent	0.0	71.2
	Principal	1.9	83.2

8. There are colleges and/or universities and/or community colleges that offer scholarships for students to pursue STEM degrees in my region.	Superintendent	28.6	57.1
	Principal	5.0	63.1
9. There are STEM education Web sites available for this region that include activities for teachers and students.	Superintendent	7.1	57.1
	Principal	6.2	63.0
10. Information on regional STEM career opportunities is available online.	Superintendent	0.0	64.3
	Principal	3.8	51.2
11. Local organizations recruit STEM talent online.	Superintendent	14.3	28.6
	Principal	16.7	30.4
12. Information related to STEM opportunities in my region is available online.	Superintendent	7.1	71.4
	Principal	12.4	30.4
13. There are other STEM online tools available to this district.	Superintendent	7.1	71.4
	Principal	12.4	49.7

Strategies to improve STEM awareness

Principals. Qualitative analysis of principals' responses revealed the following overarching themes in order of frequency of occurrence:

- (a) educate parents about STEM and STEM education;
- (b) provide additional STEM professional development for faculty and administration; and,
- (c) provide STEM instruction in elementary schools.

Specifically, 36.3% of principals indicated that parents do not understand the importance of STEM education and offered related suggestions to include:

- (a) parents provided more information regarding STEM (why it is important and the reason for STEM classes and clubs);
- (b) multiple open houses focusing on STEM to parents; and,
- (c) parents educated about the possibilities for and projected growth in STEM careers.

One principal stated, "Our district can do more to raise awareness at the elementary level as well as for parents. Most children (and parents) know what a firefighter, policemen and medical doctors do but don't know what those in STEM fields do, unless mom or dad are engineers, scientists or mathematicians. Our district would do well to implement "fun" Saturday and summer camps promoting STEM fields using both extrinsic and intrinsic incentives for both children and their parents."

Another principal made a similar suggestion regarding parental involvement in STEM education: "Our district needs to host more STEM camps offering extrinsic motivation to participating students and parents."

Furthermore, 21.0% of principals stressed the need for additional professional development regarding STEM for both teachers and administrators.

Suggestions in this regard included:

- (a) offering STEM symposiums and workshops;
- (b) providing professional development to include observations on STEM campuses;
- (c) offering district presentations pertaining to STEM;
- (d) delivering training sessions on how to integrate STEM into class projects; and,
- (e) providing ongoing training for administrators regarding the importance of STEM education.

However, several principals voiced concerns pertaining to the need for additional funding to support STEM related professional development for teachers, and for the purchase of STEM supplies and equipment for teaching.

One principal stated: "For the majority of rural school districts, STEM awareness is known throughout. However, the factor holding most schools back is funding. We don't have the funds to hire personnel or purchase equipment to utilize for STEM advancement."

Another principal offered this suggestion: Increase funding to public schools to pay for the resources and training needed to bring more STEM/STEAM focus into our schools. Increase pay through stipends, or other sources, to encourage more high-quality teachers into this field."

Finally, 13.3% of principal participants suggested that STEM instruction be provided earlier in students' educational trajectories

(during elementary and middle school).

Specific suggestions included:

- (a) hiring a STEM teacher to run a STEM lab;
- (b) providing a STEM specialist at each elementary campus;
- (c) providing more information regarding STEM and STEM careers to elementary schools; and,
- (d) implementing specific STEM curricula at the elementary level.

Superintendents. Qualitative analysis of superintendents' responses revealed the following overarching themes in order of frequency of occurrence:

- (a) more access to technology;
- (b) connect schools with STEM professionals;
- (c) educate parents about STEM and STEM education; and,
- (d) provide STEM instruction in elementary schools.

Specifically, 64.0% of superintendents offered suggestions related to the need for technology, including the following:

- (a) more coding and robotics opportunities;
- (b) one-to-one computer availability; and,
- (c) the creation of dual credit courses in STEM technology.

In addition, 18.1% of superintendents indicated a need for increased collaboration between STEM professionals and K-12 schools.

One superintendent specifically voicing the need for more collaboration between K-12 schools and universities: "I would like to see more college and school district joint ventures."

Suggestions in this regard included:

- (a) open houses for parents, faculty and students in which STEM employers come and speak about STEM careers and
- (b) more university and K-12 school STEM-related partnerships.

Additionally, 14.3% of superintendents felt that parents in their district did not have an adequate understanding of the importance of STEM education and offered the following related suggestion:

- (a) providing open houses in which parents can come to hear STEM professionals speak about STEM careers and
- (b) lastly, superintendents (9.1%) also indicated that more emphasis needs to be placed upon STEM instruction at the elementary school level.

Discussion

The lack of perceptual congruence between administrator groups' (superintendent, principal) responses to 10 of the 13 STEM awareness/resources statements could be considered by some as troubling.

One must ask how it is possible that differing levels of school administrators could hold different views of STEM awareness and STEM knowledge importance in their districts and schools.

What can account for the differences in the perceptions of STEM awareness/resources between superintendents and principals included in the study?

Do these mixed messages between the district and school leaders impact stakeholders in a negative way? What are the underlying

factors that contribute to the lack of congruence between the administrators in this area?

There are probably several underlying reasons as to why there is a lack of agreement between superintendents and principals.

Regardless of the contributing factors, the lack of agreement in the perceptions of superintendents and principals with regards to STEM is alarming.

As previously mentioned, superintendents have historically worked in isolated environments, often protected from potential interference by parents, citizens, and teachers (Blase & Anderson, 1995); their communication styles were thought to be unilateral and impersonal (Achilles & Lintz, 1983); and, communication was top-down in nature, often serving to maintain the status quo (Kowalski, 2001). Decman, Badgett, Shaughnessy, Randall, Nixon, and Lemley (2018) indicated superintendents need to involve all stakeholders in observing current trends and making collaborative decisions regarding the direction of a district prior to change implementation.

Involvement of stakeholders early in the process fosters a smoother transition and creates a culture of support. In short, superintendents should involve everyone concerned with the implementation of STEM in the schools in the district. Collaboration will facilitate the implementation process, leading to a better understanding of the process by all involved, including the principals and superintendents.

According to Whitt, Scheurich, and Skrla (2015), superintendents often relegate instructional leadership to principals. Most of the research conducted regarding instructional leadership has occurred at the school level. At first blush, this makes sense.

Principals are the caretakers of the schools in their charge. However, more attention is being given to the role superintendents hold as instructional leaders. Whitt et.al (2015) also indicated that instructional leadership on the part of the superintendent may be the most critical factor in the success or failure of school improvement efforts.

The findings of this study reflect the need for superintendents to not just be aware of the implementation of STEM and the resources needed for successful implementation, but to actually have an integral role in the collaboration, planning, and implementation of STEM.

Presently and for a variety of reasons, it is imperative superintendents serve as the instructional leaders of their districts. Only by being directly involved in the implementation process can superintendents understand all of the complexities of implementing a STEM program with fidelity.

The research literature portrays the school principalship as comprehensive, fast-paced, and requiring communication with all school personnel, from students to staff to teachers and includes tasks such as writing reports, engaging in written correspondence, communication via the telephone, teacher concerns, student supervision, student discipline, extracurricular activities, meetings, contractual management, curricular development, teacher evaluation, special education, and professional growth (Hart & Bredeson, 1996).

The comprehensive nature of the principalship does not allow for isolation and indicates that principals are in touch with their schools as a whole. While it is imperative for superintendents to assume an instructional

leadership role, principals do indeed serve as the instructional leaders of their schools.

The need for superintendents to assume a role as instructional leader does not lessen the need for principals to lead instruction on their campuses. It stands to reason that the perceptions of the participating principals shared in this study of their schools' STEM awareness/knowledge are likely to be more accurate of the two administrative groups examined. Unless superintendents have been involved in the collaborative planning process for implementing STEM, principals would naturally be more cognizant of the implementation process as it pertains to their particular schools.

This lack of perceptual congruency between K-12 superintendents and principals is also indicative of their lack of communication. Clearness of communication at all levels among all stakeholders is an outgrowth of collaboration.

When superintendents and principals do not adequately communicate about critical issues such as STEM education, misunderstandings may result that can negatively impact perceptions about STEM education, leading one party or another to falsely believe that their school and or district is effectively addressing STEM, when the reality could be the opposite.

Given that STEM education is critical to the economic competitiveness and sustainability of the U.S. and its global standing as the STEM leader, it is critical that all STEM education stakeholders are on the same page. Anything to the contrary will likely have a negative impact on school and district STEM education initiatives. The onus for taking the initiative for establishing and sustaining a trusting superintendent/principal relationship

should fall on the superintendent, as he/she is the one with the greater power (Tschannen-Moran, 2004).

