A Phenomenological Qualitative Study of Flood Disasters Experienced by Louisiana

School Communities

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Abstract

Floods impact millions of people annually. Flood-related disasters in Louisiana from 2005-2020 resulted in losses of life, property, and normalcy. The problem is school communities in Louisiana are often unprepared for flood disasters since maintaining daily academic rigor and operational status are the priorities for resource and time allocation. There was a gap in the literature addressing how to dedicate time and resources to prepare for, and recover from, flood disasters in Louisiana public and private K4-12 schools. Twenty administrators and teachers of the K4-12 school communities impacted in Louisiana by flood disasters from 2005 to 2020 comprised the sample population. Virtual interviews were conducted; inductive themes were generated using NVivo 12. The theoretical frameworks were adaptive leadership and functional theory. The research questions allowed exploration of teacher and school leaders' experiences and shared meanings regarding resource allocation and recovery efforts in Louisiana school communities. Recommendations included (a) proactive emotional trauma training, (b) creating partnerships with other schools located reasonable distances away for campus use post-flood, (c) using technology within the classroom daily, (d) use of cloud-based technology for records and communication, (d) maintaining appropriate savings and insurance policies, and (e) having community partnerships. Leadership implications included positive organic change and considerations for policy changes.

Keywords: Louisiana, floods, schools, disasters, disaster, planning, disaster recovery, emotional trauma, educational technology, educational communities

Dedication

This dissertation is dedicated to the countless individuals in Louisiana and throughout the world who have experienced untold losses because of disasters they have endured. It is my sincere hope and prayer that this body of research attends to the gaps in research noted herein, so people can be better equipped as they consider the prospect of planning for disasters. To my family that has been a constant support to me in doctoral endeavor and journey; you mean more to me than I can possibly express. Maria, Amber, and Steve; I love you with all my heart. A sincere thank you to my mom, a retired educator herself, and my stepdad for their consistent support throughout this journey as well. Thank you to my church family and the school over which I am principal; I strive daily to provide servant-leadership to everyone associated with the organization. Thank you for your love and support since I became principal in 2007. Finally, I dedicate this dissertation to every educator who may glean from this research. May you find the elements and findings of this body of research helpful to you as you continue in your own educational and administrative endeavors.

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Chapter 1: Introduction

Natural disasters such as floods consistently impact millions of people throughout the world (Jones, 2018). Regarding the state of Louisiana within the United States of America, educational communities were among a host of organizations devastated by floods from 2005-2020 (Donatien, 2019; Phillips, 2020). Billion-dollar property loss from flooding in 2020 exacerbated already strained public and private resources in Louisiana (Whitefield, 2020). Louisiana has received billions of dollars in Federal Emergency Management Agency (FEMA) grant funding for temporary and permanent rebuilding efforts due to experienced flooding events (Davis et al., 2019).

Despite recurring flood disasters and FEMA grant funding measures, members of Louisiana kindergarten (beginning at age 4 known as K4) through 12th grade public and private school communities continue to experience flood disasters which often cause operations to cease (Whitefield, 2020). Gaps in the literature demonstrated how clear paths toward disaster recovery within Louisiana are elusive (Davis et al., 2019). The qualitative phenomenological study explored shared experiences and commonalities within the research population consisting of members of K4-12 public and private school communities affected by flood disasters in Louisiana. Potential solutions based on the shared experiences of the research population and expert opinions from peer-reviewed and authoritative literature were addressed in the study. Key elements of this section of the dissertation address the background, statement, and the purpose of the problem, the significance of the study, the research questions, theoretical frameworks used, definitions, assumptions, scope and delimitations, and limitations.

Background of the Problem

The background of the problem is a lack of knowledge, money, intent, or awareness of the imminent danger of unforeseen flood catastrophes often exist among K4-12 public and private school communities in Louisiana (McNeely, 2013). A plethora of private and public school systems in Louisiana offer formal instruction beginning at age 4 (K4) via head start or formal academic programs instead of beginning instructing at in kindergarten at age 5 (Davis et al., 2019). When an impending flood disaster exists, there is not enough time to properly prepare and respond (Yang & Tsai, 2020). The research is explained using authoritative, reputable, and peer-reviewed sources which addressed serious financial, sociological, educational, and psychological problems occurred because of flood disasters (Le Brocque et al.2017). A gap in the literature existed addressing how to dedicate appropriate time and resources to prepare for disasters in Louisiana schools while school communities maintained the basic and daily functions of a school organization (Yang & Tsai, 2020). An additional gap in the literature manifested regarding how to quickly recover from flood disasters (Holston et al., 2020).

Statement of the Problem

The problem is school communities in Louisiana are often unprepared for flood disasters since maintaining daily academic rigor and operational status are the priorities for resource and time allocation (Davis et al., 2019; Kaushalya et al., 2014; Sahebjamnia et al., 2015). The extent of the problem is public and private K4-12 schools in Louisiana were devastated due to flood events from 2005 through 2020 which caused educational institutions to remain closed for extended periods (Jones, 2018). The study provides a construct to explore three emerging themes surrounding the problem in the literature which were (a) Louisiana is flood-prone, (b) lack of preparation for disasters lead to psychological and sociological crises, and (c) technology could offer viable solutions for disaster planning and recovery in schools as identified by Davis et al. (2019), Gray (2017), and Le Brocque et al. (2017).

Purpose of the Study

The purpose of this qualitative phenomenological study was to understand the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood disasters from 2005 to 2020. The study addressed how members of K4-12 public and private school communities in Louisiana interpreted flood-related events in preparing for, surviving during, and recovering from flood disasters while finding shared experiences and meanings in the experiences among educators. Perceived realities of life experiences were examined using the Husserl-Heidegger phenomenological design (Palinkas et al., 2015).

The qualitative phenomenological approach allows exploration of participants' personal life experiences which provides pathways to filling the gaps in the literature (Pietkiewicz & Smith, 2014). The use of qualitative phenomenology research facilitates the attempt to find shared commonalities or shared meanings in experiences while simultaneously providing potential solutions to adverse events, thereby benefiting the whole of society (Heifetz, 1994). Given Covid19 health protocols, virtual interviews were used to collect data. The theoretical frameworks are adaptive leadership and functional theory (Heifetz, 1994; Pope, 1975; Quintão et al., 2020).

Significance of the Study

Well over a thousand Louisiana citizens have died in floods since 2005 (McNeely, 2013). Louisiana received billions of dollars in federal aid since 2005 to help with flood-related disasters, but the research suggested there is a significant need for studies regarding how to plan for, and recover from, unforeseen flooding events in Louisiana schools (Davis et al., 2019; Donatien, 2019). Given the lives lost, the upheaval in human existence and experience, a multibillion-dollar price tag of property loss and subsequent grants, the overall devastating

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psychological and sociological impacts caused by Louisiana floods, and significant gaps in the literature detailing specific paths to planning and recovery, the study affirmatively contributes to the body of research (Le Brocque et al., 2017; Warbington et al., 2019).

Paths to success could easily help create a means of positive change in organizational processes and planning. FEMA gave billions of dollars in grant money to the state of Louisiana since 2005 because of flood-related disasters (Donatien, 2019). By exploring shared experiences and meanings in a qualitative phenomenological study, there is a possibility of discovering viable proactive and reactive solutions to problems (Creswell, 2016; Simoni et al., 2019). Given the literature review theme of technology possibly providing solutions, public and private school communities within Louisiana (and potentially even schools worldwide) may be able to glean from the findings of the study. Methods to reducing the loss of life, property, and educational downtime were discovered. Public policy changes relevant to school disaster recovery planning could occur as a result of the findings.

Research Questions

Human experiences and shared meanings among members of public and private school communities with flood disaster experiences in Louisiana were examined. A framework was established to investigate how members of school communities in Louisiana interpreted flood-related events in preparing for, surviving during, and recovering from flood disasters while finding shared experiences and meanings (Simms, 2017). Compiled transcripts from virtual interviews were prepared for coding using inductive content analysis. A series of open codes were developed based on terms and phrases (Thomas, 2006). NVivo 12 software was used to identify codes and themes which helps to secure the dependability and credibility of the study using third-party technology solutions. The following research questions guided the study:

Research Question 1: What are educators' and school leaders' experiences regarding the allocation of resources in efforts to rebuild the school community after flood disasters in Louisiana public and private K4-12 schools?

Research Question 2: What are the experiences of educators and school leaders in Louisiana public and private K4-12 schools in being able to maintain operational status and academic rigor after a flood disaster?

Research Question 3: What are educators' and school leaders' experiences regarding recovery efforts made by K4-12 public and private school communities in Louisiana in response to flood disasters?

Theoretical Framework

The theoretical framework used in the study integrated adaptive leadership and functional theory. The seminal authors are Ronald Heifetz and Émile Durkheim respectively (Heifetz, 1994; Pope, 1975). The problem and the research questions guided the choice of the chosen theoretical frameworks. Members of school communities were asked about their experiences and derived meanings in their experiences with flood-related disasters. Virtual, synchronous, face-to-face, computer-mediated communications deliver dependable interview capabilities (Opdenakker, 2006). The prospect of qualitative phenomenological questions attending to human interactions during crises within school communities makes adaptive leadership theory and functional theory obvious choices for the theoretical framework (Creswell, 2016; Pope, 1975). Adaptive leadership theory and functional theory work in tandem when considering school organizations (Heifetz, 1994; Pope, 1975). Considerations of leadership, interpersonal relationships, operational functionality facilitating educational objectives, and overall stability within a school and created from an educational institution are all related dynamics (Collins, 1971).

The connection of theories noted attends to the research questions which drive the study. There cannot be a meaningful qualitative phenomenological exploration of phenomena without addressing the communities affected by disasters and leadership successes, failures, and changes (Palinkas et al., 2015; Simoni et al., 2019). Functional theory helps researchers address how communities are interrelated and affect one another (Collins, 1979). Adaptive leadership theory provides a path of exploration when considering leadership dynamics (Creswell, 2016).

Definitions of Terms

The following terms have multiple meanings in society. A word's inferred meaning could be affected by a person's socioeconomic status, profession, and life experiences. To delineate various meanings of works and ensure proper understanding of words used in the study, the following definitions of terms are provided.

Backup. A systematic process to maintain the resilience and functionality of K-12 schools (Hassan et al., 2020).

Disaster. An occurrence of a natural catastrophe, technological accident, or humancaused event that has resulted in severe property damage, deaths, and/or multiple injuries. As used in this guide, a "large-scale disaster" exceeds the response capability of the local jurisdiction and requires state, and potentially federal, involvement. As used in the Stafford Act, a "major disaster" is "any natural catastrophe [...] or, regardless of cause, any fire, flood, or explosion, in any part of the United States, that in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under [the] Act to supplement the efforts and available resources or States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby" (Glossary, 2021). *Flood.* A general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters, unusual or rapid accumulation or runoff of surface waters, or mudslides/mudflows caused by accumulation of water (Glossary, 2021).

Recovery. The long-term activities beyond the initial crisis period and emergency response phase of disaster operations that focus on returning all systems in the community to a normal status or to reconstitute these systems to a new condition that is less vulnerable (Glossary, 2021).

Assumptions

An assumption in the study was all participants were truthful in their responses to the research questions. The limitation of the study being local to Louisiana should not be construed as the study findings being significant and relevant for residents of Louisiana only. Jones (2018) addressed the widespread calamity of disasters including floods. While the commonalities which were addressed in the study have a specific locale, human experiences can be similar despite disparate locations (Creswell, 2016). Implicit to the study was a level of empathy necessary in phenomenological research.

Statistics, literature, and scholarly discussions do not alleviate the essence of the human experience; rather, they shed incredible light upon them (Pope, 1975). Processes and procedures were followed and adhered to the methodology, and the research design was approved by the dissertation committee and the reviewers. Phenomenological studies attend to discovering epistemological knowledge through qualitative research methods (Creswell, 2016; Heifetz, 1994). While a hypothesis was not rejected or accepted, shared commonalities and meanings of experiences were presumed to be authentic and genuine among participants.

Scope and Delimitations

Creswell (2016) defined delimitations as factors which could affect the study but are, nevertheless, within the scope and control of the study construct. Scope defines the parameters or boundaries of how a research study is performed. Both scope and delimitations are within the researcher's control, such as the methodology and design of the research, the population under study, and the processes by which the research will be carried out.

Qualitative phenomenological studies by default require scope and delimitations to help maintain reliability and validity (Denzin, 1970). The scope of this study was confined to 20 administrators and teachers who worked or had worked in public and private K4-12 school communities in Louisiana during flood disasters occurring from 2005 to 2020. In the qualitative phenomenological study, only experiences by members of the selected school communities within Louisiana were incorporated. Virtual interviews were the selected instrumentation for collecting the data, and the questions were researcher-created.

Delimitations did not affect the generalizability of the study as data from participants' experiences originated from a series of flood-related disasters during a period of 15 years. Experiences during peak impact years of 2005, 2016, and 2020 had first-stage priority in the study (Whitefield, 2020). Participants with flood experiences in general had second-stage priority. Various disasters, locales, experiences, and disaster scenarios were part of the research data collected. Thick description vignettes were used in the study to provide a generalized context of the data collected (Lincoln & Guba, 1985; Slabbert, 2018).

Limitations

Creswell (2016) defined limitations as potential weaknesses or problems in the study which cannot be controlled. One limitation in qualitative phenomenological studies is the person

conducting the study may bring personal experiences into the research which could lead to a limitation in objectivity (Pietkiewicz & Smith, 2014). Preconceptions and biases about the research topic are possible. Steps were taken in the study to prevent subjectivity, preconceptions, and bias through bracketing or epoche and researcher reflexivity.

Another limitation in qualitative research is the reliance on participants to provide the data collected in this case through virtual interviews. Since the data are words, not numbers, the researcher must prepare participants to respond honestly to interview questions. This was achieved by providing opportunities for participants to opt out of answering questions or to withdraw from the study at any time during the research process. Participants also were given the opportunity to member check their transcripts and to modify statements as they desired. While having many positive aspects, virtual interviews can have limitations. Additional limitations in this study included a lack of the interviewer experiencing the venue which may have been affected by the phenomenon being studied, a lack of an in-person experience during the interviewer (Opdenakker, 2006). As an observer, not a participant, the interviewer took note of participants actions and reactions, body language, and demeanor as the interview unfolded to mitigate these potential limitations.

Participant bias, the possibility of answers being given based on the assumptions of the sorts of answers a researcher might be seeking, is a limitation which may occur in qualitative studies (Creswell, 2016). Researcher's presence during data gathering is unavoidable in phenomenological studies (Creswell, 2016; Filho, 2019). Research quality is easily influenced by a researcher's personal biases and idiosyncrasies (Filho, 2019).

