Context and Decision Making:

An Exploratory, Mixed Methods Study Examining the Mental Models of Rural and Urban Principals.

A Dissertation Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

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December 2019

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DEDICATION

...to my wife, thank you for serving as my editor, providing encouragement, and being a calming influence when I thought this goal was unreachable. Also, thank you for being patient as I embarked on this leg of life's journey in the pursuit of my goals. Without your love and support I would have never made it to this point.

…to my two sons, thank you for being patient and understanding as I took the time to complete this journey. When I started you both were boys and now you have grown into fine young men. I hope that I have shown you to dream big and that you can accomplish anything.

…to my mom and dad, thank you for also being editors and providing encouragement. You have pushed me to be diligent and to finish what I started. Your love and support have allowed me to finish this chapter of my life.

I am extremely grateful for all of the encouragement, support, and love you all have shown throughout my life and in pursuit of this degree. You have all taken part in the completion of this degree and share in this accomplishment.

ACKNOWLEDGEMENTS

Many people have guided and supported me throughout this journey that I would like to acknowledge. First and foremost, the members of my doctoral committee:

Dr. Pamela Angelle, my committee chair, has guided and supported me for much of my collegiate career, encouraged me in pursuit of this degree, pushed me to challenge myself, answered my many questions, challenged me to look at ideas from new viewpoints, and finally encouraged me to have confidence in in my writing and in my contributions to academic discussion.

Dr. J. Patrick Biddix, for his guidance on designing my data collection, availability to answer many questions on data analysis, and for helping me to take the harder better road on instrument validation.

Dr. Mary Lynne Derrington, for providing me with assistance and guidance on integrating research methods, for giving me a clear perspective on the policy process, and for helping me to design qualitative data collection.

Dr. Lisa Yamagata-Lynch, for helping me with qualitative research, pushing me to ask the right questions, and opening me up to new viewpoints that shaped the entire dissertation.

To members of my cohort, thank you for your discussion and insights on the development of my study. I enjoyed sharing this journey with you and hope for the best in where your life takes you.

Finally, I want to acknowledge all my other family, friends, and colleagues who have offered much support in the pursuit of this degree. Thank you for your encouragement, kindness, and words of inspiration.

ABSTRACT

This sequential, exploratory mixed methods study examined how rural and urban school contexts affect school principals' decision-making process by influencing school principals' mental models. This study examined how the mental models of rural and urban principals' influenced decision making in their particular school context, what characteristics in rural and urban settings most influences the way school principals address challenges or issues in their school, and how the mental models of rural and urban principals compared in their decision making. This investigation followed a sequential, exploratory mixed methods design (QUAL+quan). The scenario survey used in the secondary quantitative phase was developed by the researcher based on data collected during the initial qualitative phase. At the conclusion of data analysis, findings were integrated to answer the research questions.

Qualitative results indicated that rural principals' decision making practices were influenced by the socio-economic condition of their community, parental education values, and making connections with community social groups as a means of supporting their school. Qualitative results also indicated that urban principals' decision making practices were influenced by the multicultural traits of their community, stakeholder communication, and business partnerships to obtain and develop resources. Quantitative results indicated that a majority of rural and urban principals focused on communicating with their respective stakeholders when engaging in decision making. Finally, integrated results indicated that when viewed holistically, rural and urban principals tend to think about traits associated with their respective contexts as identified during the qualitative phase of this study when making decisions. The study concludes with a model to describe principal decision making in rural and urban contexts and provides implications for its use along with recommendations for future research. Results from this study

highlight suggestions that future research should focus on principal decision making in suburban contexts, principal decision making within each context, and supporting principals in context specific decision making practices.

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CHAPTER 1

INTRODUCTION TO THE STUDY

Within the last decade, lawmakers in federal and state governments have increased focus on education reform. Lawmakers have focused on education reform by creating several mandates that local school districts must implement. To receive funding for some of the government mandates, school districts must conform to a common blueprint of educational areas such as curriculum, evaluation, and assessment (Alexander, 2013, NCLB, 2001; Tennessee Board of Education, 2013; Spring, 2014). Responsibility for organizing and supporting teachers in implementing uniform policy components resides with school principals.

Principals impact the execution of education mandates as well as school capacity by making numerous, important decisions. The principal influences policy implementation and school effectiveness by making several decisions regarding resources, instructional quality, school climate, achievement goals, and school data (Heck & Marcoulides, 1993; Heck, Larsen, & Marcoulides, 1990). Also present in the decision making process of school principals are more intrinsic factors. Such factors include whether a principal approaches decision making with an authoritative or shared style, traditional or nontraditional educational values, directive or supportive leadership behavior, or a managerial versus an instructional leadership focus (Hallinger & Heck, 2010; Lipham, 1981). These intrinsic factors lead to decision choices school principals make as they perform their professional duties. Principal internal values and leadership behaviors as well as decisions made influence the total school organization. (Hallinger & Heck, 2010; Heck, Larsen, & Marcoulides, 1990).

Principals engage in the decision making process by working through a perceptual framework called mental models. Mental models can be seen as the continual process that

individuals or groups utilize to make sense of their environment and experiences (Van den Bossche, Gijselaers, Segers, Woltjer, & Kirschner, 2010). Actions people take are based on predictive elements associated with mental models. Specifically, individuals take action based on past, lived experiences as people assume roles, perform activities, and acquire knowledge (Kim, 1993).

Principals use mental models to mentally conceptualize issues surrounding the decision making process that influences the school organization (Ruff & Shoho, 2005). The mental models that principals use to make decisions are influenced by the context of the school's external community (Leithwood, 1994). Decisions made by a principal, such as where to allocate attention across the range of professional responsibilities, are influenced by the external values and politics of a particular community that are interwoven within a school environment (Arnold, Newman, Gaddy, & Dean, 2005; Goldring, Huff, May & Camburn, 2008; Spillane, Halverson, & Diamond, 2004).

However, in the day to day agency of principals' work, they are called upon to implement educational mandates that contain little regard for a school's context. Educational mandates provide limited guidance for differential implementation practices for schools in different community types (NCLB, 2001; Tennessee Board of Education, 2013). Nonetheless, principals, regardless of their school's community context, must make decisions surrounding the implementation of educational mandates based on factors such as the local resources and societal values of the school context (Leithwood, 1994). Because principals make numerous contextually influenced decisions that affect the implementation of non-contextual mandates and facets of school operation, the understanding of a principal's mental models and the influence of these models on decision making is core to understanding exactly how context affects these decisions.

The importance of studying how context influences principal decision making is underscored in the literature as authors have indicated a need for further study on the phenomenon (Ruff & Shoho, 2005). Authors have suggested that the academic body of knowledge would benefit from a study on school leaders' internal thought processes, specifically in how external influences such as the surrounding community affect principal decision making (Hallinger, Bickman, & Davis, 1996; Hallinger & Heck, 1996; Johnson & Fauske, 2000; Leithwood, Begley, & Cousins 1990; Ruff & Shoho, 2005; Spillane, Halverson, & Diamond, 2004). Therefore, this study will examine how rural and urban school contexts affect school principals' decision-making process by influencing school principals' mental models (Ruff & Shoho, 2005; Spillane et al., 2004).

Statement of the Problem

Principals are daily called upon to make decisions to implement policy and accountability mandates. The expectation to follow through with the implementation comes with no regard for school context. Thus, principal decision making is constructed externally by school context and internally by the principal's mental models. While researchers have examined principal mental models in relation to experience level or specific contextual settings (Browne-Ferrigno & Allen, 2006; Gardiner & Enomoto, 2006; Ruff & Shoho, 2005; Yettick, Baker, Wickersham, & Hupfield, 2014), there is little research that focuses on how school context affects principal mental models during the decision making process. The lack of focus on the effect a school's context has on principal mental models represents an important issue as researchers have repeatedly called for research to study this phenomenon (Hallinger et al., 1996; Hallinger & Heck, 1996; Johnson & Fauske, 2000; Leithwood et al., 1990; Ruff & Shoho, 2005; Spillane et al., 2004). Ruff and Shoho (2005) have indicated that future studies on the relationship of principal mental models as they relate to different school contexts such as rural and urban

settings should be conducted. Leithwood et al. (1990) suggested that a study in school leaders' internal thought processes, specifically in how external influences such as the surrounding community affect leadership practices, would be beneficial to the academic body of knowledge. Hallinger and Heck (1996) indicated a need for research to focus on the interaction of school principals' mental models with the school context. Moreover, the interaction between leadership practices and the socio-cultural context in which a school is placed should be a topic of future research as recommended by Spillane et al. (2004).

Although research, (Hallinger et al., 1996; Hallinger & Heck, 1996; Leithwood et al., 1990; Ruff & Shoho, 2005; Spillane et al., 2004), suggests a relationship between a school's context and principal decision making practices, there is limited research that examines the role of decision making in a particular community type as influenced by mental models. Research that focuses on whether or not principals in different contextual settings, such as rural and urban communities, approach the decision making process utilizing different mental models will add to the literature by answering the call of Hallinger et al. (1996), Hallinger and Heck (1986), Johnson and Fauske (2000), Leithwood et al. (1990), Ruff and Shoho (2005), Spillane et al., (2004) and others to seek greater understanding of principal decision making in context, as mitigated by their mental models. This research will be placed in the literature as an exploration of how context influences school principals' mental frameworks and, thus, how they attend to issues and approach challenges through the decision making process.

Purpose of the Study

This mixed-methods study will address how the mental models of rural and urban principals influence decision making in their particular school context. The study will also identify possible characteristics in rural and urban settings that most influence the way school

principals address challenges or issues in their school. Finally, the study will investigate how the mental models of rural and urban principals compare in their decision making.

Research Questions

Following this purpose, this mixed methods study addresses three questions:

1. How do the mental models of rural and urban principals' influence decision making in their particular school context? (Qualitative)

2. What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school? (Quantitative)

3. How do the mental models of rural and urban principals compare in their decision making? (Qualitative and Quantitative)

Definitions of Terms

Several terms were used throughout this study. Though definitions have been provided elsewhere in the narrative, the following abbreviated glossary may prove useful.

Rural Communities: A rural community is delineated as a geographical area that represents sparsely developed territory with less than 50,000 people. The term "rural" is considered all areas that fall outside urban areas and clusters (US Census Bureau, 2010).

Urban Communities: Urban communities are densely populated geographic areas in which 50,000 or more people inhabit in a close proximity. Urban areas are also considered extensively developed (US Census Bureau, 2010).

Principal: For the purposes of this study, the principal role was embodied by one person, the head leader, and does not include the role of other school administrators such as assistant principals.

Mental Models: The decision making process individuals or groups utilize to take action based on past, lived experiences as people assume roles, perform activities, and acquire knowledge (Kim, 1993; Van den Bossche et al., 2010).

Limitations and Delimitations of the Study

Limitations

The limitations of this study involved the data collection methods used in the mixed method approach. Qualitative interviews, although possibly more detailed than data from quantitative studies, can be biased by the interviewer or the participant causing imprecise data to be gathered. Interviewer bias can occur through how the interview protocol is worded or how the interviewer asks the questions. Bias in interview protocol construction is addressed through strategies such as using peer debriefers who give corrective feedback as the interview protocols are developed (Rossman & Rallis, 2012). Bias as a result of how an interviewer asks questions is addressed through the use of member checks. Using member checks in this manner allows for participants to give feedback on accuracy and thus, avoid unintentional bias (Creswell, 2013; Merriam, 2009). Also, biases are made known and transparent for the reader through the use of an audit trail. An audit trail provides a log where researchers record their thoughts during the data analysis process for the purpose of monitoring biases and rationale for the choices made in the research process (Paulus, Lester, & Dempster, 2014; Watt, 2007).

The quantitative data of the second phase were collected using a researcher constructed survey instrument. As the survey instrument is measuring a principal's mental perceptions of variables in participant generated scenarios, the instrument would be considered an attitudinal measure (Colton & Covert, 2007; Fowler, 2014; Webb, Green, & Brashear, 2000). The data from this instrument relied on data that is self-reported by the participant. Since measuring a

principal's mental model is essentially measuring mental perceptions and not unbiased reality, there is a cause for concern about the level of empirical accuracy with the survey data. Unknown factors surrounding participants' mental perceptions such as social desirability could contribute to the completed surveys not reflecting actual perceptions of the participants. One of the most effective methods for addressing social desirability in quantitative research is addressed by ensuring confidentiality. Through confidentiality, participants are reassured that identifying information is not available to anyone other than the researcher (Colton & Covert, 2007; Fowler, 2014). Limitations inherit in the use of qualitative or quantitative methods are further addressed through the convergence of data from mixed method studies. The use of multiple types of data from interviews and surveys provides more than one viewpoint of a phenomenon which strengthens the validity of a study (Creswell, 2014; Creswell, Plano-Clark, Gutmann, & Hanson, 2003; Merriam, 2009; Rossman & Rallis, 2012).

Delimitations

For both the quantitative and qualitative phases of the research, participants were delimited to principals in a southeastern US state. The qualitative phase consisted of purposeful samples from urban and rural middle school principals. Therefore, generalizations cannot be made to suburban contexts (Colton & Covert, 2007; Palinkas, Horwitz, Green, Wisdom, Duan, & Hoagwood, 2015; Rossman & Rallis, 2012). The use of nonprobability sampling methods such as purposeful sampling, limited the generalizability of this study's findings. Because of this, the findings cannot be generalized to a larger population as with studies that employ probability sampling.

For the quantitative phase of the study, a survey was sent to all rural and urban principals in a southeastern US state. The decision to target rural and urban schools was made to examine

possible differences in the mental models associated with principal decision making. This decision, while limiting the generalizability of the study's findings, enabled the researcher to examine the manner in which specific contextual variables, within these types of schools, influenced principal decision making through their mental models.

Significance of the Study

Trider and Leithwood (1988) asserted that understanding principals' mental processes is key to understanding successful principal practices. In addition to understanding principal mental models, understanding how the principal applies the mental model to the school community context is equally important (Budge, 2006; Gardiner & Enomoto, 2006; Ruff & Shoho, 2005). Across the nation, states are beginning to implement similar curriculums, educator evaluation formats, and instructional practices. However, the communities in which these changes are being implemented remain diverse. Understanding that principals from different communities think differently about the implementation of the same national and state programs will be of benefit to national, state, and district policymakers. The characteristics of rural and urban communities present certain advantages/disadvantages, i.e. multiple English language learners or large geographical distances, to implementing a uniform policy that principals in those settings focus on when putting those policies into practice (Yettick et al., 2014). Understanding why rural and urban principals focus on certain parts of policy or how principals spend time on implementing one part of policy over another will aid federal, state and local leaders in planning successful implementation. District leaders will also be informed of practices that allow principals to be successful in rural or urban settings. Principals will be able to gain knowledge about possible context-specific leadership practices that will aid them in

leading their school. Collegiate principal preparation programs will be informed whether or not to emphasize leadership practices for specific contexts.

This study will add to existing limited research (Hallinger & Heck, 1996; Leithwood, 1994; Ruff & Shoho, 2005; Spillane et al., 2004) by examining the role of principal decision making in context as influenced by mental models. Ruff and Shoho (2005) examined the mental models of principals of different experience levels in different contexts. Leithwood (1994) examined the effects of school context on principal decision making during school restructuring. Spillane et al. (2004) noted the importance of the interaction between the socio-cultural context of a school and principal leadership practices. Hallinger and Heck (1996) took interest in the interaction of principals' mental models with regard to school effectiveness. Although some limited research has been conducted on interactions between principal decision making, contexts, and mental models, the phenomenon has yet to directly be the central emphasis of study and situated in academic literature. Extant literature is scant regarding questions such as the differences in the mental models of principals on common issues, how characteristics of contextual settings influence how principals address school issues, and how principal mental models influence professional success. Research focused on the study of how school context affects principal decision making processes will add to the academic body of knowledge in the field of educational research.

Organization of the Study

Chapter One has provided an overall introduction to this mixed methods study by discussing research purpose, significance, problems, and research questions along with other fundamental information. Chapter Two will examine the literature on the mental perceptions of principals from rural and urban environments. Chapter Three will discuss the study's research

design and explain the rationale and procedures for this mixed methods study. Chapter Four will focus on the analysis of quantitative and qualitative data gathered during the study. Chapter Five will answer the study's research questions and place findings from this study in the literature. Chapter Five also will suggest further areas for research for principal mental models as well as provide recommendations for development of principals in differing community settings.

CHAPTER 2

REVIEW OF THE LITERATURE

This study seeks to add to an already existent body of research on how principals of different community settings think about issues, challenges, and make decisions specifically inherent with their position. Chapter 1 provided an overview of the research study, beginning with a discussion of the problem under study. Chapter 1 also included the purpose, research questions, and significance of the study. To achieve the purpose of examining how rural and urban principals address similar challenges and issues through decision making, bodies of literature focusing on principals in both settings must be reviewed to identify recurring trends. The research identified characteristics about the mental frameworks used by rural and urban school leaders to address the following research questions:

1. How do the mental models of rural and urban principals' influence decision making in their particular school context? (Qualitative)

2. What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school? (Quantitative)

3. How do the mental models of rural and urban principals compare in their decision making? (Qualitative and Quantitative)

This chapter begins with an overview of the search process. Following the overview, a review of literature will present research on challenges and issues by rural and urban principals. After examining the perceptions of rural and urban principals, a review of bodies of literature related to school context in addressing barriers to professional success will be presented. Additionally, a review of the literature related to the mental and administrative adaptations that allow a principal to be successful in their occupational settings will be introduced. The

presentation of the theoretical framework that emerges from the discussion of the findings of the literature will be presented. Next, the limitations of this research will be analyzed to establish the significance and rationale for this study on instructional leadership. The review of literature concludes with a picture of the gap found in the literature to be addressed by the study.

Search Process for the Literature Review

This section outlined the methods utilized in the search of literature. Literature for this review came from peer-reviewed journals and online government reports. Journal articles were gathered using three strategies. First, I searched the following databases through the University of Tennessee Library online site: Education Resources Information Center (ERIC), SAGE Journals ONLINE, Education Full Text, and Professional Collection. I used a combination of the following search terms: *principal decision making, rural principal, urban principal, leadership, barriers, community, resources, challenges, mental models, issues,* and *mind sets*. The second strategy employed involved the use of Google Scholar. In Google Scholar, I linked the search engine to The University of Tennessee Library. I then entered the same search parameters and established article relevancy by reading the abstract. Once I established the relevancy of a particular article, I looked at the article's references to determine if any of the cited articles could be used in my study. Third, I read the table of contents for the past eight years for the following journals: *Journal of Research in Rural Education, Urban Education, Education Administration Quarterly*, and *The Rural Educator*.

Articles were eliminated from the review based on their relevance to the topic: how rural and urban principals approach challenges as well as addressing issues in their schools. This relevance was related to how the article explained, contextualized, or presented the rural/urban

principalship and the approaches by the respective principals to context specific issues dealing with principal success.

The search process led to a growing review of research on principals' perceptions of context specific barriers to the success of their schools. This review encompassed a review of articles, book chapters, dissertations, and similar sources. A majority of the research on challenges rural and urban principals face were grouped in the two categories of quantitative surveys and qualitative interviews. These studies demonstrated how mental models are used to approach the problems and issues principals face in a variety of settings.

Table 1 lists the studies and articles addressed in this review. The following table demonstrates that many quantitative and some qualitative studies have been conducted on the topic of rural principals and how they address common problems with the inverse being found in studies concerning urban principals. However, the gap in the research that has emerged through the literature review is that there are very few mixed method studies and very few studies that compare rural and urban principals' approach to common issues and challenges. Many studies have been conducted on rural and urban principals separately, but very few studies were found that compared the two community types of principals directly as seen in Table 1.

Methodology of Challenges faced in Rural and Urban Schools

To begin this literature review, a discussion of methodological features (methods, samples, and designs) of research into the challenges and approaches by rural and urban principals is needed before the findings are discussed. Periodically, references to Table 1, which summarizes much of the information presented, will be made.

Table 1

Studies on Principals from Rural and Urban Communities

Reference	*Methodology*			*Population Type*
	QUAN	*QUAL*	*MIXED*	
Amrein-Beardsly (2012)	X			Urban
Barley & Beesley (2007)		X		Rural
Browne-Ferrigno & Allen (2006)		X		Rural
Budge (2006)		X		Rural
Canales, Tejeda-Delgado, & Slate (2008)	X			Rural
Cray & Millen (2010)	X			Rural
Cruzeiro & Boone (2009)		X		Rural
Egley & Jones (2004)	X			Rural
Freeman & Anderman (2005)	X			Rural
Gardiner & Enomoto (2006)		X		Urban
Hoborat & Schafft (2009)		X		Rural
Jimenez-Castellanos (2010)			X	Urban
Leana & Fritz (2006)	X			Urban
Matsumoto & Brown-Welty (2009)		X		Rural
Moford (2002)		X		Rural
Ruff & Shoho (2005)		X		Urban
Theoharis (2008)		X		Urban

Table 1 Continued

Reference	Methodology			Population Type
	QUAN	QUAL	MIXED	
Trujillo & Renee (2012)	X			Rural
Yettick, Baker, Wickersham, & Hupfield (2014)			X	Rural

In reviewing the literature on the barriers faced by rural and urban principals, two main types of studies were identified. The first type was quantitative studies which consisted of surveys given to principals, district directors, teachers, and other community stakeholders. The surveys examined what were the most pressing challenges to a school principal's success and what the most successful traits in a particular context were for a school principal. The second types of studies consisted primarily of interviews. The interviews sought common themes on challenges faced by rural and urban principals such as relationship to respective communities, resources, poverty, multi-culturalism, and context specific responses to government policies.