Implications

The implications of this study are multifaceted and addressing these areas from a district standpoint could go a long way towards fostering a climate that is favorable for implementing STEM. While differences in the perceptions of the superintendents and principals were evident in the results of this study, certainly steps can be taken that will foster improvement in these areas.

There are at least six possible areas that could be impacted by the results of this study:

- (a) teacher preparation program;
- (b) professional development programs for teachers and administrators;
- (c) consistency in job performance standards for principals and superintendent;
- (d) improvement of all stakeholders' STEM understanding, knowledge and support;
- (e) improvement in the general knowledge communication, and support between educational administrators; and,
- (f) improvement in the overall number of individuals qualified to apply for and serve in STEM professions.

Teacher preparation programs

Currently, there is a critical shortage of STEM professionals and students. Teacher preparation programs in colleges and universities lack emphasis in STEM areas. Presently, human resource personnel and school administrators often find it difficult to hire knowledgeable educators able to teach science, technology, engineering, and mathematics. This lack of preparation for educators trained in the STEM areas results in teachers who are ill prepared to work with students in STEM.

Pressure to provide more qualified employees must come from lawmakers and private entities. As colleges and universities recognize the need in society for graduates in STEM areas, perhaps the emphasis placed on STEM professions will prompt more students to consider the possibilities of STEM careers. Until colleges and universities begin to address weak STEM education programs, K-12 schools will continue to suffer the consequences of underprepared STEM teachers.

This apparent lack of focus on STEM education results in the perpetuation of a cycle which lacks the emphasis necessary to change the current culture regarding STEM in schools. Once teacher candidates and future administrators have been appropriately trained in STEM education and assume teaching and administrative positions, the focus on STEM in K-12 schools should improve.

This particular study provides information colleges and universities could use to bolster their teacher preparation programs, resulting in a greater number of better qualified teacher candidates trained in the STEM areas. If administrators are able to hire better prepared teachers, the culture surrounding STEM implementation will be more conducive to STEM education.

Professional development

This study expresses the need for systemic, continuous professional development activities in STEM for all educators. School districts must begin to place the proper emphasis on continuing education for teachers and administrators.

The research literature has emphasized the need for STEM related professional development that is ongoing and offers the

follow-up necessary for new STEM related practices to become ingrained in the K-12 curriculum.

If this is true, then educators must not only offer professional development in STEM-related contexts but must offer opportunities for teachers to collaborate and share with each other the results of integrating STEM in the classroom setting.

While much of the focus of professional development activities is for teachers, if STEM is to become ingrained in practice, district and school administrators must also attend these trainings. To change the culture, STEM must become the focus of the professional development efforts for all personnel in the district.

District and school administrators often mistakenly believe professional development designed for use in the classroom setting should be left to instructional personnel. In addition, if STEM is to be integrated in classroom settings with fidelity, then administrators must also understand and support its implementation.

The entire district must be onboard with making the changes necessary to focus on STEM, including the implementation of appropriate teaching strategies, curricular subject matter, and activities. Emphases must be included in textbooks, curriculum guides, and teaching methodologies.

New opportunities must be created to implement STEM. This can be accomplished through a system-wide focus on STEM and ultimately, improving the communication among superintendents, principals, and other educators. As the knowledge level of superintendents and principals improves, perceptions surrounding STEM readiness and implementation will also improve.

Instructional leadership

This study affirms the need for leaders in education to assume the role of being and becoming the instructional leaders for their districts and schools. The jobs superintendents and principals perform daily are quite complex.

While more emphasis is being placed on the administrator's role as an instructional leader from an accountability standpoint, the actual job performance continues to be wrought with tasks that are managerial in nature.

Thus, it is easy to become bogged down in the day to day operation of the district or school and, ultimately neglect the most important aspect of their jobs, that of being instructional leaders.

Administrators must not only conscientiously focus on becoming instructional leaders who emphasize the importance of STEM, but also its successful implementation. Administrators must free themselves as much as possible from job responsibilities that are managerial in nature and focus on being leaders willing to see STEM successfully implemented at both the district and school levels.

Stakeholders and the implementation process

The concept of STEM remains cloudy and perplexing to many. STEM continues to be misunderstood by educational stakeholders. This study should increase awareness among stakeholders regarding the need to pursue STEM at all educational levels. Administrators must lead and support the effort to implement a STEM program with fidelity. District and school leaders must incorporate a vision of what a quality program incorporating STEM would entail.

The superintendents and principals must clearly communicate the vision to all stakeholders. However, simply having a vision is not sufficient. The mission, or plan, must be detailed and provide the pathway for successful implementation of STEM.

As STEM becomes a focus of the district at all levels, instructional leaders must continually evaluate the implementation process. Many sources of literature stress the importance of periodic reflection and evaluation of the overall progress towards programmatic implementation. Instructional leaders must include follow-up which provides the feedback needed to those implementing the program in order to facilitate the implementation process.

Increase in qualified STEM professionals

The shortage of STEM professionals has adversely impacted the United States with regard to its economy and global competitiveness. Presently, there are not enough high school and college graduates who are able to fill the number of positions available in STEM. It has been determined that the need for STEM professionals will continue to increase.

This study has the potential to assist in increasing the numbers of individuals with STEM knowledge and skills. Additionally, as interest and knowledge regarding STEM increases, the number of qualified graduates will increase and schools and universities will better meet the high demand for individuals with STEM backgrounds.

The suggested implications are not intended to be an exclusive list. Undoubtedly, there are other areas that may impact stakeholders' perceptions and knowledge of

STEM. But STEM education programs must be implemented with fidelity. It is never easy to implement change. However, if STEM becomes the focus of administrators at the district and school levels, the ability to meet society's demand for candidates trained in the STEM areas should improve.

Conclusion

This study's findings indicated that participating principals and administrators possessed differing perceptions (77.0% of the time) regarding their schools'/districts' STEM awareness/resources.

Superintendents believed their districts were significantly aware of STEM and STEM related resources while principals' perceptions revealed that they held less positive perceptions of the STEM awareness/resources of their schools. These findings indicate that one's administrative role influences one's perceptions of school/district STEM awareness/resources.

In sum, the data and results of this study spur further consideration of the following related questions:

1. If superintendents feel STEM awareness/STEM resource presence is already extremely positive among stakeholders in their district, will they be less likely to consider additional STEM initiatives?
2. Will principals accept the possibly inaccurate positive perceptions of STEM held by the superintendents of their schools as unchallengeable?
3. When superintendents and principals are made aware of their perceptual incongruency regarding the STEM awareness/STEM resource presences in their districts/schools will actions be taken toward better communication?

It is hoped that once administrators become aware that their leadership positions can influence their perceptions in a way that negatively affects the schools and districts they serve; they will craft new communication systems that will serve as avenues for new dialogue resulting in more accurate perceptions of concepts that could lead to reform initiatives.

Author Biographies

Sandra White Watson is an associate professor of STEM education in the University of Houston-Clear Lake's Department of Education. Her research interests include STEM education, teacher education, multiculturalism and diversity in education, effective teaching, and mentoring. E-mail: watsonsa@uhcl.edu

Thomas Cothorn is an assistant professor of educational leadership at the University of Houston-Clear Lake. His research interests include professional development and methods of assessment for educators. E-mail: cothorn@uhcl.edu

Michelle Peters is a professor of research and applied statistics and the program coordinator of educational foundations/research at the University of Houston-Clear Lake. Her research focuses on K-12 STEM education, but she also collaborates on studies dealing with educational leadership, teacher education, counseling, and student success. E-mail: petersm@uhcl.edu

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The Effect of Demographics on the Implementation of the Principal Walkthrough

Daniel Gutmore, PhD
Department of Education Leadership Management and Policy
Seton Hall University
South Orange, NJ

Jason Marx, EdD
Principal
Passaic Preparatory Academy
Passaic, NJ

Abstract

The purpose of this quantitative study was to research how school and principal demographics influence a principal's implementation of the walkthrough process. Principals from New Jersey were administered a survey to provide insight into how they implement the walkthrough process in their schools. The findings suggest that socioeconomic status and level of principal experience have no influence on how walkthroughs are implemented; however, the findings also suggest that level of principal experience does have an impact on whether or not principals share the results of walkthroughs with teachers.

Key Words

principal, instructional leadership, principal walkthrough, district factor group, principal experience, feedback.

An integral part of being an instructional leader is the ability to prioritize the time in classrooms focusing on instruction (Finkel, 2012).