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The doctoral candidate is a new researcher and not an expert in phenomenological studies. A researcher should be meticulous throughout the research process and work closely with the dissertation chair and committee, thereby minimizing potential risks. A researcher's demeanor, accent, dress, gender, and age can play a role in and affect the participant's responses, all without the researcher's knowledge (Filho, 2019). Eliminating bias and presuppositions to the largest degree possible is necessary. A researcher should be mindful of reflexivity which is a tool to consistently reflect on the relationship between a researcher and the research to remain focused and unbiased (Pietkiewicz & Smith, 2014).

Methods selected for this study required observation and not participation. Reflexivity awareness in and of itself is a deterrent to potential limitations in data (Filho, 2019; Pietkiewicz & Smith, 2014). To secure dependability in the findings of participants' responses, techniques including member checking and triangulation were used (Guion et al., 2011). Various disasters, locales, experiences, and disaster scenarios were part of the research data collected which helped to provide a generalized context for the data (Lincoln & Guba, 1985; Slabbert, 2018).

Chapter Summary

A framework was established to investigate how members of school communities in Louisiana interpreted flood-related events in preparing for, surviving during, and recovering from flood disasters while finding shared experiences and meanings through qualitative phenomenological methodology (Simms, 2017). Qualitative phenomenological studies are a means by whereby perceived realities of phenomena which occurred among the sample research population may be better understood (Creswell, 2016; Palinkas et al., 2015; Pietkiewicz & Smith, 2014). Transferability makes the study germane to countless people worldwide. Key elements address the problem in general, the background, statement and purpose of the problem, the significance of the study, the research questions, theoretical frameworks, definitions, assumptions, scope and delimitations, and limitations. The next chapter provides a detailed literature review of the subject matter.

Chapter 2: Literature Review

The problem is school communities in Louisiana are often unprepared for flood disasters since maintaining daily academic rigor and operational status are the priorities for resource and time allocation (Davis et al., 2019; Kaushalya et al., 2014; Sahebjamnia et al., 2015). The background of the problem is a lack of knowledge, money, intent, or awareness of the imminent danger of unforeseen catastrophes often exist among K4-12 public and private school communities in Louisiana (McNeely, 2013). When an impending disaster occurs, there is not enough time to properly prepare (Yang & Tsai, 2020). The importance of the problem was explained using authoritative, reputable, and peer-reviewed sources addressing serious financial, sociological, educational, and psychological problems which occurred because of disaster-related catastrophic loss (Le Brocque et al., 2017). The extent of the problem was public and private K4-12 schools in Louisiana were devastated due to flood events from 2005 to 2020 which caused educational institutions to remain closed for extended periods (Jones, 2018). The purpose of this qualitative phenomenological study was to understand the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood disasters from 2005 to 2020. Emerging themes in the literature review indicated Louisiana is flood-prone, a lack of preparation for disasters leads to psychological and sociological crises, and technology may offer viable solutions (Davis et al., 2019; Jones, 2018; Le Brocque et al., 2017).

Multiple gaps were present in the literature regarding the study; the research questions provided a means to examine human experiences of members of K4-12 public and private school communities with flood disaster experiences in Louisiana (Simms, 2017). A lack of information was available to address how to dedicate appropriate time and resources to prepare for disasters in Louisiana schools while educators maintained the basic and daily functions of a school organization (Yang & Tsai, 2020). Further, there was a gap in the literature regarding how to execute disaster recovery plans (Holston et al., 2020). Despite having disaster aid often available post-disaster, no clear path was defined in the research showing organizations how to consider unforeseen catastrophic events beforehand which would more than likely hasten deployment of resources post-disaster (Donatien, 2019). While various topics such as disaster risk, online learning models, budgetary constraints, sociological considerations, and psychological aspects of disaster planning were part of the body of research, the literature did not attend to the unique flood-prone challenges many Louisiana school communities face (Davis et al., 2019; Le Brocque et al., 2017). There was a lack of adaptive leadership and functional theory frameworks in the available references, and the studies did not offer strategies germane to Louisiana public and private K4-12 schools when considering disaster planning (Whitefield, 2020).

The literature review is arranged sectionally. Following this introductory section, the second section addresses the literature search strategy and databases used in the study. The theoretical framework of the study and justification for the employment of the chosen theories are explained next. The subsequent literature review section is broken out based on the emerging themes. Then, potential counterarguments are presented followed by the gaps in the literature and the conclusion of the literature review.

Literature Search Strategy

Various resources offered through the library of the American College of Education were used in the literature review as were peer-reviewed journals and books. The American College of Education electronic library was the primary database repository used. Applicable articles were found using search terms germane to the study in search engines and databases within the library such as ERIC, EBSCO Host, and Google Scholar. Peer-reviewed articles comprised most of the data which was found. Various examples of search terms included *disasters, flooding, disaster* recovery, school disaster planning, flood impacts, community response to disasters, psychological trauma in disaster, Louisiana disasters, Louisiana hurricanes, and human experiences during disasters.

Theoretical Framework

The theoretical framework supporting the study relies on adaptive leadership theory and functional theory. The research questions guided the choice of the chosen theoretical framework. Members of school communities were asked about experiences and derived meanings caused by flood-related disasters. An honest appraisal of the experienced events in addition to perceived leadership successes and failures during the experienced crises was required of participants. The prospect of qualitative phenomenological questions attending to human interactions during crises made adaptive leadership theory and functional theory obvious choices for the theoretical framework (Creswell, 2016; Pope, 1975). The experiences which were researched occurred in the context of K4-12 public and private schools in Louisiana.

The third research question addresses how flood disaster experiences created perceived areas of needed change. Functional theory applies to the third research question given the organizational nature of schools (Collins, 1971). Adaptive leadership theory helps create the framework upon shich potential executive-level changes could be suggested and explored (Creswell, 2016).

Adaptive Leadership

The seminal author of the adaptive leadership theory is Dr. Ronald Heifetz (Heifetz, 1994). The theory is considered essential when studying the complexities of past leadership experiences and emerging challenges. An organization's focus is at the center of the theory. The

focus is then surrounded by several layers including leadership capacity, sharing responsibility, continuous education, personal judgment, and addressing obvious issues threatening the organization (Heifetz, 1994).

Adaptive leadership theory can be applied in the proposed phenomenological qualitative study since the theory considers the relationship between followers and leaders as individuals within an organization attending to the organization's central focus. Leaders are expected to have organizational, motivational, and goal-setting capabilities followers can embrace while maintaining situational awareness and shared responsibility of the organization's focus (Heifetz, 1994; Mowbray, 2014). Adaptive leadership theory inherently emphasizes the ability of leaders and followers to quickly adapt to changing organizational landscapes (Mowbray, 2014).

Since the purpose of this qualitative phenomenological study was to understand the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood disasters from 2005 to 2020, adaptive leadership theory attends to complexities and emerging challenges participants experienced during flood disasters (Creswell, 2016). Adaptive leadership has been used to study organizational adaptation to crises. Mowbray (2014) noted how peak organizational performance was accomplished in various businesses and educational institutions through strong adaptive leadership responses. Kansas State University, for example, turned to adaptive leadership theory when addressing the COVID-19 pandemic and updating policies and procedures to meet the needs of the student population by compiling its "Continuous Learning Plan" (Adaptive, 2020).

Functional Theory

The study was built on functional theory in tandem with adaptive leadership theory. The seminal author of the functional theory is Émile Durkheim (Pope, 1975). The theory addresses

how societies did not fall apart during the post-Industrial Revolution timeframe despite human interaction traditionally found in the family being reduced (Collins, 1971). Societies maintained order while becoming more stratified and disparate social environments. Without consistent normalcy and vibrant communities which support one another, functional theory states society could result in chaos (Collins, 1971; Pope, 1975). Since the theory stipulates each segment of society is interconnected, disruption in one portion of the human experience affects other elements of the society (Pope, 1975).

Functional theory suggests communities arise organically and naturally between human beings with similar geographical, personal, and cultural relationships (Pope, 1975). Disparate sociological stratification is remedied naturally through human interactions which occur within various portions of communities (Collins, 1979). Human interaction and relationships can be formed within a host of communities. Various communities interact with other communities, thereby creating a functional and stable society without necessarily relying solely on familial relationships (Pope, 1975).

According to functional theory, schools are a major segment of society where these organic human-stabilizing relationships are formed (Bennett & LeCompte, 1990). Functional theory was used to analyze the entire United Kingdom (UK) educational system (Attewell & Newman, 2010; Benali & Feki, 2020). Students from various socioeconomic backgrounds interacted daily. The functional theoretical framework was useful in investigating if communities and common bonds between students were established through similar educational experiences despite a lack of homogeny among student backgrounds (Attewell & Newman, 2010; Benali & Feki, 2020). School operations are often adversely impacted when disasters occur (Donatien, 2019). According to functional theory, the destabilization of a center of societal stability can have reverberating consequences for the societies (Pope, 1975). Conversely, continued participation in the functional unit of a society can have positive effects (Collins, 1971). Schools are epicenters of sociological interaction and growth, thereby making functional theory an obvious choice within the theoretical framework of the study (Bennett & LeCompte, 1990).

Connection of Theories

Adaptive leadership theory and functional theory work in tandem when considering school organizations (Heifetz, 1994; Pope, 1975). Schools are communities, and schools serve communities. Considerations of leadership, interpersonal relationships, operational functionality facilitating educational objectives, and overall stability within a school and created from an educational institution are all related dynamics (Collins, 1971). Disaster crises uniquely disrupt the interaction between leaders, followers, and people who are part of educational communities (Nejat et al., 2018). By using both theories as foundations of the study, key analysis and social dynamics attended to by the theoretical framework were successfully completed.

The connection of theories supports the research questions which drive the study. A meaningful qualitative phenomenological exploration of phenomena cannot be conducted without addressing the communities affected by disasters, leadership successes, failures, and overall changes (Palinkas et al., 2015). Functional theory helps researchers address how communities are interrelated and affect one another (Collins, 1979). Adaptive leadership theory provides a path of exploration when considering leadership dynamics (Creswell, 2016). The foundational elements of the theoretical framework of the study comprehensively offer an

avenue to investigating the research questions in the study. The following graphic illustrates how the study was constructed:

Figure 1

Graphical Representation of the Study



Research Literature Review

Three themes emerged in the literature review. Themes emerging from the literature revealed Louisiana is flood-prone, lack of preparation for disasters lead to psychological and sociological crises, and technology may offer viable solutions for disaster planning in schools (Davis et al., 2019; Gray, 2017; Le Brocque et al., 2017). Each theme is addressed in a subsection in the literature review. Gaps and counterarguments are discussed. The three emerging themes in the review simultaneously exposed the literature gaps.

Louisiana Is Disaster-prone

Well-known disasters such as Hurricanes Katrina and Rita caused serious damage in Louisiana in 2005, and continuous flood disasters occurred thereafter (Davis et al., 2019).

Between the readily known disasters of 2005 (Hurricanes Katrina and Rita) and the year 2020, Louisiana was affected significantly by lesser-known disasters including the severe flooding events of 2016 which impacted over half of all Louisiana parishes (Phillippi et al., 2019). In August 2016, approximately 7 trillion gallons of water fell within 2 days in the state of Louisiana (Phillippi et al., 2019). The result was a \$20 billion-dollar property loss from damaged or destroyed homes and businesses; nearly 300,000 people could not go back to work promptly (Davis et al., 2019). The causes of the flooding event of 2016 were a combination of unprecedented rainfall and proximity to river and water networks in affected regions (Darr et al., 2019). The result was a flooding disaster in an already flood-prone state (Lotfata & Ambinakudige, 2019; Nethery et al., 2019).

Tropical Cyclones

In 2020, Louisiana citizens faced several named storms including Hurricanes Laura, Delta, and Zeta (Whitefield, 2020). Two of the named storms (Delta and Zeta) made recordbreaking landfalls late in hurricane season as Category 2 hurricanes while Laura made landfall in Cameron Parish with 153 miles per hour sustained winds (which is three miles per hour short of Category 5 status) (Whitefield, 2020). The extent of tropical activity affecting Louisiana cost billions of dollars before 2020 (Davis et al., 2019). Billions of dollars in property loss in 2020 exacerbated already strained public and private resources in Louisiana (Whitefield, 2020). Louisiana was impacted in 2020 alone by a host of tropical cyclones including (a) Tropical Storm Cristobal, (b) Hurricane Laura, (c) Hurricane Marco, (d) Hurricane Sally, (e) Tropical Storm Beta, (f) Hurricane Delta, and (g) Hurricane Zeta (Phillips, 2020).

Louisiana's geographical location has contributed to the disaster-prone history of the state. Louisiana is coastal and below sea level in highly populated areas including the city of

New Orleans and surrounding suburbs (Yang & Tsai, 2020). Being situated below sea level is compounded in the greater New Orleans area because of significant water sources surrounding the area. Water sources include Lake Pontchartrain, the Mississippi River, and the Gulf of Mexico (McNeely, 2013; Yang & Tsai, 2020). The Mississippi River bisects the entire state and is part of a significant water tributary system existing within Louisiana's mostly flat terrain and relatively high-water saturated soil (Yang & Tsai, 2020). Certain parishes of the state are called "river parishes" because of their proximity to so many waterways (Lower Mississippi River Area Study Act, 2014).

Hydrostatic Activity

Beyond the river parish and greater New Orleans areas, other portions of the state have geographical issues which increase disaster potential. The Baton Rouge area is bisected by the Mississippi River and is relatively flat (Phillippi et al., 2019). Like the greater New Orleans area, much of the state has soil with high levels of water saturation (Yang & Tsai, 2020).

Louisiana has a systematic series of manmade levees designed to contain water and stop naturally occurring changes in water flow (Yang & Tsai, 2020). The state is situated in a geographic coastal area adjacent to the Gulf of Mexico which has consistently been the source of many hurricanes (Whitefield, 2020). When hurricanes or significant rain events occurred, the rainfall and storm surge generated had nowhere to flow which triggered substantial flooding events (Whitefield, 2020; Yang & Tsai, 2020).

Leadership Crises

Consistent flooding events have produced inordinate amounts of property loss in Louisiana (Darr et al., 2019). Poontirakul et al., (2017) noted how insurance policies are often not enough to cover the property loss victims endure. Insurance policies notwithstanding,

Louisiana received billions of dollars in federal aid to help address flood-related disasters with public and private schools (Davis et al., 2019). Public and private K4-12 schools in Louisiana were among the highest priority organizations which received federal dollars, yet schools often operated on temporary campuses for years post-disaster given the extent of floods and the difficulty of navigating through public assistance grants (Donatien, 2019). Schools may even close permanently after disasters since recovery is difficult (Davis et al., 2019).