Qualitative Studies of Challenges to the Rural and Urban Principalship

Qualitative studies (Barley & Beesley, 2007; Browne-Ferrigno & Allen, 2006; DeMatthews & Mawhinney, 2014; Gardner & Enomoto, 2006; Morford, 2002; Theoharis, 2008) demonstrated examples of the types of challenges associated with the rural and urban principalship. Through formal/informal interviews and onsite observations, researchers recorded the viewpoints of principals, district leaders, teachers, parents, and community members on the approaches school principals from rural and urban settings took to address the challenges and issues surrounding their success as school leaders. In addressing these barriers, the review of

literature has indicated congruent and conflicting mindsets that rural/urban principals take (Barley & Beesley, 2007; Browne-Ferrigno & Allen, 2006; Warren, 2005; Yettick et al., 2014). To focus on the differences in mindset to difficulties principals face, researchers, through basic qualitative studies and case studies, highlighted the specific traits that are associated with rural and urban communities. Although many of the studies offered insights on challenges and issues involved with principal success, the qualitative nature of studies prevented generalization to larger populations. Because of this, quantitative sources were researched.

Quantitative Studies of Challenges to the Urban and Rural Principalship

The quantitative resources that were used in this research were empirical and correlative. Tests of variance such as ANOVA and simple descriptive statistics were gathered in the reviewed articles. One study used a survey and an ANOVA test to identify effective rural leadership behaviors exhibited by principals as perceived by superintendents, principals, teachers, and school board presidents (Canales, Tejeda-Delgado, & Slate, 2008). In another study, investigators administrated a survey to collect descriptive statistics on elementary administrators' perceptions of Florida's high-stakes testing program (FCAT) with respect to the size of the school district (Cray & Millen, 2010). Researchers in a third study ran descriptive statistics to determine the unique challenges that rural principals face (Salazar, 2007). The studies occurred in variety of school settings: from elementary to high school. However, most of the quantitative studies were conducted in rural settings.

Scarcity of Mixed Method Design and Setting Comparison

Through the survey of literature, the predominant trend of qualitative studies conducted in urban settings and quantitative as well as qualitative studies conducted in rural settings was observed. Only a few of the studies examined demonstrated a mixed method design (Jimenez-

Castellanos, 2010; Yettick et al., 2014). This fact represents a gap in the literature as mixed-method designs offer a robust and varied approach to research. Within mixed-methods research, qualitative studies will develop common themes/explanations in more detail from a smaller population. Quantitative methods will provide results on the differences of mental approaches of principals from rural and urban environments. The combination of the two studies will provide a more complete picture of research. None of the studies attempted a direct comparison between the mental models of a rural principal and an urban principal on the challenges and issues they face to professional success. To understand more clearly the mindsets of rural and urban principals, a comparison of the two in the same study is needed.

Summary

To summarize what has been learned from the search of literature on issues and barriers to success faced by rural and urban principals, several key features will be noted as follows:

- Research designs of studies on challenges faced by rural principals are comprised of quantitative experimental studies that seek to compare data between principals, superintendents, teachers, and other stakeholders. Most quantitative studies run descriptive statistics. Some studies on rural principals were also qualitative consisting of informal interviews.
- The majority of studies on urban principals and how they address issues are qualitative. The qualitative studies are formal/informal interviews and site observations.
- No studies conducted a direct comparison between rural and urban principal's perceptions of common issues.

- A dearth of mixed methods research exists on the mental models utilized by rural and urban principals that influence their approach to challenges in their schools.

This prompted the decision to use a mixed methods design in the current study into the above area.

The research studies outlined in Table 1 are important in that they tell us about some of the approaches principals from different settings take in addressing common issues related to their professional success. Table 1 also illustrates the methodological gaps of mixed method studies involving a direct comparison of rural and urban principal mental models. The discussion and analysis of the methodologies employed in these studies formed the rationale behind this study design.

Review of Empirical Literature

Community Issues and Difficulties: Urban Principals

The barrier of community socio-economics is one that is faced by principals in both rural and urban settings (Budge, 2006; Warren, 2005). Although both rural and urban principals must overcome some of the same challenges associated with a low socio-economic community, principals in different settings approach barriers to success in different ways. Goldring et al. (2008) in a study consisting of 46 principals from different contextual settings, used cluster and discriminate analysis from principals' daily activity logs and found that how principals allocated their attention to common issues across their realms of responsibility varied depending on the contextual conditions of the school rather than the principals individual attributes. Further, research indicates that the majority of urban principals view the cultural background of stakeholders as a more pressing issue concerning decision making and rural principals view

stakeholder's economic status as a more important issue in decision making (Browne-Ferrigno & Allen, 2006; Gardiner & Enomoto, 2006; Yettick et al., 2014).

Multiculturalism

Principals in urban settings focus more on the multicultural issues associated with socio-economics (Gardiner & Enomoto, 2006). Because of a student population of many races and ethnicities in urban schools, principals in those settings expend a large amount of effort addressing that issue. In addressing the issue of a multicultural population, urban principals subscribed to the idea of social justice. Social justice was frequently described by urban principals as providing equal access to education (Theoharis, 2008). The attention an urban principal gives to social justice for an urban school's multicultural population stems from increasing ethnic minority makeup in urban populations. To demonstrate that point, Ruff and Shoho (2005) interviewed and observed three school principals in San Antonio, Texas. The researchers found that a population shift toward increasing ethnic minorities led to urban principals addressing concerns of a varied population in the school and community (Ruff & Shoho, 2005). The pressure to address school and community multicultural concerns facilitated a need for urban principals to become multiculturally proficient through an increased understanding of the cultural backgrounds of the students. Urban principals echoed this sentiment in Gardiner and Enomoto's (2006) qualitative study of six urban elementary principals. All principals interviewed in Gardiner and Enomoto's (2006) study expressed the need to become multiculturally proficient because they believed that it was their duty as an instructional leader to understand the viewpoint and culture of each stakeholder. These principals believed that to be proficient instructional leaders, they had to be multicultural leaders as well. This belief in multiculturalism was seen in Theoharis's (2008) qualitative study of seven

Midwestern elementary/secondary principals. The study yielded findings that suggested concerns with multicultural issues which affect urban principals' viewpoints of their school as much as academic issues. Urban principals constantly questioned whether or not they were undervaluing stakeholders of other cultures through over disciplining certain student populations, or giving a certain ethnic group a larger voice in school functioning over another group (Theoharis, 2008). As demonstrated through the examination of research, urban principals viewed the background of their stakeholders through the lens of multiculturalism.

Population Shifts

Urban principals, like their rural counterparts, addressed the shifting population of their stakeholders. The population base of the urban principal was linked in some ways to the population shifts in rural areas which will be discussed later in the literature review. Freeman and Anderman (2005) noted the exodus of minority families from rural settings to urban ones. In addition to rural minority families moving to urban school populations, urban principals addressed minorities moving in from other parts of the world. Many urban school districts included students and families moving in from places such as Eastern Europe, the Middle East, and Africa (Gardiner & Enomoto, 2006). Urban principals had to be ready to adapt their school culture to meet the needs of these diverse students. Urban principals addressed the shifts in population by providing services such as ELL in multiple languages, allowing multiple demonstrations of various faiths, and providing classes on socialization in American society (Gardiner & Enomoto, 2006).

Community Relations

Both rural and urban principals faced difficulties in overcoming the barriers that present themselves due to the unique traits of their respective communities. In highlighting barriers to

urban principal-urban community relations, Warren (2005) conducted a qualitative study involving principals from around the United States on community relations with urban schools. The difficulties urban principals found with their urban communities stem from conflicting values of the parents and other community members. Often parents of different cultural backgrounds in urban settings lacked the education to collaborate meaningfully with educators (Warren, 2005). Urban principals worked to build trust with community members because if parents did not believe they were equal partners with more educated school employees, the parents may have withdrawn from the collaboration process (Warren, 2005). Further, the importance of an urban principal reaching out to external stakeholders of different cultures could be seen in a correlational study conducted by Leana and Frits (2006) involving over 88 urban principals. The researchers found a strong correlation between the strength of an urban principal's relationship with external multicultural stakeholders and student achievement on standardized reading and math tests (Leana & Frits, 2006).

Development of Resources

A second issue to face urban principals was obtaining and developing financial, human, and community resources. Jimenez-Castellanos (2010) indicated in a mixed method study of urban schools in California that urban principals often sought outside resources besides those provided through the district. As with rural school principals, urban school principals worked to find extra resources to make up for deficient resources that were provided by the district, state, and local governments. Urban principals approached these difficulties by making use of close nearby groups such as parent organizations, private foundations, and business partnership funds due to the close proximity of these groups in the urban community (Jimenez-Castellanos, 2010).

Urban principals also found ways to overcome resource deficits to address physical plant needs such as paint, tile, and other building needs. According to literature (Warren, 2005), urban principals more so than rural principals, turned to social avenues such as community groups to make up any budget short falls encountered. Social connections were used by urban principals to mobilize the many community groups and businesses (Warren, 2005). Moreover, urban principals used the approach of building social connections to overcome the challenge of building repairs by soliciting parents and community members to volunteer upkeep of the school (Jimenez-Castellanos, 2010).

Another resource deficit that an urban principal must address is the shortage of human resources. Recruiting and retaining high quality teachers in urban schools is a challenging task carried out by the urban principal. Amrein-Beardsley (2012), in a quantitative study involving 207 educators, indicated that there were a variety of reasons for high-quality teachers to leave. Factors such as lack of support from administration, high teacher to student ratios, student discipline, and lack of resources were top issues in the control of urban principals that affected retention of high quality teachers (Amrein-Beardsley, 2012). Often absent from urban schools were "prime teachers" who were the innovators with five to fifteen years of experience who constantly used the reformed teaching practices needed in a school with a diverse population (Jimenez-Castellanos, 2010).

Urban principals also faced recruitment and retention challenges due to safety concerns embedded within the context in which the urban school is located. Teachers leaving urban schools most often cited working conditions as the primary reason for either transferring within the district or to a school in a different context (Smith & Smith, 2006). In addition to working conditions, urban teachers indicated that poor staff relationships were also a reason for lack of

retention. The relatively frequent turnover of the urban faculty presents a barrier to a new teacher in achieving a sense of "belonging" in the school which can lead to additional turnover (Guin, 2004).

Besides the barrier to recruiting high-quality teachers to urban schools, urban principals also confronted the fact that many of their teachers commuted to the urban school from some distance away and often had a disconnect in their understanding of their students' lives, neighborhoods, and families (Warren, 2005). Moreover, the majority of teachers in urban schools were non-minorities. With so few teachers in urban schools unskilled in teaching students of various racial backgrounds, the students in urban schools received non-optimized instruction unsuited for their learning styles (Gardiner & Enomoto, 2006). Thus, urban principals were forced to provide the professional development needed to educate their teachers in cultural proficiency.

Community Issues and Difficulties: Rural Principals

Principals in rural settings also face several issues and challenges in working in their particular community. Such issues faced by rural school principals include understanding the effect a rural environment has on many rural students. Rural students live in communities that frequently experience economic decline, patterns of population movement (migration/stagnation), and conflicting educational values between school and community (Hobarat & Schafft, 2009; Yettick et al., 2014). Rural principals face the challenge of adapting a common curriculum that allows rural teachers to educate students so that they may survive in a community with a dearth of financial opportunities in their particular setting (Budge, 2006).

Community Economics

The lack of financial opportunities for rural citizens stem from geographic isolation from commercial markets and a lack of community infrastructure to support the creation of living-wage jobs. Utilizing a qualitative design involving mentor principals and district leaders in rural Kentucky school districts, Browne-Ferrigno and Allen (2006) found that even if students from rural communities pursued additional education elsewhere, they usually return to their home community to be close to their nuclear family. Those students who chose to return settled for any job opportunities available, even if those jobs were below living wage. In fact, many residents in a rural community felt such a strong connection with their community that they would not even consider leaving for job opportunities or higher education (Egley & Jones, 2004).

Rural school principals also contend with low socio-economic conditions of a rural community which leads to many students and other community members taking low-paying jobs. The same economic conditions also prompt many individuals to leave the rural community. The few well-paying jobs in rural communities usually involve agriculture or resource based industries. When those job opportunities disappear, people in rural communities are left to find living wage jobs (Browne-Ferrigno & Allen, 2006). Migration out of the community creates erosion in the population base which, in turn, erodes the student population in a school. With the loss of enrollment, rural principals contend with a loss of funds generated by the number of students within the school and a loss of teaching positions due to lower per class pupil numbers (Budge, 2006). Because of the two aforementioned migration trends, rural principals addressed the conflict between a student's desire for a prosperous future outside the rural community versus a student's desire to remain inside the community with less affluent job opportunities (Hoborat & Schaft, 2009).

Isolationism

Another aspect for rural principals to consider is rural isolationism. Rural isolationism is marked by many children attending rural schools who have never traveled beyond a neighboring county to a major metropolitan area. Rural principals' understanding of the geographic and social isolation of a rural community is an integral part of their relationship with local stakeholders (Cray & Millen, 2010). Often, the overall community that a rural principal operated in is so isolated that small separate micro-communities develop, each with their own characteristics. Learning which micro-community a student is from alerted rural principals to the possible needs of the child, according to a study by Browne-Ferrigno and Allen (2006). When a new child attended a rural school from a micro-community that traditionally had high rates of poverty, rural principals investigated whether that child needed extra resources such as school supplies. In fact, because an isolated rural community was separated by long distances from major metropolitan areas, the school became the provider of social services such as counseling, social support and food (Browne-Ferrigno & Allen, 2006). Often, rural schools must transport food from metropolitan areas for students and host counselors from health services groups. In a 2014 study, Yettick, Baker, Wickersham, and Hupfield interviewed 11 urban and rural principals as well as surveying 149 principals from the same types of settings using a 60 question online survey. Yettick et al. (2014) found that two thirds of rural school principals who participated in the study indicated that they struggled to provide services for students such as tutoring, counseling and other social assistance as compared to none of the involved urban participants. These findings point out that social services are closer to citizens who are in more urban settings, but are more difficult for rural community members to obtain because of distance, geography, and poverty.

Information Distribution

Rural school principals are also faced with the rapidity at which school information is distributed in a rural community. Because of the small size of the community, rural principals must be aware that knowledge of school events quickly travels to all community members (Moford, 2002). Although principals can try to control electronic information dissemination such as email or messaging, community members who gather at the local cafes or restaurants often know about events that happen in school even before the day's dismissal because of the close knit population. Rural principals should be prepared for questioning by community members about events that happened at school. This situation was illustrated in a study by Cruzeiro and Boone (2009) when they reported that rural principals were questioned on events that transpired at school as they checked out at a local store and as they attended community group meetings the very day those events took place. Rural principals encounter the issue of the politics and culture of a rural school and community fomenting the swift travel of school news in rural areas through invasive community networks (Hill, 1993). As Cruziero and Boone (2009) noted, "In a small community the principal is never off duty" (p. 7).

Rural Politics and Culture

In addition to considering rural politics and culture with the issue of information distribution, rural principals contend with contextual politics and culture in other ways. Rural principals often must make political and cultural considerations when engaging in decision making (Piltch & Fredericks, 2005). The degree that rural principals reflect on their context's political and cultural framework effects decision making outcomes. Farmer (2009) suggests that political and culture considerations in rural principal decision making are marks of effective rural school leadership. Within the political and cultural landscape of the rural context, rural

principals are challenged to address local special interest groups. Religious and political special interest group(s) can exert a large influence in a rural setting that principals account for in decision making. Often in rural settings, the majority of citizens, district education leaders, and local political leaders often share the same religious persuasion or political affiliation. Members and leaders of a rural community, consciously or unconsciously, will seek to indoctrinate the local school with their set of values through views on school issues such as reading materials, dress codes, conduct codes and other issues (Farmer, 2009; Spring 2014). Rural principals must balance community politics and values with organizational objectives to make decisions to benefit their school as a whole.

School and Parent Educational Value Discrepancy

Another challenge rural principals are faced with is the lack of importance rural communities place on education. Understanding the power of rural community expectations for the education of rural school children is a concept often addressed by rural school district superintendents during the principal candidate interview process (Cruzerio & Boone, 2009). Cruzerio and Boone (2009), in a qualitative study interviewing various rural superintendents, indicated that rural superintendents sometimes posed questions to rural principal candidates on how they would make education relevant to students who live in an isolated rural community. Much of the rural population in the study had only attained a high school diploma. Only a small number of community members pursued a post-secondary degree. Therefore, many parents in the sample rural school districts saw little necessity in an education that prepared their children for anything other than what was required to get a job in the community (Browne-Ferrigno & Allen, 2006). Because parents and rural community members had, "limited aspirations for their children and a limited understanding of what their children would need to be successful,"

(Budge, 2006, p.4) the parents failed to see the importance of a rigorous curriculum. Often the students themselves questioned whether education was necessary for them to be successful in their vision of the future. Those students only envisioned themselves remaining in the home community and working at the few available jobs (Budge, 2006). Therefore, rural principals' concern with academic accountability was often in conflict with a community's complacency toward the education of their children (Matsumato & Brown-Welty, 2009). A rural community's indifference or distrust of education prevented any sort of school reform effort. Because community members and parents surrounding rural schools could be a valuable resource for a rural principal, a lack of support from those members detracted from rural principals' efforts to improve their school (Trujillo & Renee, 2012).

Resource Issues

Other issues that rural principals' face could be identified as developing and obtaining financial, human, and community resources (Matsumoto & Brown-Welty, 2009; Yettick et al., 2014). With current financial resources in decline, rural principals often are forced to find extra resources through grant submissions rather than depend on local or state basic educational program funding (Starr & White, 2008). The basic education program (BEP) is the funding formula through which state education dollars are generated and distributed to Tennessee schools (Tennessee Board of Education, 2011). The BEP funding formula itself is a cause for concern among rural principals. Since BEP funds are dispersed on a per pupil basis and rural schools have fewer students, rural principals struggle to find ways to provide their schools with equipment such as technology that urban school principal do not perceive as much of a challenge due to a larger budget because of higher enrollment (Yettick et al., 2014).

Physical Plant Needs

Principals in rural settings confront a variety of physical plant needs. Budge (2006) indicated that the physical needs of the school posed a barrier for rural principals such as obtaining fiscal resources for utilities, data infrastructure, and maintaining building safety codes. The funds needed to maintain rural facilities were normally not abundant because of the lack of a dedicated economic tax base (Budge, 2006). Cruzerio and Boone (2009) indicated that rural principals addressed physical plant needs by conducting activities such as servicing the school's facilities on their own due to the lack of appropriate funding. In another instance, rural superintendents encouraged rural principals to utilize fiscal resources they had or seek out alternate resources more effectively and efficiently before asking the district to allocate limited resources to the school level (Brown-Ferrigno & Allen, 2006). Rural principals faced the challenge of stretching financial resources, as described by Masumato and Brown-Welty (2009) to provide for their schools needs by developing alliances with outside agencies and applied for grants from multiple sources.

Human Resource Needs

Rural principals also face a lack of human resources. Cray and Millen (2010) indicated that rural principals attempted to overcome the issue of a lack of human capital by hiring teachers already embedded in the rural community. While hiring a teacher who is familiar with the community was a positive option, the same teacher was often not a good candidate for embracing positive change due to an affinity for the culture already in place (Cray & Millen, 2010). Cruzerio and Boone (2009) pointed out that in some rural settings, the applicant pool did not include enough teachers with the qualifications to teach in the posted opening. Positions posted required a specific license endorsement yet the applicant pool lacked the necessary

qualifications. Trying to maintain human capital with a dearth of diverse highly qualified applicants put pressure on the rural principal by devoting a large amount of time to maintaining highly qualified status in all teaching positions (Cruzeiro & Boone, 2009; Salazar, 2007). When principals did hire quality teachers, they struggled to provide their teachers adequate professional development. Because of the distance of rural schools from major population centers, principals must expend extra funds to house, transport, and reimburse the development providers (Yettick et al., 2014). Rural principals also face the concern of teacher retention. Teacher retention in a rural context presented a challenge for the rural principal due to few chances of opportunity for teachers to obtain positions such as those in leadership (Arnold et al., 2005; Malloy & Allen, 2007).

Community Partnership Resources

Obtaining community partnerships with social groups is crucial to rural principals in overcoming barriers of insufficient resources. Rural principals are limited compared to urban principals in having the opportunity to develop partnerships with business entities (Farmer, 2009). Rural principals can turn to local social groups such as churches and civic clubs. Rural principals embed themselves into the community and obtain resources simultaneously by forming partnerships with local community groups (Canales et al., 2008). Matsumato and Brown-Welty, in a 2008 study, noted that rural principals could also approach resource issues through partnerships with a variety of organizations since partnership availability solely with businesses could be not as available when compared to urban contexts. When making decisions to obtain resources through community partnerships, rural principals engage in relationship building with community members. Rural principals form coalitions with community

organizations and collaborate with stakeholders to make decisions concerning the school (Farmer, 2009).

Theoretical Framework

This study examined how school context affects principal decision making processes as framed by the theory of mental models (Johnson-Laird, 1983; Senge, 1990). The theoretical framework of mental models is a component of the larger theoretical construct of the "learning organization", a term developed by Peter Senge (1990). The theoretical construct of the learning organization is a framework used to explain how individuals work together as a group to achieve desired results. Individuals in a learning organization collectively develop new patterns of thinking, feel unencumbered to move forward together, and work to keep a global view of the entire organization (Senge, 1990).

Learning organizations can have positive and negative attributes that affect the organization's success. Organizations that are adaptive, flexible, and productive will have the ability for positive change while organizations that cling to the status quo, lack the ability to reflect inward, and to engage in group changing endeavors leading to stagnation (Senge, 1990). Mental models, as one of the five disciplines of the learning organization, can be seen as the perceptions or maps of decision making within an individual's environment (Van den Bossche et al., 2010). Essentially, mental models are the lens through which people view their personal and professional lives. Mental models can further be defined as the construct that describes how people view and engage the world around them (Senge, 1990). The actions people take are based on predictive elements associated with mental models as well as past, lived experiences as people assume roles, perform activities, and acquire knowledge (Kim, 1993).

