Is the Use of Technology One of the Critical Issues Facing K-12 School Superintendents?

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ABSTRACT

The purpose of this study was to further extend research on critical issues as identified by principals to those identified by superintendents within K-12 school districts and determine the frequency and degree of issues reported that relate to technology. This study involved surveying school district superintendents located in a rural state in the southern region of the United States to discover what types of critical issues superintendents self-identified, the significance level of these issues, and the rationale behind the top ranked critical issue as identified by each superintendent.

Findings from this study will also be compared with identified critical issues of school principals within the same state to determine similarities and differences of reported issues. Furthermore, a study regarding cyberbullying conducted by Styron and Styron [1] provided evidence of the growing importance of managing student and teacher technology use as it relates to student safety and mental health. Determining whether administrators recognize the importance of technology security and surveillance as a critical issue will result in implications for future research and leadership training.

Keywords: Superintendents, Leadership, Principals, Internet Use, Educational Technology

INTRODUCTION

School superintendents have many important issues to deal with on a daily basis. Successful superintendents identify issues, prioritize them, and address them as appropriate starting with those that are most critical. This prioritization process must be quick as time demands inhibit the opportunity for superintendents to have the luxury of reflection.

Twenty-first century superintendents are expected to have a multitude of skills as evidenced by items found on the Educational Testing Service (ETS) School Superintendent Assessment. The Superintendent Assessment addresses educational leadership competencies pertaining to vision, goals, ethics, integrity, communication and collaboration; instructional leadership competencies consisting of teaching, learning, curriculum and instruction; and administrative leadership competencies including personnel, finance and management. Issues dealing with technology are connected to ethics, integrity, communication, collaboration, curriculum, instruction, finance, and management strategies [2].

LITERATURE REVIEW

There are few jobs in today's society that come with less stress than that of school district superintendent. According to Pascopelia [3], the average tenure for a school superintendent is only 3.6 years. Since the average contract length for superintendents is 4 years, this means the average superintendent does not complete his or her first contract.

Superintendents are seen as the culprit whenever there is controversy or wrong doing in their district. Whether or not the alleged accusations are deserved, superintendents bear the brunt of public criticism for all school district matters. Carrying the burden of responsibility for students, faculty, support workers, parents, board members, etc. has manifested itself in unusually high levels of stress [4] and since stress from any source can cause high blood pressure, heart disease, certain cancers and other ailments [5] the health of today's superintendents has come under scrutiny.

In a study conducted by Chance [6], data indicated that there were three major reasons connected to the failure of school superintendents. The primary cause was related to mismanagement and malfeasance of

financial matters. Communication issues with board members were a secondary cause and immorality was third. Even with compelling data regarding the brief average tenure of superintendents, undue stress resulting from multiple responsibilities and reasons for termination, there has been no evidence that superintendent preparation programs have restructured to better prepare educators for this critical role [7].

METHODOLOGY

The purpose of this study was to further extend previous K-12 school leader research which identified critical issues facing K-12 school principals. The study was conducted in 2011 and involved surveying superintendents within the state of Mississippi to discover what types of critical issues superintendents self-identify, the significance level of these issues, and the rationale behind the top ranked critical issue as identified by each superintendent.

In addition, this study will determine whether there is a difference between critical issues faced by education administrators at the superintendent and K-12 principal level, and if the use of technology is an identified critical issue. A previous study conducted in 2010 identified the top ten critical issues of K-12 principals. Styron & Styron's 2010 study [8] will provide comparison data to determine whether those critical issues identified in 2010 by K-12 principals are also shared with superintendents within the state.

After receiving Institutional Review Board approval, the research team deployed a self-developed questionnaire that consisted of eight items, six closed form and two open form questions, to all superintendents within the state of Mississippi. The first six questionnaire items included personal and position demographic questions. Personal demographic items include participants' age, gender, highest degree obtained, year of degree completion, and number of years as superintendent. Position demographic items include type of school district, elected or appointed position, student enrollment for district, and number of schools in the district. The final two questions were open-ended and allowed superintendents to report the top ten critical issues in rank order and discuss in detail the most critical issue providing a rationale as to why this issue was reported as the most significant.

The subject population consisted of school superintendents in the state of Mississippi as identified by Mississippi Department of Education's website. A list of current school superintendents is publically available and can be found at http://www.mde.k12.ms.us/mississippi-school-superintendents. The research team included all superintendents within the state, approximately 183, and received 41 returned questionnaires for a return rate of 22%.