This idea of being visible and among one's staff members originated in the corporate world with William Hewlett and David Packard in the 1970s when they started a practice called management by wandering around (MBWA) in their company, Hewlett-Packard.

The goal of MBWA was to have company leaders go out into the workplace and talk to employees, work with them, ask questions, and help support them if needed (Frase & Hertzal, 1990).

They advanced the idea that leaders should be spending at least 50% of their time in the field working with others (Frase & Hertzal, 1990). Through MBWA, leaders are supposed to walk among the employees with a purpose, to communicate, build morale, empower others and support the organization in its goal of achieving excellence (Frase & Hertzal, 1990). Frase and Hertzal later took the concept of MBWA and applied it to school leadership. The idea of school walkthroughs thus began as a possible educational practice.

Walkthroughs are brief, frequent, unannounced classroom visits that are focused on gathering data regarding the educational practices in the classroom (Kachur, Stout & Edwards, 2010).

While the purpose of conducting a walkthrough may differ from visit to visit, the school leader has the opportunity to gather information from the walkthrough on various areas that may include instructional strategies, implementation of curriculum and standards, lesson objectives, student learning, level of

student engagement, classroom resources, and level of cognitive demand (Kachur et al., 2010).

These short classroom visits are a means of collecting evidence from the classroom to assess and guide school-improvement efforts (David, 2008). Although there are numerous variations in how walkthroughs are utilized, the basic idea of a walkthrough is that it is a short, focused, informal, non-evaluative classroom observation by the principal with the end goal of improving student achievement (Kachur et al., 2010).

Principals may utilize walkthroughs as a means of entering classrooms and gathering data, but many instructional leaders take different paths in their effort to improve student achievement. It is in these different paths that principals may choose different focuses or purposes for visiting classrooms.

Ginsberg and Murphy (2002) cite the following reasons for a school leader to conduct a walkthrough: assessing the school climate, becoming familiar with teacher instructional practices, becoming familiar with the curriculum, assessing the level of student engagement, gathering data on student achievement and student motivation, and establishing themselves as instructional leaders of the school.

Downey et al. (2004) identify additional reasons for conducting a walkthrough. They conclude that a school leader should conduct walkthroughs to identify areas of need for professional development, assess how staff development is impacting teaching, support teacher instruction, assess school operations, and increase the leader's own professional practice as an observer and instructional coach for teachers.

Kachur, Stout and Edwards (2010) identified the following as areas that walkthroughs can improve: “teacher instructional practices, implementation of curricular initiatives, assessment techniques, student behavior, student learning activities, classroom environment and classroom management” (Kachur et al., 2010). The variation in the purposes of walkthroughs is not the only area of ambiguity.

The form a walkthrough takes in regards to frequency and length also varies from principal to principal. Due to such a wide variability between the form and purpose of walkthroughs, it is important to investigate how principals utilize walkthroughs in their respective school settings.

One problem when comparing how different schools implement the walkthrough process is that there is no consistent approach on how best to utilize a walkthrough to improve instructional practice.

Schools differ in regards to the form and purpose of a walkthrough or class visit. In addition, when comparing different schools, what might be impactful for one school may not work for another (Lemons & Helsing, 2009).

While most instructional leaders utilize walkthroughs to improve student achievement, there is no agreed-upon focus to achieve this end. This problem may be addressed by researching the different forms a walkthrough can take and looking at the different purposes principals have for conducting walkthroughs.

While there is a lack of consistency in the form and purpose of walkthroughs, this analysis will look at whether the perceived variability becomes more consistent when we

compare schools with similar school and principal demographics.

Research Questions and Design

This study was guided by the following research questions:

Research Question 1:

Is there a significant relationship between a school’s socioeconomic status and a principal’s purpose for conducting a walkthrough?

Research Question 2:

Is there a significant relationship between the level of administrative experience of a principal and that principal’s purpose for conducting a walkthrough?

Research Question 3:

Is there a significant relationship between the level of administrative experience of a principal and whether or not that principal shares the results of walkthroughs with teachers?

Data were collected using a voluntary survey through an online survey website. The survey was limited to New Jersey public-school principals. One limitation in utilizing this instrument is the assumption that all principals surveyed would answer honestly and accurately. Another limitation in regards to the survey instrument is the assumption that all principals surveyed would have common definitions for the walkthrough terms utilized in the survey.

The design of the study was limited to surveying only principals and their views on the walkthrough process. The study did not survey other building-level or district-level

leaders who utilize walkthroughs as an aspect of their jobs.

The rationale behind limiting the study to school-based principals is to isolate how principals view the purpose of walkthroughs in their respective schools.

A district-level leader may have a different focus or methodology when it comes to conducting a walkthrough, especially since their purpose may be different from that of a building-level principal. The study was limited to the walkthrough process and did not include formal classroom observations utilized for the purpose of evaluation.

Walkthroughs Literature Review

For the purpose of this study, school leaders are implementing the walkthrough process to initiate change in the areas of teaching and learning. There is a clear distinction between when a school leader walks into a classroom to conduct a formal evaluation compared to an informal walkthrough. Formal evaluations inherently bring with them anxiety for teachers. Walkthroughs, on the other hand, are intended to support teachers, not evaluate them.

Walkthroughs are brief, frequent, unannounced classroom visits that are focused on gathering data regarding educational practices in the classroom (Kachur, Stout & Edwards, 2010). A walkthrough is not intended to merely make the school leader visible in the classroom, but rather is an opportunity for feedback and further discussion regarding teacher practices and student learning (Kachur, Stout & Edwards, 2010).

During the era when principals acted as building managers, an administrator's reason for visiting a teacher's classroom was either to conduct a formal teacher evaluation or to inspect the classroom structures and the proper

implementation of curriculum (Cudeiro & Nelsen, 2009). Walkthroughs have attempted to shift the purpose of classroom visits from evaluating teachers to supporting teachers in their instruction of students (Skretta, 2007).

While the purpose of conducting a walkthrough may differ from visit to visit, the school leader has the opportunity to gather information from the walkthrough that includes instructional strategies, implementation of curriculum and standards, lesson objectives, assessments of student learning, level of student engagement, classroom resources, and the level of cognitive demand (Kachur, Stout & Edwards, 2010). These short classroom visits are a means of collecting evidence from the classroom to assess school-improvement efforts (David, 2008), which may take the form of staff professional development.

There are many benefits to making visiting classrooms a common practice. From an instructional standpoint, the more time principals spend in classrooms, the more informed they are in regards to the quality of teaching and level of learning that are taking place in their school. These frequent visits will help principals target which teachers may be in need of additional support to improve their teacher practice (Downey & Frase, 2001).

Walkthroughs allow principals to assess the impact of professional development in the classroom and to assess new educational initiatives (Downey & Frase, 2001). Administrators are able to determine if teachers are actually implementing what they have learned from the professional development that has been offered through the school or district. This information can guide further professional development and approaches moving forward.

If teachers are being asked to implement a new educational program or

initiative, walkthroughs are an opportunity to determine if teachers need further support in implementing the program successfully.

Spending more time in classrooms also has two other valuable functions: it decreases the level of teacher anxiety when teachers see their principal enter their classrooms and provides a more accurate account of teacher practice (Downey & Frase, 2001). Teachers and students will come to expect classroom visits and they will become part of the norm.

The principal's presence in the classroom will not influence what is going on in the classroom and will result in a more accurate account of what typically is occurring in the classroom when the principal is not conducting a classroom visit. If a principal is present in a teacher's classroom on a regular basis, the teacher may be more open to feedback from the principal or more likely to engage with them in a conversation about their teacher practice.

By engaging in the walkthrough process, teachers will be receiving feedback from the frequent visits to the classroom. This practice will support a principal in their observations and post-observation discussions because, having been a frequent visitor to a teacher's room, they will be able to provide a more accurate and valid assessment of the teacher's professional practice (Downey & Frase, 2001).

Impact of Walkthroughs on Student Achievement

Grissom, Loeb and Master (2013) conducted a study of 120 school principals in the Miami-Dade County Public School system, which consisted of observers shadowing each principal for an entire school day. A protocol was utilized that listed 50 different tasks that were to be coded based on the principals'

actions. The data set was then linked to student performance data and principal interviews. The findings indicated that principals spend an average of 12.7% of their time on instruction-related activities, 5.4% of their time conducting walkthroughs, 2.1% of their time developing the educational program, 1.8% of their time conducting evaluations and 0.5% of their time coaching teachers (Grissom et al., 2013).