Mental models can describe similar knowledge frameworks that multiple individuals use in relating to the world around them (Brewer, 1987). The sharing of the same mental representation by many individuals is referred to as "shared mental models". The process of individuals sharing mental models are defined as the sharing of similar mental constructs of working environment, tasks, and goals by a group of people (Mohammed & Dumville, 2001). When individuals in a group share the same mental models and have positive characteristics such as self-reflection, shared thinking, and a willingness to be malleable to other's thoughts, then the performance of the entire group improves (Senge, 1990; Van den Bossche et al., 2010).

Individuals who have personal and professional experiences in similar contextual environments, even if those environments are not in close geographical proximity, will develop similar mental models with variations of context inherent in positive and negative attributes (Il-Hyun, 2012; Mohammed & Dumville, 2001; Ruff & Shoho, 2005; Senge, 1990). Individuals in similar surroundings construct similar mental models to describe, predict, and explain situations occurring around them (Il-Hyun, 2012). Just as people's mental models continuously adapt to the environment the longer they remain in a certain context leading to actions and decisions that are based on familiarity with the context, the more principals' mental models continuously adapt to a school contextual environment the longer they work in a particular school or schools with similar types of environments. Furthermore, just as people who are situated longer within an environmental context have mental models that enable them to be better at predicting how experiences and decisions will unfold within that context, the longer school principals work in a similar school contextual environment, the more they will develop mental models that will enable them to predict how experiences will unfold and which decision making practices will result in a desired outcome (Il-Hyun, 2012; Mohammed & Dumville, 2001). Therefore, the lens

through which this study will be viewed is that most urban and rural principals will likely possess similar mental model constructs through which they approach the challenges as well as address issues surrounding professional success.

Several studies have examined the theoretical framework of mental models as applied to school principals, district administrators, and other academic fields. In one such work, Ruff and Shoho (2005) sought to describe how three urban elementary school principals conceptualized their role as school administrators through the use of mental models. Ruff and Shoho (2005) asked the questions: "What are the mental models used by urban elementary school principals to construct their role as instructional leaders? and how, if at all, do the mental models of urban elementary school principals vary with differences in reputation and job experience?" (p. 558-559). Specifically, Ruff and Shoho (2005) examined mental models of elementary school principals through response constructs that lead to either positive or negative actions.

Other studies examined the framework of mental models by studying relationships between internal mental states and the practices of administrators, such as devoting significantly more attention to mentally interpreting problems (Leithwood, Steinbach, and Raun, 1993), quantitative and qualitative differences found between groups of typical and effective principals regarding goals, factors of influence, and strategies (Leithwood & Stager, 1989); and specific levels of interpersonal tacit knowledge held by district administrators with varying reputations (Nestor-Baker & Hoy, 2001). In an additional study, Marlar (2015) investigated school principal mental models in terms of distributed leadership. Similar to previous works (Leithwood & Stager, 1989; Ruff & Shoho), that examined relationships between administrator mental models and actions, Marlar (2015) discussed principal mental models in terms of being an important component in understanding the relationship between principal leadership practice and what

principals know in regards to distributed leadership. Marlar (2015) extended the academic conversation on mental models through her discussion on the identification of principal thought patterns as a means for change in school leadership styles. Specifically, if school principals thought patterns could be identified and examined, then the possibility existed of effecting change with school principal decision making (Marlar, 2015). The above works discussed thematically the relationship between school and district administrator mental models and subsequent actions such as decision making.

The second group of studies examined shared mental models from a broad spectrum of academic fields. These studies focused on shared mental models with the common theme of group decision making as affected by the sharing of similar mental models among a group of individuals. In one such work, Espinosa, Kraut, Slaughter, Lerch, and Herbsleb (2001) sought to investigate the effect of shared mental models on coordination in large-scale software development. Shared mental models were examined in terms of affecting group efficiency through productivity in large-scale software development teams separated by geographical distance. Also examining the relationship of shared mental models with group efficiency, Fazio, Rosario, Battaglia, and Di Paola (2013) utilized mixed methodology to study mental models students deploy in building explanation, and to study consistency in their deployment. Specifically, a research question for the study was: "Can mixed methodology point out consistency in students' deployment of mental models?" (Fazio, Rosario, Battaglia, & Di Paola, 2013, P.8). As in previous studies, shared mental models affect a group's efficiency or success in completing a task. The relationship between shared mental models and group success and behavior was also examined in a 2010 study by Van den Bossche et al., Gijselaers, Segers, Woltjer, and Kirschner and a 2011 study by Wätterstam, Kowalski, & Hoffmann. Both studies

looked at team learning behaviors which lead to the construction of a shared mental model, leading to increased team performance. Findings of these studies suggested that team learning behaviors are related to the development of shared mental models. To develop shared mental models, behaviors of mutual understanding and mutual agreement were necessary on the part of the team members. Wätterstam et al. (2011) also discussed the influence of group shared mental models before the group engaged in an action, finding that shared mental models influenced the decisions the group made.

Conclusion

The search of literature on the mental models that rural and urban principals construct to deal with professional barriers and issues has revealed a variety of study types. The review of literature has revealed that many quantitative studies have been completed for rural principal approaches to challenges and many qualitative studies have been completed for urban principal approaches to challenges. Few mixed-method studies have been completed on the subject of mental models for rural and urban principals. No studies have been found to compare the mental models of rural and urban principals together.

Principals in both settings share similar difficulties to success, but choose to devote more efforts in different areas. The search of literature revealed that many urban principals expend efforts on cultural issues and that rural principals expend much effort on the issues of poverty. In synthesizing the research of this review, few mixed method studies have been conducted that compare the mental frameworks of rural and urban principals. Chapter Three will explain the methods and research design used to investigate principal models in the context of rural and urban settings.

CHAPTER 3

METHODOLOGY

The purpose of this exploratory sequential mixed-methods study was to investigate mental models of rural and urban principals by examining how principals' mental perceptions of their community influenced decision making in the school context. This study identified possible variables in rural and urban settings that most influence the way school principals address challenges in their school. Finally, the study addressed how the mental models of rural and urban principals compare in their decision making. Following this purpose, this study addressed three questions:

1. How do the mental models of rural and urban principals influence decision making in their particular school context? (Qualitative)

2. What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school? (Quantitative)

3. How do the mental models of rural and urban principals compare in their decision making? (Qualitative and Quantitative)

The research questions focused the study within the broader context of the overarching question, "How do the rural and urban school contexts affect school principals' decision-making process by influencing school principals' mental models?" This chapter will describe the design, methods, and procedures used to conduct this study.

Rationale for Mixed Methods Design

Mixed method designs may be emergent and/or fixed. The proposed study on how school context affects principal decision making processes followed a fixed design where the qualitative and quantitative methods were predetermined and planned at the onset of the research

process. Mixed method research allows the combined strength between qualitative and quantitative research methods to understand a phenomenon more fully than is possible using purely qualitative and quantitative methods (Creswell, 2014; Morgan, 2007; Tashakkori & Teddlie, 2010). Mixed methods is one of the three major research paradigms (qualitative, quantitative, and mixed methods) chosen by researchers for the depth of knowledge entailed in qualitative studies (Creswell, 2013) as well as the more generalized and certain information concerning the research problem offered from quantitative research (Creswell, 2014; Tashakkori & Teddlie, 2010). Although mixed methods research has been suggested as a paradigm that incorporates the strengths of qualitative and quantitative research while minimizing the weaknesses of both types of studies, the emergence of the paradigm has caused considerable debate among researchers concerning the assumptions of reality (Sale, Lohfield, & Brazil, 2002).

Critics of mixed methods have argued that researchers who identify with the mixed methods paradigm tend to overlook the philosophical distinctions between qualitative and quantitative methods as a result of the ontological and epistemological assumptions concerning the construction of reality varying respectively according to qualitative and quantitative methods Sale et al. (2002). Johnson and Onwuegbuzie (2004) asserted that researchers who favor qualitative or quantitative methods advocate that the two research paradigms should not be mixed as a result of the inherit competing worldviews of constructionism and positivism. Qualitative purists, as constructivists, have contended that generalizations are not possible without context, multiple-constructed realities exist, explanations and theory are generated inductively from the data, and that the subjective individual defines reality (Johnson & Onwuegbuzie, 2004). Conversely, quantitative purists, also called positivists, maintained that

social science inquiry should be objective, generalizations free of context as possible, and that only one reality exists (Johnson & Onwuegbuzie, 2004).

The basic methodological, epistemological and ontological assumptions undergirding constructivism could be argued as appropriate for a study that seeks to investigate how school context affects principal decision making processes. For this study examining the interaction of context with principal decision making, the epistemological assumption associated with constructivism would assert that principal decision making is influenced by the context of the school and community (Jones, Ross, Lynam, Perez, & Leitch, 2011; Kim, 1993; Merriam, 2009). Constructivists stress that phenomena are not independent of the context as the context always influences reality (Creswell, 2013). Ontologically, there could be no objective truth as principal decision making may vary according to rural or urban contexts. The sets of assumptions associated with constructivism would be appropriate for a pure qualitative study regarding how school context affects principal decision making processes. For this study, the constructivist paradigm of qualitative study allowed for the researcher to arrive at an understanding of how people make sense or construct mental models of their experiences and their lives in a particular context (Crotty, 1998; Jones et al., 2011; Kim, 1993; Merriam, 2009). The hermeneutic-dialectic process involved with constructivism allows for the contextual factors concerning principal decision making in different contexts to be studied and compared (Crotty, 1998; Rossman & Rallis, 2012). As constructivism may be appropriate for the qualitative portion of this study, and positivism may fit for the quantitative approach, the study did not seek to mix and match the two paradigms. The outcome of mixing of paradigms results in a nonsensical study design and outcome (Guba & Lincoln, 2001). Therefore, the pragmatic model was chosen to be the single paradigm for this mixed methods study.

Pragmatism requires studies to focus on what is investigated and the methods employed to accomplish this task rather than a rigid adherence to any one paradigm (Wolfe, 1999). Literature favoring mixed methods research (Greene, Caracelli, & Graham, 1989; Leech & Onwuegbuzie, 2009; Morgan, 2007; Tashakkori & Teddlie, 2010; Wolfe, 1999) has supported the pragmatic method as a way for researchers to think about contrasting paradigms debated by the purists. Pragmatism offers an epistemological justification and logic for mixed methods. Pragmatism can aid researchers in collecting multiple sources of data using different strategies, methods, and approaches as well as finding common ground between philosophical dogmatisms. The integration and synthesis of qualitative and quantitative evidence under pragmatism can add to research studies that pursue an increased understanding of social phenomena (Creswell, 2014; Morgan, 2007; Sale et al., 2002; Tashakkori & Teddlie, 2010; Wolfe, 1999).

With regard to how school context affects principal decision making processes through the influence of mental models, mixed methods can increase understanding of education research topics as well as generating new insights on the phenomenon that neither qualitative or quantitative can achieve alone (Tashakkori & Teddlie, 2010). Fazio et al. (2013) argue that mixed methodology is useful in gaining new insights through educational research on mental models and obtaining explanations for the phenomena. However, few mixed method studies have been conducted on principal decision making practices as related to the context. Most studies focusing on context and principal decision making were either purely qualitative or quantitative in nature. Qualitative studies (Barley & Beesley, 2007; Browne-Ferrigno & Allen, 2006; Gariner & Enomoto, 2006; Morford, 2002; Theoharis, 2008) consisted of qualitative research methods such as interviews, observations, and document reviews. Conversely, other

studies (Canales et al., 2008; Cray & Millen, 2010; Salazar, 2007) were solely quantitative in nature.

Coupling the use of qualitative methods of data collection (i.e. interviews) with quantitative methods (i.e. surveys) could provide a more complete and balanced view of how context affects principal decision making. Three primary advantages to implementing mixed method research are the ability to answer questions other methodologies cannot, better, stronger conclusions, and a greater diversity of outlooks (Creswell, 2014; Greene et al., 1989; Tashakkori & Teddlie, 2010). Mixed methods methodologies allow the researcher to capitalize on the different strengths that the combinations of quantitative and qualitative methods offer which results in a more complete picture of the phenomenon. This aspect of mixed methodology allows data to be gathered that provides a more complete picture on the effect of context on principal mental models. A more comprehensive view of a phenomenon related to the inherent strengths of mixed methods research has aided previous studies related to this study's focus of interest which is the interaction of principal mental models with the school context (Barnes, Camburn, Sanders & Sebastian, 2010; Rutledge, Harris, & Ingle, 2010; Youngs & Piggot-Irvine, 2011).

By placing the focus of research on what is to be studied (pragmatism), a mixed methods design allows for the researcher to capitalize on different strengths of quantitative and qualitative methods and offer a more complete picture (Barnes et al., 2010; Rutledge et al., 2010; Tashakkori & Teddlie, 2010; Youngs & Piggot-Irvine, 2011). In this sense, both textual and numeral data were collected and analyzed in order to provide a more holistic picture of the interactions of context with principal decision making.

Therefore, a sequential mixed methods design was chosen for this study to address the gap in the literature regarding methodologies that have been associated with contextual studies on school principals and to address previous researchers' (Hallinger et al., 1996; Hallinger & Heck, 1996; Johnson & Fauske, 2000; Leithwood et al., 1990; Ruff & Shoho, 2005; Spillane et al., 2004) call to examine principal decision making as influenced by the context. The proposed study employed an exploratory sequential mixed methods design (QUAL+quan) in which the data and findings from the initial qualitative phase inform the subsequent quantitative phase.

Although the design of this study of the mental models of urban and rural principals was qualitative in majority, the design featured a mixed methods approach to data gathering, data analysis, and construction of the findings. Because the qualitative data gathering needed to ascertain the espoused and expressed perceptions on principals of their mental models in rural and urban settings, using only qualitative data would prove too limited. In order to generalize this study's findings beyond the narrow findings of the qualitative portion of this research, and to minimize researcher bias, quantitative features were added. This research, as a mixed methods study, made use of the convergence of findings to increase validity, observed complementary overlapping phenomena to increase interpretability, initiated the discovery of new perspectives to increase breadth and depth, and sought, "to increase the scope of inquiry by selecting the methods most appropriate for multiple inquiry components" (Greene, Caracelli, & Graham, 1989, p. 259).

Study Design

QUAL+quan Design

This research design consisted of an exploratory sequential mixed methods study. The design featured a dominant qualitative aspect to fulfill the purpose of the study and to answer the

individual research questions. The overall purpose of this study was to examine how school context affects principal decision making processes. This exploratory sequential mixed-methods study investigated mental models of rural and urban principals by examining how principals' mental perceptions of their community influenced decision making and success in the school context. This study identified possible variables in rural and urban settings that most influence the way school principals address challenges in their school. Finally, the study addressed possible differences in the mental models of rural and urban school principals in their perceptions of common issues. Table 2 shows this study's research questions in regards to qualitative and quantitative data types required to answer the research questions.

Within this mixed methods design, greater emphasis was placed on a qualitative approach because of the blurred line between context and phenomenon as well as the need to employ multiple data-gathering techniques to examine what rural and urban principals thought about similar issues in light of the context they work. For the qualitative phase of this exploratory

Table 2

Alignment of Research Questions to Mixed Methods Design

Research Question	Qualitative Data	Quantitative Data
1. How do the mental models of rural and urban principals influence success in their particular school context?	X	
2. What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school?		X
3. What are the differences in the mental models of rural and urban school principals in their approach to common issues?	X	X

sequential mixed-methods study, a basic qualitative research method was chosen. Basic qualitative research is used frequently in the fields of education and other applied fields of practice (Merriam, 2009). Merriam (2009) described basic qualitative research as focusing on, "how people interpret their experiences, (2) how they construct their worlds and, (3) what meaning they attribute to their experiences" (p. 23) without the added dimensions found in other types of qualitative research such as phenomenology, case study, or ethnography. The primary data collection method of basic qualitative research is interviews. Interviews were used to obtain insights into the possible differences in the mental models of rural and urban school principals as well as how mental models of rural and urban principals influenced decision making in their particular school context. The use of interviews to examine how experiences are interpreted by people, how people construct their world around them, and the meanings that people assign to their experiences made this methodology a good fit for my study of the interaction of context and a school principal's mental model.

Although most of the research is a qualitative design, the mixed method design was employed to offset the weaknesses of both qualitative methods and quantitative methods by combining the deeper, rich data of qualitative methods with the generalizability of data from quantitative methods (Creswell, 2014). In this study, qualitative data from interviews was used to construct the subsequent scenario based survey phase. Quantitative survey data was used to obtain a broad view of multiple rural and urban principal decision making characteristics as well as to confirm or disconfirm the data from the qualitative phase, making the method less dominant.

Sequential Mixed Methods Design

Mixed methods research varies in whether quantitative and qualitative research strategies are dominant or whether data collections are assigned equal status. Before the data gathering begins, all design decisions are made regardless of whether data collection occur simultaneously in parallel studies or studies that are sequential which indicate that the results from one phase of the study influence design decisions in following phases (Tashakkori & Teddlie, 2010). This study was an exploratory sequential mixed-methods study. For this research, the qualitative research phase first explored the views of participants. The data was then analyzed and used to build the instrument that fit the phenomenon of interest to the researcher as well as to identify the variables used in the follow-up quantitative phase (Creswell, 2014; Tashakkori & Teddlie, 2010). Figure 1 illustrates the mixed methodology in the design of this exploratory sequential mixed-methods study.

Creswell (2014) indicated that in a sequential design, the data analysis occurs when the qualitative and quantitative data are analyzed separately, with the initial qualitative findings used to inform the subsequent quantitative phase of this study. What the quantitative phase measures is dependent on the qualitative portion of the study. The components from the quantitative phase of this study are derived from the data collected during the qualitative portion of the study.

Site and Sample Characteristics

Site

Middle school sites in one southeastern US state were selected for the qualitative phase of this study based on the type of community in which the school was located. Middle school sites

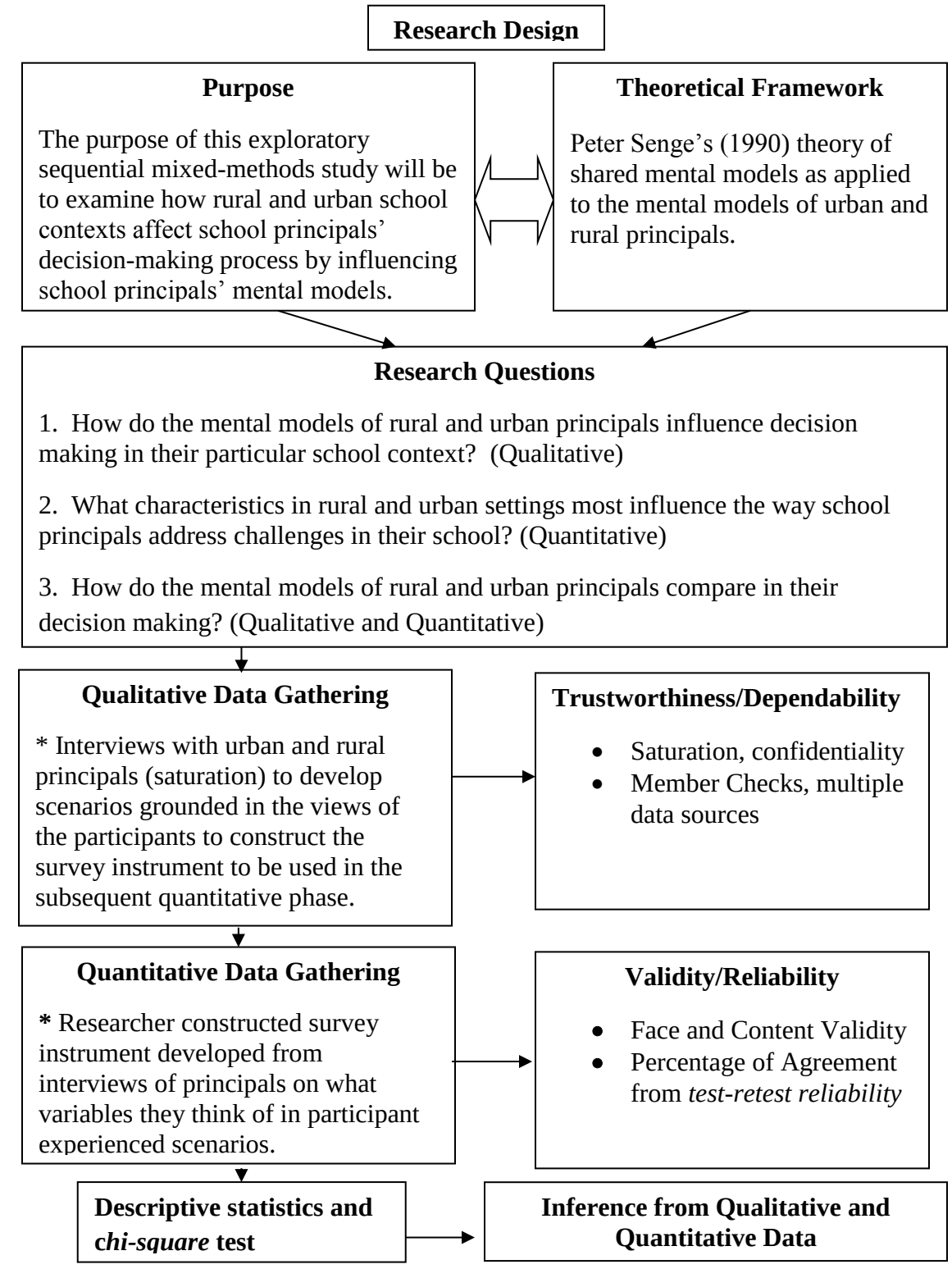


Figure 1. Research Design

located in rural and urban communities were chosen for inclusion in the initial qualitative portion of this study. In terms of this study, a rural middle school is found in a geographical area that is a sparsely developed territory with less than 50,000 people. Also the term "rural" is considered as all areas that fall outside urban areas and clusters (US Census Bureau, 2010). Conversely, urban schools are found in a geographical area that is densely populated with 50,000 or more people inhabiting a close proximity. Urban areas are also considered extensively developed (US Census Bureau, 2010). Site information such as school community type, school name, school grade level, name of the school principal, and contact information were obtained from an online state database[1].