Leadership crises germane to Louisiana during Hurricane Katrina and Hurricane Rita were problematic. Even though New Orleans is below sea level, Hurricane Katrina proved how living and operating in a flood-prone area was not necessarily indicative of strong disaster planning by public and private parties (McNeely, 2013). Perceived failures in leadership caused persons with flood experiences in Louisiana to have decreased expectations of state and local government response (Darr et al., 2019).

A consistent disaster-prone pattern caused significant challenges for state and local government officials in Louisiana to have the financial and human resources necessary to respond and to deliver essential training (Pollock et al., 2019). Disaster resilience was often desired when planning for disasters (Deria et al., 2020). There was often not enough time and money available between disasters in Louisiana to adequately respond to current disasters and to prepare for future disasters (Deria et al., 2020; Pollock et al., 2019). Key policy insights and a comprehensive strategy to address the state's disasters were not found. The literature noted how satirical and disillusioned attitudes were prevalent in research (Darr et al., 2019).

Place-Location-Religious Attachment

Despite perceived failures of leadership and potential dangers from disasters individuals may have previously experienced, people often stayed in a particular locale post-disaster in a

phenomenon known as place-location attachment making planning more necessary (Nejat et al., 2018; Simms, 2017). Different age groups had different levels of place-location attachment. Younger people were more willing to move post-disaster while older people resisted relocation. Those who needed more help recovering from disasters often stayed in a locale while individuals who could do significant recovery work were more prone to leaving, thereby making recovery challenging (Nejat et al., 2018).

The existence of place-location attachment in Louisiana presented several considerations in terms of the state's geographical disaster-prone history. Place-location attachment was particularly notable in some of the Louisiana parishes most affected by disasters (Davis et al., 2019). Terrebonne (French for "good land") parish is a coastal parish in Louisiana which was affected by a host of disasters since 2005. Despite consistent disaster impacts, people living in Terrebonne were resistant to relocation (Simms, 2017). Place-location attachment was amplified in Louisiana given a trend in religious attachment germane to Louisiana culture and heritage (Whitefield, 2020). Religion and faith were often instrumental in helping those in crises given the support and community offered by houses of worship and shared-faith group activities at schools (Davis et al., 2019). Conversely, place-location-religious attachment tended to decrease the willingness of participants to relocate to safer areas of the state or different parts of the country (Simms, 2017).

Place-location-religious attachment in Louisiana culture tended to engender an identity among citizens of Louisiana (Davis et al., 2019) and matriculated into identity attachment in portions of Louisiana often impacted by flooding disasters (Simms, 2017). While religion and faith helped Louisiana citizens cope with disasters, the place-location-religious attachment phenomenon tended to heighten lead times and disaster response. Older populations were more
likely to have a higher proportion of place-location attachment (Whitefield, 2020). Place overly defining a person's identity combined with the resistance to relocation because of potential identity created scenarios in which planning for, and recovery from, disasters became much more complex (Nejat et al., 2018).

Place-location-religious attachment combined with Louisiana's disaster-prone status had compounding effects during flooding events (Yang & Tsai, 2020). In the context of the study, flood disasters were often measured by their impact on human populations. Significant amounts of Louisiana's population have been affected by floods (Davis et al., 2019). Place-location-religious attachment drove a resistance to change (including relocation) despite experiences, or potential experiences, with disasters (Nejat et al., 2018; Simms, 2017). The result was a significant concentration of people living in areas which are uniquely situated in proximity to water and prone to hydrostatic disaster experiences (Yang & Tsai, 2020).

In the context of the study's theoretical framework, Louisiana being a disaster-prone state brings to bear several challenges. In terms of adaptive leadership, governments, leaders, those served by educational institutions, and the population in Louisiana should be willing to adapt to the necessary change to overcome disasters (Pollock et al., 2019). Regarding functional theory, individuals with place-location-religious attachment to a particular geographical region are inherently committed to a community (Davis et al., 2019; Nejat et al., 2018). Stabilization occurs when societal interaction exists in organically produced segments of society; those within the segments and those without are impacted by the existence of the stabilizing human interactions produced in communities (Collins, 1979). Resistance to relocation could produce difficulty during and after disasters, while simultaneously engendering necessary stability during disaster recovery (Collins, 1971; Phillippi et al., 2019).

Lack of Preparation Leads to Psychological and Sociological Crises

The term, schools, can be quantified. Schools with ground campuses are buildings comprised of people (Donatien, 2019). Both the facilities and the people using the facilities are systematically impacted by disasters. Schools both serve communities and become communities (Collins, 1971). When schools are in upheaval, the lives of those who are part of the school family are demonstrably impacted (Arshad et al., 2020; Le Brocque et al., 2017).

Compounding Crises

The community of a school offers a variety of factors which enable sociological stability (Bennett & LeCompte, 1990; Pope, 1975). Students interact academically, emotionally, and socially. Students have the same sets of experiences and infer perceptions as they mature and develop. Local to Louisiana, schools serve breakfast and lunch to thousands of children daily through state and federal programs. School lunch programs contribute to the sense of community and security at schools (Holston et al., 2020).

Academic learning, social stability, emotional support, and potentially even daily nutrition are integral parts of a student's school experience in Louisiana public and private K4-12 schools (Holston et al., 2020). When schools closed, food insecurity among various segments of the population, including African Americans living in rural Louisiana, became prevalent (Holston et al., 2020; Simms, 2017). When schools could not operate due to disaster, significant amounts of sociological and even physiological normalcy were lost which attends to the theoretical framework of functional theory (Bennett & LeCompte, 1990). Losing a large, organic system of human interaction such as school produced sociological distress and chaos causing short-term and long-term psychologically traumatic disaster events (Collins, 1971; Le Brocque et al., 2017; Simms, 2017). Disasters bring to bear school leadership crises (McNeely, 2013). Lack of preparation of disaster scenarios caused an extended loss of school operations and, in some cases, complete dissolution of schools (Davis et al., 2019; McNeely, 2013; Nejat et al., 2108). Loss of school operations because of disasters required leaders to plan and respond to crises which attended to the theoretical framework of adaptive leadership (Creswell, 2016). Leadership failure and perceived leadership failure exacerbated emergencies and led to compounding crises as disaster recovery was prolonged (Davis et al., 2019). Lack of funding to prepare for disasters compounded with a lack of resources to respond to disasters led to financial crises which could not be addressed solely by traditional insurance policies (Poontirakul et al., 2017).

Post-Traumatic Stress Disorder

Rural Louisiana citizens had extensive traumatic experiences given food insecurity, lower socioeconomic conditions, and consistent impacts from flood-related disasters (Davis et al., 2019; Holston et al., 2020). Darr et al. (2019) reported certain disillusionment with local and state governments in Louisiana worsened the overall human experience post-disaster. The loss of access to communities as important as schools, coupled with a loss of confidence in governmental response, indicated significant psychological and sociological trauma incurred by disaster-impacted Louisiana residents (McNeely, 2013).

Post-traumatic stress disorder (PTSD) occurred in juveniles with disaster experiences in general (McIntosh, 2019; Phillippi et al., 2019). PTSD was amplified in children who experienced both disaster and relocation because of parents' inability to fill prescriptions and supply them with adequate professional health and mental care (Storch et al., 2018). PTSD continued to be present in children with disaster experiences years after the disaster occurred (Phillippi et al., 2019). Long-term effects of disasters were evident in the studies suggesting a

ubiquitous pattern of mental health concerns among persons with disaster experiences (Lee et al., 2017; Timulak & Elliott, 2019).

Socioeconomic Disparities

Socioeconomic disparities worsened PTSD and post-disaster mental crises in children (Lotfata & Ambinakudige, 2019; Storch et al., 2018). Increased psychological and sociological trauma existed in lower-income persons (McIntosh, 2019; Nethery et al., 2019). Disparate social vulnerability among low-income populations created secondary and tertiary disasters including community housing crises, transportation crises, lack of medical care, and lack of access to relevant educational resources (Benali & Feki, 2020; Lotfata & Ambinakudige, 2019).

Lotfata and Ambinakudige (2019) noted socioeconomic disparities in Louisiana when compared with other states even when communities are not facing a disaster. Wallace et al. (2020) addressed how significant racial inequities in Louisiana matriculated into higher at-risk pregnancies for minorities. Van Holm et al. (2020) analyzed how poverty, close-quarter communal living conditions, and subpar access to medical care disproportionately and spatially affected minorities in Louisiana. The sum of the research indicated significantly heightened adverse medical problems because of poverty and inequality. Correlations existed between populations in lower socioeconomic status, higher rates of physical medical problems, and higher incidents of substandard mental health care (Lotfata & Ambinakudige, 2019).

Le Brocque et al. (2017) noted the need for school staff training to assist students with getting back to normalcy since disasters were socially and psychologically traumatic. Even if school staff could not rebuild or participate in school repair projects post-disaster, they were still able to help students reconcile into a new post-disaster reality (Bellamy et al., 2019; Le Brocque et al., 2017). Cannon et al. (2020) showed significant physical and psychological impacts on

educators during and after disasters. In a study conducted in Texas and North Carolina after Hurricanes Harvey and Matthew respectively, teachers endured significant upheaval during flood events. While teachers often wanted to assist with student recovery from disasters, they were affected by the same disasters in the local community. The result was a compounding effect whereby all members of the community were experiencing the same sorts of traumatic events (Cannon et al., 2020; Nejat et al., 2018).

Urban Disconnect

In consideration of the functional theory framework, Wisner et al. (2018) noted how children tend to grow up in environments which are more urban and more techno-centric. Children are often unaware of impending natural disasters because of life experiences which are typically urban-oriented (Bellamy et al., 2019). Traditional school attendance offsets children's lack of awareness of natural threats which may be encountered (Bennett & LeCompte, 1990; Wisner et al., 2018). When an established community such as a school was either shut down or destroyed due to disasters, the effect upon those within the community and those affiliated with the community was widespread (Collins, 1971).

A lack of awareness of disaster planning is tantamount to insufficient training for disasters (Toole, 2018). Students regularly practice fire drills, tornado drills, and even school lockdown drills throughout the year. When disasters such as floods, which may have continued effects for months or even years, occur, school communities are often lacking in adequate psychological and sociological preparation (Bellamy et al., 2019). The effect results in the potential dissolution of the school community (Davis et al., 2019).

Lack of Specialized Training

Widespread effects on continuity of life align with the framework noted in the literature. Regarding adaptive leadership, educational leaders faced additional workloads which required creative solutions to recover from disasters (Creswell, 2016; Donatien, 2019). The application of the functional theory framework was relevant in the theme of psychological and sociological experiences in disasters. When significant members of a community were impacted by the same disaster, a negative ripple effect often occurred within the organically cultivated social order of those participating in the studies (Collins, 1971; Warbington et al., 2019; Witt et al., 2019).

While counselors were often deployed during times of disaster, the literature warned of potential unintended consequences if they were not properly prepared and trained for disaster-specific situations. Even under the guise of helping, professionals trying to assist were often unprepared to deal with the psychological and sociological trauma personally experienced during and after disasters (Bellamy et al., 2019; Le Brocque et al., 2017). Professionals who were part of disaster recovery teams often had significant disaster training deficiencies (Toole, 2018; Witt et al., 2019) and were unprepared for dealing with the

psychological trauma of disaster victims. Case studies demonstrated how healthcare workers could themselves become victims of the psychological trauma resulting in decreased effectiveness or, in some cases, the inability to assist disaster victims (Tower et al., 2016). Media coverage tended to amplify the psychological and sociological effects of disasters by continuously showing negative pictures and interviews of those suffering from disasters (Houston et al., 2019; Warbington et al., 2019).

Despite the numerous studies pertinent to disasters, Lee et al. (2017) cited a need for additional work and research in psychological and sociological trauma during and after disasters.

Overall policy discussions were addressed to ascertain public sentiment and potential direction for planning (Scott & Errett, 2018). The vast amount of literature documenting the negative psychological effects of disasters upon individuals and communities was consistent during the literature review (Bellamy et al., 2019; Le Brocque et al., 2017). Phillippi et al. (2019) stated the effects of traumatic disaster experiences could be lifelong. Deria et al. (2020) noted how the lasting effects of disasters required policy risk management activities to plan for, and recover from, disaster scenarios which affected communities.

Technology May Offer Viable Solutions

Technology may offer a host of answers to help administrators prepare for disasters (Gray, 2017). The literature offered both quantitative and qualitative analytical data in terms of risk management which highlighted lessons learned from previous disasters such as Hurricane Katrina. The data often supported technology-based initiatives in providing speedy recovery from disasters (Kaushalya et al., 2014; McNeely, 2013).

Social Media

Communication was key but often lacking during disaster response (Scott & Errett, 2018). During the Louisiana 2016 floods, local, state, and federal governments utilized Twitter, Facebook, and other social media to increase communication among the disaster-affected populations (Niles et al., 2019). There was a pattern of increased awareness and direct communication between citizens affected by flooding using relatively inexpensive methods of social media (Scott & Errett, 2018). Increased communication resulted in citizens being more aware of resources and instructions at a much faster rate than previous disasters such as Hurricane Katrina (Niles et al., 2019). The use of social media was not merely unilateral. Technology simultaneously allowed governments to communicate with citizens and citizens to communicate with governments (Kim-Farley, 2020). Social media allowed citizens to broadcast their voices on a worldwide platform. People in communities were able to quickly respond to each other's needs, and policy discussions and feedback from persons affected by disasters ensued post-August 2016 Louisiana floods (Pollock et al., 2019; Scott & Errett, 2018). The result was a robust grassroots discussion enabled and supported by technological platforms readily used by many segments of the population (Niles et al., 2019).

Technology often changed the order of priorities post-disaster. Debris removal and utility service restoration, now inclusive of electrical and communications services, was of the highest priority (Rouhanizadeh & Kermanshachi, 2020). Inclusivity of internet communication showed a pattern of technology proliferation across populations because of added services available via a host of technology platforms (Nejadshafiee et al., 2020).

An example of critical technology available online was telemedicine (Nejadshafiee et al., 2020). Communications facility restoration afforded displaced citizens the ability to consult with doctors and nurses without necessarily traveling to an appointment. Telemedicine in tandem with communication via social media created a dynamic which offered a rapid response to persons in need of life-saving resources (Nejadshafiee et al., 2020; Rouhanizadeh & Kermanshachi, 2020).