The researchers found that principals' time spent on instruction did not predict student achievement growth on state assessments (Grissom et al., 2013). The study did, however, find that specific instruction functions did predict student achievement growth, namely, time spent on coaching, evaluation and developing the educational program of the school (Grissom et al., 2013). The act of visiting classrooms alone is not enough to initiate school improvement: The true impact on teaching and learning lies in what comes after the data have been gathered from the walkthrough and the actual coaching of teachers begins.

It is important to note that principals in this study spent such a small proportion of their time devoted to coaching and evaluating teachers (only 2.3%), and yet this study proved the importance of these tasks as they relate to student achievement growth. There is a disparity between the amount of time spent conducting walkthroughs and the time spent coaching teachers. The question remains: Are principals conducting walkthroughs for compliance reasons or actually as a means of supporting teacher practice?

Impact of Walkthroughs on Teacher Self-efficacy

The idea of self-efficacy focuses on one's confidence in their ability to perform at a given level (Bandura, 1994). Confidence in one's professional practice impacts how people feel,

think, and how they motivate themselves (Bandura, 1994). The notion of self-efficacy has been shown to have an impact on student achievement directly as well as how teachers feel about their work in the classroom (Zimmerman, Bandura & Martinez-Pons, 1992).

Teachers who have high self-efficacy believe in their ability to teach students at a high level, and this helps to promote student learning (Downey, 2004). Self-efficacy has been shown to impact teachers' beliefs in how they perform in the classroom, but research has also shown that it positively impacts student achievement in both reading and writing (Goddard, Hoy & Hoy, 2000). Frequent classroom walkthroughs have been shown to have an impact on teacher self-efficacy (Chester & Beaudin, 1996). While they do not influence student learning directly, classroom visits have the ability to increase a teacher's belief that they can perform their role effectively.

The mere practice of visiting classrooms has an impact on teacher self-efficacy and building a teacher's ability to face challenges (Bandura, 1994). Teachers with a high sense of self-efficacy create challenging goals for themselves and have the confidence they can control difficult situations and recover quickly if they do not succeed at first (Bandura, 1994). It is this ability to persevere and keep striving to support student learning that makes students perform well in classrooms.

Walkthroughs play a more important role than merely gathering data about teacher practice; they also play a role in shaping school culture and positively impacting the climate so it is conducive for teaching and learning (Ing, 2010; Ziegler, 2006).

Impact of Walkthroughs on Teacher Practice

Walkthroughs and class visits have become requirements for school leaders in most schools. However, not all principals have the training or professional capacity to provide the level of feedback to teachers needed to improve teacher practice (Cudeiro & Nelsen, 2009). Some principals who do not have the expertise to know what to look for in classrooms allocate their time to other areas where they feel more comfortable (Ginsberg & Murphy, 2002).

When a principal conducts a walkthrough, they can gather plenty of data, but without having a level of expertise in teaching and learning, this data may be worthless to them (Deboer & Hinojosa, 2012). Principals conduct evaluations and walkthroughs to determine if teachers are doing the right things in their classes, but there is very little support for principals to determine if what they are doing with this information will actually lead to school improvement (Cervone & Martinez-Miller, 2007).

In many schools, professional development is allocated only to teachers for improving their professional practice. By ignoring the professional development of school leaders, we are missing an opportunity to strengthen administrators' capacities to improve instruction (Spanneut, Tobin & Ayers, 2012).

The purpose of conducting walkthroughs and visiting classrooms is to support teacher practice, but spending more time in classrooms also expands the bank of instructional strategies that administrators have at their disposal. The more time administrators spend in classrooms, the more experience they have to share some of these strategies and

techniques with other teachers moving forward (Downey & Frase, 2001). There is an expectation that administrators learn to do the work by doing the work (City, Elmore, Fiarman & Teitel, 2009), but there is a need to ensure that the work they are doing is the right work.

While walkthroughs have numerous benefits—from improving school culture to raising a teacher’s self-efficacy—the main goal for all administrators when walking into a classroom is improving teacher practice.

All school stakeholders understand that high-quality teaching results in higher levels of student achievement (Downey, 2004). School leaders utilize teacher walkthroughs as a means of ensuring that all teachers know what high-quality instruction looks like and how to make the improvements needed to reach this level in their professional practice.

The more a school leader visits classrooms and focuses on curriculum and instruction during these visits, the more positive the impact on classroom instruction (Teddlie, Kirby & Stringfield, 1989).

Walkthrough Models

The numerous walkthrough models differ in their approaches to visiting classrooms. The time spent in the room typically varies, but nearly all models agree that the visit should be short in duration. While in the classroom, each model focuses on different “look-fors” when gathering evidence. The major difference in the walkthrough approaches is in how the feedback is delivered to the staff.

Some walkthrough models focus on individual feedback and coaching, while others focus on providing a school with trends across the entire school or multiple classrooms without providing feedback to specific teachers

regarding their instructional practices. The school leader’s purpose for visiting the classroom determines the method by which feedback is delivered.

If the purpose is to support teacher practice and coach individual teachers, then providing individual feedback and engaging in reflective conversations would be the most beneficial method for all parties involved.

If the school leader is using a walkthrough to assess the implementation of professional development or to determine how a curriculum initiative is being implemented in the school, then a general overview of the trends from a school-wide walkthrough would be the best method.

Regardless of the method used, the value of a walkthrough model should not be based on what is observed, but rather on how the model addresses what the school leader does with this information once it has been gathered (Grissom, Loeb & Master, 2013).

Downey Walkthrough Model

The Downey walkthrough model created by Carolyn Downey, who worked as a school administrator during the 1960s, is an approach to visiting classrooms consisting of five basic factors that aims to encourage principals and teachers to work together in a collaborative and reflective manner (Downey, Steffy, English, Frase & Poston, Jr., 2004).

Downey’s approach to walkthroughs consists of short but focused classroom visits that do not exceed three minutes in length. The goal of the walkthrough is to collect a small amount of data that might be used to support a conversation about teacher practice. The walkthrough participants consist of principals, coaches, mentors and/or teachers.

The Downey model focuses on five “look-fors” during the classroom visit: (1) student orientation to work, (2) curricular decisions, (3) instructional decisions, (4) walk the walls and (5) health and safety conditions (Downey, 2004). The feedback is provided directly to the teacher through the use of reflective questions and subsequent conversations.

The goal of these conversations is to improve the choices teachers make as they teach future lessons independent of the principal (Downey, 2004). Downey’s model hopes to create teachers who are self-reflective and have the ability to analyze their own teaching and make future modifications and improvements to their lessons on their own (Downey, 2004).

Design and Methods

This study is descriptive in nature and utilized a survey designed to gather walkthrough and demographic data from school principals. The goal of the study was to use a quantitative design to investigate the relationship between a principal’s implementation of the walkthrough process and the demographics of both the school and the principal conducting the walkthrough.

The study utilized a survey design to compare a relatively large sample of New Jersey school principals. This research design utilized data gathered from web-based surveys that were previously distributed through e-mail to New Jersey school principals as part of a study request from the Seton Hall University Superintendent Study Council in March of 2015. Survey collection was administered by the website Survey Monkey.

The survey was cross-sectional and measured principal perceptions of the walkthrough process from different schools

across the state of New Jersey. A survey was selected to answer the study’s research questions because it enabled the researcher to determine how principals implement the walkthrough process across a high number of schools.

Population and Sample

While school administrators can be district- or school-based leaders, the primary focus of this study is the school principal. Principals are the primary instructional leaders of schools and the ones who frequent teacher classrooms the most.

The sample for this study consisted of 214 New Jersey principals across all socio-economic groupings. The rationale for including New Jersey principals across all socio-economic groupings is that it provides a more complete picture of the walkthrough-implementation process across all socioeconomic levels in New Jersey schools.

Principals were examined from the elementary, middle and high-school levels. By including all levels of schools in New Jersey, the study investigated whether there are any differences in how the walkthrough process is implemented across school levels. The principals were from schools that have populations ranging from less than 500 students to over 3000 students.

The study chose to include all sizes of school districts in order to ensure a high response rate by not limiting the study to a particular district size. The sample of principals included principals who have differing levels of experience, from principals in their first or second year to those who have 10 or more years of experience as a principal. By including principals across experience levels, the study was able to see how the role of instructional leadership changes for those who have been in the role for longer periods of time

as compared to those who are newly appointed principals.

Instrumentation

In this study, the analysis compared each principal's survey responses regarding their implementation of the walkthrough process in their school to demographic characteristics of both the principal and the school setting where the principal conducts the walkthrough. The survey consisted of six prompts pertaining to demographics and 10 prompts pertaining to the walkthrough process.