Middle school sites were selected for the qualitative phase using purposeful sampling (Patton, 1990), also known as criterion-based selection (LeCompte, Preissle, & Tesch, 1993) so that samples were more likely to represent differences resulting from sites existing in different contexts rather than sites being classified as elementary, middle, and secondary schools (Colton & Covert, 2007). A purposeful sample is appropriate in qualitative studies as it leads to enhanced discovery and understanding of the researched phenomenon (Greene et al., 1989; Merriam, 2009). Purposeful sampling is used when the researcher "wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (Merriam, 2009, p. 77). Sampling procedures in a sequential design typically involve the initial qualitative or quantitative phase informing the subsequent phase (Creswell, 2014; Onwuegbuzie & Collins, 2007). The purposeful sampling procedures adopted for this study in congruence with the exploratory sequential design were used to answer the research questions and construct the scenario based survey for the subsequent quantitative phase (Collins,

[1] To ensure confidentiality of participants, any reference to the specific state will remain anonymous.

Onwuegbuzie, & Jiao, 2007; Creswell, 2014). Rationales for the use of purposeful sampling relevant to this study included: (1) to compare differences between contexts and individuals and (2) to explore perceptions of participants with which to design and implement the quantitative phase of this study (Creswell, 2014; Creswell, et al., 2003; Greene et al., 1989, Morgan, 1998, Merriam, 2009 Onwuegbuzie & Collins, 2007).

Participants

Recruitment for study participants for the initial qualitative phase occurred in four ways. First, the principle investigator contacted principal colleagues who forwarded recruitment flyers about this study to other middle school principal colleagues. The recruitment flyers provided contact information for the principle investigator and described the objectives of this study. Rural and urban middle school principals who elected to participate contacted the principle investigator to participate in the study. Second, a professor in the department of Educational Leadership and Policy Studies allowed the principle investigator to present information about this study to a class of educational leadership students. The principle investigator invited students in the class to participate in the study if they fit the criteria of being a rural or urban middle school principal as well as sharing the information with other potential participants. If students wished to participate, they contacted the principle investigator to volunteer. Third, the principle investigator contacted the professional organization(s) of middle school principals in the selected southeastern state. A request was made of the organization(s) to include the study information in their professional journals and websites with a request for principals who work in the relevant contexts to contact the principal investigator for study participation. Fourth, study information was given to the director of the Educational Leadership Academy at The University of Tennessee for distribution. Students in the leadership academy were able to contact the

principal investigator for study participation through information provided in the recruitment flyer. Once participants contacted the principle investigator, they were asked to complete the consent form previously approved by the university institutional review board. By signing and returning the consent form, either by fax or electronic mail, principals agreed to participate in both the qualitative and quantitative phases of this research.

Principals were interviewed until saturation was reached. All principals who volunteered were interviewed. Demographic information about the (n=12) participants in the qualitative phase is presented in Table 3.

Quantitative Survey Participant Selection

The quantitative phase consisted of disseminating a researcher created scenario survey (see Appendix B) by email to the population of school principals (*n*=1,646) in the selected state in the southeastern US. From this population, my goal was to obtain a sample of principals from both rural and urban schools (Colton & Covert, 2007). Attempts were made to obtain a similar number of respondents in both rural and urban school settings to include in data analysis for the quantitative phase of the study.

Data Collection

During this sequential, exploratory study, qualitative data were collected first and informed the subsequent quantitative phase (Creswell, 2014; Creswell et al., 2003; Tashakkori & Teddlie; 2010). Utilizing a QUAL + quan approach, greater emphasis was placed on the qualitative data gathered from interviews. The proceeding quantitative data gathered from the scenario based survey were used to enhance understanding of mental models in rural and urban principals as well as to strengthen the results of the study. Using methods from both paradigms through qualitative interviews and quantitative surveys permitted complementary strengths of

Table 3

Demographic Information for Interview Participants

Principal	Rural/Urban	Years of experience in current setting	Total years of experience
Principal 1	Rural	3	16
Principal 2	Rural	5	14
Principal 3	Rural	26	37
Principal 4	Rural	14	39
Principal 5	Rural	2	10
Principal 6	Rural	35	40
Principal 1	Urban	11	15
Principal 2	Urban	10	17
Principal 3	Urban	3	10
Principal 4	Urban	3	12
Principal 5	Urban	2	8
Principal 6	Urban	5	21

different data collection approaches. The two types of data collection procedures allowed for more robust inferences and conclusions in regard to how contextual factors affect rural and urban principal mental models.

Qualitative Instrument

The qualitative data collection instrument for this study consisted of a semistructured interview protocol (see Appendix A). A semistructured interview protocol consists of questions that vary between more and less structured interview questions. Following a semistructured format, this protocol contained some structured questions that addressed specific information desired by the researcher (Merriam, 2009). Collectively, data obtained from participant answers from the protocol were used to help answer the research questions. The semistructured interview protocol permitted the use of a flexible question format. Plasticity inherent in a semistructured question format allows the researcher to respond to situations during the interview and the developing worldview of the participant (Merriam, 2009; Rossman & Rallis, 2012). The interview protocol contained general follow up questions or probes used to seek more information or to provide clarity to participant responses.

Question content and phrasing were derived from literature documented in Chapter Two. The themes that emerged from the literature were used to guide question construction. Interview protocol questions were developed to examine participant responses through the lens of the themes developed from the search of literature. The protocol was constructed in this manner to study patterns between data collected from the participants as well as data obtained through an examination of the literature. The overall development and organization of the protocol was guided by the research questions.

A variety of question types were used in the development of the interview protocol to aid in understanding the phenomena within the context of participants' perspectives and experiences (see Table 4). Using questions which focused on experience, opinion, knowledge, sensory, and background types provided data which formed a more comprehensive view of the phenomena under study (Merriam, 2009; Patton, 2002). Multiple question types assisted the researcher in obtaining a deeper understanding of the phenomenon by eliciting different types of information such as participant knowledge, values, opinions, and experiences. The varied types of information from the participant aids the researcher in gathering data needed to answer the main research questions of this study.

Table 4

Interview Question Types

Type of Interview Questions	Principal Interview Question #
Experience/Behavior	1C, 2A, 2B, 4B, 6
Opinion/Value	1D, 1F, 3B, 3C, 4A, 4C, 5, 7, 8
Knowledge	2C, 3A 4A, 10
Hypothetical	4C, 9A, 9B
Ideal Position	9
Sensory	1E
Background	1A, 1B

The purpose of the interview protocol used in this study was to answer the corresponding qualitative research questions as well as to obtain information from participants with which to construct the instrument used in the quantitative phase. Specifically, the interview protocol was developed to gather data from participants to enhance understanding of how mental models of rural and urban principals influence decision making processes in their particular school context. The interview protocol aided in obtaining information from participants with which to construct the scenarios used for the instrument in the quantitative phase of the research.

Pilot Test

Prior to use in this research study, the interview protocol was tested to increase content validity. The original protocol contained 13 questions. Three content expert professors from the Department of Educational Leadership and Policy Studies at The University of Tennessee were asked to review the protocol. Based on feedback from university content experts, the original interview protocol was altered so that the questions more accurately reflected this study's research questions. Two questions were deleted. Wording and terminology were altered for clarity and to more accurately solicit answers that would answer the research questions. Following this review, six school principals were purposefully chosen to pilot the revised interview protocol. Pilot participants were school principal colleagues of the principle researcher who were not included in the study. Selected principals were given a copy of the interview protocol with the study overview. Principals viewed the protocol while the interview was conducted. Each interview session was timed. Permission for an audio recording was obtained from the principals

Following each interview, a follow-up conversation was held with each principal. Each principal was asked about the appropriateness of interview length, question clarity, and whether

or not pilot participants understood what the researcher was asking. Principals were given a copy of the research questions and asked if the interview questions would yield information that would answer the related research questions. Based on suggestions from the pilot participants, grammatical wording was altered to enhance participant understanding of question content. Additionally, one question was deleted as the majority of pilot participants commented on that it was redundant.

I then reflected on the interview process regarding whether the answers were steered and whether good probing questions, questions eliciting examples, and questions for additional information were used during the interview. Based on principals' feedback and researcher reflection, the interview protocol was altered to the current form of the protocol to enhance content validity. Throughout the pilot process, questions were deleted, revised, and clarified to maximize the collection of data that would answer the research questions. The validated protocol is found in Appendix A.

Qualitative Data Collection

During the initial qualitative phase, one on one semi-structured interviews with volunteer middle school principals in Tennessee were conducted via Zoom (2016) or in person until saturation is reached. Volunteers continued to be interviewed until saturation was reached in both rural and urban contexts. Data saturation can be defined, "as the point in data collection and analysis when new information produces little or no change to coding" (Guest, Bunce, & Johnson, 2006, p. 65). Specifically, saturation is the point at which no new knowledge or data are identified for particular categories i.e. rural and urban principals (Morse, Barrett, Mayan, Olson, & Spiers, 2002). Bowen (2008) describes data saturation as, "bringing new participants continually into the study until the data set is complete, as indicated by data replication or

redundancy" (p. 140). For this study, participants were interviewed until no new information was added and gathered data yielded diminishing returns. Diminished data returns were observed after six rural and six urban principals were interviewed. Once data collected from middle school principal participants failed to add new insights to established categories or develop new categories relevant to this study, data saturation could reasonably be assumed (Bowen, 2008; Morse et al., 2002).

Principals were asked in the interviews to describe their decision making within their particular context. The interviews were also conducted to ask principals about their perceptions of common issues. Additionally, principals were asked to provide situations where they made decisions, if they thought the context affected their decision making, and what they were thinking about while making those decisions. Interviews lasted generally between thirty and sixty minutes. The semi-structured interview protocol allowed for flexibility of responses among principals where the majority of the interview was guided by a list of questions to be explored with no predetermined wording or order (Merriam, 2009). This structure allowed principals to discuss scenarios where they had to make decisions in their particular context and discuss perceptions of common issues. According to Merriam, (2009), the semi-structured format assumes that, "individual respondents define the world in unique ways" (p. 90). Principals in rural or urban settings, therefore, may perceive decision making differently according to which context they work in. Interviews were recorded verbatim and transcribed for analysis. The data from the interviews were analyzed to develop the survey instrument in the second quantitative phase of this study as well as common themes among principal perceptions on how school context affects principal decision making processes.

An attempt was made to pose interview questions that aided in understanding the phenomena within the context of participants' perspectives and experiences (Merriam, 2009). Thus, experience/behavior, opinion/value, knowledge, hypothetical, and background questions were formulated and posed to understand the phenomena of principal decision making within the context of rural and urban school settings.

Quantitative Data Collection

The quantitative phase was based on the data collected from the qualitative phase of this study. Information gathered from participant perceptions regarding challenges they encountered as middle school principals formed the scenarios in the quantitative scenario survey instrument (See Appendix B). These scenarios formed the stem of the survey items. During the qualitative phase, participants were asked to describe situations that required decision making possibly influenced by school context. Participant provided scenarios were written as closely as possible to the examples provided by interview respondents. Changes made to scenarios included changing information that could compromise participant confidentiality (Fowler, 2014). Scenarios were also condensed into a concise format that increased validity and was more easily understood by participants (Colton & Covert, 2007; Fowler, 2014).

Literature and interviews were foundational to the variables that were examined in this study. Studies on rural and urban principals were reviewed to investigate variables important to principals in those settings as they addressed challenges and professional issues. These variables formed the response set of the subsequent quantitative phase (Colton & Covert, 2007; Fowler, 2014).

Scenario Survey Pilot

Prior to the quantitative phase of this study, a pilot administration of the scenario instrument was conducted. Three experts in the field of education administration were consulted on the content and face validity of the instrument (Colton & Covert, 2007). After experts reviewed the instrument, it was revised based on their suggestions by changing wording for clarity and deleting items that did not answer the research questions. Principals from elementary, middle, and secondary school levels were then purposefully selected and asked to take the survey. Principals were grouped into two separate groups for comparison purposes to examine instrument reliability. Selected principals were asked to evaluate and analyze the items by identifying any inaccuracies and misperceptions in the scenario items. The piloting of the quantitative scenario instrument allowed for increased knowledge on the suitability of the questions. During the pretesting process, if the terminology was clear to the principals in the pilot group, then the survey items could reasonably be assumed to be relevant and suitable for K-12 principals in the field (Colton & Covert, 2007; Fowler, 2014).

Scenario Survey

The scenario instrument was disseminated by electronic mail to all principals (n=1,646) in a southeastern state. Emails were sent to principals' school email address containing the link to the electronic location of the survey. The email contained directions on taking the scenario survey as well as a statement that by taking the survey, principals agreed to participate in the quantitative phase of this study. To increase the response rate, reminders were emailed to all principals in the population.

Upon reading the scenarios, principals selected from six answer choices regarding common contextual characteristics they most think about when addressing the problems or issues

contained in the scenarios. The answer choices consisted of variables that were derived from a review of literature on what principals hold as important, based on previous learning cycles associated with their mental models, while solving problems or dealing with issues in the school context. The answer choices represented contextual aspects that school principals think are important when engaging in decision making (Ruff & Shoho, 2005).

The quantitative phase of the study was used to extend the knowledge collected in the initial qualitative phase. Qualitative and quantitative data collection methods were conducted to achieve a deeper and more comprehensive understanding of how school context affects principal decision making processes, provide a means for increasing the trustworthiness of findings when data were analyzed and compared, and to adhere to sequential sampling techniques and recommendations within a mixed methods design (Creswell, 2014; Sandelowski, 2000; Tashakkori & Teddlie, 2010). Table 5 provides a summary of how the research questions were addressed by both the qualitative and quantitative data collection tools.

Since data were collected sequentially, quantitative data collection occurred after the initial qualitative phase. For quantitative data collection, Question Pro (2019) was chosen for the advantages of that particular mode such as low resource cost, the ability to reach a large sample, and ease of data entry. Question Pro (2019) was also chosen because principals generally have access to the technology needed to successfully complete the scenario survey. Those participant traits helped to reduce some of the disadvantages of online surveys such as with participants who do not have access to technology or lack the education to operate the necessary technology (Fowler, 2014; Shannon, Johnson, Searcy, & Lott, 2002). Also, participants were more likely to

Table 5

Research Questions in Relation to Data Collection Tools

Research Question	Interview Question	Researcher Prepared Scenario Study
1. How do the mental models of rural and urban principals influence decision making in their particular school context?	2, 4, 9, 10	
2. What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school?	1, 3, 5, 10	1-10
3. What are the differences in the mental models of rural and urban school principals in their perceptions of common issues?	6-8, 10	1-10

respond since the survey pertained directly to their own occupation and almost all of the questions were not on sensitive topics (Fowler, 2014). Identity concerns would be mitigated by assuring principals that their survey information would be encrypted along with the use of secure servers and separating their email address from their responses (Fowler, 2014; Shannon et al., 2002).

Data Analysis Procedures

Qualitative Data Analysis

Qualitative data collected from the initial phase of this study served a twofold purpose. As indicated previously, data collected during the initial qualitative phase was used to construct the instrument in the subsequent quantitative phase. Scenarios provided by interview

participants were used to form the stems for the survey instrument. Variables identified from the literature search and participant interviews formed the answer choices. In addition to forming the quantitative instrument, data collected from participants during the qualitative phase was also analyzed to directly answer some of the research questions of this study.

Data collected from participants from the initial qualitative phase were analyzed using qualitative methods within the qualitative analysis digital tool, NVIVO (Version 12; QSR, 2019). The map of analyzed data from the initial qualitative phase of this study is presented in Table 6. Data collected by qualitative methods can be extensive and overwhelming for the researcher (Patton, 1990). The above table was used by the researcher to organize the voluminous data collected during the interview process into themes useful in answering the research questions of this study. The table was utilized to present an overall image from the structure, order, and interpretation of the collected data (Marshall & Rossman, 1999). Data collected from interviews went through three levels of analysis or iterations. Constant comparative analysis took place as data maturated into cohesive patterns. Phrases and words generated from these patterns developed into coding categories (Anfara, Brown, & Mangione, 2002). This process of categorizing data for intensive analysis is called code mapping. The first iteration of this code map depicts the numerous meanings and insights from participant interviews, collected, coded, and condensed into manageable units of data (Miles & Huberman, 1982). The second iteration shows the insights and meanings provided by the participants as information that is compared between categories and within categories to form several themes.

Table 6

Code Mapping: Three Iterations of Qualitative Data Analysis

CODE MAPPING FOR PRINCIPAL DECISION MAKING (Research Questions 1, 2, and 3)		
RQ#1: Mental Models influencing Decision Making?	RQ#2: Rural/Urban characteristics affect decision making?	RQ#3: Mental Model comparison of rural and urban principals?
(THIRD ITERATION: THEMES)		
Community Traits	Stakeholder Perception	Resource Acquisition
Principal Mental Models and Community Characteristics: The Influence of Community on Decision Making		
(SECOND ITERATION: PATTERN VARIABLES)		
Rural		
Socio-Economics	Parent Educational Values	Social Partnerships
Urban		
Multiculturalism	Stakeholder Communication	Business Partnerships
(FIRST ITERATION: CODE/SURFACE CONTENT ANALYSIS)		
Poverty	Transient Population	Embedded
Community Groups	Community Knowledge	Relationships
Respect	Funding	Ethics
Resources	Politics	Perception
Student Benefit	Equity	Morals
Student Values	Policy	Community Values
Communication	Community Culture	Parent Involvement
Isolation	Cultural Competence	Human Resources
Student Outcomes	Community Dynamics	Student Needs
Academics	Athletics	Parent Support
Parent Involvement	Student Needs	Engagement
Outreach	Business Relationships	Ethics
Expectations	Achievement	Affluent
Coalition	Equality	Community Beliefs
Principal Beliefs	Rezoning	Student Focus
Data: Interviews		

Note: Adapted from "Qualitative Analysis on Stage: Making the Research Process More Public" by V. A. Anfara, Jr., K. M. Brown, and T. L. Mangione. Educational Researcher, 31(7), P. 32. Adapted with permission.

Broader themes were then developed in the third iteration in an attempt to answer the research questions of this study. In the third iteration, data analysis was conducted on the level of hypothesis to develop the central theme as it applies to the data set. The theme was formed from underlying patterns about how the community setting influence principals' decision making process, community characteristics that influence decision making, and the comparison of decision making processes from rural and urban principals. The developed theme addressed the qualitative research questions (Anfara et al., 2002).

Quantitative Data Analysis

Management, organization, and analysis of the data were conducted using the Statistical Package for the Social Sciences (IBM, 2016). Electronic copies of survey responses were kept in Question Pro (2019) on The University of Tennessee server, accessible only through password. To ensure adequate responses throughout the survey, descriptive statistics were used to analyze all items. For each item, the mode was calculated as a measure of central tendency due to the nominal nature of the data (Levin & Fox, 2010). Non-responses were identified and coded using the mode score based on that particular participant's demographic information. Because of the answer choices and format of the survey, the level of measurement being collected by this survey was nominal. While descriptive statistics could be obtained, tests that assessed the differences between means and analysis of variance such as *t*-tests and ANOVAS could not be performed since the data collected is not interval in nature (Levin & Fox, 2010). Therefore, nonparametric tests were performed on the data. The *chi-square* non-parametric test was performed in cross-tabulation between rural and urban groups and the six selected variables in the survey instrument. The *chi-square* was performed to examine whether context influences principals to think about similar variables when making decisions in their professional capacity.

The resulting chi-square value was then examined at the .05 significance level. If the resulting value for the chi-square value was significant, then it could be suggested that there was a difference in how principals from a particular context think about a certain situation.

Legitimation of Mixed Methods

The nature of this sequential mixed methods study is based upon pragmatic characteristics. With this idea in mind, the results of the qualitative phase were integrated at two junctures in this study. Initially, the qualitative and quantitative phases interacted to construct the quantitative scenario instrument used in the subsequent quantitative phase. Additionally to answer the research questions, the results of the qualitative and quantitative components interacted again after both sets of data had been analyzed separately. Upon collection and interpretation of data from both components, meta-inferences were drawn through data integration. As a result, weakness minimization legitimation was possible (Onwuegbuzie, Johnson, & Collins, 2011).

Onwuegbuzie and Collins (2007) argued that, "in mixed method research, the crises of representation and legitimation often are exacerbated because the quantitative and qualitative components of studies bring to the fore their own unique crises" (p. 303). The strengths of both qualitative and quantitative approaches of this mixed methods study were used to address the weaknesses of the other approach. The combination of, "qualitative and quantitative inferences can be combined strategically to yield superior meta-inferences" (inferences from the quantitative and qualitative components) (Onwuegbuzie, Johnson, & Collins, 2011, p. 1262). Weakness minimization is noted as a favored method in the fundamental principle of mixed methods research. Specifically, the fundamental principle recommends searching for and using

approaches that have nonoverlapping weaknesses as a means for legitimation (Bryman, 2007; Johnson, Onwuegbuzie, & Turner, 2007).

The legitimation of weakness minimization aids this study as the narrow, deeper data from the initial qualitative phase is strengthened by the broader data from the subsequent quantitative scenario instrument. The data that emerges from the qualitative phase using qualitative techniques can be further examined by quantitative techniques in a second quantitative stage to address mixed methods legitimation (Onwuegbuzie et al., 2011). Mixed method legitimation is additionally addressed in the design of this study as the subsequent quantitative phase was developed from the initial qualitative phase. Legitimation in an exploratory, sequential mixed methods study is addressed when a researcher developed instrument takes advantage of the qualitative findings (Bryman, 2007; Creswell, 2014).