Each superintendent was sent a cover letter providing pertinent details, a questionnaire, and a self-addressed envelope with postage to ensure that participants had the opportunity to confidentially return the completed questionnaire. As notated on the questionnaire, the completion and return of the instrument signified the superintendent's consent to participate in the study. All data collected remained anonymous and personal information inadvertently obtained was treated with confidentiality.

The research team applied a selective coding technique to develop topical categories for each response set. These categories were utilized to enter participants' responses into appropriate categories. Data was entered and analyzed using SPSS. Participants were also asked to provide rationale for the most significant critical issue they are currently facing. This data was transcribed and coded to determine if any themes exist and provided insight to the phenomenon surrounding the self-identified top issue.

Contingency tables (crosstabs) were created and a chi-square analysis was conducted to determine whether the individual variables of gender, age, school level, administrative experience, education system or highest degree obtained were statistically independent of reported critical issues.

Findings

Demographic data

Out of 41 participants, the sample primarily included male superintendents (84.6%) aged 51 or older (58.5%). In regards to the highest degree obtained, participants were evenly distributed with 34.1% (n=14) reporting a Master's degree, 26.8% reporting a Specialist, and 39% reporting a doctoral degree. Most degrees were completed before 1995 (34.1%) or between the years 2000-2009 (48.8%).

There was a vast array of years as superintendent reported by participants with 26.8% reporting less than 1-year experience, 17.1% reporting 1-4 years, 17.1% reporting 5-8 years, 26.8% reporting 9-12 years, and 12.2% reporting over 12 years. Approximately 78% of the superintendents were in rural school districts. Slightly over half (56%) of these positions were appointed as opposed to elected. Most superintendents resided over school districts with a student enrollment between 1,000-5,000 students (n=30) and were in districts comprised of 1-10 schools (n=35).

Critical Issue data

Funding was ranked the second most critical issue by school principals in the 2010 study. Additionally, accountability which is ranked as the second most critical issue by superintendents was the top issue reported by principals in the 2010 study. Table 1 provides an overview of the number one critical issues reported by superintendents as compared to the 2010 Critical Issues study conducted with K-12 school principals.

Table 1.   Overview of Critical Issues Reported

Rank	2011 Superintendents	%	2010 Principals	%
1	Funding	70	Accountability	44
2	Accountability	10	Funding	20
3	School board relations	5	Discipline	12
4	State/Federal overregulation	5	Staffing	8
5	Alternative schools	2.5	Time	6
6	High poverty	2.5	Phy Plant Op	2
7	Recruit/Retain high quality teachers	2.5	Parents	2
8	Pigeonholing students	2.5	Safety	2
9		--	SPED	2
10		--	Support	2

As indicated in Table 2, regardless of gender, funding was the most frequently reported response. It is important to note, however, that the majority of the sample was males.

Table 2.   Highest Ranking Critical Issue by Gender

CI in rank order	Male	Female	%
Funding	25	3	73.7
Accountability	2	1	7.9
School board relations	2	0	5.3
State/Federal over regulation	1	1	5.3
Alt schools	1	0	2.6
High levels of poverty	1	0	2.6
Recruiting/Retaining high quality teachers	0	1	2.6
Total (n=38)	32	6	100

As indicated in Table 3, regardless of age, funding was the most frequently reported response. The majority of participants were 51 years of age or older.

Table 3.   Highest Ranking Critical Issue by Age

CI in rank order	36-40	41-45	46-50	51+	%
Funding	2	8	6	12	70
Accountability	0	0	0	4	10
Sch brd relations	0	0	1	1	5
State/Fed over regulation	0	0	0	2	5
Alt schools	0	0	0	1	2.5
High poverty	0	0	0	1	2.5
Recruit/Retain high qual teachers	0	0	0	1	2.5
Pigeonholing	0	0	0	1	2.5

students

Total (n=40)	2	8	7	23	100

As indicated in Table 4, regardless of highest degree obtained, funding was the most frequently reported response. It is evident from the data below that all participants had some type of graduate degree. The state in which this study was conducted requires an advanced degree in order to become a superintendent candidate.

Table 4.   Highest Ranking Critical Issue by Highest Degree Obtained

CI in rank order	Masters	Specialist	PhD	%
Funding	8	8	12	70
Accountability	1	1	2	10
Sch brd relations	1	1	0	5
State/Federal over regulation	1	0	1	5
Alt schools	0	1	0	2.5
High poverty	1	0	0	2.5
Recruit/Retain high qual teachers	0	0	1	2.5
Pigeonholing students	1	0	0	2.5
Total (n=40)	13	11	16	100

As indicated in Table 5, regardless of year of degree completion, funding was the most frequently reported response. Only 2 participants have obtained a degree within the last 3 years.