Technology Deployment Paradigm Shift

Technology deployment in the context of disaster recovery occurred in several different ways. The technology was used to reduce the risk of disaster, create innovative solutions during a disaster, and hasten recovery post-disaster (Raths, 2019). An example was virtualization. Virtualization allowed many virtual machines to be deployed on one piece of hardware (Raths,

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2019). By reducing hardware needs, minimal amounts of computing gear were at risk if organizations were impacted by disasters. Likewise, recovery time was reduced especially if backup systems using virtual technology were already in place (Sahebjamnia et al., 2015).

Virtual technology was used via the deployment of cloud-based computing. Al-Ayyoub et al. (2018) noted how effective cloud-based computing occurred when multiple geo-centers were used for hardware instead of having all hardware in an organization local to one or two locations. By having a systemic virtual hosting platform using cloud-based technologies, organizations dramatically reduced their risk from impacts stemming from one disaster (Al-Ayyoub et al., 2018). As long as access to cloud-based locations were accessible, contingency operations and possibly full operational capabilities could continue post-disaster (Shrimali & Patel, 2020).

Cloud-based computing employing a geo-sensitivity design increased efficiency during normal organizational operations. Traditional technology deployment, which divorced disaster recovery from daily operations, was often antiquated (Trovato et al., 2019). Traditional disaster recovery solutions were typically accomplished by having remote standby sites ready for use in case of disasters (Shrimali & Patel, 2020). Pursuing a standby site solution was potentially outside of an organization's budget while simultaneously being unrealistic (Al-Ayyoub et al., 2018). An example was a school. Schools could not guarantee all students would necessarily relocate and attend the standby site; standby sites used by businesses are different than a facility necessary for school operations (Trovato et al., 2019).

A solution noted in the literature was deploying disaster-resilient technologies such as well-designed cloud-based computing as part of the standard technological designs (Trovato et al., 2019). Organizations maximized technology investments comprehensively by creating a hybrid operational-disaster recovery environment (Al-Ayyoub et al., 2018). By deploying technology which supported both daily operations and disaster recovery simultaneously, organizations were able to maximize investments in technology training and organizational resilience in the context of disaster recovery planning.

Hybrid solutions were addressed extensively in the literature. Typical disaster solutions had a host site-backup site model (Trovato et al., 2019). Changing the paradigm to a hybrid cloud-based environment offered many benefits. Cloud-based solutions avoided expenses traditionally associated with brick-and-mortar standby sites. Companies avoided rental fees and troublesome security policies associated with colocation disaster recovery plans (Shrimali & Patel, 2020). Disaster planning was often arranged into 4 distinct approaches—on-premises, colocation, software, or cloud-based wherein control was vested in the organization, a vendor, or a hybrid solution between the organization and potential vendor(s) (Trovato et al., 2019). The following Table illustrates the analysis of backup solutions and shows the configuration of the 4 plans with the controls.

Table 1

Plan	Facility Control	Application Control	User Machines	Servers
On-premises	Organization	Organization	Organization	Organization
Colocation	Vendor(s)	Organization	Organization	Organization
Software	Vendor(s)	Organization	Shared	Shared
Cloud-based	Vendor(s)	Organization	Shared	Vendor(s)

Backup Solutions Analysis

The options offer unique disaster-recovery planning platforms inclusive of how each design works in terms of hardware and software controls. The first row shows on-premises, a traditional host site/standby site plan. The second row portrays a colocation disaster recovery site. The third row demonstrates "Disaster Recovery as a Service" planning via software. The

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fourth row demonstrates cloud-based computing deployment (Trovato et al., 2019). The cloudbased design aligns with the Al-Ayyoub et al. (2018) analysis of organizations creating a hybrid work environment which is static in terms of operations (the applications are accessed the same way regarding location) but dynamic in terms of resiliency (the applications are unaffected when organizations face disasters given the spatial geo-planning design).

Deployment of cloud-based hybrid solutions offered proactive organizational disasterresiliency while simultaneously requiring higher upfront costs (Trovato et al., 2019). Hybrid designs required extensive professional services given ever-changing technology options and specialized applications generally based on economic sectors being served by the solutions (Al-Ayyoub et al., 2018). Costs of cloud-based solutions tended to be high particularly with the deployment of secondary standby brick and mortar facilities (Jun & Ilhong, 2017).

Avoiding initial high costs by not attending to disaster recovery did not necessarily show a correlation to long-term cost savings (Scarinci, 2014; Trovato et al., 2019). Avoiding high initial costs could mean higher costs if the organization were affected by a disaster (Scarinci, 2014). Disaster recovery technology learning curves and cost-prohibitive technology deployments required leaders in all sectors to develop business relationships with information systems professionals (Baham et al., 2017). The engagements meant an investment of organizational time and resources even before designing a versatile and applicable technology solution. The result was often a certain resistance or complacency concerning disaster recovery exhibited by leaders who moved back into a lack of disaster planning (Baham et al., 2017).

Prolific incorporation of technology deployment pre-disaster tended to decrease postdisaster costs (Sahebjamnia et al., 2015; Scarinci, 2014). Disaster models were confected using various technology solutions and financial cost-basis quantitative analyses (Sahebjamnia et al.,

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2015). The data showed how countries and regions which were unprepared for disasters lost many business and schools for extended periods due to catastrophic events (Simms, 2017). Conversely, investment in technology disaster preparation tended to decrease recovery times (Sahebjamnia et al., 2015). The internet often made some sort of e-learning a possible solution for education in studies throughout the literature (Sahebjamnia et al., 2015; Scarinci, 2014).

Little in the literature addressed which disaster recovery options would fit best in educational environments. The literature lacked clear technical design methods for educational leaders to consider when deploying disaster recovery technologies (Regina et al., 2020). The nebulous nature of pertinent disaster planning methods often created an environment wherein disasters were not considered even in disaster-prone areas (Simms, 2017).

Community Partnerships

Without proper relationships with business professionals, leaders in varying sectors could not make appropriate and meaningful decisions regarding disasters (Sahebjamnia et al., 2015). In several cases, even with awareness among certain members of an organization, a lack of support created an organizational environment in which little was done to proactively prepare even if smaller and possibly less expensive solutions were available (Scarinci, 2014). A lack of technological investment correlated with a lack of disaster preparation (Gray, 2017).

The studies addressed community-based partnerships specifically within the realm of education and technology which could provide valuable methods of recovery (Jones, 2018). Mixed-method research suggested community-based partnerships were successful in various locales throughout Wisconsin (Jones, 2018; Uwe, 2018). Businesses, organizations, schools, and local governments attended to the needs of local communities. By forging community-based partnerships before, during, and after disasters, schools had the sort of technological and economic backing of the local community to help hasten recovery (Jones, 2018; Scarinci, 2014).

There were few viable solutions suggesting how to best design or create educational communities employing technological innovation in particular regions or states. Lacking were professional educators' case studies or empirical data local to Louisiana demonstrating effective disaster planning within the context of possible technology solutions to disaster crises affecting educators. Jan and Vlachopoulos (2018) noted the real need to incorporate designs by which communities could be established in online learning platforms. Czerkawski (2014) noted the positive and negative implications of synchronous and asynchronous (or a hybrid of the 2) environments. Discussions of deployment and management of online educational environments were lacking.

E-Learning and M-Learning

The proliferation of e-learning and m-learning has helped facilitate education in unique ways (Jan & Vlachopoulos, 2018). E-learning provides a quintessential online environment whereas m-learning modalities better incorporate the use of smartphone and generally smaller internet devices (Blau et al., 2017). Technological solutions support synchronous and asynchronous learning environments for students and educators (Czerkawski, 2014). Both education and interpersonal community can be successfully achieved with technological deployment which, in turn, creates sociologically sound experiences contributing to the overall successful function of organic communities even if the communities exist online (Jan & Vlachopoulos, 2018; Pope, 1975).

Cloud-based m-learning technologies could potentially create ubiquitous methods for accessing data before and during disasters (Okai-Ugbaje et al., 2020). M-learning requires end

users to have certain levels of digital fluency (Behar et al., 2020). M-learning did not necessarily take the place of existing brick-and-mortar school communities which experienced floods. Though importation of applicable m-learning models may be a potential pathway for disaster planning, training shortfalls and lack of continued community interaction post-disaster exemplified challenges which should be examined and addressed (Jan & Vlachopoulos, 2018; Okai-Ugbaje et al., 2020).

Technology deployment in schools in the context of disaster planning falls within the realm of the study's theoretical frameworks. The wide range of communication solutions offered through technology made the recovery of resources and internet-catalyst utilities critical (Rouhanizadeh & Kermanshachi, 2020). In terms of adaptive leadership theory, leaders could easily communicate during disasters with prolific social media tools such as Twitter and Facebook (Niles et al., 2019). In the context of functional theory, virtual environments could engender a semblance of normalcy and organic interaction among students and peers (Collins, 1979; Niles et al., 2019). Leaders could utilize students' familiarity with technological innovation to either supplement or create virtual learning environments (Wisner et al., 2018).

Counterarguments

A counterargument to advance preparation would be to address flood disasters as impacts occur. There is no possible way to plan for every scenario and trying to field disasters could have a significant cost (Trovato et al., 2019). Baytiyeh (2019) addressed deploying technology solutions as part of systematic business operations in terms of a standard protocol. In tandem with this argument is the literature which suggested technology and disaster recovery specialists are needed to properly prepare (Trovato et al., 2019). Educators may have neither the acumen nor training to make formidable and proper decisions regarding disaster planning when presented with various technology-based solutions (Jones, 2018). Educators may place a higher value on maintaining existing operations and fielding potential problems which have a higher statistical chance of occurring as opposed to addressing a perceived remote possibility of a disaster.

The problem with the counterargument positions is the lack of response to the scholarly analysis within the body of research, the details of Louisiana specifically, and the gap in the literature. The theme of Louisiana being disaster-prone diminishes the counterarguments significantly (Davis et al., 2019). The counterargument position does not attend to the psychological, sociological, and budgetary considerations (Bellamy et al., 2019; Le Brocque et al., 2017). While the literature addressed various regional studies, there was no one solution for all scenarios.

Gaps in the Literature

Several gaps were apparent in the literature given the emerging themes of Louisiana being disaster-prone, the discovery of the lack of disaster preparation leading to psychological and sociological crises, and the discovery of technology possibly offering viable solutions. The first gap was a lack of information addressing how to dedicate appropriate time and resources to prepare for disasters in Louisiana public and private K4-12 schools while educators maintained the daily functions of a school organization (McNeely, 2013; Simms, 2017). A gap in the literature also existed regarding how to execute disaster recovery plans post-disaster (Nejat et al., 2018). Despite often having disaster aid available, no clear path was evident in the research showing organizations how to predict unforeseen catastrophic events which would more than likely hasten deployment of resources post-disaster (Donatien, 2019). While highly appropriate to the topic, the literature did not apply adaptive leadership and functional theory when

considering Louisiana-specific disaster-relief solutions for educational institutions (McNeely, 2013).

Chapter Summary

Prior studies addressed school disasters in various ways. Detailed discussions regarding the three themes of Louisiana being flood-prone, lack of preparation leading to psychological and sociological crises, and technology possibly offering solutions are addressed in Chapter 2. Considerations of the economic, religious, sociological, psychological, and economic experiences of Louisiana residents are a focus in the chapter (Arshad et al., 2020; Davis et al., 2019; Yang & Tsai, 2020).

The theoretical framework of adaptive leadership and functional theories provides the foundation of the study. Adaptive leadership theory relies on the concepts of leadership and followers within an organization. Individuals in the organization remain focused on the organization's mission, learn from the past, and plan for the future, all necessary in addressing flood-disaster preparation and recovery and thereby providing an appropriate theoretical framework to address the themes and gaps present in the study (Heifetz, 1994). Schools are a major segment of society where organic human-stabilizing relationships are formed (Bennett & LeCompte, 1990). School operations are often adversely impacted when disasters occur (Donatien, 2019). Destabilization of a center of societal stability can have reverberating consequences for the society as a whole (Pope, 1975). Conversely, continued participation in the functional unit of a society can have positive effects (Collins, 1971).

Specific to Louisiana, gaps in the literature between theory and practice existed. The first gap related to a lack of information addressing how school leadership and staff could dedicate appropriate time and resources to prepare for flood disasters in Louisiana public and private K4-

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12 schools while maintaining the basic functions of the school organization (Davis et al., 2019; Gray, 2017; Le Brocque et al., 2017). A second gap in the literature related to how to execute disaster-recovery plans (Holston et al., 2020). A qualitative phenomenological approach was used to address the gaps in the literature by investigating the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood-disasters from 2005 to 2020.

Qualitative methodology is used in research to find the perceptions and meanings related to events (Creswell, 2016; Uwe, 2018) and facilitates understanding of the perceived reality of a phenomenon, such as flood disasters, among a sample research population (Palinkas et al., 2015). The details related to the research methodology are addressed in Chapter 3. Topics to be addressed are research design and rationale, the role of the researcher, research procedures, data analysis, reliability and validity, and ethical procedures.

Chapter 3: Methodology

Disasters impact millions of people throughout the world yearly (Jones, 2018). In Louisiana, devastating, flood-related disasters (e.g., Hurricanes Katrina and Rita) affected people living in Louisiana's 64 parishes (Davis et al., 2019). Louisiana has received billions of dollars in federal aid since 2005 to help with flood-related disasters (Davis et al., 2019). Gaps were identified in the research literature. The first gap included a lack of information addressing how to dedicate appropriate time and resources to prepare for flood disasters in Louisiana schools while maintaining the basic and daily functions of the school organization (Yang & Tsai, 2020). A second gap in the literature related to how to execute disaster-recovery plans (Holston et al., 2020). Studies indicated a significant need for research regarding planning and recovery strategies to prepare for unforeseen flooding events in Louisiana schools (McNeely, 2013).

The problem is school communities in Louisiana are often unprepared for flood disasters since maintaining daily academic rigor and operational status are the priorities for resource and time allocation (Davis et al., 2019; Kaushalya et al., 2014; Sahebjamnia et al., 2015). Hurricanes and unnamed flooding storms cause serious damages in Louisiana (McNeely, 2013). Lessons learned from various disasters are instructive but do not provide consistent pathways to full recovery (Scarinci, 2014).

The purpose of this qualitative phenomenological study was to understand the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood disasters from 2005 to 2020. Research was conducted investigating how members of K4-12 public and private school communities in Louisiana interpreted flood-related events in preparing for, surviving during, and recovering from flood disasters while finding shared experiences and meanings among educators. The following research questions guided the study: Research Question 1: What are educators' and school leaders' experiences regarding the allocation of resources in efforts to rebuild the school community after flood disasters in Louisiana public and private K4-12 schools?