Weakness minimization was used to reduce the flaws of qualitative and quantitative phases of this study to examine how rural and urban school contexts affect school principals' decision-making process by influencing school principals' mental models. The use of qualitative data to create the quantitative scenario instrument further sought to enhance study legitimation. This complementary purpose sought enhancement and clarification of the results from the qualitative data with the results from the quantitative data following recommendations for future study made in the literature (Hallinger et al., 1996; Hallinger & Heck, 1996; Johnson & Fauske, 2000; Leithwood et al., 1990; Ruff & Shoho, 2005; Spillane et al., 2004). By addressing legitimation in terms of weakness minimization and developing a quantitative instrument from qualitative data to help ensure validity, high quality meta-inferences were drawn through a conceptual framework.

Data Integration

It has been argued by Bryman (2007) that if mixed methods researchers "return to their ground for conducting such research in the first place, they may be able to use their arguments as a platform for analysis that is integrative" (p. 20). Following the purpose of this study, results may yield valuable information to be considered by principals, district leaders, and policy makers for future decision making. In order to address the purpose of this study and to answer the research questions, data from both phases of the study were integrated in two different ways. The qualitative and quantitative phases first interacted when qualitative data was used to create the quantitative scenario instrument used for data collection in the quantitative phase. This type of method integration is known as the instrument development or development rationale. The instrument development rationale refers to studies where qualitative research is used to develop the subsequent quantitative instrument so that more comprehensive items or better wording can be used (Bryman, 2007; Greene et al., 1989). The qualitative and quantitative phases of the study additionally interacted after both phases of the study had been completed. Rationale for using mixed methods is the convergence and corroboration of the results from both qualitative and quantitative components of this study. The combination of quantitative and qualitative research methods is used in order to converge and mutually corroborate the findings (Bryman, 2007). The data from both phases complement each other at the data analysis stage to cancel out bias from ether method or data source. Using data from both qualitative and quantitative methods can result in substantiated and well-validated findings (Creswell, 2013).

Ethical Safeguards, Issues, and Considerations

Ethical safeguards were put in place for this study to ensure protection of the participants. To provide confidentiality and identity protection for the participants, only pseudonyms were

used in reporting findings from this research. Additionally, the names of the schools were not used. Schools were referenced in general descriptions and by number, such as Rural School 1 or RS 1. The only identifiers of participants during the qualitative phase of the study were marked on the informed consent form presented and signed during the initial interview meeting. Participants were asked to read the form and sign it if they were interested in participation in the study and for permission to record the interview.

For the quantitative phase of this study, the survey included a statement in the electronic mail sent to all rural and urban principals in the selected southeastern US state and indicated that by choosing to fill out the survey, participants gave consent to participate in the quantitative portion of the study. Participants from both phases were able to withdraw from the study at any time. All informed consent forms were stored in a locked cabinet in the Educational Leadership and Policy Studies office at The University of Tennessee. Three years after close of the study, the informed consent forms will be destroyed. Although, none of the data contained identifying information, access to the collected data was limited to the principal researcher.

With regard to the conduct of research, ethical behavior is important whether it is respecting participants, or reporting findings fully and honestly (Rossman & Rallis, 2012). However, for effective, meaningful research to take place, I must remain ethical. Success in research endeavors required a cognizance of ethical concerns on my part. When I conducted this study I made a special effort to maintain trust and confidentiality with the principals in these schools. By reviewing the guidelines outlined by the Institutional Review Board (IRB), I was aided in acting in a conscientious and ethical manner throughout this process. The University of Tennessee requires researchers to gain approval from the IRB. The IRB review process requires all research to comply with all regulations involving a variety of concerns and issues for

participants in the research project, such as potential risks to participants, confidentiality in the collection, and use and presentation of data. Concerning confidentiality, all names of participant schools and principals were changed in order to protect their identities. This process helped to ensure an ethical and safe research process for any human participants.

Additionally, participants were interviewed on how principals mentally perceive their decision making in relation to their specific school community context. The information collected about the principals was stored on a password protected computer to ensure confidentiality of the participants. Because of that fact, there is limited concern that the information could be released to unintended parties. As principals are held highly accountable for the decisions they make, long term storage of sensitive information provided by those participants should be made as secure as possible. The information given by the participants would be considered highly damaging to their personal and professional lives if the information is released to the general public. Therefore, extreme caution and security was used in the form of password protected computing devices.

Methods of Verification

Dependability and Trustworthiness

In qualitative research, the issue of dependability and trustworthiness with regard to the qualitative data to be collected and analyzed in the study should be discussed. The construction and distribution of valid knowledge – reality reflected by research findings- is an integral part of all qualitative research (Loh, 2013; Merriam, 2009). I took several measures to maintain trustworthiness throughout data collection and analysis in this study of contextual factors affecting principal mental models and successful problem solving skills.

One step I took to maintain trustworthiness was to show participants a copy of the interview protocol before the actual interview session to promote the level of trust and rigor (Goodell, Stage, & Cooke, 2016). In a further attempt to maintain trustworthiness, disclosure to the participants on secure access of identifying information, data, and findings was essential. Participants were informed that all electronic information was stored on a password protected computer, accessible only to me (Rorveit, Hansen, Leiknes, Testad, & Severinsson, 2015). Further, I shared with participants that I would use a pseudonym to identify them in all data and published media. I asked the participants to sign a research consent form and allowed them to retain a copy for themselves. By signing the consent form, participants agreed to a video or audio recording of the in person interview session or the interview session conducted through the video conferencing program, Zoom (Zoom Video Conferencing, 2016). Trustworthiness in the qualitative portion of this research was also attempted by interviewing participants until no new data or themes were discovered (saturation) and articulating explicitly the basic assumptions I had for the study as well my personal biases. The combination of trustworthiness with saturation evidence provides the reader with assurance in study findings and that the findings could be applied to new experiences or situations (Bowen, 2008).

Dependability was attempted through member checks and use of data collected from different sources (Birt, Scott, Cavers, Campbell, & Walter, 2016; Merriam, 2009; Rossman & Rallis, 2012). For member checks, I provided either the video recording file or the link to the video recording made through Zoom (Zoom Video Conferencing, 2016) to the participants. Audio files or transcriptions were provided to participants who interviewed in person. Participants were given the chance during the member check to change their answer to any of the protocol questions as well as adding any additional information.

Dependability was also achieved through the collection of different sources of data to ensure that the researcher has not studied only a fraction of the complexity of the phenomenon under study (Merriam, 2009; Rossman & Rallis, 2012; Tashakkori & Teddlie, 2010). For this research, multiple types of data gathered from interview sessions from a purposefully selected group and the survey of a larger sample assisted in attempting to ensure that the dependability and credibility of the study was maintained. In addition to the multiple types of data collected, multiple methods were used in this study to shore up dependability (Yin, 2014). An inherent strength of mixing different methods of data collection is obtaining a more comprehensive view of the researched phenomenon than if only one methodology was employed (Barnes et al., 2010; Onwuegbuzie, & Turner, 2007; Rutledge et al., 2010; Youngs & Piggot-Irvine, 2011). Using both qualitative methods and quantitative methods in this study allowed the researcher to check the findings from one type of data collection method against the findings from the other method. This cross-check of methods enhanced the dependability of the findings for the overall study (Bryman, 2007; Merriam, 2009; Rossman & Rallis, 2012).

Validity

Validity with the constructed instrument was a concern because no existing instruments were available to use for validity estimates and construction of the instrument. There will be difficulty in obtaining adequate and precise construct validity even though the survey is grounded in literature related to measuring constructs professed to be related to the instrument. However, some types of validity measures can be used with this study such as face and content validity. Face and content validity were obtained through the piloting of the interview protocol and the scenario instrument. Experts in principal mental models, school principals, survey research experts, and education administration experts gave feedback and suggested revisions to

enhance the quantitative scenario instrument. Additionally, content validity was achieved through participants assisting in instrument creation by providing the scenarios and variables that were used to create the supply items as well as the answer choices (Colton & Covert, 2007; Fowler, 2014).

Reliability

Data analysis was used to address instrument reliability, consistency, and the variables within the instrument. Stability of the instrument was measured by obtaining the percentage of agreement using the test-retest method since the collected data is nominal (Colton & Covert, 2007; Fowler, 2014). The percentage of agreement for the test-retest was obtained by administering the test to the pilot group of principals n=6 and then giving the test again to the same group after a period of two weeks. Conditions that would influence a change in response such as work or personal conditions were not reported by the participants. Calculations of the percentage of agreement were based on how closely the responses from the second administration of the instrument matched the responses from the first administration (Colton & Covert, 2007).

Instrument stability was also measured by obtaining the percentage of agreement for each item between two groups. The percentage of agreement was obtained by administering the test to two separate pilot groups, Group A n=6 and Group B n=6. Both groups were principals with similar demographics. The calculation of the percentage of agreement was based on how closely the responses from Group A matched the responses of Group B. The percentage of agreement was calculated for Group A and Group B separately and then compared to each other for the overall percentage of agreement (Colton & Covert, 2007). The percentage of agreement between Group A and B as well as the percentage of agreement for the test-retest of Group A is depicted

in Table 7. The overall test-retest average was 70% while the percentage of agreement between groups was 70%.

Role of Researcher

In all studies, the role of researcher is of concern. The researcher serves as the primary instrument for data collection as well as the filter through which data passes during analysis (Creswell, 2013; Merriam, 2009; Rossman & Rallis, 2012). As the researcher serves a central role in data collection and analysis, caution must be taken address possible bias. All individuals possess a degree of bias that can influence research (Creswell, 2013; Merriam, 2009; Paulus et al., 2014; Rossman & Rallis, 2012; Watt, 2007). As the principal researcher for this study, I must remain cognizant of my own biases.

As with all researchers, I possess previously held ideas and beliefs that influence my research. Through personal experience, I have a preconceived belief that the context principals work in influences their decision making process. As an assistant principal in a rural school, I make decisions to expend resources and time to address socio-economic issues such as poverty and the geographic isolation in which my students live. Since students and services are removed from each other by distance, I make decisions on how to find ways to connect students to those services at school. Services such as dental, medical, counseling, crisis intervention and parenting classes are all held at my school for students as well as their parents who find it too far to travel for the same services elsewhere. The rural nature of the community that most of the individuals my school serve, are of singular race and ethnicity. Because of this fact, there is almost no need to divert resources to services such as English language learning or for professional development opportunities for staff such as cultural competency. When I speak to principals from other schools in rural areas, they describe similar situations.

Table 7

Percentage of Agreement of Test-Retest and Group Comparison

Item	Test-Retest	Group Comparison
1	66.66%	50%
2	66.66%	66.66%
3	66.66%	83.33%
4	66.66%	66.66%
5	100%	66.66%
6	66.66%	66.66%
7	66.66%	66.66%
8	66.66%	100%
9	66.66%	66.66%
10	66.66%	66.66%

Conversely, the multicultural needs of an urban school's community translate into multicultural issues for that particular school. Principals from urban schools have indicated through conversation that they spend more time and resources on addressing English language learning for their students and cultural competency issues with their faculty. The instances where I speak with colleagues informally in urban settings confirm my assumption that they share similar mental models amongst themselves on common issues with the cause being urban contextual factors. These informal observations on how principals from rural and urban contexts think about similar issues as well as an interest in the role context plays in decision making are what motivate me to pursue this research study. I want to know if principals who are adept at considering contextual factors in their mental models of common issues within their profession are more likely to be successful in their role as a school leader. This interest, while helping me to move forward in my study, could cause potential ethical issues if I do not remain mindful of my responsibilities and role as a researcher.

As the principal researcher of this study, I am aware that I must maintain control of biases and provide transparency of any preconceived notions to the reader. Since I do not wish for my biases to contaminate my research, I must possess a strategy for monitoring the data collection, analysis, and findings for instances where I interject my views rather than the views of the participant. Two tools employed to keep control of my biases were audit trails and a research journal.

Audit trails allow for readers to authenticate the findings of the researcher (Berger, 2015, Merriam, 2009; Paulus et al., 2014; Rossman & Rallis, 2012; Watt 2007). Through audit trails, readers have the opportunity to see how researchers conducted their study, collected their data, and produced their findings. Researchers also provide insights on decisions regarding ideas,

issues, and problems encountered while collecting and analyzing the data through audit trails (Berger, 2015, Merriam, 2009; Paulus et al., 2014; Rossman & Rallis, 2012; Watt 2007). The detail provided through an audit trail on how the research was conducted provides a way for researchers to monitor for biases in their decision making concerning the study while providing transparency on the research process for the reader. In my own research, the audit trail provided a way for me to examine all aspects of data collection and analysis to ensure that my preconceived biases did not influence decisions surrounding my study. Providing a data trail for actions taken in the research allowed for the transparency readers of my work needed for reassurance on how preconceived notions affected my work.

Any internal biases I bring to this study were controlled through a research journal. In a research journal, investigators write short memos and notes to one's self during the entire research process (Berger, 2015; Watt, 2007). Writing ideas down when they occur is an important part of how the assumptions of the researcher interact with data collection and analysis. By writing notes to one's self, researchers are given the chance to be made aware of assumptions and viewpoints that were previously unrealized (Rossman & Rallis, 2012). This awareness allows for researchers to monitor the effect their assumptions have on their research. As the principal researcher for this study, I can make clear the perspectives, orientations, and fundamental assumptions that drive my study through the research journal (Paulus et al., 2014; Rossman & Rallis, 2012; Watt, 2007). The research journal provided a transparent view of my internal reflections, thoughts, and assumptions for the readers of my study.

Conclusion

To achieve the purpose of examining how context influences school principals' mental frameworks and how they attend to issues and approach challenges through the decision making

process, a mixed methods approach was determined to be the best means of exploring the phenomenon. Thus, after consideration of the best methodology for addressing the research questions and achieving the purpose of the study, Chapter 3 described the exploratory, sequential, mixed methods study that resulted (Barnes et al., 2010; Rutledge et al., 2010; Tashakkori & Teddlie, 2010; Youngs & Piggot-Irvine, 2011). Interview data were gathered from rural and urban principal volunteers. Principal volunteers informed the sample for the initial qualitative phase of this study. The findings of the initial qualitative phase of the study, in turn, informed the construction of the instrument used in the subsequent quantitative phase. In Chapter 4, the analysis of data from the initial qualitative phase will be presented along with the analysis of data from the proceeding quantitative phase. Integrated data analysis will also be presented in presented in Chapter 4. Chapter 5 will contain a discussion of the findings from the data analysis with the convergence of data set forth as a means of reporting the rigor and quality of the findings.

CHAPTER 4

ANALYSIS AND FINDINGS

Chapter 1 provided an overview of the purpose, research questions, and significance of this study. Chapter 2 revealed that many quantitative studies have been completed for rural principal approaches to challenges and many qualitative studies have been completed for urban principal approaches to challenges. Few mixed-method studies have been completed on the subject of mental models for rural and urban principals. No studies have been found to compare the mental models of rural and urban principals together. Chapter 3 described the sequential mixed methods design that was used to examine how principals' mental perceptions of their community influenced decision making in the school context and explained how qualitative and quantitative methods worked together for data analysis and integration. The purpose of this study was to examine how rural and urban school contexts affect school principals' decision-making processes by influencing school principals' mental models. This chapter will present findings associated with the purpose of the study. Sequential data collection and separate analysis was conducted in accordance with the following research questions:

1. How do the mental models of rural and urban principals influence decision making in their particular school context? (Qualitative)

2. What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school? (Quantitative)

3. How do the mental models of rural and urban principals compare in their decision making? (Qualitative/Quantitative)

Qualitative Findings

The qualitative data analysis will address research question one which is as follows: How do the mental models of rural and urban principals influence decision making in their particular school context? After all interviews were conducted and transcribed, data were uploaded to NVivo (Version 12; QSR, 2019) qualitative analysis software for open coding. Data were openly coded to allow for the possibility that anything could emerge from the data (Merriam, 2009). Initial codes were assigned in reflection of how principals integrate aspects of the context into decision making. Initial codes also reflected exact words of participants regarding their perceptions. The first iteration of open coding yielded 45 initial codes which were then condensed into six categories during the second iteration of coding. Finally, three themes that sought to answer research questions one and three emerged in the final iteration of coding. Please see Table 6 for the interview data analysis code map. Table 8 displays brief definitions associated with each theme as derived from interview perception data. Theme and subtheme definitions were derived from data collected from principals interviews. Participant words across the scope of all interviews were compiled and synthesized to form the definitions in Table 8.

Findings from Rural Principals

Community Traits

Interviewed rural principals often considered community traits associated with socio-economic issues when making decisions. This focus on socio-economic issues is highlighted as Rural Principal One shared that, **"**most of our kids are really rural, high poverty. When we have students from the subsidized housing projects enroll in our school, we know that they will need certain resources to have a chance at being successful". Rural Principal Two explained several

Table 8

Qualitative Theme Definitions

Theme	Definition
Community Traits	Community traits such as socio-economic level and the cultural makeup of its members were often considered by school principals when making a decision.
Rural: Socio-Economics	Rural Principals frequently described that they thought about the economic condition of their students and community.
Urban: Multiculturalism	Urban Principals focused on the trait of their community and students of having many cultural backgrounds and languages.
Stakeholder Perception	Stakeholder perception such as the value that parents assign to the education, if stakeholders perceived the school negatively or positively or how to communicate with parents of different background was frequently discussed by principals when engaging in decision making.
Rural: Parent Educational Values	Principals in rural settings focused their concern on the lack of value that parents assign to the school and education in general when making decisions.
Urban: Stakeholder Communication	Principals in urban settings frequently placed their attention on how the community generally viewed their and on the complexity of communicating with a population that had multiple cultural backgrounds.
Resource Acquisition	Sources of support for their school were frequently discussed by principals as an issue they thought about when making decisions. Principals explained that they entered into partnerships with community businesses and social organizations in order to support their schools.

Table 8 Continued

Theme	Definition
Rural: Social Partnerships	Principals in Rural Settings often cite community organizations such as religious and philanthropic groups as the preferred choice for partnerships because of the scarcity of businesses in their community.
Urban: Business Partnerships	Urban Principals frequently discussed that they formed partnerships with local businesses as a means to assist in the support of their school.
Student Focused Decision Making	Principals from both rural and urban contexts expressed that they prioritized student well-being when making decisions.
Implementation of Educational Policy	Interviewed rural and urban principals indicated that they did not believe that community context affected how they implemented governmental policies.

instances in which the socio-economics of the community were considered when making decisions,

> I think poverty is a big problem. You have to think about which students will have access to resources because of what students will have and which won't at home. I always think about the financial decisions that might be affected. With things like dress code, one to one initiatives, bring your own device initiatives, we think about who can afford that and who can't so we try to keep that stuff in mind as we make decisions.

Other decisions rural principals make were focused on basic living issues for students. "Everybody's got different issues going on at home but you have got to address the issue the best you can while they are here at school. The main thing is to make sure they get fed and make sure

they feel safe" (Rural Principal Three). Socio-economics combined with absenteeism were also considerations when explained by Principals Four and Six: "Poverty is something I have to consider because a lot of those kids have had a rough time because they bounce around to avoid the rent check and then you can't get an accurate phone number to get ahold of them when they get sick. You're tracking down every phone number, calling their neighbors, and everyone else just trying to get someone to come pick their kid up" (Rural Principal Four), and "our absentee rate goes up because they can't get here. The parents are working two jobs and they can't get their kid to school, and they missed the bus so we have to figure out ways to cut down on that" (Rural Principal Six). The concern for socio-economic issues shared by the above interviewed principals is echoed in the literature as decision making in rural communities often compelled rural principals to consider socio-economic issues such as lack of employment opportunities and student financial situations (Browne-Ferrigno & Allen, 2006; Egley & Jones, 2004; Hoborat & Schaft, 2009).

Stakeholder Perception

When interviewed, rural principals thought about stakeholder perception and the value parents place on education. Rural Principal One stated that, "We see that parents do not value education a lot. They just don't understand there's a sense of urgency in following our curriculum". Additionally, Rural Principal Five expresses that the lack of parental support disrupts curriculum pacing guides by sharing, "The curriculum pacing guides sometimes have to be revised because parents don't send their kids to school." As stated by Rural Principal Six, "Parents not valuing education is an issue. We want everybody to achieve the highest they can. With some parents it's a little bit harder to push that on because they may or may not help their children at home. That really causes us to push after school tutoring and other programs for our

students". Rural Principal Five resisted taking time to make decisions to implement things that were not relevant to the community in that, "The school district keeps telling us that technology and varied courses are the things that you all should think are important, that you all should care about internet access and that your students speak three languages, but that is not what our community cares about." Rural Principal Two discussed having to consider parent resistance to educational involvement by saying,

> One of our big things is getting parents more involved and getting them onboard to support their students in their education. So we've had to really be creative in getting parents into our building and getting parents more involved. I've actually had some folks on my leadership team who have just decided that if they are not going to come to us, we are going to go to them. So we are starting a book mobile program and we are going to go around to different areas and reach out to kids and hope that we can get some parents that way.

Rural Principal Four noted that there was a concern for student educational effort by stating, "I know that in certain environments, education may not be a priority and the kids are told as much, you know, my mom doesn't care about school and she told me I don't need to care about school. When we push students to perform at their best or prepare our students for testing, we struggle to work around apathy." This lack of value parents ascribed to education was seen as a challenge by Rural Principal Six when educating students. "We face the fact that a lot of parents don't have college in mind for their children, that's just not important to them and consequently for their children. That's been a challenge that I would attribute to this community" (Rural Principal Six). This concern the interviewed rural principals placed on parent educational values is noted in the literature where parents and rural community members, "articulated limited aspirations for

their children and/or to have a limited understanding of what their children would need to be successful in the future" (Budge, 2006, p. 4). A rural community's indifference or distrust of education prevented any sort of school reform effort. Rural principals' concern with academic accountability was often in conflict with a community's complacency toward the education of their children (Matsumato & Brown-Welty, 2009; Trujillo & Renee, 2012).