Data analysis

Descriptive statistics were generated from each of the 18 survey questions. The descriptive statistics collected from the survey were summarized and analyzed based on the six demographic variables: (1) district factor group category, (2) district size, (3) grade levels served, (4) principal ethnicity, (5) principal gender and (6) principal experience level.

The demographic data were analyzed using a cross-tabulation analysis to determine if each demographic variable had a statistically significant association with the school principal walkthrough survey responses.

The cross-tabulation analysis included the following walkthrough survey responses: (1) purpose for conducting the walkthrough, (2) most frequent use of the walkthrough, (3) most important use of the walkthrough, (4) length of a typical walkthrough and (5) frequency of walkthroughs.

Cross-tabulation analysis was used as the form of statistical analysis because the survey produced ordinal, nominal and categorical responses. Missing data were addressed through a case-wise deletion

approach in order to maximize the amount of respondents included in each statistical analysis.

A chi-square test for independence was used to assess the degree of association between categorical variables, and Cramer's V was used to determine the strength of the relationship between variables in order to answer the study's research questions.

Findings

Research Question 1: Is there a significant relationship between a school's socioeconomic status and a principal's purpose for conducting a walkthrough? Principals selected one of eight district factor groups in defining their school's socioeconomic status and responded to a survey question asking them to identify the most important purpose for conducting a walkthrough in their school.

There were seven purposes listed in the survey, including to evaluate teacher instructional delivery, to gather data for decision making, to monitor student behavior, to evaluate principal's performance, to evaluate classroom climate, to assess adherence to district policies and other purposes not listed.

There was no statistically significant association between the district factor group and most important purpose for conducting a walkthrough. The Pearson chi-square results indicated that the assumptions were not met, and the reported chi-square test resulted in a non-significant result ($X^2=39.335$, $df=35$, $N=167$, $p=.282$).

These findings suggest that principals are not more likely to select a specific walkthrough purpose as the most important based on the district factor group or socioeconomic status of the school community.

Despite the lack of a statistical association between district factor group and the purpose for conducting a walkthrough, it is important to note this study determined that regardless of the socioeconomic makeup of their schools, principals prioritize walkthroughs as an opportunity to evaluate teacher instructional delivery, evaluate classroom climate and to gather data for decision making.

Most principals, regardless of their district factor group, believe walkthroughs are to be used to evaluate teachers in some form. Despite research indicating that walkthroughs are meant to be informal and non-evaluative (Downey, et al., 2004), the principals in this study have indicated that they use walkthroughs as an additional means to evaluate teachers.

When walkthroughs are used primarily to evaluate teachers, this may have an unintended impact on the school culture and the school's receptiveness to change. Research indicates that when walkthroughs are used to support and coach teachers, through a more reflective as opposed to evaluative approach, a positive school culture develops, enhancing the comfort level of teachers and helping overcome reform obstacles (Freedman & LaFleur, 2003).

By continuing to utilize walkthroughs as a tool for evaluation, principals are missing an opportunity to use walkthroughs to positively impact school culture and create a school climate that is open and receptive to change.

Research Question 2: Is there a significant relationship between the level of administrative experience of a principal and that principal's purpose for conducting a walkthrough? Principals selected one of three experience levels in defining their demographic and responded to a survey question asking them

to identify the most important purpose for conducting a walkthrough in their school.

There were 43 principals with under five years of experience, 66 principals with five to ten years of experience and 65 principals with more than ten years of experience. There was no statistically significant association between the variables administrative experience and most important purpose for conducting a walkthrough. The Pearson chi-square results indicated that the assumptions were not met and the reported chi-square test resulted in a non-significant result ($X^2=14.839$, $df=12$, $N=174$, $p=.250$). This finding suggests that principals are not more likely to select a specific walkthrough purpose based on their experience level as a principal.

Despite the lack of a statistical association between a principal's experience level and their purpose for conducting a walkthrough, it is important to note that principals with less experience utilize walkthroughs far less as an evaluative tool than principals with more experience.

While principals in the survey indicated that the evaluation of teacher instruction delivery was the most important purpose for conducting walkthroughs, the principals with less experience indicated that gathering data to guide their decision making was the second most important purpose. This may be the start of a trend amongst newly hired principals that are placing a greater focus on using walkthroughs as a means of making decisions about the school as opposed to using them as a tool for evaluation.

Research Question 3: Is there a significant relationship between the level of administrative experience of a principal and whether or not that principal shares the results of the walkthroughs with teachers? Principals

selected one of three experience levels in defining their demographic and responded to a survey question asking if they share the results of their walkthroughs with teachers.

While the majority of principals (72.5%) share the results with teachers, it is of interest to note that there is a clear increase in the percentage of principals who share the results with teachers as the principal's level of experience increases—from 65.1% in principals with less than five years of experience to 66.2% in principals with less than ten years of experience to 84.1% in principals with more than ten years of experience. The statistical analysis resulted in a statistically significant association between a principal's level of experience and whether or not they share the results of walkthroughs with teachers. The Pearson chi-square results indicated that the assumptions were met, and the reported chi-square test resulted in a significant result ($X^2=6.763$, $df=2$, $N=171$, $p=.034$). The Cramer's V (0.199) indicated an approximate significance level of 0.034.

This indicated that there is a moderately strong association between principals' administrative experience levels and whether or not they share the results of walkthroughs with teachers. These findings suggest that principals are more likely to share the results of their walkthroughs with teachers based on their years of experience as a principal.

Principals who have been in the position for a longer amount of time may be more skilled in their ability to provide feedback to teachers and have more experience with engaging in professional discussions revolving around instructional practice.

Those who are newer in the position

may lack the confidence or skills to provide feedback to teachers, which would explain why less-experienced principals are not as likely to share the results of walkthroughs with teachers.

Conclusion

This study has shown that the concept of instructional leadership cuts across socioeconomic levels and a principal's level of experience as it pertains to the implementation of the walkthrough process. While it is clear that walkthroughs are used for many different purposes, the most frequent is to evaluate teacher instructional delivery. The principals in this study believe that walkthroughs should be used primarily to evaluate teacher instructional delivery.

Instructional leadership is necessary to improve teaching and learning in schools, but this study has shown that while principals value the use of walkthroughs as an evaluative tool and a means of gathering data on what is going on in the classroom, there is still a lack of consensus about how best to use the information that is gained from walkthroughs going forward. Once the walkthrough model is seen by both teachers and principals as a means of coaching and supporting teachers rather than evaluative, there will be a better chance of establishing sustainable school improvements in teaching and learning.

Change can only occur if everyone in the school setting is receptive to change: Principals need to prove their worth as instructional leaders and teachers need to develop a sense of trust in their principals. Through openness, trust and coaching, principals and teachers can establish a culture that is receptive to improving teaching and learning to the benefit of all students.

Author Biographies

Daniel Gutmore is currently a faculty associate at Seton Hall University. He is a former teacher and administrator in the Newark, NJ public schools. He holds a PhD from New York University and specializes in organizational theory and practice at the K-12 level. E-mail: daniel.gutmore@shu.edu

Jason Marx is currently a grade 6-12 principal at Passaic Preparatory Academy in the Passaic, NJ public school system. He holds an EdD from Seton Hall University and is interested in management practices that promote student learning. E-mail: marxjaso@shu.edu

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Superintendent Perceptions of School Safety and Arming Teachers in Public Schools in Nebraska

Mark Lenihan, EdD
Superintendent
Wayne Community Schools
Wayne, NE

David De Jong, EdD
Assistant Professor
Educational Leadership
University of South Dakota
Vermillion, SD

James Ossian, PhD
Retired Professor
Educational Foundations and Leadership
Development
Wayne State College
Wayne, NE

Frederick W. Aderhold, EdD
Adjunct Lecturer
Educational Leadership
University of South Dakota
Vermillion, SD

Derrick Robinson, PhD
Assistant Professor
Educational Leadership and Policy Studies
University of Memphis
Memphis, TN

Abstract

The safety of students and staff is one of the most important responsibilities of a superintendent. This mixed-method study examined school security and emergency management protocols in Nebraska public schools. This study used qualitative perceptual data to compare the importance school superintendents place on safety and security emergency management protocols. This study also sought to identify any relationships between the size of school district and the level of preparedness for an emergency situation. The study solicited feedback using a quantitative survey on superintendent perceptions of arming teachers in Nebraska Public Schools.

Key Words

arming teachers, school security, school safety, emergency preparedness, emergency management protocols.