Research Question 2: What are the experiences of educators and school leaders in Louisiana public and private K4-12 schools in being able to maintain operational status and academic rigor after a flood disaster?

Research Question 3: What are educators' and school leaders' experiences regarding recovery efforts made by K4-12 public and private school communities in Louisiana in response to flood disasters?

Three subject matter experts (SMEs) not affiliated with the American College of Education reviewed and confirmed the research questions as appropriate to the study (see Appendix D). As such, the research questions would help to maintain reliability, validity, and accurate research instrumentation in the study (Creswell, 2016; Denzin, 1970). A recommendation by the dissertation committee to specifically include the term, "experiences," in the research questions was noted, accepted by the SMEs via email response, and imported into the questions. Upon Institutional Review Board (IRB) approval, the study then proceeded.

Contained in Chapter 3 are the research method, design and rationale, and the role of the researcher. Research procedures, population and sample selection, instrumentation, archival data, data collection and representation, and data analysis are included. The chapter concludes with the reliability and validity of the research, ethical procedures, and a summary of the chapter.

Research Design and Rationale

The study utilized qualitative methodology. Qualitative methodology is appropriate to research designed to discover experiences, perceptions, and meanings of events (Creswell,

2016). Qualitative research facilitates an understanding of the perceived reality of the phenomenon, in this case flood disasters among the sample research population (Palinkas et al., 2015).

Individuals' perceived realities of life experiences were examined using the Husserl-Heidegger phenomenological design (Palinkas et al., 2015). Specifically, Heidegger separated lived experiences into two central components of common and subjective (Heifetz, 1994). While experienced events in a particular area or locale may be common to all, subjective experiences are within the context of roles in society and a community (Creswell, 2016). These distinctive experiences fashion distinctive realities among segments of the population and potentially shared commonalities and epistemological knowledge in a particular study (Guerrero et al., 2017; Heifetz, 1994).

Discovering shared commonalities in experiences among participants in phenomenological studies can be used to ascertain the impacts of events and paths to change (Creswell, 2016). Due to Covid-19, virtual interviews were conducted through the GotoWebinar® platform to investigate the experiences of members of public and private K4-12 school communities in Louisiana impacted by flood disasters. Open-ended interviews allowed participants to share meaningful experiences from which themes and commonalities were derived (Pietkiewicz & Smith, 2014).

A quantitative study or a mixed-methods study was not suitable for several reasons. The data collected in the study were experiential and non-numeric which was appropriate to a qualitative study as opposed to a quantitative or mixed study (Simoni et al., 2019). Qualitative research promotes an understanding of the perceptions and meanings of life events among the sample population (Pietkiewicz & Smith, 2014). A qualitative phenomenological study design

was used to detect shared meanings and understanding of experiences within participants' natural environments (Guerrero et al., 2017).

Other types of qualitative designs were considered to determine the best structure for the study. The designs considered were narrative, grounded theory, ethnography, historical, and case studies (Creswell, 2016). These designs were deemed unsuitable because employing a phenomenological approach was the most suitable way to gather participants' experiences and meaning to answer the research questions (Guerrero et al., 2017). Areas in most of the parishes of the state of Louisiana have flooded at some point (Davis, et al., 2019; Simms, 2017), but only individuals with unique experiences germane to the study's scope and the research questions posed participated in the study (Mowbray, 2014).

Role of the Researcher

The role of the researcher is important in a phenomenological study (Pietkiewicz & Smith, 2014). Because the study was phenomenological and relied on participants' experience as the primary data source, Heidegger's ontological philosophy in studying events was relevant (Guerrero et al., 2017). Heidegger noted how the person researching phenomenological studies is "part of the universe" and should understand the setting of the phenomenon being studied (Pietkiewicz & Smith, 2014). Qualitative phenomenological studies deliver research which finds perceived realities and commonalities among the population being studied (Guerrero et al., 2017).

In this study, I was an observer, not a participant. The interest stemmed from being an educator and a lifelong Louisiana resident familiar with flood disasters and their impact. Expansion of the body of research occurred through understanding the shared experiences, perceptions, and commonalities among participants related to flooding disasters. I had no previous relationships with the administrators and teachers in Louisiana who were part of the study.

Heidegger's insights regarding reflexivity were integrated into the study (Guerrero et al., 2017). In qualitative phenomenological studies, the person conducting research is part of the universe and brings a certain number of personal experiences and perceptions during the research (Pietkiewicz & Smith, 2014). Because potential personal perceptions regarding various disasters were a possibility, the research was conducted by observation and not participation to reduce personal inferences. Reflexivity awareness in and of itself is a deterrent to potential assumptions in data (Pietkiewicz & Smith, 2014).

Potential preconceptions of collected data were avoided by member checking, explicit use of inductive coding and thematic analysis, the use of third-party software (NVivo 12), and certain inherent participant oversight through the courtesy of delivering the final approved dissertation to participants. The study also relied on bracketing, or epoche, to eliminate potential researcher bias. In a phenomenological study, the researcher bracketed biases, preconceptions, and assumptions, described as epoche by Husserl. When preconceptions and biases are bracketed, reduction or examining what remains, is possible.

Research Procedures

Research procedures were conducted using qualitative phenomenological methods. Public records of the Federal Emergency Management Agency (FEMA) flood-disaster Louisiana grantee schools were used to identify applicable educational institutions, a target population, and a multistage purposeful sampling population (Davis et al., 2019; Palinkas et al., 2015). Openended interview questions were reviewed by subject matter experts (Lincoln & Guba, 1985; Stahl & King, 2020). Research procedures utilized virtual interviews through the GotoWebinar®

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platform. Interview time allotments were no longer than one hour. Time allotments helped to allow exploration of perceptions of the phenomena experienced in a meaningful and complete manner (Pietkiewicz & Smith, 2014). Administrators and educators formed the target population which allowed for data collection from various stakeholders' experiences and perceptions of the phenomena (Denzin, 1970; Guion et al., 2011).

Population and Sample Selection

The strategy used to select the sample population ensures a qualitative phenomenological study can occur in light of the research questions posed (Guion, et al., 2011). Multistage, purposeful sampling is the concept of selecting limited participants having a plethora of information regarding an experience with a particular event or phenomenon (Palinkas et al., 2015). Prospective participants met the requirements of the study (Palinkas et al., 2015).

Officials of 8 schools noted on the publicly available FEMA records were contacted regarding participation in the study (Davis et al., 2019). A total of 20 K4-12 Louisiana school administrators and teachers affected by Louisiana floods were selected as the sample population for the study, allowing for data collection from various stakeholders' experiences and perceptions of the phenomenon (Denzin, 1970; Guion et al., 2011). The sampling strategy first confirmed if potential research participants had experiences with Louisiana flooding events in a role as teachers or administrators in a public or private K4-12 school. Experiences during the peak impact years of 2005, 2016, and 2020 had first-stage priority in the study. Participants with flood experiences in general had second-stage priority. Anyone with multiple experiences had a higher rank than others with only one experience (Palinkas et al., 2015; Saunders et al., 2018). Non-relevant experiences were excluded.

The study consisted of a sample population of 20 educators and administrators in Louisiana with flood disaster-related experiences. Responses from all 20 participants were used indicative of an acceptable saturation level of the experienced phenomenon (Creswell, 2016; Guerrero et al., 2017; Guion et al., 2011; Palinkas et al., 2015; Saunders, et al., 2018). In phenomenological qualitative studies, saturation is widely viewed as the point wherein the data being collected offer "diminishing returns" void of no new insights in the study (Kumar et al., 2020).

The purpose, design, and research questions posed in the study were discussed with the principal of the school or person at the school responsible for granting permission to participate in the study via phone call (Opdenakker, 2006). After the initial discussion, an email including the Invitation to Participate (see Appendix A), and Informed Consent (see Appendix B) was sent to the person granting permission. The person granting permission was sent the Site Permission request (see Appendix C).

The person granting site permission was asked to send a list of teachers' email addresses who might potentially qualify to participate in the study. If the person in authority did not agree to send an email listing, an alternate method for soliciting participation was used. A request was made from the person in authority to forward the invitation to participate and informed consent to the potential research population within the school. Participants were asked to accept the terms of the informed consent via email response. Relevant participant experience was confirmed during the virtual interview (Opdenakker, 2006). Free copies of the dissertation will be disseminated to the participants as a courtesy for willingness to be part of the study and as demonstrable proof of participant confidentiality. Members of K4-12 public and private school communities participating in the study were not identified by name, parish, school, or region of the state of Louisiana in the study. Participants were identified as educators in a public or private K4-12 school in Louisiana affected by floods with a reference to the demographics of the participant including gender and the role in schools at the time of the flood(s) experienced. Data have been retained on a password-protected electronic storage device which will be securely held in a safety deposit box located within a licensed banking institution's onsite vault for a minimum of 3 years (Thomas, 2006). After 3 years, the data will be destroyed by information systems professionals.

Instrumentation

The rationale for the development of research instruments was based on qualitative phenomenological theory and the research questions (Creswell, 2016; Pietkiewicz & Smith, 2014). Phenomenological theory suggests a hermeneutical approach should be used to study lived experiences among participants (Creswell, 2016; Heifetz, 1994). Research instruments did not attempt to accept or reject a hypothesis but were instead used as exploratory tools. Instrumentation must allow for epistemological knowledge discovery (Pietkiewicz & Smith, 2014). SMEs reviewed and accepted the instrumentation questions.

The SMEs consisted of a Louisiana certified teacher with more than 35 years' experience and two government professionals specializing in Louisiana disaster situations. The SMEs were first contacted via phone to discuss the research study. Upon verbally agreeing to be SMEs for the study, the SMEs were sent an email which included the Subject Matter Experts Agreeing to Review Items document (see Appendix D). Upon agreeing to the stipulations in the email, the SMEs confirmed the validity and reliability of the research questions via the SME approval letter (see Appendix D). The SMEs were provided a field test feedback modifications form (see Appendix E). The SMEs did not recommend making any changes to the research questions.

Virtual, synchronous, face-to-face, computer-mediated communications deliver representative and dependable virtual interview capabilities (Opdenakker, 2006). Computermediated communication offers the benefits of flexibility, real-time interaction, decreased travel cost, time efficiency, and the ability to record interviews in real-time in audio format (Opdenakker, 2006; Pietkiewicz & Smith, 2014).

Asynchronous anonymous questionnaires can alleviate the disadvantages of computermediated communications. However, a lack of interviews can offset a complete conveyance by the participant of the experienced phenomenon. When compared to anonymous, asynchronous questionnaires, the advantages of the computer-mediated communication approach offered more benefits than disadvantages, especially since participants were actively addressing existing crises or pressing issues within their organizations (Creswell, 2016; Pietkiewicz & Smith, 2014).

Participants signed (or e-signed) and emailed acceptance of the informed consent agreement (see Appendix B). Data were gathered by virtual interviews using GoToWebinar® virtual communications technology (Pietkiewicz & Smith, 2014). Participants could participate virtually from any physical location.

Data Collection and Preparation

The technology meeting platform supported audio recordings. Interviews were recorded in audio format and transcribed. Each participant was interviewed once and was asked questions to clarify perceived nebulous statements. A statement from a participant such as "It was overwhelming" was followed up with a request for additional details regarding the experience if possible. Additionally, clarification was requested for unknown acronyms participants may use internally within the school.

Interviews lasted no longer than 1 hour. Transcripts of the interviews were compiled. Extraneous words were removed from transcripts to help ensure reliable coding in the study. Transcripts will be kept manually and digitally and stored in a secured safety deposit box located in a licensed banking institution's vault for no less than 3 years. After the 3 years have expired, all data will be destroyed (Braun & Clarke, 2006; Pietkiewicz & Smith, 2014).

Debriefing procedures consisted of reminding participants of the option to end their participation in the study at any time (see Appendix B). Participants were reminded of the complimentary dissertation which would be delivered upon the study's approval. Participants were asked to confirm a valid and current email address and to supply updated email addresses in the future as necessary should the current email address change. Transcripts were delivered to each interviewee via email to ensure transcript accuracy. Participants were able to edit transcripts or request updates to ensure data accuracy (Braun & Clarke, 2006; Guion et al., 2011).

Data Analysis

Inductive analysis was used in interpreting raw data to extrapolate emerging themes (Braun & Clarke, 2006; Thomas, 2006). Reduction was used to remove filler words which had no meaning or impact in the transcripts. Every finalized transcript, post-reduction and post-interview, were member-checked by the interviewee to ensure the transcription was accurate.

An inductive content analysis data model was used to determine codes and themes. The six steps of the model are (a) beginning the audio-recorded virtual interviews, (b) asking the open-ended questions (see Appendix F), (c) translating audio files to transcripts, (d) sending transcripts to participants for member checking, (e) creating open inductive codes with the

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transcripts using NVivo 12 and (f) finding emerging themes. A total of 12 codes were generated from the interview transcripts and organized into five emergent themes.

In step 1, participants were reminded the interviews would be recorded for accuracy and transcription purposes. In step 2, each participant was interviewed through the GoToWebinar® platform using open-ended questions to probe their experiences during flood-related disasters. During step 3, software was used to transcribe the audio files, and transcripts were reviewed to check for accuracy. Participants member-checked the transcripts in step 4. In step 5, NVivo 12 was used to create the 12 open, inductive codes from the six themes emerged in step 6.

Microsoft Word and MS Excel were used when identifying words and phrases during the coding process. Coding was based on thematic analysis present in the data (Braun & Clarke, 2006). Initial open codes were developed, and emerging clusters were noted (Thomas, 2006). A search for emerging themes was based on clusters and codes generated and identified in the data analysis phase. NVivo 12 software was used to identify codes and themes which helped to secure the credibility of the study using third-party technology solutions. Themes were inductive, and not theoretical or predetermined, to find organically shared perceptions (Braun & Clarke, 2006; Guion et al., 2011).

Emerging themes based on the coding process were reviewed to determine whether the themes were understandable, whether the data called for additional themes, and whether themes were duplicated (Thomas, 2006). Themes were then refined to understand each theme's essential nature (Guion et al., 2011). Refined themes were analyzed to determine what the theme stated and were reported in the study.

Reliability and Validity

Reliability and validity in qualitative research consist of demonstrating credibility,

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dependability, confirmability, and transferability, the components of trustworthiness (Creswell, 2016; O'Sullivan & Jefferson, 2020). Credibility creates confidence in research findings while dependability ensures validity of the results over time (Lincoln & Guba, 1985; Stahl & King, 2020). Similar to dependability, confirmability verifies the findings and meanings reported in the study are derived from the data and could be confirmed by other researchers. Transferability is the concept of data having a generalized context which could be observed outside the study in different scenarios, locations, or times (Johnson et al., 2020; Korstjens & Moser, 2018). Trustworthiness, the sum of these components, helps to ensure the integrity and incorruptibility in data in a study (Creswell, 2016).