Resource Acquisition

When seeking to obtain resources through community partnerships, rural principals engaged in relationship building with community members. Farmer (2009) suggested that rural principals could be successful by, "forming coalitions with power players, befriending those who may resist change and including all stakeholders in the decision making process" (p. 32). In echoing Farmer (2009), Rural Principal Three shared that, "The community has a lot of involvement within our school. Groups such as the Lion's Club helped to provide manpower and funding when we built our new playground". Rural Principals often leaned on local churches as they are entrenched in rural communities. As Rural Principal Four noted, "Last year we started up some partnerships where we met with the local churches because the ministers and the pastors are the leaders in this community. These partnerships help us to address student emotional, social, and physical needs." In a similar situation, Rural Principal Two shared that, "I feel like for the most part we work closely with churches. Some of our local churches are our biggest supporters. Church groups assist us in purchasing materials for our library and supplies for our students." With political relationships, Rural Principal three explained that, "I know members of the local government pretty well. Our district had built additions for most of the schools in our county except ours which still had portables. After I mentioned to the mayor that our PTO was raising money for our own expansion, he brought it before the county commission and they said

that the school should not have to pay for that and they helped us out". Four of the interviewed rural principals said that they considered community groups when working to better their school because of benefits of such partnerships.

Findings from Urban Principals

Community Traits

Because of a diverse student population in urban schools, principals in those settings expend more effort addressing the issue of multiculturalism than do rural schools (Gardiner & Enomoto, 2006). This thought is echoed as Urban Principal Two explained that, "We have three different ethnic groups of students. Many of them don't speak English well. It is hard for us to meet the needs, I feel, of those English learners. When we hire teachers, we have to think about not only communicating with Spanish speaking students, but communicating with students who speak other languages." Hiring and staffing issues in regard to multiculturalism was also thought about by Urban Principal Three when making decisions, when stating: "With our community having different racial groups, I always try to keep our subgroups in mind when I am hiring and making those kinds of decisions, so we now have three staff members on site on campus who are bilingual and that helps."

In addition to language, other multicultural issues were taken into consideration when urban principals made decisions. Urban Principal Four reported that, "The challenge to demographics is that we really have to monitor how we deal with white, black, Hispanic, and Asian students because disparities can end in a lawsuit. We have to be careful how we address things. The way we look at it is that we are addressing the kid and not the color." Discipline concerns associated with multiculturalism were also discussed by Urban Principal Five: "Some kids of different cultural backgrounds are used to being yelled at all the time at home. So when

we yell at them, it is going to trigger them. You have to be alert to that. So when implementing our discipline system, we have to think about the student's background when we address them."

Stakeholder Perception

Urban principals interviewed for this study were concerned about communicating and boosting the positive perception of their school. Urban Principal Four explained that, "You always think about how the community is going to react when you make a decision concerning students. If it is the best thing for kids and you can sell it the right way, know who you are selling it to, and how you are selling it, then I think that is the key to communication with the community." Urban Principal Two was cognizant that leading a school in their particular community necessitated communicating in a manner that would not cause friction with stakeholders in stating that, "At some other schools, I can say it one way, but here at my school, there is a certain way you need to present it because they will not understand. There will be a backlash because of the language issues, or whatever. So I am very conscience of who my audience is and what I am saying." Urban Principal Six explained that, "It is a challenge to communicate to parents from different types of communities and backgrounds. For our staff, communication can be difficult because their background is a little different than the community they serve. I tell my teachers to be aware of those cultural differences when they communicate with their parents." Urban Principal Five discussed the importance of stakeholder communication in maintaining a positive school image in the community by explaining that:

> There is a misperception of this area that it is a rough neighborhood that it's so urban it's nestled in the ghetto. I had a parent tell me that once that the kids cuss and roughhouse, etc.… That's not true. None of that's true. In fact, sometimes I just want to say just walk around, it's orderly, it's nothing like the perceptions of some school parents from all

> of these different areas that it is so rough around here, it's not here. It's not. When I talk to parents individually or at a meeting, I constantly feel like I have to project the school in a favorable light because of where we are."

Urban Principal One shared that, "Yeah, you definitely have to be very aware of what you propose and how you propose it because these guys are sharp. They are well educated. Even though the moms might not work, 90% of them have college degrees, and a lot of them are part time lawyers and stuff like that, so if there is any hole in any plan you're proposing or anything, they will find it. So, yeah, you have to think about who you are talking to when you propose collaboration projects with your parents." On teaching religion in the curriculum Urban Principal Two shared that:

> The hard part, I think, is if the curriculum calls for the teaching of different world religions. The curriculum calls for different religions to be taught but you have to be careful in the community because of the multitude of religions. Teaching that subject in the community can also be a double edged sword against this. So we have to be careful in how we address the parents and how we present that to the community as well.

The above sentiments of urban principals concerning communication with stakeholders was echoed in the literature as often parents and community members of different cultural backgrounds in urban settings experienced difficulty in communicating meaningfully with educators (Warren, 2005).

Resource Acquisition

Urban principals often approached acquiring resources by making use of close nearby groups such as a private foundation, and business partnership funds due to the close proximity of

these groups in the urban community (Jimenez-Castellanos, 2010). Urban Principal Five shared that view by describing that:

> When it comes to doing community outreach to find funding for our school, I think that we have very eager business partners. They want to attach themselves to this school. In fact, we had partners in the education breakfast last week that the district hosts for our business partners and I invited several and all of them came.

Urban Principal Four stated, "Get to know your business leaders. They are great and I turn to them first whenever we start a project. They can help you not only with funding but putting you in contact with those who have resources that you need." Urban Principal Five also shared that:

> One of our business partners sponsored our space camp science project and another one wants to sponsor bleed packs for the school just in case we were to have something catastrophic happen we would have to have a tourniquet kit. That stuff costs some money, but they want to sponsor that.

In thinking about how to acquire partnerships for the school, Urban Principal Three described that, "You see a lot of donations coming in from local businesses. The majority business partners really respect the value of education; they respect the teachers and really value the education that the kids are getting because they will be their future employees." Urban Principal Six explained that, "When making the decision to finance remodeling of our facility, we turned to a local industrial company who not only provided the funding but the manpower to accomplish our project. If we have any other needs in the future, I will definitely consider their help."

Decision Making for Student Benefit

Principals from both rural and urban contexts expressed that they thought about student well-being when making decisions. Urban Principal Six explained that:

> The students should be put first and we should always ask is this good for our students? There are a lot of difficult things that I have had to do such as making staffing decisions but I always end up doing it because I think of the kids first.

Rural Principal Six focused on student benefit by saying, "I got into education to make the lives of the children in my community better" along with Urban Principal Five who shared that, "the folks around you really pick up on the fact that you love the kids and want what's best for them." Student benefit was an emphasis for Rural Principal One who expressed that:

> I always ask how will anything we do benefit the kids. It isn't always going to be about making the teacher comfortable in that room. Improving kids learning and improving the outcome. That is the biggest thing I have to take into consideration when I make a decision.

Urban Principal Four also placed importance on student benefit by saying, "As a principal, you should always ask, "What's best for kids? How is this going to affect the kids?" Decision making outcomes were tied to student benefit by Rural Principal Three who shared that:

> The end result for any decision made is that it has to be best for students. I could sit there and make it easier for teachers, but that isn't my goal. It's to make it better for students in everything that we do. That is the number one goal.

Implementation of Educational Mandates

Both rural and urban principals who were interviewed generally responded that they did not believe that the community affected how they implemented governmental policies.

Principals from both contexts described the main policy issue as communicating the policy to stakeholders. Rural Principal One explained that:

> Our parents just don't understand all that stuff they hear in the news about that testing and that's where we kind of have to be the mediators and explain it. That is the biggest problem we have with policy is just explaining it to parents.

That observation is supported by Urban Principal Five who shared that:

> This is what I have learned about policy, I have learned a long time ago that when you talk about policy, parents tune me out and they feel like you're not receptive to their concerns and interests. So, how receptive they are to the policies is determined by how you explain things like assessments and programs to them.

Rural Principal Six expressed that the community does not affect policy implementation by saying, "No, I would be doing the same thing with those issues whether I was a principal in Memphis, Knoxville, Nashville or somewhere else. You don't get much leeway with the federal policies and really the state policies either." Also, "The law is the law, just like school board policy so yes we have to adhere to the law" (Urban Principal Two), and "I would not sacrifice any violations of any laws or anything like that based on community pressures" (Urban Principal Three). Rural Principal Three echoed that sentiment by saying, "I follow school board policies, pure and simple" along with Urban Principal Six who shared that, "I don't think I make decisions differently because of this urban setting. No, I mean we have the policies, we have the guidelines, and I would make the same kinds of decisions no matter what school I was in."

Response to Research Question One

Urban and rural principals who participated in the interview portion of this study each had aspects of their school community setting that they thought about as they made decisions.

As principals in both settings made decisions, aspects of their contextual environment and experience with the community influenced the outcomes of those decisions. Principals then made future decisions based upon their mental conception of issues surrounding previous decision outcomes. The differences in rural and urban communities influenced what issues or ideas principals in those setting thought about as they discharged their professional duties. Principals gauged decision outcomes in light of influence exerted by community characteristics. As principals used mental constructs to execute their professional duties, awareness of the characteristics of their community guided those decisions.

Rural principals frequently addressed issues concerning the socio-economic condition of their community, parental education values, and making connections with community social groups as a means of supporting their school. Rural principals were concerned with students attending school with the necessary resources to be successful as well as student attendance because of the inability of parents to maintain consistent housing. When making decisions, rural principals thought about socio-economic issues such as poor job prospects for parents and geographical isolation. How parents and the community valued education was also taken into consideration by rural principals when they made decisions. Often rural principals expressed concern over rural parent apathy or lack of experience with educational opportunities. Principals in the rural setting devoted time to developing strategies to reach out to parents who had little interest in their child's education as well as making decisions on the course offerings available to students based on community interest. With the lack of support available in the form of business partnerships, rural principals utilized relationships with social community groups while navigating community's political and belief dynamics. Rural principals sought partnerships with

rural community social groups to provide support for rural students in the form of medical care, financial aid, school supplies, and counseling services.

Urban principals often focused on issues concerning the multicultural traits of their community, stakeholder communication, and business partnerships to obtain and develop resources for their school. When urban principal's made decisions, they were concerned with multicultural issues. Cultural competence was at the forefront for interviewed urban principals when creating the master school schedule, staffing considerations, budget considerations, and decisions in instructional format. Urban principals said they had to make decisions concerning students who speak different languages, implementing school wide discipline practices, and addressing students in general. Although the specific decisions being made differed among urban principals, all urban principals interviewed thought about the cultural background of their students when making those decisions.

Also, urban principals focused on the culture and education level of parents when communicating with them. The interviewed principals shared that their stakeholders had a wide span of cultural and educational backgrounds that had to be considered when in communication. Urban principals also sought to portray their school in a positive light to people outside and inside the community because many community stakeholders had a negative perception of the school or that the school is located in a neighborhood that would not be a good place for their children to attend school.

Urban principals frequently formed partnerships with businesses as those opportunities were readily available because of the proximity of the businesses to the school. When urban principals made decisions on acquiring resources, they almost always turned to area businesses. Urban principals sought financial assistance from urban business in the form of fiscal grants and

employee volunteer hours. Businesses were often a resource for urban principals in securing resources such as playground equipment, technology, and safety items for urban schools. Getting to know the business leaders in the community and which business organizations to join were important first steps for urban principals when becoming new leaders in urban schools.

Despite differences in the characteristics of rural and urban settings, principals from both communities placed high importance on the consideration of student needs. Although many decisions were made every day, principals in both settings said that those decisions were made while thinking of the students first. Rural and urban principals expressed that they thought about student well-being when making decisions. Principals in both settings desired their students to have positive academic outcomes as well as having an educational experience that bettered their lives overall. Student outcomes and support were issues that principals described as a priority when they thought about carrying out their professional duties. Both rural and urban principals made a point to explain that they placed higher emphasis on the quality of the students' academic experience than making the teacher's job easier or more comfortable. Overall, the number one goal of rural and urban principals was to make the educational experience better for students.

Both rural and urban principals also stated that they attempted to be objective when implementing educational mandates. Interviewed principals from both settings indicated that leading a school in their particular context did not influence the way they implemented federal or state policies. Effectively explaining the mandates to their respective stakeholders as well as implementing the mandates with fidelity was an action deemed important by principals from both contexts. Rural and urban principals expressed concerns that parents did not understand information about policy provided by the media. Explaining policy to parents to address parent concerns was a responsibility held by principals in both settings. Ultimately, both rural and

urban principals believed that they made decisions objectively concerning student well-being and policy without influence from the community.

Quantitative Findings

The contextual school leader scenario survey was sent to 1,855 principals across a southeastern US state and a 12.83% (n=238) response rate was achieved. Within the sample, rural respondents (n=161) represented 17.37% of 927 rural schools in the selected southeastern US state. Conversely, urban respondents (n=77) represented 12.26% of 628 urban schools in the selected southeastern US state.

Descriptive Results

Once over a 10% response rate was reached, data were downloaded from the Question Pro (2019) survey platform into the IBM Statistical Package for Social Science (SPSS) 25 (IBM, 2019) for initial data cleaning and analysis. First, data were scanned to make sure no duplicate records existed in the file and were filtered for only complete survey responses. Only survey responses with every item answered were used. After data cleaning concluded, descriptive analysis was conducted on the remaining (n=238) survey responses, which included all context types. Descriptive data, presented in Table 9, were computed for the final sample of principal responses in this study.

Of the sample of public school principals in Tennessee (n=238), 50% were elementary school principals (n=118) and 52% were female (n=124). From the 238 respondents, 68 % (n=161) of principals identified themselves as working in a rural context and 32.35% (n=77) of principals identified themselves as working in an urban context.

Table 9

Descriptive Data for Participating School Principals

	Context Type	
	Rural	**Urban**
Total N	161	77
Gender		
Male	76 (47%)	38 (49%)
Female	85 (53%)	39 (51%)
Grade Band		
Elementary	83 (52%)	35 (45%)
Middle	35 (22%)	27 (35%)
High	25 (16%)	15 (20%)
Other	18 (10%)	0 (0%)

Descriptive Statistics

Examination of Central Tendency

Descriptive statistics were computed for all principals (*n*=238) in this study with regards to rural and urban contexts. Since the data collected were nominal, the measure of central tendency chosen was the mode (Levin & Fox, 2010) shown in Table 10. The mode was reported for principal responses by rural and urban contexts. To calculate the mode, each response was assigned a numeral value with 1 = Socio Economics, 2 = Parent Educational Values, 3 = Community Social Group Partnerships, 4 = Multiculturalism, 5 = Stakeholder Communication, and 6 = Business Partnerships.

Mode scores indicated that both rural and urban principals tended to select similar singular responses in most scenarios. Rural and urban principals both gravitated toward

Table 10

Measure of Central Tendency

Scenario	Rural Mode	Urban Mode
Scenario One (Open House)	5	5
Scenario Two (Rezoning)	5	5
Scenario Three (Technology)	1	1
Scenario Four (RTI^2)	5	5
Scenario Five (Consolidation)	5	5
Scenario Six (Discipline)	5	5
Scenario Seven (Involvement)	5	5
Scenario Eight (Dress Code)	1	1
Scenario Nine (Absenteeism)	5	5
Scenario Ten (Course Rigor)	5	6

selecting stakeholder communication (Rural *Mo* = 5; Urban *Mo* = 5), in response to choosing a topic of discussion for a school's open house as well as principals from both contexts selecting stakeholder communication (Rural *Mo* = 5; Urban *Mo* = 5) in preparing for a geographic merger of the population served by a school. In scenario three, principals were presented with the situation of trying to increase technology access for their students. Both rural and urban principals tended to select the singular response of socio-economics (Rural *Mo* = 1; Urban *Mo* = 1). Scenario four asked principals what characteristic they would consider when implementing RTI^2. Rural and urban principals both generally selected the characteristic of stakeholder communication (Rural *Mo* = 5; Urban *Mo* = 5) when addressing the scenario. Principals were

asked to respond with what they thought about when deciding what issue to focus on during the consolidation of two schools in scenario five. Principals from both rural and urban contexts tended to select stake holder communication (Rural *Mo* = 5; Urban *Mo* = 5) as the area of consideration during the merger. Through scenario six, principals were asked what ideas they would consider when implementing a restorative approach to discipline. In general, rural and urban principals gravitated towards giving the singular response of stakeholder communication (Rural *Mo* = 5; Urban *Mo* = 5). In scenario seven, rural and urban principals were asked to consider what ideas they thought about when developing an outreach program to increase stakeholder involvement. Principals from both contexts tended to choose stakeholder communication (Rural *Mo* = 5; Urban *Mo* = 5) as the characteristic that was considered. In scenario eight, principals were asked to consider issues with passing a new dress code. Both rural and urban principals generally answered that they considered socio economics (Rural *Mo* = 1; Urban *Mo* = 1) as the area of concern. Rural and urban principals were asked in scenario nine what issues were considered when addressing chronic absenteeism. In response to the scenario, both rural and urban principals gravitated toward the issue of stakeholder communication (Rural *Mo* = 5; Urban *Mo* = 5). Scenario ten presented a scenario where principals were asked to indicate the idea most considered when installing rigor in math and science course work. Rural principals tended to consider the idea of stakeholder communication (Rural *Mo* = 5). In contrast, urban principals (Urban *Mo* = 6) tended to consider business partnerships when responding to the scenario. Results of calculating the mode generally indicated that rural and urban principal thought of the same singular idea when making decisions in regard to the presented scenarios.

Contextual Characteristic Frequency and Percentage

Frequency counts of rural and urban principals selecting a particular response to a given scenario and percentages of those selections were given as a result of the nominal nature of the data collected with the scenario. To answer the research question: What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school, the frequency and percentage for the two most selected responses for each context were examined as depicted in Table 11. For frequency counts and percentages for each response choice for each scenario item, see Appendix C.

Table 11

Primary Response Frequency and Percentage

Scenario/Characteristics	N (%)
Rural Response Scenario One (Open House)	
Stakeholder Communication	70 (43.48%)
Parent Educational Values	55 (34.16%)
Urban Response Scenario One (Open House)	
Stakeholder Communication	31 (40.26%)
Parent Educational Values	20 (25.78%)
Rural Response Scenario Two (Rezoning)	
Stakeholder Communication	75 (46.58%)
Socio-Economics	37 (22.98%)
Urban Response Scenario Two (Rezoning)	
Stakeholder Communication	35 (45.45%)
Multiculturalism	18 (23.48%)
Rural Response Scenario Three (Technology)	
Socio-Economics	99 (61.49%)
Business Partnerships	34 (21.12%)
Urban Response Scenario Three (Technology)	
Socio-Economics	38 (49.35%)
Business Partnerships	21 (27.27%)

Table 11 Continued

Scenario/Characteristics	N (%)
Rural Response Scenario Four (RTI^2)	
Stakeholder Communication	66 (40.99%)
Parent Educational Values	53 (32.92%)
Urban Response Scenario Four (RTI^2)	
Stakeholder Communication	36 (46.75%)
Parent Educational Values	16 (20.78%)
Rural Response Scenario Five (Consolidation)	
Stakeholder Communication	91 (56.52%)
Social Group Partnerships	22 (13.66%)
Urban Response Scenario Five (Consolidation)	
Stakeholder Communication	46 (59.74%)
Multiculturalism	16 (20.78%)
Rural Response Scenario Six (Discipline)	
Stakeholder Communication	70 (43.48%)
Parent Educational Values	41 (24.47%)
Urban Response Scenario Six (Discipline)	
Stakeholder Communication	35 (45.45%)
Multiculturalism	16 (20.78%)
Rural Response Scenario Seven (Involvement)	
Stakeholder Communication	82 (50.93%)
Parent Educational Values	36 (22.36%)
Urban Response Scenario Seven (Involvement)	
Stakeholder Communication	34 (44.16%)
Social Group Partnerships	15 (19.48%)
Rural Response Scenario Eight (Dress Code)	
Socio-Economics	80 (49.69%)
Stakeholder Communication	50 (31.06%)
Urban Response Scenario Eight (Dress Code)	
Socio Economics	26 (33.77%)
Stakeholder Communication	25 (32.47%)
Rural Response Scenario Nine (Absenteeism)	
Parent Educational Values	77 (47.83%)
Stakeholder Communication	58 (36.48%)

Table 11 Continued

Scenario/Characteristics	N (%)
Urban Response Scenario Nine (Absenteeism)	
Stakeholder Communication	31 (40.26%)
Parent Educational Values	27 (35.06%)
Rural Response Scenario Ten (Course Rigor)	
Stakeholder Communication	40 (24.84%)
Business Partnerships	39 (24.22%)
Urban Response Scenario Ten (Course Rigor)	
Business Partnerships	35 (45.45%)
Stakeholder Communication	22 (28.57%)

The examination of the frequency and percentage of rural and urban principals echoed the analysis of the modal central tendency. Response frequency and percentage indicated that both rural and urban principals tended to select similar responses or characteristics for most scenarios. Stakeholder communication was the most often selected contextual characteristic by rural and urban principals. Both rural and urban principals selected stakeholder communication as the idea most thought about when making decisions concerning open house meetings, geographic rezoning, implementing RTI^2, school mergers, implementing restorative discipline, and increasing stakeholder involvement. For scenarios three and eight concerning technology access as well as dress code implementation, both rural and urban principals indicated that they thought about socio-economics when making decisions.