Emergency management protocols for public schools in the United States have changed and evolved rapidly as a result of a growing number of school shootings that have occurred during the past two decades. School shootings and terroristic events that have occurred in recent history have increased the need for public schools to prepare a response to tragic events, but also to seek ways to attempt to prevent tragedies from occurring. The idea of prevention of school violence is also part of the scope that public school systems must deal with as emergency management plans are established. While it is not possible for schools to predict when a crisis may come about, having an organized and systemic emergency management plan prior to a crisis will allow the school to handle the emergency situation effectively (Kennedy, 1999).

Overview of Emergency Management Protocols in K-12 Public Schools in United States

Schools across the United States are entrusted with the safety and the security of the millions of children who attend public and non-public schools. Parents and families expect schools to maintain a safe and positive learning environment, free of threats and harm. According to the Centers for Disease Control and Prevention, since the year 2000, there have been more than 130 shootings at K-12 public schools in the United States that have occurred in 43 out of 50 states. From those 130 shootings, 250 students and staff have been killed. Parents depend on schools to provide a safe learning environment free of violence and danger.

Despite the increase in school violence and shootings, a large majority of schools in the United States remain safe for students and staff (Office of Safe and Drug-Free Schools U.S. Department of Education, 2007). Cornell and

Sheras (1998) claim successful school crisis management plans are dependent upon the qualities of leadership, teamwork, and responsibility. Effective crisis management teams must learn to function in a manner that is responsive and does not concern itself with fear or blame (Cornell & Sheras, 1998).

Overview of Emergency Management Protocols in K-12 Public Schools in Nebraska

In 2014, the Nebraska State Legislation passed Nebraska Statute 79-2,144(2) which requires the Commissioner of Education to appoint a state-wide School Security Director. As part of the duties and responsibilities of the School Security Director, minimum security standards were presented to the State Board of Education. The Statute also requires the director to collect safety and security plans from each school in the state, conduct an assessment of security for each school building in the state, identify deficiencies, and establish security awareness and training programs for public school staffs (Nebraska Statute 79-2,144).

Safety and security standards adopted by the State Board of Education include four classifications: prevention, preparedness, response, and recovery (Nebraska Department of Education Safety and Security Standards, 2016). The safety director outlined the work of the departments to the four areas in response to State Statute 79-2,144. The four areas are (a) School Safety Standards, (b) School Security Assessments, (c) School Security Deficiencies, and (d) School Safety and Security Plans.

The State of Nebraska has also provided guidance to schools on threat assessment. According to Scalora and Bulling (2018), there are several benefits of an effective threat assessment school management process. An effective process focuses on troubling behavior rather than troubled persons, is preventative

versus reactive, allows for assessment and monitoring of patterns of contact, allows for a coordinated response with other agencies, and uses interventions that promote and emphasize dignity and respect.

Prevention Strategies

One of the key factors for crisis prevention in k-12 public schools is a positive environment conducive to learning that focuses on the positive relationship between staff and students. Fostering positive relationships among students and staff, community involvement and support, and the availability of a variety of extra-curricular programs to students are some factors that help engage students and staff in a positive school environment (Poland, Pitcher, & Lazarus, 2002). In her book review of *The Truth About School Violence: Keeping Healthy Schools Safe* by Jared M. Scherz, Holyoke (2009) analyzes school district strategies to address violence. “Schools often adopt policies to prevent violence without proper acknowledgement of the context in which the violence occurs; such policy establishment ignores the root of the problem” (p. 57).

According to Palmer (2016), a school system should assess school climate and culture on a regular basis and implement practices that encourage a positive and safe learning environment. There should also be a process in place to assist students and to identify students who display at-risk behaviors. A threat assessment team or student assistance team should institute a process to provide help for students and their families.

Preparedness

At any point and time, a crisis may occur at a school. Regardless of efforts taken to prevent a crisis, having an effective and well-planned emergency response will help with a rapid, coordinated, and effective response during a

crisis (The Office of Safe and Drug Free Schools U.S. Department of Education, 2007). A school system should establish an emergency management plan that provides structure and well-outlined responsibilities for all members of the emergency management team. Within the emergency management plan, several procedures consistent with incident command procedures should be established.

Response

Response to an emergency situation defines “the capabilities necessary to stabilize an emergency once it has already happened or is certain to happen in an unpreventable way; establish a safe and secure environment; save lives and property; and facilitate the transition to recovery” (United States Department of Education, 2013, p. 2). MacNeil and Topping (2009) outline three objectives of emergency response. The objectives indicated are developing options based on information, selecting the appropriate response, and implementing the response accordingly. According to Cole, Henry, Tyson, Fitzgerald, and Hopkins (2008), the goal of the response must be “rapid, effective containment of the incident, while preserving life, property, and the environment” (p. 4).

Incident Command During An Emergency

The importance of a comprehensive emergency response team and coordinated response system is critical for schools. Planning prior to an event and having documented plans and extensive training for staff will help schools alleviate an emergency situation efficiently. While the terminology may differ, school emergency response and incident command response have many similarities. Incident command and school emergency response teams are hierarchical and typically have one person who is the coordinator and responsible for the overall management of the emergency.

Most incidents at schools are handled internally by the school emergency response team, however, in more serious incidents, coordination and involvement of public agencies that incorporates a unified response are necessary (Nickerson, Brock, & Reeves, 2006).

Communication During an Emergency

One of the most important roles a school administrator or crisis team leader will encounter during an emergency response is effective communication. In the modern-day world of social media, rumors and misconceptions can spread quickly. A key component to effectively handling a crisis situation is being prepared to respond with accurate and timely information (Agozzino & Kaiser, 2014). Benoit (1997) outlines three steps to effective communication during a crisis. The first step is effective pre-crisis planning of contingency plans for an initial response. The second step is to identify the nature of the crisis and ensure an accurate account of the situation is available. And the third step is to identify the appropriate audience and ensure accurate information is communicated in a timely manner.

Recovery

The main concern for schools during and after a crisis is not only their physical safety, but also their mental well-being. This is also a concern for school staff who endure a tragic event or crisis emergency. It is important for school administrators to ensure the system has a well-prepared recovery plan that address these important mental and emotional needs. As teachers transition back to the classroom and attempt to bring normalcy back to the school system, they may notice students showing signs of distress. When these signs are noticed, teachers should refer students to counselors. Administrators can assist this

process by providing training for teachers prior to an emergency that will assist them in recognizing students in distress (Cole, Henry, Tyson, Fitzgerald, & Hopkins, 2008).

Arming School Staff and Teachers

With the recent school shootings that have occurred in 2018, there has been much public discussion and debate about allowing teachers and staff at schools to be trained and allowed to carry guns. On February 14, 2018, a mass shooting occurred at Marjory Stoneman Douglas High School in Parkland, Florida. Seventeen people were killed and 14 more were taken to hospitals, making it one of the world's deadliest school massacres. Currently, Nebraska Statute 69-2441 has in law that it is unlawful to carry weapons on K-12 public school grounds. Additionally, as stated in Nebraska Statute 28-1204.04, "any person who possesses a firearm in a school, on school grounds, in a school-owned vehicle, or at a school-sponsored activity or athletic event is guilty of the offense of unlawful possession of a firearm at a school." Unlawful possession of a firearm at a school is a Class IV felony (Unlawful Possession of a Firearm at School, 2018). The State of Iowa has similar laws prohibiting firearms on school grounds as outlined in Iowa Code section 724.4B which specifically states that bringing weapons onto the grounds of a school is a class D felony.

According to Thomsen (2018), there was a considerable amount of legislation on arming teachers in classrooms in 2013. Since 2013, several states have taken legislative action to some degree in allowing school personnel to carry guns in school. Specifically, Kansas, South Dakota, and Tennessee have legislation that allows local school boards to permit staff to carry weapons. Wyoming, Texas, and Georgia have legislation that permits specific personnel to carry weapons in schools. Arizona, Idaho, Ohio, and Utah, grant

permission to specific individuals who may or may not be school personnel to carry weapons (Council of State Governments Justice Center, 2014).

According to Shah (2013), while teachers and national associations have rejected the concept of arming teachers, some safety experts say it should still be considered, especially in remote and rural areas of states that do not have immediate access to law enforcement. School resource officers may be a tasteful alternative for school districts that provides a safe environment without having teachers or staff armed. According to Dickmann and Cooner (2007), “A school resource officer can help protect teachers from issues and influences that detract from their teaching time or focus and may ultimately affect student achievement” (p. 18).