Reliability

A variety of methods helped ensure reliability. Three subject matter experts (SMEs) conducted field tests before the study to ensure the open-ended research instrumentation was valid. All interviews were conducted and recorded using the same virtual communication software, GotoWebinar®. Interviews were transcribed via the software. Transcripts from interviews were sent to research participants for review through a process known as member checking (Lincoln & Guba, 1985; O'Sullivan & Jefferson, 2020).

Epoche, or the act of refraining from preconceived conclusions, was observed in the study. Part of ensuring epoche was the use of inductive coding based on the data drawn from the research population (Thomas, 2006). Codes and emerging themes were based on responses during interviews. A sample population of 20 administrators and teachers helped to ensure reliability through triangulation and saturation (Guion et al., 2011; Sántha, 2019).

Triangulation was accomplished through virtual interviews with two different stakeholder groups (Creswell, 2016; Sántha, 2019). A broad research population among different groups

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allows comprehensive qualitative phenomenological research when attempting to find shared perceptions or meanings of research population experiences (Guion et al., 2011). The groups consisted of administrators and teachers meeting the stated participant criteria. Virtual interviews were used to pose questions in the study (see Appendices D and F). Participants were allowed to answer and discuss in an open-ended fashion. Additional discussion occurred naturally. Interviews were recorded in audio format for data accuracy and records-keeping purposes.

Validity

Participants were required to be educators in Louisiana affirmatively acknowledging an experience in a flood-related disaster in a Louisiana school. All interviews followed the openended interview guide approved by the SMEs. All interviews were conducted using the same virtual communications technology for no more than one hour. Performing the research in the same manner is necessary for research validity (Lincoln & Guba, 1985; Stahl & King, 2020). Valid research methods should produce observed commonalities and differentiations. Differentiations based on experiences, as opposed to data collection errors, helps ensure a valid study (Creswell, 2016). The detailed procedures were followed during the open-ended interviews to ensure transferability. Any nebulous statements were addressed and clarified during interviews.

Credibility

Credibility helps create confidence in the research findings through the demonstration of probable and reasonable results (Korstjens & Moser, 2018). Credibility establishes plausibility in the data collected from the participants (Creswell, 2016). A credible study then exemplifies a valid interpretation of the data (Korstjens & Moser, 2018). Member checking of transcripts was employed to ensure the accuracy of the data (Lincoln & Guba, 1985). Inductive coding and

theming were utilized to avoid presuppositions and preconceived notions (Braun & Clarke, 2006). NVivo 12 software was used to identify codes and themes which helped secure the credibility of the study.

Dependability and Confirmability

Dependability and confirmability in qualitative studies refer to the validity of the results of the study over time (Palinkas et al., 2015). These components of trustworthiness were accomplished through techniques including member checking and triangulation to help ensure the data had elements of evaluation from the participants (Guion et al., 2011).SMEs field tested the instrumentation before the study. The study relied on the experiences and perceptions of Louisiana educators meeting the stated criteria. The interpretations of the study were based on inductive coding and theming to ensure dependable and confirmable findings (Creswell, 2016).

Transferability

Transferability is the concept of data having a generalized context which could be observed outside the study in different scenarios, locations, or times (Korstjens & Moser, 2018). Data from educators' experiences in a series of flood-related disasters over a 15-year period were collected. Various disasters, locales, experiences, and disaster scenarios were part of the research data collected. Thick descriptive vignettes were used in the study to provide a generalized context of the data collected (Johnson et al., 2020; Lincoln & Guba, 1985; Slabbert, 2018).

Ethical Procedures

Procedures to minimize ethical concerns were consistent with the Nuremberg Code of 1947 and *The Belmont Report* (1978) calling for beneficence, justice, and respect for participants during the research (The Nuremberg Code, 1991). Virtual interviews were structured to allow experiences to be shared comprehensively through a panel of subject matter experts (SMEs) and the oversight of an American College of Education Institutional Review Board (IRB). The research did not begin until IRB approval of the study was received. Participants willing to participate were asked to accept the terms of the informed consent via email response which confirmed consent to participate in the study (see Appendix B). The informed consent form included permission to use and publish shared information in the study and ensure educators were at or above the age of majority (adults). Debriefing included a reminder which noted withdrawal from the study might occur at any point to ensure respect (Guerrero et al., 2017; National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

Participants were reminded of the beneficent nature of the study (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). The study addressed flooding events which led to suffering and death (Davis et al., 2019). Shared commonalities and emerging themes were explored. Sharing experiences could produce data which may help persons experiencing flood events in the future. The study will be published and distributed to all participants which will share the beneficent nature of the study.

No preferential treatment was given to any person based on race, gender, or creed. Experiences noted in the study were treated with the highest level of compassion and sensitivity. Justice was preserved by treating all participating in the study equally. Participants were assured of attentiveness to respect for persons, beneficence, and justice by receiving a copy of the approved dissertation (Guerrero et al., 2017; National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

No conflicts of interest arose. Confidentiality was maintained throughout the study. There were no references to names or identities. Data of any type collected during the study will be

kept in a safety deposit box located in a licensed financial institution's vault for 3 years. After said timeframe, the data will be destroyed by professional information systems personnel.

Chapter Summary

The methodology chapter specifies the research method, research design and rationale, and role of the researcher. Sections include the target population and sample selection, instrumentation, data collection, and analysis. Other sections involve validity, reliability, and ethical considerations. Qualitative methodology is used to study perceptions, experiences, and meanings of events and provides a means whereby perceived realities of phenomena which occurred among the sample research population may be better understood (Creswell, 2016; Palinkas et al., 2015; Pietkiewicz & Smith, 2014). The data collected in the study were experiential and non-numeric as appropriate to a qualitative study and as opposed to a quantitative or mixed study (Simoni et al., 2019).

The role of the researcher is important in qualitative phenomenological studies (Palinkas et al., 2015). The person conducting research has personal life experiences which should not impact the research process or the findings (Pietkiewicz & Smith, 2014). The study had a sample population of 20 K4-12 private and public school educators with experiences involving Louisiana flooding events. The target population was based on publicly available data denoting schools affected by floods (Davis et al., 2019).

Instrumentation consisted of open-ended interview questions posed to the research sample. Computer-mediated communication using GotoWebinar® provided a platform for virtual interviews consisting of the approved, open-ended questions. While both advantages and disadvantages of computer-mediated communication are addressed in this chapter, robust technological capabilities made the method of data collection most beneficial (Opdenakker, 2006). Rich descriptions and member checking of transcripts compiled from interviews were employed during the study (Lincoln & Guba, 1985). The use of NVivo 12 software in storing and compiling the data, coding the data, and investigating the data to find emerging themes using inductive thematic analysis were outlined in the chapter. Inductive coding and theming were used to help ensure reliability and validity (Thomas, 2006).

Incentives for participation in the study included participants receiving a copy of the final, approved dissertation. Delivery of the dissertation to the participants will help enhance reliability and credibility (Palinkas et al., 2015). Ethical procedures were noted in the chapter including IRB oversight, potential conflicts of interest, and secure retention and destruction of the data after 3 years.

Chapter 4: Research Findings and Data Analysis Results

The lack of knowledge, money, intent, or awareness of the imminent danger of unforeseen flood catastrophes often exist among K4-12 public and private school communities in Louisiana (McNeely, 2013). The problem is school communities in Louisiana are often unprepared for flood disasters since maintaining daily academic rigor and operational status are the priorities for resource and time allocation (Davis et al., 2019; Kaushalya et al., 2014; Sahebjamnia et al., 2015). The purpose of this qualitative phenomenological study was to understand the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood disasters from 2005 to 2020. The major sections include data collection, data analysis, results, reliability, validity, and conclusion.

The research questions for the study are as follows:

Research Question 1: What are educators' and school leaders' experiences regarding the allocation of resources in efforts to rebuild the school community after flood disasters in Louisiana public and private K4-12 schools?

Research Question 2: What are the experiences of educators and school leaders in Louisiana public and private K4-12 schools in being able to maintain operational status and academic rigor after a flood disaster?

Research Question 3: What are educators' and school leaders' experiences regarding recovery efforts made by K4-12 public and private school communities in Louisiana in response to flood disasters?

Data Collection

A total of 20 public and private school administrators and teachers were interviewed using GoToWebinar® virtual communications technology. Personnel with site permission

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authority were first contacted by phone call using publicly available FEMA data which indicated impacted and applicable schools for the study. Once contacted, authorized personnel were sent the site permission forms (see Appendix C) and the informed consent forms (see Appendix B). Authorized personnel signed and granted site permission forms, then either sent the informed consent documents to potential participants or forwarded names and email addresses of potential participants. To ensure receipt of documentation, informed consent was discussed and individually sent to each participant before the interview process. Informed consent documents were signed or e-signed and returned immediately via email by participants.

The interview process lasted 3 weeks. All participants indicating interest and willingness to participate in the study completed virtual interviews. Interviews were recorded in audio format as noted in the informed consent document to ensure transcription reliability and validity. Transcripts were emailed back to each participant for member checking and accountability purposes.

There were no deviations from the research proposal in Chapter 3. Meticulous and copious notes were taken for all interviews in case issues would occur with audio recordings rendering them unusable or damaged thereby making minor deviations due to software issues moot. Regarding virtual technology issues, the software did not record properly for one interview. Since the software work improperly, the notes aforementioned were sent to the participant for member checking instead of the anticipated transcript. During another interview, the recording function of the software was not started immediately at the time the interview began. In the former situation, the software was rebooted to no avail. In the latter situation, the recording was started upon recognizing the recording was not engaged. In both scenarios, the notes were sent to the participants for member checking

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Administrators and teachers from a total of 8 public or private K4-12 schools spanning nearly 200 miles of area in the southern Louisiana corridor were interviewed. There was a total of five male and 15 female participants. The distribution of schools is noted in Figure 2.

Figure 2





Though more public schools were part of the study, the distribution of actual personnel interviewed was nearly even. Only participants meeting the study criteria were part of the study. All 20 participants met the purposeful sampling criteria noted in Chapter 3. Figure 3 exemplifies participants' employment status in public or private schools.

Figure 3



Personnel Interviewed by Institutions

Participants had flood experiences ranging from Hurricanes Katrina and Rita in 2005

through Hurricanes Laura and Delta in 2020. Participants were administrators, teachers, or both during the time of the flood experiences. Figure 4 denotes the occupational demographics of the participants when flood experiences occurred.

Figure 4





Data Analysis and Results

The rationale for the development of the data analysis model and subsequent research instruments was based on qualitative phenomenological theory and research questions (Creswell, 2016; Pietkiewicz & Smith, 2014). Phenomenological theory includes a hermeneutical approach to be used when analyzing lived experiences among participants (Creswell, 2016; Heifetz, 1994). Instrumentation must allow for epistemological knowledge discovery (Pietkiewicz & Smith, 2014). Use of the research instruments (see Appendix F) were used as exploratory tools as opposed to an attempt to accept or reject a hypothesis.

A content analysis data model was used to determine codes and themes. The 6 steps of the model were (1) beginning the audio-recorded virtual interviews, (2) asking the open-ended questions (see Appendix F), (3) translating audio files to transcripts, (4) sending transcripts to participants for member checking, (5) creating open inductive codes with the transcripts using NVivo 12 and (6) finding emerging themes. During step 1, participants were reminded of the

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content of the informed consent documents stating the interviews would be recorded for accuracy and transcription purposes. During step 2, open-ended questions allowed participants liberty in stating their experiences during flood-related disasters.

Step 3 involved a series of tasks. Software was used to translate audio files. A review of the transcription was subsequently performed based on notes taken during interviews and to correct words which may have been mistranslated (e.g., "baked" instead of the stated "raked"). Transcripts were sent to participants for member-checking purposes in step 4. NVivo 12 was used in step 5 to create open inductive codes. A total of 12 codes was created during the study. Finding and documenting emergent themes from the study occurred in step 6.

Virtual, synchronous, computer-mediated communications delivered representative and dependable virtual interview capabilities (Opdenakker, 2006). Computer-mediated communication offered the benefits of flexibility, real-time interaction, decreased travel cost, time efficiency, and the ability to record interviews in real-time in audio format (Opdenakker, 2006; Pietkiewicz & Smith, 2014). Interviews were recorded in audio format and transcribed. Each participant was interviewed once. Transcripts were sent to participants for member checking (Lincoln & Guba, 1985; O'Sullivan & Jefferson, 2020).

Codes

A series of inductive open codes were developed based on terms and phrases (O'Sullivan & Jefferson, 2020; Thomas, 2006). NVivo 12 software was used to identify codes and themes which helped to secure the credibility of the study using third-party technology solutions. The research questions guided the study and the open codes created. Table 2 enumerates the 12 open codes and subsequent themes emerged during the study. The last inductive code generated was during interview 16. Discrepant data were not detected during the study.

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Table 2

Codes and Emerging Themes

Codes	Emerging Themes
Emotional Impacts	Emotional Trauma
Words Describing Experience	
Technology for Records	Loss of Pertinent Records and Classroom
Technology for Academics	Resources
Changes in Disaster Planning	
Life Meanings	Healthy Life Meanings and Outcomes
Outcomes Post-Disaster	
Resources and Donations	Required Resources Came from Various
Community Involvement	Sources During and After Flooding Events
Changes in School Operations	Downtime Experienced During and After
Academic Impacts	Flooding Events
Building Impacts	

Theme 1: Emotional Trauma

Ninety-five percent of the research participants reported immediate and perpetual emotional distress among school communities; experiences of feeling overwhelmed with floodrelated loss; negative perceptions from students, colleagues, and parents in the upheaval of dealing with flood-related loss at home, at school, and at work; and serious concerns regarding resources necessary to recover. The most common word used by participants in describing floodrelated experiences was "devastating." Additional words included, "horrible, unimaginable, catastrophe, terrible, alarming, stressful, fear-inducing, overwhelmed, tragedy, gut-wrenching, scarring, unexpected, heartbreaking, like a dark age, shell-shocked, and mess."

All participants noted how significant portions of the school community and local community as a whole were affected by flooding events; compounding emotional effects were observed and experienced. Participant 12 stated:

The emotional effects are still being felt because every time, even now, when there is a huge rainfall forecast or hurricane potential tropical storm, it's almost like a PTSD kind of thing for people out here because they're so worried that it's going to happen again. Participant 4 had perceptions that were almost identical.