Table 5.   Highest Ranking Critical Issue by Year of Degree Completion

CI in rank order	1995-99	2000-09	2010-2012	%
Funding	11	15	2	70
Accountability	2	2	0	10
Sch brd relations	1	1	0	5
State/Federal over regulation	1	1	0	5
Alt schools	1	0	0	2.5
High poverty	1	0	0	2.5
Recruit/Retain high qual teachers	0	1	0	2.5
Pigeonholing students	1	0	0	2.5
Total (n=40)	18	20	2	100

As indicated in Table 6, regardless of years as a superintendent, funding was the most frequently reported response. The breakdown of experience was fairly distributed across the spectrum with a representative sample from both new and veteran superintendents. Further this study included 22 of the 41 participants with 5 or more years. As previously referenced, most superintendents have a job expectancy of 3.6 years.

Table 6.   Highest Ranking Critical Issue by Years of Superintendent Experience

CI in rank order	< 1	1-4	5-8	9-12	13+	%
Funding	8	5	4	9	2	70
Accountability	0	0	1	1	2	10
Sch brd relations	1	0	1	0	0	5
State/Fed over regulation	0	1	0	1	0	5
Alt schools	0	0	0	0	1	2.5
High poverty	1	0	0	0	0	2.5
Recruit/Retain high qual teachers	1	0	0	0	0	2.5
Pigeonholing students	0	1	0	0	0	2.5
Total (n=40)	11	7	6	11	5	100

As indicated in Table 7, regardless of type of school district, funding was the most frequently reported response. The majority of the state in which the study was conducted is rural which may provide insight into the large number of rural school district superintendents which participated in the study.

Table 7.   Highest Ranking Critical Issue by Type of School District

CI in rank order	Rural	Suburban	Urban	%
Funding	23	3	2	70
Accountability	2	2	0	10
Sch brd relations	1	0	1	5
State/Fed over regulation	2	0	0	5
Alt schools	1	0	0	2.5
High poverty	1	0	0	2.5
Recruit/Retain high qual teachers	1	0	0	2.5
Pigeonholing students	0	0	1	2.5
Total (n=40)	31	5	4	100

As indicated in Table 8, regardless of position type (elected or appointed), funding was the most frequently reported response and safety was the least frequent response. Again, the sample represented both elected and appointed superintendents equally.

Table 8.   Highest Ranking Critical Issue by Position Type of Superintendent

CI in rank order	Elected	Appointed	%
Funding	12	15	69.2
Accountability	2	2	10.3
Sch brd relations	0	2	5.1
State/Fed over regulation	1	1	5.1
Alt schools	1	0	2.6
High poverty	0	1	2.6
Recruit/Retain high qual teachers	1	0	2.6
Pigeonholing students	0	1	2.6
Total (n=39)	17	22	100

As indicated in Table 9, regardless of student enrollment in the school district, funding was the most frequently reported response. The majority of superintendents reporting had a district wide enrollment that comprised 1,000-5,000 students.

Table 9.   Highest Ranking Critical Issue by Student enrollment in School District

CI in rank order	1-1k	1001-5k	5001-10k	10k+	%
Funding	3	19	4	2	70
Accountability	1	2	1	0	10
Sch brd relations	0	2	0	0	5
State/Fed over regulation	0	2	0	0	5
Alt schools	0	1	0	0	2.5
High poverty	0	1	0	0	2.5
Recruit/Retain high qual teachers	0	1	0	0	2.5
Pigeonholing students	0	1	0	0	2.5
Total (n=40)	4	29	5	2	100

As indicated in Table 10, regardless of number of schools in the school district, funding was the most frequently reported response. Most superintendents had 1-10 schools that were within his or her respective school district.

Table 10. Highest Ranking Critical Issue by Number of Schools in School District

CI in rank order	1-10	11-20	21-30	%
Funding	22	4	2	70
Accountability	4	0	0	10
School board relations	2	0	0	5
State/Fed over regulation	2	0	0	5
Alt schools	1	0	0	2.5
High poverty	1	0	0	2.5
Recruit/Retain high qual teachers	1	0	0	2.5
Pigeonholing students	1	0	0	2.5
Total (n=40)	34	4	2	100

The above tables (1-10) report responses that were provided when superintendents were asked to report their most critical issue. In order to have a better sense of the frequency of which these issues were reported, table 11 provides an overview of the frequency of each critical issue response and the percentage of how many times each issue was reported.