The examination of the responses for scenarios nine and ten suggested that rural and urban principals thought about different ideas when addressing those issues. Principals were asked through scenario nine to indicate the issue considered most when addressing chronic absenteeism. The majority of rural principals indicated that they thought about parental educational values when making decisions concerning chronic absenteeism while the majority of

urban principals indicated that they thought about stakeholder communication. Through scenario ten, principals were asked to indicate the idea they most thought about when increasing course rigor and hands on experiences. The majority of rural principals specified that they thought about business partnerships when addressing scenario ten and the majority of urban principals indicated that they considered stakeholder communication when responding to the same scenario.

Although still in agreement in response selection for some scenarios, community characteristics thought about by rural and urban principals when making decisions became more diverse when the second most selected responses for each scenario were examined. In scenario one, when asked about the topic for open house night, parent educational values was the second most selected choice by both rural and urban principals. Both rural and urban principals gave the same secondary responses in scenario three (Business Partnerships), four (Parent Educational Values), and eight (Stakeholder Communication).

The second most selected choice by rural and urban principals differed in other scenarios. In scenario two, when asked to indicate the idea considered when a school zone was geographically rezoned, rural principals indicated that they thought about socio-economics and urban principals indicated that they thought about multiculturalism. For scenario five, when asked to identify the contextual characteristic most thought about during a school merger, rural principals identified social group partnerships as the idea considered while urban principals identified multiculturalism as the issue of importance. While developing a restorative approach to discipline in scenario six, rural principals' second most selected response was parent educational values while urban principals selected multiculturalism. In trying to increase stakeholder involvement through scenario seven, rural principals chose parent educational

values. However, urban principals chose social group partnerships as the second most selected response choice. In addressing chronic absenteeism in scenario nine, rural principals indicated that they thought about stakeholder communication with urban principals conversely selecting parent educational values as the idea considered when addressing that issue. While thinking about increasing course rigor in scenario ten, rural principals chose business partnerships as the community characteristic most thought about when making a decision. Urban principals identified parent educational values as the second most selected choice when thinking about the same issue.

Quantitative Conclusion and Response to Research Question Two

In response to research question two: What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school? quantitative analysis indicated that rural and urban principals consider similar contextual characteristics when engaging in decision making. Mode score measures of central tendency and response frequency as well as percentages suggested that principals from rural and urban contexts consider similar characteristics when addressing issues concerning their professional duties at their school. Most principals indicated that they thought primarily about stakeholder communication when addressing each scenario. Other similar contextual characteristics that rural and urban principals both tended to select less frequently were socio-economics, parent educational values, and business partnerships.

Data Integration

In the final stage of data analysis, qualitative and quantitative findings were converged to answer research question three: How do the mental models of rural and urban principals compare in their decision making? Data integration between qualitative and quantitative components of

this exploratory sequential mixed-methods study occurred as information collected from the qualitative phase of the study was used to inform the construction of the quantitative scenario survey instrument. During the qualitative phase, participants were asked to describe situations that required decision making possibly influenced by school context. These scenarios formed the stem of the survey items. Constant comparative analysis conducted during the qualitative phase yielded the six contextual characteristics used as response selections for the scenario survey. In the subsequent quantitative phase, data gathered using the scenario survey were examined using mode scores, response frequencies and percentages. Further data integration was explored through the examination of results from the quantitative scenario survey through the lens of aggregated rural and urban sub-categories obtained from the qualitative phase of the study. Contextual characteristics from the questionnaire were grouped into categories based on responses given by rural principals and responses given by urban principals. These groupings were used to provide a lens through which to compare the community characteristics rural and urban principals thought about when making decisions. Specifically, rural and urban categories were used to analyze whether principals from each context thought about characteristics identified through the qualitative phase of the study as related to rural or urban contexts when making decisions through a particular scenario. Comparisons in principal decision making were also examined using aggregated frequencies framed by the categories derived from the qualitative phase in chi-square tests for association to test for response differences among principals from rural and urban contexts. Although some of the findings in this section are similar to the quantitative results from the preceding section, integrated analysis indicated more diversity in the contextual characteristics rural and urban principals think about when making decisions.

Aggregate Frequency and Percent Response within Contextual Associations

Table 12 displays data in the form of aggregated frequency counts and percentages for responses associated with either rural (socio-economic, parental educational values, community social groups) or urban (multiculturalism, stakeholder communication, community business groups) group characteristics. Interview data from the preceding qualitative phase of this study as well as from the literature identified sets of characteristics as either rural or urban. Scenario survey responses were aggregated under the rural and urban associated sets of characteristics to examine if rural principals thought about characteristics associated with rural contexts as well as if urban principals thought about characteristics associated with urban contexts. Aggregated data under contextual associations were presented in Table 12 to illustrate whether rural and urban principals gravitated toward rural or urban responses.

Aggregated frequencies and percentages yielded instances where rural and urban principals differed and agreed on selecting rural or urban associated responses. In scenario one, principals were asked to indicate what they thought about during a school open house. Rural principals (*n*=88, 54.66% rural responses) tended to select responses associated with rural contexts and urban principals (*n*=47, 55.22 % urban responses) tended to select responses associated with urban contexts. Concerning implementation of RTI^2 in scenario four, rural principals (*n*=89, 55.28% rural responses) gravitated toward rural responses with urban principals (*n*=51, 68.23% urban responses) more likely to select responses associated with urban contexts.

Table 12

*Aggregate Responses from Qualitative Contextual Categories**

Rural/Urban Principals	Rural Qualitative Category Response	Urban Qualitative Category Response
Scenario One (Open House)		
Rural Principals	88 (54.66%)	73 (45.34%)
Urban Principals	30 (44.78%)	47 (55.22%)
Scenario Two (Rezoning)		
Rural Principals	75 (46.58%)	86 (53.42%)
Urban Principals	24 (31.17%)	53 (68.83%)
Scenario Three (Technology)		
Rural Principals	115 (71.43%)	46 (28.57%)
Urban Principals	36 (58.44%)	28 (41.46%)
Scenario Four (RTI^2)		
Rural Principals	89 (55.28%)	72 (44.72%)
Urban Principals	26 (33.77%)	51 (66.23%)
Scenario Five (Consolidation)		
Rural Principals	54 (33.54%)	107 (66.46%)
Urban Principals	13 (16.89%)	64 (83.11%)
Scenario Six (Discipline)		
Rural Principals	82 (50.93%)	79 (49.07%)
Urban Principals	25 (32.47%)	52 (67.53%)
Scenario Seven (Involvement)		
Rural Principals	66 (40.99%)	95 (59.01%)
Urban Principals	25 (32.47%)	52 (67.53%)
Scenario Eight (Dress Code)		
Rural Principals	109 (67.70%)	39 (32.30%)
Urban Principals	39 (50.65%)	38 (49.35%)
Scenario Nine (Absenteeism)		
Rural Principals	102 (63.35%)	59 (36.65%)
Urban Principals	59 (57.14%)	35 (42.86%)
Scenario Ten (Course Rigor)		
Rural Principals	81 (50.31%)	80 (49.69%)
Urban Principals	20 (25.94%)	57 (74.06%)

* Contextual characteristics were identified as rural or urban from qualitative interview data as well as literature review and placed in like categories.

In scenario six, principals were asked to indicate what characteristic was considered when implementing a restorative approach to discipline, both rural (*n*=82, 50.93% rural responses) and urban principals (*n*=44, 67.53% urban responses) gave the majority of responses associated with their respective contexts. Rural (*n*=81, 50.31% rural responses) and urban principals (*n*=57, 74.06% urban responses) also selected contextual characteristics associated with their corresponding contexts in scenario ten where principals were asked to consider what idea they most considered when supporting school curriculum through hands-on experiences.

Although data collected through the scenario survey suggested a tendency for rural and urban principals to think about characteristics associated with their particular contexts in some decision making situations, data were also collected that suggested principals from both contexts thought about similar ideas when making decisions. In scenario two where principals were asked to indicate what they thought about when increasing technology access for students, both rural principals (*n*=89, 75.95% rural responses) and urban principals (*n*=36, 56.25 % rural responses) tended to select responses associated with rural contexts. Likewise when asked in scenario three about providing technology for students, both rural principals (*n*=115, 71.43% rural responses) and urban principals (n=36, 58.44% rural responses) were inclined to select responses associated with rural contexts. In scenario five, where a situation was presented concerning the consolidation of two schools, rural (*n*=80, 65.57% urban responses) and urban principals (*n*=52, 81.25% urban responses) both gravitated toward responses associated with urban contexts.

Additionally, rural (*n*=66, 59.01% urban responses) and urban (*n*=52, 67.53% urban responses) principals were inclined to select responses associated with similar contexts in scenario seven where principals were asked about what they considered when developing an

outreach program to increase stakeholder involvement. Responses for scenario eight, where principals were asked to consider issues surrounding implementing a new dress code, tended to indicate that both rural principals (*n*=81, 65.57% rural responses) and urban principals (*n*=36, 56.25% rural responses) identified with responses associated with rural contexts. In scenario nine where principals were asked to indicate what characteristic was considered when addressing chronic absenteeism, both rural (*n*=81, 81.66% rural responses) and urban principals (n=36, 56.25% urban responses) gravitated toward responses associated with rural contexts.

Scenarios concerning open house communication, implementing RTI^2, restorative discipline, and increasing rigor with hands on experiences, had responses by rural and urban principals that suggested a difference in the characteristics thought about as evidenced by aggregate frequency/percent response. In those scenarios, rural principals gravitated toward responses associated with the rural contexts and urban principals more frequently chose responses associated with urban contexts.

In scenarios concerning rezoning, technology access, school consolidation, dress codes, stakeholder involvement, and chronic absenteeism, the aggregate frequency/percent response indicated that rural and urban principals tended to give responses associated in majority with rural or urban settings. In these scenarios, the aggregated frequency/percent responses indicated that rural and urban principals thought about similar issues when making decisions.

Statistical Differences between Groups

Next, analysis examined whether the contextual characteristics principals thought about varied according to rural and urban group response frequency differences. A two-way chi-square test for association was used to test for response differences among principals according to whether the principal identified with a rural or urban context. In each survey response set,

some responses were less than five. Since frequency counts less than five can cause a distortion when chi-square tests for association are conducted, the categories were combined to obtain more accurate data (Levin & Fox, 2010). For the rural and urban variables in most scenarios, chi-square test results showed significant differences in how principals from those contexts responded. An overview of the statistical differences between group responses is presented in Table 13.

Principal responses in scenario one showed differences $X^2(1) = 5.134$; $p < .05$ between rural and urban principal responses in addressing topics of discussion for a principals initial open house meeting with parents. Similarly, differences $X^2(1) = 5.095$; $p < .05$ existed in scenario two where principals were asked to indicate what issues they thought about when faced with a rezoning of the area their schools serve. Data collected from scenario three suggested differences $X^2(1) = 3.987$; $p < .05$ between rural and urban principal responses when asked what issues were considered when thinking about increasing technology access for their students. Rural and urban principals also differed $X^2(1) = 9.654$; $p < .05$ in responses with scenario four where principals were asked what issues they considered when implementing RTI^2. Scenario five asked principals what responses principals thought about when overseeing the consolidation of two middle schools. Rural and urban principals differed $X^2(1) = 7.145$; $p < .05$ in the responses they gave when indicating what characteristics they thought about when considering the survey question. Principal responses in scenario six showed differences $X^2(1) = 7.176$; $p < .05$ between rural and urban principal responses in developing restorative approaches to undesirable behaviors. Similarly, differences $X^2(1)$ 6.441; $p < .05$ existed in scenario eight where principals were asked to indicate what issues they thought about when implementing a new discipline policy. Responses for scenario ten also suggested differences $X^2(1) = 12.629$; $p < .001$ between

Table 13

Statistical Differences between Groups

Scenario Survey	Chi-Square Value	Pearson Chi-Square Significance
Scenario One	5.134	0.023
Scenario Two	5.095	0.024
Scenario Three	3.987	0.046
Scenario Four	9.654	0.002
Scenario Five	7.145	0.008
Scenario Six	7.176	0.007
Scenario Seven	1.603	0.205
Scenario Eight	6.441	0.011
Scenario Nine	0.847	0.357
Scenario Ten	12.629	0.001

responses of rural and urban principals when principals were asked what issues were considered when placing more emphasis on math and science and installing/increasing rigor in the course work.

Responses from scenarios seven and nine did not suggest significant differences between how rural and urban principals responded. Through scenario seven, principals were asked what contextual characteristics were considered when increasing stakeholder involvement through outreach programs. Responses for scenario seven suggested that rural and urban principals did not differ $X^2(1) = 1.603$; $p > .05$ in how they thought about the scenario. Similarly, in scenario nine, principals were asked to indicate what issues were considered when addressing the issue of chronic absenteeism. Principal responses for scenario nine indicated that rural and urban principals thought of similar $X^2(1) = 0.847$; $p > .05$ characteristics. .

Integrated Findings Summary and Response to Research Question Three

In response to research question three: How do the mental models of rural and urban principals compare in their decision making? aggregate frequency, percent response, and chi-square tests for association conducted through the sub-scales created in the qualitative phase suggested that principals from rural and urban contexts consider both different and similar characteristics when making decisions. Integrated findings suggested that rural and urban principals considered different characteristics when making decisions in almost half of the scenarios. The theoretical framework of shared mental models predicts that individuals in similar surroundings construct similar mental models to describe, predict, and explain situations occurring around them (Il-Hyun, 2012). This study's theoretical framework supports the findings that rural principals would think about characteristics associated with rural contexts and that urban principals would think about urban contextual characteristics. In line with the

framework of shared mental models, scenarios concerning open house communication, implementing RTI^2, restorative discipline, and increasing rigor with hands-on experiences had responses by rural and urban principals that suggested a difference in the characteristics thought about during decision making as evidenced by aggregate frequency/percent response and chi-square tests for association. In those scenarios, rural principals gravitated toward responses associated with the rural contexts and urban principals more frequently chose responses associated with urban contexts.

Scenarios concerning rezoning, technology access, school consolidation, and dress codes yielded responses with mixed results. In those scenarios, the aggregate frequency/percent response indicated that rural and urban principals tended to give responses associated in majority with rural or urban settings. However, chi-square tests for association suggest that responses varied significantly between rural and urban principals. Conversely, responses to scenarios that asked principals to think about issues associated with increasing stakeholder involvement and addressing chronic absenteeism more strongly gave evidence that rural and urban principals thought about similar characteristics when addressing those scenarios. In both scenarios, the aggregated frequency/percent responses and the chi-square tests for association concurred that rural and urban principals thought about similar issues when making decisions.

Conclusion

Chapter 4 presented findings from this study as data collection and analysis occurred sequentially. Qualitative findings were presented according to the major themes that emerged along with the corresponding categories. Quantitative findings were presented in the form of descriptive statistics, frequencies, and response percentages. Integrated findings were examined in the form of aggregated frequencies and chi-square analysis through the lens of contextual

categories as discussed in the qualitative phase. All analytical processes associated with the quantitative and integrated findings were described and data integration was presented at the end of the analysis as a convergence of qualitative and quantitative findings. Qualitative themes were converged and corroborated with quantitative findings and were considered in the light of the theoretical framework posed for this study. Findings will be discussed through the lens of the theoretical framework in the following chapter in terms of study significance for understanding how rural and urban principals make decisions in their contexts. Chapter 5 will present discussion, implications, and recommendations for future study.

CHAPTER 5

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study was to examine how rural and urban school contexts affect school principals' decision-making process by influencing school principals' mental models. The purpose of the study was accomplished through a sequential exploratory mixed methods study designed to address the following guiding research questions:

1. How do the mental models of rural and urban principals' influence decision making in their particular school context? (Qualitative)

2. What characteristics in rural and urban settings most influence the way school principals address challenges or issues in their school? (Quantitative)

3. How do the mental models of rural and urban principals compare in their decision making? (Qualitative and Quantitative)

This chapter will discuss findings through the lens of the theoretical framework in terms of relevance in examining principal decision making as influenced by rural and urban contexts. Based on findings and literature associated with this study, a model for how rural and urban principals make decisions is proposed. Finally, recommendations for future study will be based on the methods and findings from this study.

Discussion

Study findings indicated that a particular school's context influences rural and urban principal's decision making. Qualitative analysis revealed that rural and urban principals' mental models were influenced by characteristics of their environment. Those findings were congruent with the framework of shared mental models which predicts that rural and urban environments influence how principals' decision making practices will lead to a particular outcome (Il-Hyun,

2012; Mohammed & Dunville, 2001). Principals considered contextual characteristics of their environment to arrive at a desired outcome when they made decisions. Contextual aspects of the school environment informed rural and urban principals' understanding of how events and situations unfold when discharging their professional duties. Rural principals indicated aspects of their environment such as socio-economics, parent educational values and social community groups were considered as they made decisions. Similarly, urban principals shared that they were influenced by the contextual community characteristics of multiculturalism, stakeholder communication, and business partnerships.

For principals, decision making does not occur separate from the influences of their environment. As both rural and urban principals undertake actions to reach their professional goals, they must navigate the traits of their particular community setting to achieve those goals. Having a clear mental framework of the contextual aspects that aid or inhibit desired decision making outcomes is beneficial for principals in both settings. Knowledge of parts of the community setting such as community values, socio-economic levels, cultural makeup, business, and social structures allows principals to fit the pursuit of their goals within the construct of their school environment. Rural principals were mindful of the socio-economic variability of their setting when making resource decisions or providing services as well as parent attitudes towards education when attempting to build relationships with those same parents. Urban principals thought about the cultural make-up of their community and how to best to communicate with stakeholders when making decisions to enhance their students' academic experiences. Principals from both settings thought about support networks such as social groups (rural) or businesses (urban) when striving for the desired outcome of a decision. The perception of working in a

setting where contextual characteristics affect action outcomes forms the thinking of rural and urban principals as they move through the decision making process.

This study sought to examine the characteristics in rural and urban settings that most influenced the way school principals address challenges or issues in their school. Quantitative analysis revealed that both rural and urban principals generally thought about how to communicate with their stakeholders when making decisions in the majority of presented scenarios. The results of scenarios pertaining to open house presentations, rezoning, technology, RTI^2, consolidation, discipline, and stake holder involvement indicated that most rural and urban principals considered stakeholder communication as a contextual characteristic of importance when making decisions. However, stakeholder communication may look different in each context. Differences in stakeholder communication for principals can arise from other contextual characteristics. When urban principals think about communicating with their stakeholders, those thoughts are influenced by the multicultural aspects of the urban setting. Parents of different cultural backgrounds in urban settings often lacked the education to collaborate meaningfully with educators (Warren, 2005). When urban principals made decisions that involved communicating with stakeholders, the principals thought about the different cultural aspects of their stakeholders. Often urban principals would think about communicating with stakeholders of one background differently that communicating with another group. For rural principals, the contextual characteristic of stakeholder communication was linked more closely to the characteristic of parent educational values. Whereas urban principals thought about communicating with stakeholders of diverse cultures, rural principals thought more about moving stakeholders from disengagement to involving themselves with their local school when thinking about stakeholder communication. Rural principals involved themselves in addressing

their community's complacency and indifference toward education when making decisions (Matsumato & Brown-Welty, 2009). In thinking about communicating with their stakeholders, rural principals often had to think about enticing their parents to engage in collaboration. Rural Principal Two shared that, "We've had to really be creative in getting parents into our building and getting parents more involved." For collaborative communication with stakeholders to occur, rural principals worked to draw the stakeholders in for conversation or to go out in the community to meet them.

This study also sought to examine how the mental models of rural and urban principals compare in their decision making. To examine the comparison in decision making, quantitative results were examined using aggregate frequency, percent response, and chi-square tests for association conducted through the contextual sub-categories created in the qualitative phase as well as viewed in the literature. Integrated findings suggested that rural and urban principals considered different characteristics when making decisions in most of the scenarios with other findings indicating that principals from both settings thought about similar characteristics when making decisions. Integrated data suggested that principals thought about characteristics as predicted by the theoretical framework of shared mental models. The framework of shared mental models predicts that individuals in similar surroundings construct similar mental models to predict how situations unfold.

While principals from different contexts had similar goals such as making decisions for student benefit or implementing mandates with fidelity, the unique characteristics of the external contexts in which schools are located tended to influence the mental models of the principals and the decisions they make. In line with the theoretical framework of this study, rural principals thought about characteristics associated with the rural community when making decisions and

urban principals tended to think about characteristics associated with the urban community when making decisions when those characteristics were aggregated into the broader rural and urban categories. The characteristics of a rural community such as a focus on socio-economic issues, parent disregard of education, or the prevalence of community social groups over businesses colored the mindset of principals working in that environment. Likewise, abundant cultural issues, fostering partnership relationships with stakeholders through communication or the prevalence of business groups influenced what urban principals thought about when making decisions. Just as principals have internal biases that influence how they think or act, the results of this study have indicated that external characteristics can also influence principals' thoughts and actions. People who are situated longer within an environmental context have mental models that enable them to be better at predicting how experiences and decisions will unfold within that context (Il-Hyun, 2012; Mohommed & Dunville, 2001). The longer principals embedded within a rural or urban environment, the more ingrained the consideration of characteristics associated with those environments will become during the decision making process.

Rural and Urban Principal Decision-Making Model

Results of this study suggested that the context a principal works in exerts influence on the characteristics they think about when making decisions. The identification and examination of this decision making process as influenced by external contextual characteristics leads to the opportunity of effecting change with school principal decision making (Marlar, 2015). Therefore, results indicate that understanding how the decision making process unfolds for rural and urban principals can benefit principals, district personnel, and policy makers. The following

section will present a model describing how rural and urban principals make decisions to assist those seeking to improve principal leadership practices.

Principal Contextual Decision-Making Model

The proposed model describes the decision-making process for principals in rural and urban contexts as well as the influence contextual characteristics exert on that process. Figure 2 depicts the Principal Contextual Decision-Making Model. Following the findings from this study and extant literature that surrounded the need for understanding how external characteristics influence principal decision making (Hallinger et al., 1996; Hallinger & Heck, 1996; Johnson & Fauske, 2000; Leithwood et al., 1990; Ruff & Shoho, 2005; Spillane et al., 2004), the presented model shows that external community characteristics and the contextually influenced outcome of the decision, shape principals' mental concept of the issue requiring a decision.