You can see still this sort of PTSD that comes back...we would literally have our elementary students cry every time it rained because they weren't sure it wasn't going to flood again, and they weren't with their parents.

A desire for resources dedicated to emotional crisis training before and during potential disasters was noted. Several schools used thick blankets to help create a sense of security for students experiencing forms of PTSD during weather events post-flood. Forty-five percent of the participants reported schools employing crisis counselors and local pastors on-site to assist members of the school community experiencing emotional crises.

Theme 2: Loss of Pertinent School Records and Classroom Resources

Participants stated how before flood events, the use of paper-based records and utilities was not necessarily considered unsafe. All participants reported sections of permanent records, classroom records, or various tools and resources used by teachers as total losses. There was noted vandalism after flooding events associated with hurricanes given extensive power outages and lack of surveillance cameras operating due to power loss. Participant 14 noted:

The schools had no power [post-flood/post-hurricane]. They had no camera surveillance...it was millions of dollars of technology stolen from all the schools...at our site, we had 60 iPads and numerous laptops and then all kind of personal belongings stolen from all the teachers.

Participants discussed the deployment of non-localized, cloud-based digital technology for academic records and certain student initiatives post-flood. Participant 8 stated:

Everything is digital [currently as opposed to when the flood even occurred]. Even the way I tell my teachers to house things is different. And like anything you can keep on a

Google Doc or something is a lot safer than stuff something in your filing cabinet. While technology was used in response to disasters, participants made it a point to state how the school was not solely reliant on technology for functionality. Technological innovation was generally viewed as a tool but not a failsafe measure. Participant 12 stated the following:

I think it kind of highlighted the importance of cloud based systems and back up because and that's already the way that everyone was moving at that time. So we were we were fine from that in that respect. But I think, you know, upgrading your technology, so that is cloud based was critical.

Theme 3: Downtime During and After Flooding Events

Every participant interviewed experienced facility downtime because of flood events. The shortest downtime reported was less than one week. The longest downtimes were from Hurricane Katrina in 2005 which displaced tens of thousands of students and families across Louisiana for variable amounts of time (and in some cases, permanently) and from the August 2016 flooding events in Louisiana. Hurricane Katrina downtime was not quantifiable by participants given the shifting student population patterns. The August 2016 floods caused campus downtimes of up to five months.

During the time the campuses-proper were closed, academic downtime depended upon the availability of the use of another site. Schools closed for more than one week generally became operational either in an area on the school campus unaffected (or minimally affected) by

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flooding, or by completely transitioning to another temporary facility. Temporary facilities included utilizing other campuses in a district (public schools) or through a partnership with a host school (private schools).

Academic usage spaces included upstairs areas unaffected by flooding, gymnasiums, cafeterias, large hallways, and areas within churches. Flood-impacted schools typically operated as autonomous institutions on the host campuses wherein the principal, administrative staff, and teachers worked together as their school unit. Several participants reported temporary campuses deployed either immediately or eventually by FEMA. One school was completely rebuilt.

Ninety percent of participants reported minimal long-term academic impacts due to flooding events. Standardized test scores were cited as proof of academic success. The timing of the flood events experienced (most of which were at the beginning of the academic year) was considered a factor in allowing teachers to "catch up" with time lost. Speedy deployment on a different campus or FEMA-provided temporary buildings were also noted as possible factors minimizing academic impacts.

Logistics problems such as lunch schedules and increased food delivery to students, campus ingress and egress congestion, and substantial load on campus restroom facilities contributed to difficulties on host campuses. Achieving operational status through innovative methods was paramount for the participants; sacrifices and potential dislocation were endured to ensure students' needs were met. Collectively, participants believed these measures matriculated into overall academic continuity. Participant 13 stated the following:

The school where I was teaching the secondary transferred and combined with another school...we were intact at the other campus, and I know that our administration was phenomenal, literally phenomenal.

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Theme 4: Healthy Life Meanings and Outcomes

Words and phrases used to convey life meanings derived from flood experiences included "flexibility, patience, appreciation, love, passion, empathy, sensitivity toward others, becoming open to change, adapt, better relationships, came out better, grace, and take one day at a time." Participants from both public and private schools discussed deeper faith and trust in God and in fellow human beings because of flood experiences. Administrators and teachers noted a renewed focus and change in perspective on the mission of education and serving the students in school communities. Participant 9 stated:

My perception on what's needed for education totally changed. If you have a passionate educator and you have a child that's willing to learn, the sky's the limit. It doesn't matter your circumstances and you don't need a fancy whiteboard. You don't even need textbooks if you've got a skilled educator because she is the textbook, or he is the textbook. So, we we've learned the real importance in education is a child who's willing to learn and a passionate teacher.

Several participants used the word, "blessed" and described a renewed sense of "educational ministry" when discussing how they felt about their jobs since the disaster. There was a general sense of a renewed appreciation for schools and educators post-flood within local communities and an overall perception of school communities tending to be a place for emotional safety and security for students, staff, and parents working through flood-related loss at home. Participants reported a change in perspective of education wherein there was less of an emphasis on "bells and whistles" in facilities and more of an emphasis on educators being skilled and creating a quality dynamic with students even with minimal resources available.

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Seventy-five percent of participants noted how advanced technology use in the initial phase of flood events would not have helpful given power issues, internet downtime, focus on survival, dislocation of families, and upheaval in the local communities affected. The use of technology as communities began to recover was viewed as a viable response to flood events.

Initial flood impact phases notwithstanding, specific operational and academic changes noted because of flood events were moves to cloud-based records keeping, deployment of school apps and communication utilities to keep the members of the school community informed and updated, use of social media for announcements, use of Google Classroom and Google Docs for cloud-based academics, use of Class DOJO for tracking behavioral incidents, use of See-Saw teaching technology, and a better awareness of unforeseen yet imminent catastrophes. Various synchronous platforms such as Zoom were noted in tandem with the deployment of asynchronous classroom utilities such as Canvas.

COVID-19 was addressed by several participants. All participants experiencing flood events occurring before COVID-19 reported feeling more prepared for the pandemic per experiences and operational changes made due to flooding events. Participants noted how the shutdowns from the pandemic were somewhat easier to address when compared to flood experiences since the communities had power, Internet access, and given the worldwide response to the same pandemic crisis; floods are typically localized.

Theme 5: Receiving Required Resources from Various Sources During and After Flooding Events

Significant amounts of distress regarding resources and cleanup efforts were experienced across the research population. Participants in administrative roles during the time of the flooding event(s) stressed the importance of the availability of emergency funds to attend to

disasters. Flexibility and quick action to attend to pressing needs to address the facilities often required significant amounts of money.

Organic community mobilization and donations of resources post-flood disasters were noted by 90% of participants. Participant 6 stated:

It was overwhelming...the amount of support that we got from the surrounding communities who were all willing to donate supplies and donate money to help us recover what we had lost. Also, the community coming together to help to get the school back clean.

Participant 9 stated:

God sent people to help us. People from all over the state, all over the nation came and helped us, got that building cleaned and really supported us, prayed with us. It was phenomenal, the amount of support from the state and communities around the state and around the nation that came in and helped us.

Community mobilization happened consistently and quickly across the research population

As addressed in Chapter 3, lists of schools impacted by flood disasters were compiled using publicly available FEMA records. Participants had varying levels of interaction with FEMA. FEMA assistance was of great value to members of school communities which received public assistance funds.

Administrative participants noted delays and lengthy wait times for FEMA funds. Lack of understanding specifics of FEMA policies and procedures tended to produce a certain level of anxiety. Financial distributions received from FEMA paid for significant amounts of losses experienced during flood-related disasters. Payouts often took extensive amounts of time. Financial resources were spent on a variety of recovery and mitigation measures. Technology changes were part of the expenditures. Schools also used materials for repairs, remodels, and rebuilding which were less susceptible to being impacted by flood events. Examples cited included utilizing synthetic materials instead of wood and reconstructing cabinets at higher elevations. One school was completely rebuilt at a different location on higher ground and less prone to flooding.

Reliability and Validity

Reliability and validity are essential to qualitative research. Reliability and validity in qualitative research consist of demonstrating credibility, dependability, transferability, and confirmability, the components of trustworthiness (Creswell, 2016; O'Sullivan & Jefferson, 2020). The study was designed and executed with these factors in the methodology.

Reliability

Reliability was ensured through a variety of methods. Epoche, or the act of refraining from preconceived conclusions, was observed in the study. Part of ensuring epoche was the use of inductive coding based on the data drawn from the research population (Thomas, 2006). Codes and emerging themes were based on responses during interviews with the sample population of 20 administrators and teachers helped ensure triangulation and saturation (Guion et al., 2011; Sántha, 2019). Three SMEs conducted field tests before the study to ensure the openended research instrumentation was valid; changes were not recommended. Transcripts from interviews were sent to participants for member checking (Lincoln & Guba, 1985; O'Sullivan & Jefferson, 2020). One participant noted how the transcript received seemed to be from a different participant. The feedback was confirmed, and the correct transcript was sent and accepted.

Validity

Participants were administrators and teachers in Louisiana affirmatively acknowledging an experience in a flood-related disaster in a Louisiana school. All interviews followed the openended interview guide approved by the SMEs. All interviews were conducted using the same virtual communications technology in the same manner which is necessary for research validity (Lincoln & Guba, 1985; Stahl & King, 2020). A visual illustration of the construct of the study and emerging themes is noted in Figure 5.

Figure 5

Graphical Representation of the Study



Credibility

There were three criteria in establishing credibility in qualitative studies (Palinkas et al.,

2015). Member checking of transcripts was employed to ensure the accuracy of the data (Lincoln

& Guba, 1985). Deductive coding and theming were utilized to avoid presuppositions and

preconceived notions (Braun & Clarke, 2006). NVivo 12 software was used to identify codes and

themes which helped to secure the credibility of the study using third-party technology solutions.

Transferability

Transferability is the concept of data having a generalized context which could be observed outside of the study in different scenarios, locations, or times (Korstjens & Moser, 2018). Participants had varied years of teaching or administrative experience ranging from one year to more than 30 years when flood events were experienced. Experiences ranged from Hurricane Katrina (2005) through Hurricane Delta (2020) from participants living in differing locales throughout the state of Louisiana. Thick description vignettes were used to provide a generalized context of the data collected (Johnson et al., 2020; Lincoln & Guba, 1985; Slabbert, 2018).

Insights gleaned from the lived experiences of these participants may be similar to insights about other populations with similar experiences. One should consider the setting, participants, and their experiences before generalizing any findings. The themes and general summary about this phenomenon may offer insights for administrators and teachers affected or potentially affected in the future by flood-related disasters.

Dependability and Confirmability

Dependability and confirmability in qualitative studies refer to the validity of the results of the study over time (Palinkas et al., 2015). These two similar components of trustworthiness were accomplished through techniques including member checking and triangulation to help ensure the data had elements of evaluation from the participants (Guion et al., 2011). SMEs were used to field test the instrumentation before the study.

Potential researcher bias was addressed using open coding with NVivo 12, SME field testing, and inductive thematic analysis (Creswell, 2016). No preconceived codes or themes were created before the study. The interpretations of the study were based on inductive coding and

theming to ensure dependable findings (Creswell, 2016; Opdenakker, 2006). Potential bias was countered by incorporating a combination of participants from K4-12 public schools and private schools with various job roles across disparate regions in Louisiana. Participants had experiences ranging over a 15-year period, thereby garnering a plethora of experiences for data analysis.

Saturation

Saturation may be defined a number of different ways depending upon the type of research and methodologies (Creswell, 2016; Saunders et al., 2018). In phenomenological qualitative studies, saturation is widely viewed as the point wherein the data being collected offer "diminishing returns" void of no new insights in the study (Kumar et al., 2020). A measurement which can be used to determine saturation is deducing the point in the study wherein no new inductive codes were developed (Saunders et al., 2018). Using this definition, the point of saturation during the study was during interview 16 which is when the last code and new meaningful data were generated.

Chapter Summary

The five themes which emerged during the study were (a) emotional trauma, (b) loss of pertinent records and classroom resources, (c) downtime during and after flooding events, (d) healthy life meanings and outcomes, and (e) required resources came from various sources during and after flood events. The three primary sources of resources were internal funding, community resources, and FEMA funds. Allocation of resources was dedicated to restoring operational facility status and deploying host or temporary campuses.

Attempts to recover records, restore academic progress, provide emotional support and stability to impacted members of the school community, and mitigate future disasters occurred through careful use of funds and donations, deployment of innovative technology, and creative facility solutions. School communities either repaired facilities quickly, reused unaffected areas within campuses, deployed temporary campuses, moved to alternative host facilities, or a combination of these measures. The meanings of the data analysis will be addressed in the next chapter.

Chapter 5: Discussion and Conclusion

The purpose of this qualitative phenomenological study was to understand the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood disasters from 2005 to 2020. The research questions provided a means to explore school leaders' and teachers' experiences and shared meanings regarding the allocation of resources and recovery efforts in Louisiana school communities after flood disasters. The five themes which emerged during the study were (a) emotional trauma, (b) loss of pertinent records and classroom resources, (c) downtime during and after flooding events, (d) required resources came from various sources during and after flood events, and (e) healthy life meanings and outcomes. The three primary sources of resources for recovery were internal funding, community resources, and FEMA funds. Allocation of resources was dedicated to restoring operational facility status and deploying host or temporary campuses. Major sections include findings, interpretations, limitations, recommendations, implications for leadership, and conclusions.

Findings, Interpretations, Conclusions

The three themes which emerged from the literature review revealed Louisiana is floodprone, lack of preparation for disasters leads to psychological and sociological crisis, and technology could offer viable solutions for disaster planning in schools (Davis et al., 2019; Gray, 2017; Le Brocque et al., 2017). When compared to the five emerging themes, the findings were consistent with the literature review. The findings substantially added to the knowledge base through interpretation of phenomenological qualitative experiences, interpretations of the data in light of the research questions, recommendations given, and considerations for positive leadership and policy changes. With adaptive leadership and functional theory as the theoretical framework, the findings, interpretations, and conclusions of the study suggested the need for both proactive and reactive leadership guidance within educational communities (Creswell, 2016; Heifetz, 1994). Schools are communities and serve communities. Paths to success for administrators and other educational professionals attending to school operations during and after flood catastrophes impacting schools and locales are provided. The findings, interpretations, and conclusions are addressed per the inductive themes which emerged in the study.

Addressing Emotional Trauma Through Training

Deficiencies were noted in the literature review regarding specialized disaster crisis training (Toole, 2018; Witt et al., 2019). Cannon et al. (2020) addressed significant physical and psychological impacts on educators during and after disasters. Le Brocque et al. (2017) noted the need for school staff training to assist students with getting back to normalcy since disasters were emotionally traumatic. Ninety-five percent of the research population reported immediate and perpetual emotional trauma resulting from flood experiences. Trauma extended to student populations, administrators and teachers, and the communities affected as a whole. Obvious emotional trauma continued years after flood events were experienced.