Table 11. Overall Frequency of Self-Reported Critical Issues

CI in rank order	Response Rate	%
Funding	70	32.5
Accountability	43	20
Recruit/retain high qual teachers	33	15
Sch brd relations	21	10
Community Apathy	20	9
State/Fed over regulation	12	6
Alt schools	7	3
Technology	7	3
High poverty	2	1
Pigeonholing students	1	.5
Total (n=216)	216	100

DISCUSSION

As the data indicates, superintendents identified their most critical issue as funding. Principals identified accountability. Although the orders of their first and second choices were different, the two most critical issues identified by both superintendents and principals were funding and accountability. Differences within leadership position and priorities established for each respective role are evidenced by the level of importance each respective group. Differences with regard to principals may be attributed to their work environment as these K-12 school leaders are building-level administrators and as such, are closer to the challenges that are associated with accountability. Furthermore, principals of public schools are not charged with securing funding as are superintendents. While funding often times may prohibit principals or limit their ability to hire new professionals, support technology infrastructure and associated initiatives, etc. it may not way as heavily when compared with standardized testing and student achievement. Superintendents, however, address more global issues regarding accountability, but have a primary responsibility to secure and manage funds.

Another interesting finding was that regardless of demographic category, all participants had identical rank ordering for their most critical issue. This is notable when one considers the diversity reported in all demographic categories with the exception of gender. Although the state of Mississippi is considered rural, the school districts were disaggregated across multiple descriptors however rural superintendents represented the largest sample with regards to type of school district.

It was also surprising to find the low response rate for issues connected to technology. This may be attributed to a relatively high number of grant awards for technology purchases. Or possibly superintendents felt pressure to make technology purchases but did not have adequate funding to do so therefore connecting valid technology concerns with other issues such as funding. However, with escalating problems related to technology, including cyberbullying [1], it is curious that only 3% of all superintendent responses and none of the principal responses in the 2010 study were related to technology.

The most alarming finding is the lack of attention to the issue of school safety by both superintendents and principals. Have schools and school districts realized such high levels of safety that it is no longer a concern? If that is so, schools would be operating in contradiction to Maslow's [9] hierarchy of needs which lists safety as a need that should always be addressed. Additionally, it should be noted that two of the issues identified as critical issues, stress and lack of job security, were not mentioned.

LIMITATIONS

There were two primary limitations to this study. Small sample size and item formatting served as a limitation to the study. Low participation makes it extremely difficult to make generalizations or recommendations for superintendents. Limited participation may have been a result of the format of the questionnaire as it required participants to critically think about top critical issues and to provide rationale for their most critical issue, or related to the time of year in which the questionnaires were distributed.

Open ended item formatting may also have deterred participants from completing the study and should be considered for future research. For example, elaboration on the most critical issue was not commonly reported. This rationale would have provided additional insight into the phenomenon of the top critical issues and may have afforded the opportunity to see if these issues had overlap with other issues such as technology or recruiting and retaining quality teachers and teacher leaders. Further, it also may be more beneficial to include pre-determined categories based on this research to increase the validity of these issues and provide the ability to compare responses more accurately.

The final limitation was the inequity of gender for the sample. The preponderance of male respondents also deterred the research team from identifying statistically significant differences in reported critical issues by gender. Ensuring a representative sample from both genders in future studies may lend insight into the differences, if any, of school leaders by gender.

RECOMMENDATIONS FOR FUTURE RESEARCH

Expansion of this study is recommended to increase the possibility of greater variance of responses, and statistically significant responses. The study should also be replicated in other southern states to determine whether reported issues are common across the region and what regional factors, if any, may influence responses of school leaders.

The lack of attention to technology in this study also indicates that it is currently not a critical issue. Technology, specifically as a critical issue, may need to be explored to better understand how it impacts school leaders and whether or not the use of technology is prevalent within the school and/or school district.

Further, because of the increased need for policies and procedures to guide safe internet and technology use, a separate study might also be conducted to focus specifically on technology, the challenges it presents to school leaders and how it is currently being prioritized and regulated. The use of web 2.0 tools and technologies in the classroom and at home provide the opportunity for increased student engagement and achievement however can also create legal issues if school leaders are not adequately training, promoting, and monitoring technology use of students, faculty and staff within the school and/or school district.

Finally, the low ranking or lack thereof for safety is cause for concern and should be further investigated. While safety should typically be a primary concern, it is interesting that superintendents did not identify it as a critical issue and principals [8] ranked the issue the lowest out of the reported critical issues. This is particularly interesting as violence and bullying have continued to remain issues within school settings.

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