Population

The study took place with the 245 K-12 public school districts in the State of Nebraska. The sizes of the school districts were broken down into four classifications by enrollment numbers generated from the Nebraska Department of Education Finance and Organizational Services website (Finance and Organizational Services, n.d.). Large school districts included populations of 1500 students or higher, mid-size school districts included populations of 700-1499 students, small school districts included populations of 300-699 students, and very small school districts included populations of 299 students and fewer. The school superintendents from each school district were asked to participate in responding to the survey questions.

Instrumentation

A survey instrument was used to gather the data for this research study. The survey questions were developed by the researchers

based on a review of literature, current practices of emergency management protocols in K-12 public schools, information from a variety of presentations on the topic, and the relevant experience of the researchers. The instrument was piloted by area Educational Service Unit Administrators, all of whom have an extensive background as school superintendents.

The respondents were asked to use a five-point Likert scale to rate the importance of emergency management plan preparedness in four areas: prevention, preparedness, response, and recovery. The respondents were then asked to use an additional five-point Likert scale to rate the superintendent’s perception of their school district emergency management plan in the four areas: prevention, preparedness, response, and recovery.

As part of the survey, the demographic data that was requested was the school district enrollment in the 2017-18 school year, regional location based on the Educational Service Unit of the school district, total number of years as the superintendent at the current school district, and total number of years as a school superintendent in the State of Nebraska.

Finally, open-ended questions for superintendent comments on their opinion of allowing staff to carry weapons as part of the district safety plan were provided. Content validity was established by using a research matrix linking items on the survey to the review of related literature and best practices as established by the Nebraska Department of Education Safety and Security Standards. The closing section of the survey included open-ended questions on the superintendent’s perception of potential legislation that may allow teachers and staff to carry weapons as part of a school safety plan.

Open-ended Questions: Qualitative Clusters

Three themes emerged from the qualitative open-ended responses: superintendents not in favor of arming teachers, superintendents in favor of arming teachers, and superintendents in favor of having a trained student resource officer or local police authority in school and armed.

Superintendents not in favor of arming teachers and staff

When analyzing the open-ended comments from the question of allowing teachers and staff to carry weapons at school as part of the emergency management plan, the researchers discovered three themes. Of the 111 participants in the survey, 73 (66%) superintendents were not in favor of arming teachers.

Of the 73 superintendents not in favor of arming teachers and staff, a large majority had concerns about the safety factor of having weapons such as guns in schools. Some of the responses include the following;

- “No way in hell. My teachers are more unstable when compared to most of the students.”
- “Absolutely not! No amount of training can prepare them for the responsibility of trying to safely shoot while an active shooter is shooting at them with students running in a panic.”
- “Absolutely NOT. There are too many possible adverse scenarios with teachers carrying guns.”
- “This will not happen in any of the facilities where I am the Superintendent.”
- “That is not a good idea. Staff are focused on students in their classroom and not the location of an active

shooter. The thought of a staff member accidentally shooting a child is something that would devastate a teacher.

Superintendents in favor of arming teachers and staff

Twenty-one (19%) superintendents in favor of arming teachers. Of the 21 superintendents in favor of arming teachers and staff, a majority felt it would be acceptable assuming there is adequate training. Some of the responses include the following:

- “If a high level of training and certification was in place, it is perhaps a viable option.”
- “I was 100% against it until the past couple of years. Sadly, I'm afraid society may have spiraled to the point that armed staff members may become a possibility that schools should consider.”
- “With reservation assuming adequate training. However, I have concerns about fostering a RAMBO type mentality with guns on campus.”
- “If a staff member is trained they should be able to bring the gun into the school. Small schools do not have Resource Officers and it may take up to 20 minutes before law enforcement can reach the school.”

Superintendents in favor of a trained armed officer

Seventeen (15%) superintendents in favor of having a trained student resource officer or local police authority in school and armed. Some of the responses include the following:

- “Staff carrying weapons would not be a preference for me, unless it is by law enforcement. Use of weapons in a stressful situation is something that

requires extensive training and in my opinion should be left to the professionals.”

- “It is not a good idea to have armed teachers, though we are in favor of having other, trained personnel such as security personnel be able to carry in school.”
- “I believe trained law enforcement officers are the best to carry a weapon on their person. When schools have this conversation, they must think about liability insurance, training, what type of weapon might be considered to be carried.”

Conclusions

As the State of Nebraska continues to develop state-wide standards and for school district emergency management protocols, there are several considerations school administrators and emergency management teams will need to take into consideration. The four standards for school security, as outlined in the Nebraska State Safety and Security Standards, provide an excellent framework for school districts to develop, improve, and enhance their safety and security plans for emergency management.

The study on the four standards of emergency management (prevention, preparedness, response, and recovery) was focused on situations that could occur at school districts that involved a violent act requiring law enforcement, namely a school shooting. The researchers examined the importance school superintendents placed on the four standards and followed with examining the perception superintendents have on the effectiveness of their school district emergency management plan, based on the same four standards. Secondly, the researchers looked to examine the correlation between size of school districts in Nebraska and their perceived effectiveness of their emergency management

plans, based on the four standards. Finally, the researchers asked for open-ended comments on whether or not superintendents believe teachers and staff should be armed as a component of their safety and security measures.

The outcomes of the study include:

- Superintendents place an equally high value on the importance of all four components of emergency management protocols.
- Superintendents perceptions of the effectiveness of their school district emergency management plans are lower than the importance placed on them.
- There is a statistically significant difference between the size of school and the level of emergency preparedness and response.
- There is no statistically significant difference between the longevity of a superintendent’s years of experience and effectiveness of emergency management protocols.
- Nineteen percent of superintendents believe it would be acceptable to arm teachers and staff due to proximity to local law enforcement and lengthy response time.

Of particular note, 81% of superintendents believe it would not be good practice to arm teachers in schools as part of an emergency management plan.

Discussion

It is clear that superintendents who responded place an equally high value of importance on all four components of emergency management protocol and safety and security measures. Analyzing the perception superintendent’s place on school district effectiveness of emergency management protocol, a high value of effectiveness is reported in most of the four

categories, with recovery and response protocols having the lowest value.

Considering the complexity of the four standards, it is important for school superintendents to develop strong emergency management teams, and to develop solid relationships with local law enforcement and other agencies that can be of assistance during an emergency.

With prevention, schools should have structured systems in place to develop positive relationships with students and staff. Students in every school must have one adult advocate that they trust. Having a trusted adult allows a student to feel they can discuss situations in a non-threatening and secure environment and provides a venue for a student to report something that could result in a dangerous situation at school.

Schools must also have processes in place to assess and encourage positive school climate, have a threat assessment process in place to assist at-risk students, and provide support and help for students and families. Preparedness efforts should include a well-planned and outlined emergency management system with established roles for everyone on the response team. The procedures should be flexible and applicable to many situations. Communication ahead of time with local agencies such as police, fire and rescue, and public health should take place. Finally, schools should practice a variety of drills including a communication plan with stakeholders.

The key to response is stabilizing the emergency once it has occurred, establishing a safe and secure environment, and facilitating the transition to recovery. Ensuring effective containment of the incident, making determinations of the standard response to the

incident, and coordinating the incident with incident command and law enforcement are important components of the response.

Concerns for staff and students regarding their emotional well-being after a tragic event, with long-term follow-up for counseling and referral services are all part of the recovery phase. Academic recovery, physical recovery, fiscal recovery, and physical and emotional recovery are all considerations school districts need to take during recovery.

It is clear that there is a discrepancy between importance and effectiveness of protocols. Superintendents place a clear and high value on all four of the components, however, when responding to the effectiveness of their school district, it is clear that the perception superintendents have on the effectiveness of their emergency management protocols is lower than the importance placed.

Since the establishment of a state security director in 2016, the State of Nebraska has increased their emphasis on school safety and security. Over the past three years, the state has sent a trained official to each school building in the state to conduct assessments of the emergency management protocol, as well as the safety and security measures. While the results of the assessment were not yet available at the time of this publication, training has occurred across the state for school districts to develop their emergency management plans and their safety and security protocols. The researchers believe the results of the assessments, and the state-wide training opportunities will enhance school district plans and will provide more effective response to emergencies.

Using a paired samples correlation between the responses of importance and effectiveness, the results reported two of the four protocols having a positive correlation.

The positive correlation between school district enrollment with preparedness and response suggests school districts with larger enrollment are more effective being prepared and responding to emergencies that involve a weapon and/or law enforcement response. The findings also suggested there was no significant correlation between school district enrollment with prevention and recovery.