The model depicts the decision making process for rural and urban principals thinking about a situation requiring a decision. External characteristics then influence principals' decisions as they seek to address the situation within the school community setting. This process was observed as Rural Principal Two discussed instances in which the socio-economics of the community were considered when making decisions:

> I think poverty is a big problem. You have to think about which students will have access to resources because of what students will have and which won't at home. I always think about the financial decisions that might be affected. With things like dress code, one to one initiatives, bring your own device initiatives, we think about who can afford that and who can't so we try to keep that stuff in mind as we make decisions.

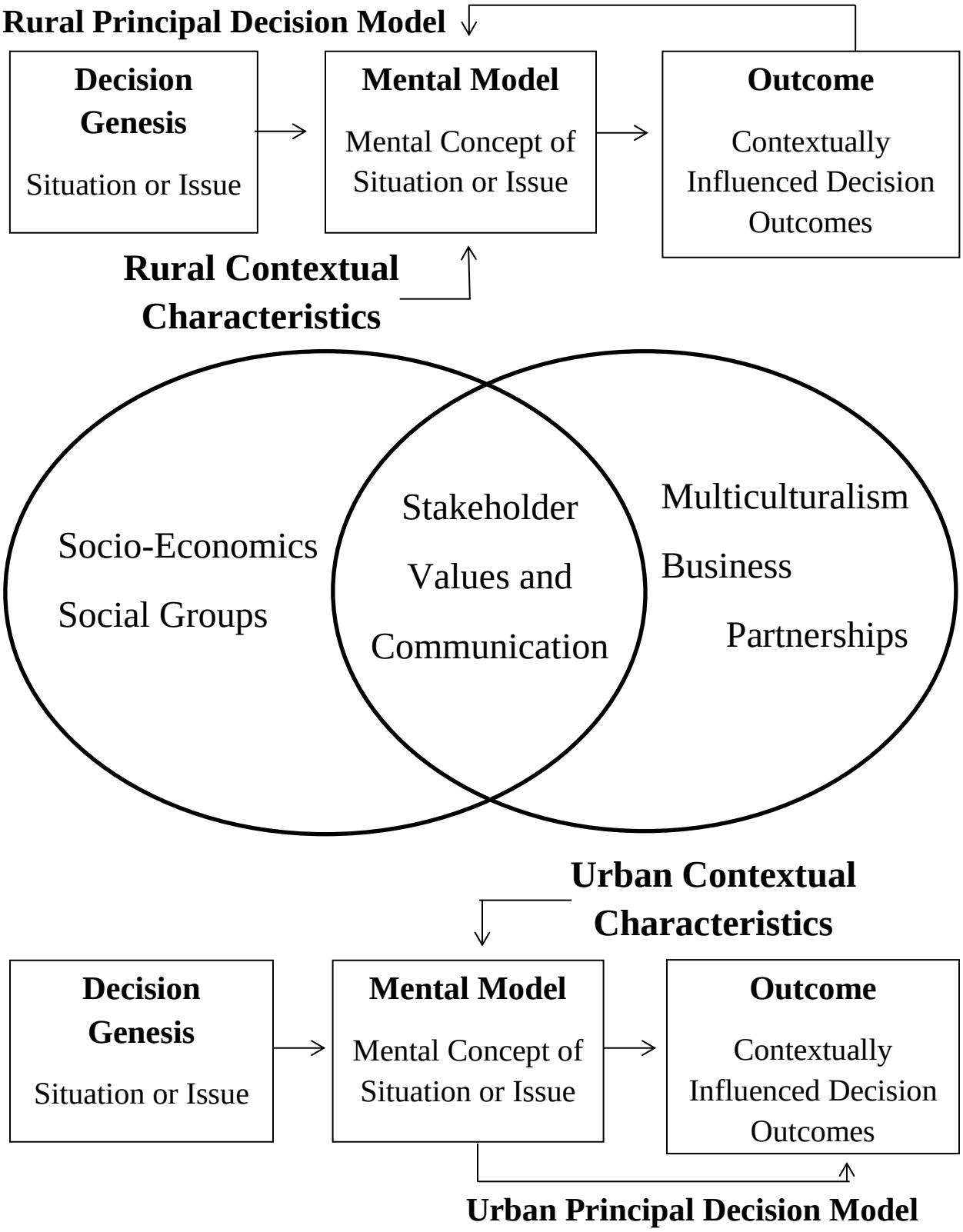


Figure 2. Rural and Urban Principal Decision Making Model

The outcome of the decision, as influenced by contextual characteristics, in turn influences principals' mental model of a situation when they are called to make another decision. Urban Principal Six explained that, "When making the decision to finance remodeling of our facility, we turned to a local industrial company who not only provided the funding but the manpower to accomplish our project. If we have any other needs in the future, I will definitely consider their help." This model is formed on the basis of how a decision unfolds within the context of a particular school environment helps principals to be able to predict the outcomes of the next decision made when the situation arises (Il-Hyun, 2012; Kim, 1993; Mohammed & Dumville, 2001).

The model also depicts the intersection of community characteristics observed in this study between rural and urban principals. A majority of rural and urban principals indicated that they considered stakeholder communication as the characteristic most thought about when making decisions. Since the scenario response of parent educational values was also selected by urban principals as an area on influence, that characteristic was combined with stakeholder communication. The characteristics influencing rural or urban principals in the diagram depicts stakeholder communication or values as a shared characteristic.

Policy makers and district leaders should consider how external contextual characteristics inform principal decision making. There should be an understanding that decisions such as initiative implementation are considered by principals in light of different characteristics that influence how those decisions are carried out. Decisions to support initiatives such as one to one technology will look different as principals contend with characteristics such as socio-economic support from the community, communicating importance of the initiative to stakeholders, or obtaining resources to support that initiative.

Implications

With regard to implications for principals, this study highlights the influence contextual characteristics have on principals' mental concepts of situations requiring decision making and the outcomes of those decisions. As rural and urban principals form consortiums and networks to collaborate on professional practices, understanding the uniqueness of their contexts in relation to those practices can be of benefit. Context specific groups or networks can use the results of this study as a focus to improve their professional effectiveness. Discussion concerning context- specific leadership practices will aid principals in similar contexts in leading their schools. Groups of rural principals can collaborate on how socio-economic issues affect their professional decisions and the pursuit of their goals as a school leader. As rural principals seek to give their students a positive educational experience and implement governmental mandates with fidelity, discussing how the socio-economic conditions of their community influences their actions can allow rural principals to improve the discharge of their professional duties. Rural principals can also collaborate on the availability and networking of community social groups in the attainment of their professional goals. Context specific principal organizations can discuss how collaborating with social groups can be of benefit as they seek to prioritize the educational quality of their students and implement the various required mandates. Similarly, groups of urban principals can use the results of this study to improve how they carry out their professional duties. As urban principals work toward goals similar to those of rural principals concerning student benefit and implementation of mandates, a discussion can be held on how urban characteristics influence decision making. Urban principals can share how the multi-cultural nature of their students and stakeholders affects their decision making practices and how that influence affects the result of those decisions. The availability of other contextual

characteristics that influence decision making such as business groups can also be an area of discussion among urban principals. As urban principals seek to provide a positive educational experience for their students and implement mandates, discussions can be held by urban principals on how interactions with business partnerships allowed them to achieve those goals. Also, rural and urban principal networks can both discuss communicating with stakeholders and stakeholder traits in relation to how they make decisions. Since the contextual characteristic of stakeholder communication was identified as one that was considered by principals, principals from both contexts can collaborate with each other on how it affects decision making in terms of reaching their professional goals.

Implications for policy makers and district leaders from this study are that while principals seek to implement mandates with fidelity, contextual characteristics inform how implementation occurs. Policy makers should consider that rural and urban principals will contend with different aspects of their contextual environment when making decisions to implement mandates. In that consideration, policy makers should provide differentiated resources to rural and urban principals depending on the needs of their particular contextual environment. Rural principals may spend time focusing on community socio-economics to implement a mandate. Urban principals may focus on implementing a mandate with regard to the multi-cultural attributes of a community. Rural and urban principals form partnerships respectively with social or business groups to obtain resources to implement a mandate or initiative. Also, policy makers should consider that principals from both settings will seek to communicate the reasoning behind the mandates to their stakeholders in terms of stakeholder values. Success of the mandate may be influenced by how well principals communicate information surrounding an initiative with regard to the contextual makeup of their communities.

To that end, policy makers should be ready to provide the resources necessary, depending on the context, to support principals in making those decisions.

In line with principals joining rural or urban networks to assist each other with context specific issues, university principal preparation programs should assist students in being aware of some of the influences external characteristics have on principals as they make decisions. In the case of students unfamiliar with a particular context, knowing which community characteristics influence their decision making would be beneficial. Knowing to consider characteristics such as socio-economics or multiculturalism would assist school leaders in pursuit of their professional goals earlier in their career.

Answering the call of the literature, this study has expanded the examination of external characteristics on principal's decision making practices (Hallinger & Heck, 1996; Johnson & Fauske 2000; Leithwood et al., 1990; Ruff & Shoho, 2005; Spillane, Halverson, & Diamond, 2004). Results of this study suggest that external characteristics do influence principal decision making practices. Rural principals predominantly consider characteristics such as socio-economics and social community groups when making decisions. Urban principals predominantly consider characteristics such as multiculturalism and business partnerships when making decisions. Principals from both contexts think about communication with stakeholders and the values possessed by those stakeholders. Finally, results suggested that rural and urban principals think about different characteristics when making decisions. In line with the results of this study expanding the conversation on decision making within external contexts, the next section will provide suggestions for future areas of focus to add to the literature.

Recommendations for Future Research

Findings from this study and the resulting principal decision making model lead to recommendations for studies which will add to literature concerning principal mental models and decision making as influenced by contextual characteristics. These recommendations are both broad and narrow in their focus, including studies which might extend these findings as well as studies targeted to methodology.

The Principal Contextual Decision-Making Model presented in this study suggests that outcomes influenced by external factors inform principals' mental models for future situations requiring decision making. Future studies should examine how the mental models of principals working in a particular context are influenced by decision outcomes over a period of time. Studies might focus on new situations that principals encounter that require decision making; in other words whether continuous exposure to certain contextual characteristics allows principals to more accurately predict a particular outcome to the decision. If principals can more accurately predict an outcome, does that indicate success in principals' in the discharge of professional duties? Another area for study concerning the presented decision making model is the examination of principals' mental models as influenced by contextual characteristics in relation to change in leadership styles. An examination should occur on whether a principal who has been making contextually based decisions for a lengthy period of time is more resistant to change than a principal who has worked in a context for a shorter period of time.

Future study in the area of principal mental models is needed on examining how contextual characteristics influence decision making within a rural or urban context. Although two different communities may be classified as rural, the communities relatively may not be the same. The terms rural and urban can be viewed on a continuum. A principal working in an

extremely rural district may have a different mental concept of a situation requiring a decision from a principal working in a moderately rural district. The external characteristics that influence decision making in a very rural district might differ from those that influence decision making in a moderately rural system. By extension, differences between the mental models of principals in extreme rural and urban districts or moderate rural and urban districts can also be compared. Also of interest is the suburban context. Future research could focus on the contextually influenced decision making practices of suburban principals to answer questions posited by this study. Qualitative data on contextually influenced decision making could be first gathered from suburban principals and then potentially compared with rural or urban principal decision making practices.

In the study of principal decision making in terms of context, the scenario survey instrument could be adapted to measure the degree to which certain characteristics influence principal decision making through the reconstruction of the scenario survey to include ordinal question types and responses. The scenario survey could also be used in the future to account for a broader spectrum of stakeholders. Since this study was limited to a 14.46% (n=238) response rate, the generalizability of the results may be limited. Enlarging the population to include more participants might further substantiate the decision making model and increase generalizability. Decision making scenarios and characteristics could also be obtained from suburban principals to create a scenario survey to examine what characteristics suburban principals think about and how those characteristics compare to the ones thought about by rural and urban principals.

Finally a more in-depth look at the contextual characteristic of stakeholder communication could provide greater insight on why several principals regardless of context selected it as a characteristics thought about during decision making. Some principals who

participated in the scenario survey communicated that they thought that this characteristic should be examined more closely as stakeholder communication might look differently depending on different contexts and different stakeholders in each context.

Concluding Thoughts

This study has highlighted further understanding on the interaction between external contextual characteristics and principal decision making. Principals do not make decisions in a vacuum absent any external pressures that may influence decision outcomes. As principals make decisions in a variety of settings, policy makers and researchers alike should continue to gain additional knowledge on the influences those settings have on implementation of initiatives and policy. The decisions principals make impact, not only mandate implementation, but also many other areas such as resource allocation, teacher performance, learning environment, data monitoring, school goal formulation and promoting practices that lead to student achievement. For each of those areas, the mental model of principals guides them in making a decision. In turn, the mental models principals conceive around each issue are influenced by external characteristics specific to the environment in which a principal works. Since principals make many decisions important to the success of the school, continuing to understand how external characteristics play a role in those decisions will allow district leaders, policy makers, principal preparation programs, and principal networks to better support principals in their professional duties.

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APPENDIX

Appendix A

Interview Protocol

Interview Protocol for Study of Principal Mental Models
Matt Gowan

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1. Tell me about the community where your school is located. Did you grow up around here? How long have you been in this area? Why did you choose to work in this school district? What characteristics of this community setting stand out to you? Do those characteristics influence your school leadership practices? How so (or why not)?

2. Think back over the years you have been in this community. Do you have any memorable moments here? Can you tell me any stories about leading this school in this community? Are there any particular successes you have accomplished that might be because of this community setting?

3. Describe any challenges you might have faced as a school leader in this community? Do you attribute those challenges to the community? Or are they challenges any leader might face?

4. Do you think that working in your community setting hinders administrators from being successful at their job or does it help? Have your values and community values ever been in conflict? What would you do if this were the case?

5. Does the community where this school is located influence how you address challenges or issues? How so?

6. What ideas or issues do you consider when you make a school leadership decision?

7. When you make school leadership decisions, what ideas or issues related to this community come to mind? How so (or why not?)

8. Does leading a school in this community influence the way you implement federal or state policies? How so (or why not?)

9. If you were going to give advice to a new school principal about working in a community like yours, what would you say? What do new principals need to know to be successful in a community like this?

10. Do you have any last thoughts about principals and the communities in which their school is located?

Possible follow-ups:

- Can you expand more upon_____?
- Can you add a little more about_____?

Appendix B

Principal Mental Model Scenario Survey Instrument

Principal Decision Making and Mental Models

Questionnaire Purpose: This survey will give you the opportunity to indicate what ideas or issues you think about as you make decisions. It is important that you indicate the responses which best reflect your perceptions regarding ideas or issues you think about when making decisions as a school principal.

Demographic Instructions: Please select the best response to the demographic information that applies to you. There are three (3) demographic questions. All information will be kept confidential.

What community setting is your current school located in?

A. Rural
B. Urban

What is the grade level of the school where you are currently a public school principal in Tennessee?

A. Elementary School
B. Middle School
C. High School
D. Other_____

Gender

A. Female
B. Male

Age_____

Questionnaire Instructions: Read each of the following scenarios carefully. Then indicate which idea or issue best correlates to your decision making process concerning each scenario. There are 10 survey items.

Definitions

Multiculturalism: consideration of the viewpoints of different cultures, races, and ethnicities.

Stakeholder Communication: consideration of the cultural norms, beliefs, and values of community members, parents, teachers, and students when communicating with those stakeholders.

1. Tonight is your school's open house and you will be presenting your vision for the school year. What idea will you consider most when making your presentation?

   A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

   D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

2. The director of schools for your district has informed you that the geographic area you serve will be rezoned the next school year. In preparing for the merger, what issue will you consider most?

   A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

   D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

3. You are trying to increase technology access for all students at your school. As you make decisions to achieve this goal, what issue or challenge will you most think about?

   A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

   D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

4. You are tasked with implementing Response to Intervention for Reading and Math (RTI2) for all students. What factor will you consider most as you implement RTI^2?

A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

5. You are overseeing the consolidation of two middle schools. You will be the principal of the new middle school. What issue or challenge will you focus on most during the consolidation?

A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

6. Working with your leadership team, you are developing a restorative approach to undesirable behaviors instead of traditional In School Suspension. What idea do you consider most as you plan for the new implementation?

A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

7. You are trying to increase stakeholder involvement with your school. You decide the best course of action is an outreach program. What idea will you consider most as you design and implement the program?

A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

8. Your local school board has passed a new, potentially controversial, dress code policy. What issue or barrier will you consider most as you begin the new dress code?

A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

9. Your state department of education has made the decision to hold schools responsible for chronic absenteeism. What idea or issue will you consider most as you begin to address this mandate?

A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

10. As a middle school principal, you want to place more emphasis on math and science next year. Part of your plan would be to install/increase rigor in the course work as well as off-campus trips for hands on experiences. As you put your plan in place, what idea or issue do you most consider?

A. Socio-Economics B. Parent Educational Values C. Community Social Group Partnerships

D. Multiculturalism E. Stakeholder Communication F. Business Partnerships

Appendix C

Frequency and Percentages of Responses by Rural and Urban Principals for each item

Scenario	Rural Principal N	Urban Principal N	Rural Principal%	Urban Principal %
Scenario One				
Socio-Economics	27	7	16.77%	9.09%
Parent Educational Values	55	20	34.16%	25.97%
Social Group Partnerships	6	3	3.73%	3.9%
Multiculturalism	3	16	1.86%	20.78%
Stakeholder Communication	70	31	43.48%	40.26%
Business Partnerships	0	0	0%	0%
Scenario Two				
Socio Economics	37	13	22.98%	16.88%
Parent Educational Values	26	10	16.15%	12.99%
Social Group Partnerships	12	1	7.45%	1.3%
Multiculturalism	11	18	6.83%	23.38%
Stakeholder Communication	75	35	46.58%	45.45%
Business Partnerships	0	0	0%	0%
Scenario Three				
Socio Economics	99	38	61.49%	49.35%
Parent Educational Values	14	6	8.7%	7.79%
Social Group Partnerships	2	1	1.24%	1.3%
Multiculturalism	1	2	0.62%	2.6%
Stakeholder Communication	11	9	6.83%	11.69%
Business Partnerships	34	21	21.12%	27.27%
Scenario Four				
Socio Economics	34	9	21.12%	11.69%
Parent Educational Values	53	16	32.92%	20.78%
Social Group Partnerships	2	1	1.24%	1.3%
Multiculturalism	5	13	3.11%	16.88%
Stakeholder Communication	66	36	40.99%	46.75%
Business Partnerships	1	2	0.62%	2.6%

Frequency and Percentages of Responses by Rural and Urban Principals for each item

Scenario	Rural Principal N	Urban Principal N	Rural Principal%	Urban Principal %
Scenario Five				
Socio Economics	10	4	6.21%	5.19%
Parent Educational Values	22	3	13.66%	3.9%
Social Group Partnerships	22	6	13.66%	7.79%
Multiculturalism	16	16	9.94%	20.78%
Stakeholder Communication	91	46	56.52%	59.74%
Business Partnerships	0	2	0%	2.6%
Scenario Six				
Socio Economics	28	11	17.39%	14.29%
Parent Educational Values	41	8	24.47%	10.39%
Social Group Partnerships	13	6	8.07%	7.79%
Multiculturalism	9	16	5.59%	20.78%
Stakeholder Communication	70	35	43.48%	45.45%
Business Partnerships	0	1	0%	1.3%
Scenario Seven				
Socio Economics	14	0	8.7%	0%
Parent Educational Values	16	10	9.94%	12.99%
Social Group Partnerships	36	15	22.36%	19.48%
Multiculturalism	2	5	1.24%	6.49%
Stakeholder Communication	82	34	50.93%	44.16%
Business Partnerships	11	13	6.83%	16.88%
Scenario Eight				
Socio Economics	80	26	49.69%	33.77%
Parent Educational Values	21	9	13.04%	11.69%
Social Group Partnerships	8	4	4.97%	5.19%
Multiculturalism	2	13	1.24%	16.88%
Stakeholder Communication	50	25	31.06%	32.47%
Business Partnerships	0	0	0%	0%

Frequency and Percentages of Responses by Rural and Urban Principals for each item

Scenario	Rural Principal N	Urban Principal N	Rural Principal%	Urban Principal %
Scenario Nine				
Socio-Economics	22	14	13.66%	18.18%
Parent Educational Values	77	27	47.83%	35.06%
Social Group Partnerships	3	3	1.86%	3.9%
Multiculturalism	0	2	0%	2.6%
Stakeholder Communication	58	31	36.48%	40.26%
Business Partnerships	1	0	0.62%	0%
Scenario Ten				
Socio-Economics	33	7	20.5%	9.09%
Parent Educational Values	18	7	11.18%	9.09%
Social Group Partnerships	30	6	18.63%	7.79%
Multiculturalism	1	0	0.62%	0%
Stakeholder Communication	40	22	24.84%	28.57%
Business Partnerships	39	35	24.22%	45.45%

VITA

Matthew Allen Gowan received his Bachelor of Arts in Music Education from East Tennessee State University in 1995 and his Masters of Science in Education Administration from the University of Tennessee in 2006. Matt taught elementary through high school instrumental music from 2000 to 2007 in the Claiborne County School District in Tennessee. Starting in 2008, Matt became the assistant principal at Bean Station Elementary in the Grainger County School District. In the summer of 2012, Matt entered the Educational Leadership and Policy Studies Department doctoral program at the University of Tennessee. In 2019, Matt completed his Doctor of Philosophy Degree in Education with a concentration in Leadership Studies at the University of Tennessee. Currently, Matt continues his career in education administration in the Grainger County School District.