The researchers consider two factors that influenced the correlations reported. Larger school districts in Nebraska have more staff resources to commit to school district safety and security. Often times, in smaller districts, the superintendent and school administration act as the emergency management team and play a major role on safety security. While this may have advantages, small school administrators also wear many hats and have complex jobs that require them to conduct most of the administrative tasks of the district. With availability of a larger staff, large school districts may be able to focus staff positions to address safety and security measures.

The key component for any school district, large or small, is to have a system that promotes positive relationships between staff and students, and the ability for a student to have at least one adult advocate in their school that they can trust and rely on. This factor may be simpler to accomplish in smaller schools, but large schools must consider developing a system to provide those important relationships.

Larger school districts in Nebraska have more resources to their availability due to their proximity to more densely populated areas in the state. Many smaller, rural districts are in remote areas that do not provide immediate access to resources. With this proximity to resources, larger districts have much quicker and immediate response time for emergencies

as compared to smaller rural districts that may have a 20-30 minute or more response time from law enforcement. This became evident to the researchers as the responses to the open-ended questions were considered. Several superintendents responded to the question of arming teachers and staff in a supportive manner due to the rural nature and geographic location of their school district.

Finally, the researchers conducted open-ended questions addressing the issue of arming teachers and staff as part of school district emergency management protocols. Overwhelmingly, 90 (81%) of the 111 responses, were not in favor of arming staff. Of those 90 responses, 73 indicated there should be no weapons in schools, and 17 indicated they are not comfortable with teachers and staff being armed, however would accept a school resource officer or a law enforcement officer being armed. 21(19%) of the responses, indicated they are in favor of having teachers and staff armed in schools, but only with proper training. Many of these superintendents indicated access to resources for an immediate response from law enforcement are limited, due to their geographic location.

During the time this research was being conducted, several incidents across the nation occurred that involved school shootings. The topic of arming teachers and staff came to the forefront of discussions for solutions to the issue of school shootings after these emergencies occurred at schools in 2018. Analyzing the responses provided, it became clear to the researchers that schools in more remote and rural areas of the state were more inclined to be in favor of arming trained staff at schools. Concerns about the safety of having trained teachers armed without understanding the responsibility of firing at an active shooter were mentioned.

The possibility of many adverse scenarios that could come about if teachers were armed, along with concerns about teachers having such a large responsibility, made superintendents skeptical of arming teachers. Some of the respondents however did indicate they would be comfortable having armed law enforcement present as school resource officers. Superintendents commented that some of their districts are very remote and law enforcement response time could be up to 30 minutes. These superintendents were more in favor of either arming staff or having a trained school resource officer available at their schools. While the response rate of having no armed staff at schools was high, the discussion and debate continues.

Mitchell (2018) quotes in the spring 2018 *AASA Journal of Scholarship and Practice* from a position paper adopted in July 2013 by the American Association of School Administrators Governing Board and subsequently reiterated at a 2018 governing board meeting:

If we hope to prevent future tragedies at schools, we must comprehensively address both school safety and gun safety. Increased mental health services, community supports for youth, and new attitudes about violence in our entertainment must all be part of this approach. We must be willing to spend the time and resources necessary to make sustainable changes. (p. 5)

The safety of students and staff is one of the most important aspects of a superintendent. While having staff armed at schools may be a short-term measure to resolve a violent occurrence, there are many more proactive measures that should take place at schools to ensure a safe school environment.

School districts must take appropriate measures in the prevention and preparedness areas prior to a violent emergency that involves weapons.

A positive school culture in which every student has an adult that they know, and trust is extremely important for school administrative staff to cultivate and nurture.

Threat assessment teams must be in place to watch for behaviors that are considered at-risk, and provide resources for students, staff, and parents to intervene and ensure students are cared for. Communication using a variety of venues including school messaging systems, media, Twitter, Facebook, and other forms of social media, can be of great benefit prior to, during, and after a violent situation occurs at school.

Communication with local law enforcement prior to emergencies to develop action plans and to be part of drill practice is critical in making sure all resources are involved in the prevention and preparedness phase. Facility requirements including controlled access, locked classroom doors, and security cameras that can be accessed by law enforcement are critical components of a school emergency plan. Practicing lock down, lock out, shelter, and reunification drills will help students and all stakeholders become familiar with safety protocols necessary in case an emergency situation occurs.

The measures taken by the State of Nebraska for school safety and security have already had a positive influence on planning for schools. School districts are also anxiously awaiting the results of the state-wide school building assessments to help them improve their emergency management plans and safety and security measures.

Author Biographies

Mark Lenihan is superintendent at Wayne Community Schools in Wayne, NE. Before his current role, he served as a coach, teacher, and principal in Minnesota and Nebraska. His research interest includes emergency management protocols and school safety. E-mail: malenih1@waynebluedevils.org

David De Jong served as school superintendent for eight years before becoming assistant professor of educational leadership at the University of South Dakota. His research interests include mentoring, educational leadership at the district level, and innovations in PreK-12 education. E-mail: David.DeJong@usd.edu

James Ossian, an educator for 59 years, served in administrative and professorship positions in Iowa, Michigan, and Nebraska. Honors include Mott Scholarship and invited lecturer at University of Thessaly in Volos, Greece. Degrees earned at Iowa State, Nebraska, and Michigan. E-mail: ossianj@abbnebraska.com

Frederick Aderhold is an adjunct lecturer in the Division of Educational Leadership at the University of South Dakota's Division of Educational Leadership. Having retired from careers involving school administration and higher education, he continues his work at the University of South Dakota supervising school superintendent internships. E-mail: Frederick.Aderhold@usd.edu

Derrick Robinson is an assistant professor of educational leadership and policy studies at the University of Memphis, following his service at the University of South Dakota. His research examines the contextual nature of school climate and culture, leadership effectiveness, and teacher effectiveness. E-mail: drbnsn28@memphis.edu

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Mission and Scope, Copyright, Privacy, Ethics, Upcoming Themes, Author Guidelines, Submissions, Publication Rates & Publication Timeline

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Below are themes and areas of interest for publication cycles.

1. Governance, Funding, and Control of Public Education
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Length of manuscripts should be as follows: Research and evidence-based practice articles between **2,800** and **4,800** words; commentaries between **1,600** and **3,800** words; book and media reviews between **400** and **800** words. Articles, commentaries, book and media reviews, citations and references are to follow the *Publication Manual of the American Psychological Association*, latest edition. Permission to use previously copyrighted materials is the responsibility of the author, not the *AASA Journal of Scholarship and Practice*.

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1. title of the article:
identify if the submission is original research, evidence-based practice, commentary, or book review
2. contributor name(s)
3. terminal degree
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8. telephone and fax numbers
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10. 120-word abstract that conforms to APA style
11. six to eight key words that reflect the essence of the submission
12. 40-word biographical sketch

Please do not submit page numbers in headers or footers. Rather than use footnotes, it is preferred authors embed footnote content in the body of the article. Articles are to be submitted to the editor by e-mail as an electronic attachment in Microsoft Word, Times New Roman, 12 Font. The editors have also determined to follow APA guidelines by adding two spaces after a period.

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2013: 15%	2017: 20%
2014: 20%	2018: 19%
2015: 22%	2019: 19%

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- Reviewer biography
- Date of submission

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Issue	Deadline to Submit Articles	Notification to Authors of Editorial Review Board Decisions	To AASA for Formatting and Editing	Issue Available on AASA website
Spring	October 1	January 1	February 15	April 1
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Editor

Kenneth Mitchell, EdD

AASA Journal of Scholarship and Practice

Submit articles electronically: kenneth.mitchell@mville.edu

To contact by postal mail:

Dr. Ken Mitchell
Associate Professor
School of Education
Manhattanville College
2900 Purchase Street
Purchase, NY 10577

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	Aspiring Superintendents Academy®: Female Leaders	Future Focused Schools Collaborative
	Aspiring Superintendents Academy®: Latino Leaders	Large Countywide Suburban District Collaborative
	Collaborative State Aspiring Superintendents Academies (MS, MT, MN and others)	National Women's Leadership Consortium
	Urban Superintendents Academy	Personalized Learning Cohort
	Howard University Cohort & University of Southern California Cohort	Personalized Learning Summit
	National Aspiring Principal Academy in collaboration with NAESP	Redefining Ready! Summit
		Social and Emotional Learning Summit
		Southeastern Women in School Leadership Conference
CERTIFY	AASA National Superintendent Certification Program® East 2022, Midwest 2022, West 2021	Urban Superintendents Academy Summit
	AASA National Superintendent Certification Program® States (PA, MN, AZ and others)	Women in School Leadership Forums Regional & States
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