The literature review suggested specialized training to help address organizational needs post-disaster ((Toole, 2018; Witt et al., 2019). Teachers and administrators imported counselors and religious leaders into school communities and provided large blankets and heightened communication to parents and other caregivers post-flood. Resources were allocated to help address the emotional trauma experienced by members of school communities. Given the resource allocation and the participants' comments, the study suggested pre-flood emotional and

disaster training would have been beneficial in helping school staff to be better prepared for addressing the emotional trauma experienced in school communities.

Cloud-Based Records and Technology-Driven Classroom Resources

The literature review suggested deploying disaster-resilient technologies such as welldesigned cloud-based computing as part of the standard operating procedures would be beneficial (Trovato et al., 2019). Organizations can maximize technology investments by creating hybrid operational-disaster recovery environments wherein daily tasks are done via cloud-based software (Al-Ayyoub et al., 2018). Cloud-based records solutions inherently offer access via the internet, real-time backups, and defense against disasters (Shrimali & Patel, 2020).

Deployment of Cloud-Based Records

This study suggested use of paper-based records and utilities primarily due to lack of awareness was not necessarily considered unsafe before flood events. During and after flood experiences, all participants reported sections of permanent records, classroom records, or various tools and resources used by teachers as total losses. Cloud-based records-keeping software was deployed post-flood to reduce the risk of records loss and to have immediate access to records and academics online. Several schools already had cloud-based records keeping software packages before flood events. This finding was consistent with the cloud-based solutions noted literature review (Al-Ayyoub et al., 2018; Shrimali & Patel, 2020).

The data collected from the research participants in this study confirmed the deployment of cloud-based records-keeping solutions as part of the operational component of a school would have serious benefits. Operationally, cloud-based solutions keep school records immune to local disasters while having a ubiquitous platform for daily operations. Financially, dollars invested in

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the records-keeping solutions would attend to daily school operations and disaster recovery considerations.

Classroom Technology Tools

Advantages of cloud-based technology extended to classroom use in the literature review (Al-Ayyoub et al., 2018; Shrimali & Patel, 2020). Participants in this study noted how awareness of disasters once experienced created an interest and additional use of educational learning tools before flood events. Classroom cloud-based tools deployed post-flood included Google Docs, Class DoJo Canvas, and Canvas. Given the need to recover from the disasters, the learning curve for deploying technology-driven classroom applications contributed to the administrative and educational difficulty. This finding suggested the use of a hybrid model wherein classroom onsite learning curves and increasing the ability to operate within reasonable timeframes post-disaster should campuses be uninhabitable.

The literature review and this study suggested communication through apps and social media resulted in increased awareness and better communication after disasters were experienced (Niles et al., 2019; Scott & Errett, 2018). This study confirmed the increased use of apps and social media post-flood helped to establish better communications between schools and the families served. Nearly all research participants noted heightened use of social media perpetually post-flood. The literature and the study suggested social media was consistently a positive and effective method of communication (Scott & Errett, 2018).

Technology changes were included in the expenditures to help offset impacts post-flood. While technology reduced the flood impacts, the remedies were incomplete to schools given power outages, problematic internet connectivity, upheaval in communities, and significant attention to survival, repair, and recovery. Technology did not attend to the nurturing and safe environment on-campus learning created for flood victims, especially students and staff experiencing emotional trauma. This study confirmed the need for on-campus stability, accountability, normalcy, academic continuity, and educational community support made rapid recovery methods essential.

All participants reported the return to on-campus learning post-flood. Administrators discussed the use of materials which were less susceptible to being impacted by flood events. Examples cited included utilizing synthetic materials instead of wood and reconstructing cabinets at higher elevations. One school was completely rebuilt on higher ground.

The Essential Need of Funding and Resources During Recovery

The literature suggested financial resources are essential post-disaster (Kaushalya et al., 2014). Rapid access to funds often matriculated into faster recovery times post-disaster (Lotfata & Ambinakudige, 2019). Schools had funding through three primary sources which were (a) internal funding, (b) community resources, and (c) FEMA funds. Allocation of resources was dedicated to restoring operational facility status, deploying host or temporary campuses, and buying materials and resources to replace lost or destroyed contents. Classifications of funding mechanisms were generally repair, recovery, and/or rebuilding.

Administrators cited internal funding, community resources, and FEMA funds as primary financial resources. Administrative participants consistently noted delays and lengthy wait times for FEMA funds. While FEMA assistance was of great value to members of school communities which received public assistance funds, a lack of understanding of FEMA policies and procedures tended to produce a certain level of anxiety and possibly lost revenues from qualified expenditures. FEMA payouts often took extensive amounts of time. Financial resources were spent on a variety of recovery and mitigation measures. Administrators with significant financial resources immediately available (primarily savings accounts) noted the importance of schools having appropriate insurance policies and emergency cash reserves. Schools with money immediately available generally experienced faster recoveries. This study suggested administrators need to complete risk assessments and FEMA training before disasters. Emergency funds, appropriate insurance policies, and awareness of FEMA-funded grants were essential in recovery efforts.

The literature suggested by forging community-based partnerships before, during, and after disasters, schools had the sort of technological and economic backing of the local community to help hasten recovery (Jones, 2018; Scarinci, 2014). Organic community mobilization and donations of resources post-flood disasters were noted by 90% of participants in this study. Community mobilization happened consistently and quickly across the research population. Participants noted how lack of community mobilization would have either slowed or precluded recovery efforts. This study noted extensive community involvement spanning regions and even different states was essential in recovery.

Downtime Varied Based on the Extent of Flood Damage

The literature review suggested flood events can significantly damage or destroy facilities (Nejat et al., 2018; Niles et al., 2019). All participants in this study reported experiencing downtime from flooding events. Varying degrees of flood impacts determined which schools experienced the longest downtimes. Schools affected by extensive flood impacts were down the longest while those with minimal flood impacts generally were able to be repaired in less time. While certain participants experienced longer school downtimes than others, the data from the

literature and the study suggested flood impacts could close down a school either temporarily or permanently (Davis et al., 2019; Deria et al., 2020).

The need for rapid restoration of on-site facilities was observed in the study given the desire of members in affected school communities to resume on-campus learning. Restoration of facilities came from on-site repairs, deployment of FEMA temporary facilities, construction of new facilities, or a combination thereof. Migrations to completely learning online were not desired by participants or by students and families served in the schools. Participants noted how schools provided a level of nurture, support, and stability for flood victims. Schools also provided meals, counseling services, and academic continuity. All schools reopened with on-campus learning post-flood. No participants reported notable decreases in on-campus student populations after flood events.

Participants suggested use of available facilities via a partnership model afforded great success in recovery efforts. Host schools were generally 10-20 miles away from the affected school. Schools using this model post-flood operated as separate entities administratively and educationally within the host school. Once repairs, deployment of temporary facilities, or construction of new facilities were completed, school communities returned to their original location. This study suggested the host-school model was successful but often created ad hoc post-flood.

Positive Change

There was an overall perception of school communities tending to be a place for emotional safety and security for students, staff, and parents working through flood-related loss at home which was consistent with the literature review (Cannon et al., 2020; Le Brocque et al., 2017). Participants reported a positive change in the perspective of education. A renewed sense

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of purpose and determination in overcoming obstacles and serving school communities was reported among the research population.

The literature review suggested technology offering potential responses to flooding disasters (Jun & Ilhong, 2017; Lee et al., 2017; Niles et al., 2019). Findings in this study were consistent with the literature review. Specific, positive operational and academic changes noted were deployments of cloud-based records keeping, deployment of classroom technology tools, and deployment of school apps and communication utilities to keep the members of the school community informed.

A heightened awareness of unforeseen yet imminent catastrophes was reported. Increased sensitivity to human life and the overall human experience toward people experiencing catastrophic events in their lives was noted. Awareness of the need for additional emotional support training, community partnerships, alternate host-campus planning, and risk management and emergency funding considerations also emerged as positive changes.

Limitations

Creswell (2016) defined limitations as potential weaknesses or problems in the study which cannot be controlled. One limitation in qualitative phenomenological studies is the person conducting research brings personal experiences into the research which could lead to a natural limitation to objectivity (Pietkiewicz & Smith, 2014). The potential of participants being dishonest about their experiences can limit the study's effectiveness. Lack of responses and feedback can create limitation problems. The study consisted of 20 educational professionals working in (or who had worked in) Louisiana public and private school communities which could limit the number of experiences being examined. Participant bias is a limitation which may occur in any study. Researchers' presence during data gathering is unavoidable in qualitative phenomenological studies (Creswell, 2016; Filho, 2019). To eliminate bias, erroneous data, and presuppositions to the largest degree possible, the study was conducted by observation not participation. Observation was facilitated through being mindful of reflexivity, a process used to consistently reflect on the relationship between a researcher and the research to remain focused and unbiased (Pietkiewicz & Smith, 2014).

Reflexivity awareness in and of itself is a deterrent of potential limitations in data (Filho, 2019; Pietkiewicz & Smith, 2014). Various disasters, locales, experiences, and disaster scenarios were part of the research data collected which provided a generalized context of the data collected (Lincoln & Guba, 1985; Slabbert, 2018). Member checking of transcripts was employed to ensure the accuracy of the data and to address reflexivity considerations (Lincoln & Guba, 1985). Triangulation was accomplished through consistent virtual interviews with two different stakeholder groups (Creswell, 2016; Sántha, 2019). A broad research population among different groups helped to derive and to converge conformed and shared perceptions or meanings of research population experiences (Guion et al., 2011).

Reliability and Dependability

Reliability was ensured through a variety of methods. Epoche, or the act of refraining from preconceived conclusions, was observed in the study. Part of ensuring epoche was the use of inductive coding and theming based on the data drawn from the research population (Braun & Clarke, 2006); Thomas 2006). Codes and emerging themes were based on responses during interviews and NVivo 12 software analyses. Three SMEs conducted field tests before the study to ensure the open-ended research instrumentation was valid. Various disasters, locales, experiences, and disaster scenarios were among the research data collected. Dependability and confirmability in qualitative studies refer to the validity of the results of the study over time (Palinkas et al., 2015). Dependability was accomplished through techniques including member checking and triangulation to help ensure the data had elements of evaluation from the participants (Guion et al., 2011). Participants were required to be educators in Louisiana affirmatively acknowledging an experience in a flood-related disaster in a Louisiana school. All interviews used the open-ended interview guide approved by the SMEs. All interviews were conducted using the same virtual communications technology for no more than one hour. Performing the research in a consistent manner is necessary for research validity (Lincoln & Guba, 1985; Stahl & King, 2020).

Recommendations

The findings of the study indicate how a three-tiered offensive strategy in tandem with a three-tiered defensive strategy could readily and capably provide administrators with a mechanism for planning, positive change, and effective leadership related to flood disasters. From an offensive perspective, Louisiana K4-12 public and private schools should (a) proactively offer training regarding floods and emotional trauma, (b) create partnerships with other schools located reasonable distances away yet close enough to work with a flood-impacted school, and (c) use electronic tools within the classroom daily as a proactive tactic in case schools are forced to close.

Specialized Training

Regarding training, public and private K4-12 schools administrators in Louisiana should allocate resources to proactively train staff in dealing with the emotional and logistical problems arising from floods. By having staff properly trained and prepared for the sort of localized upheaval and psychological trauma germane to flood events, schools will have better results in both returning to normalized operations and helping students cope with the difficulties once schools are opened. Like fire drills and other disaster training exercises, emotional response training could be part of teacher in-service training as a matter of public policy.

School Partnerships

Administrators should develop strategies whereby a school or group of schools within a reasonable distance of the impacted school (yet far enough away to be outside of a localized flood) could be used as host schools while flood recovery continues. The plan could be symbiotic with the schools in agreement and partnership. While the host-school model was widely used and effective in helping establish a return to the classroom as communities recovered from floods, plans and logistics were often created ad hoc immediately after flood events. Ad hoc planning contributed to stress, administrative pressures, and uncertainty among flood victims. Additional planning before floods could help with the obstacles noted in the study's findings including logistics considerations, busing, lunch planning, break planning, return to academic and social normalcy, and ingress/egress during school start and dismissal times. Preplanning could also help reduce downtime for students, teachers, and families who are ready to return to the affected school community.

Deployment of Technology Tools

Importation of electronic classroom tools should be considered by administrators. The data in the literature review often supported technology-based initiatives in providing speedy recovery from disasters (Kaushalya et al., 2014; McNeely, 2013). Administrators should consider incorporating social media, a ubiquitous school app, and a consistent cloud-based educational platform such as Canvas or Google Docs in daily operations.

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Technological deployments should be part of the school's operational paradigm and not a backup strategy. Students and parents or other caregivers trained in using cloud-based educational classroom platforms could easily rely on these technology-driven solutions both immediately after floods and as school operations slowly get underway. Families dislocated for extensive periods wishing to return to the area impacted by floods could rely on these technological solutions for updates and instructions before returning. Participants with flood experiences before the COVID-19 crisis noted how the deployment of technology solutions postflood dramatically increased the school's ability to attend to the shutdowns related to the pandemic.

Defensive Strategy

Importing a three-tiered defensive strategy would be demonstrably beneficial to schools. Defensively, schools should (a) use cloud-based technology incorporated into daily school functions to maintain records and communication, (b) maintain appropriate savings and insurance policies, (c) and have community partnerships ready in the event help is needed during and after a disaster. The defensive strategy could import public and private resources.

Cloud-based Technology

Administrators should invest dollars into the use of cloud-based records-keeping software. Cloud-based technology deployments for records-keeping either pre-flood or postflood were successful for schools. The dual nature of cloud-based computing afforded participants the ability to have a daily platform for records keeping while simultaneously having real-time offsite backups. All participants noted the loss of paper resources. Deployment of cloud-based solutions could be considered a matter of public policy given the need and reliance schools, students, and families have on records.

Public and Private Resources

Administrators should understand the imperative nature of effective risk management and ensuring appropriate insurance policies protect schools. In addition to asset protection plans, significant cash reserves should be readily available to administrators in the event of a catastrophe. Administrators should consider being trained in public policy and procedures attending to FEMA and government grants before experiencing catastrophic events. The research population noted how working with FEMA often yielded financial assistance but with lengthy wait times and intense amounts of administrative effort. Schools with cash reserves and appropriate insurance policies in place were in a better position to recover quickly. FEMA and grants management training could be imported into graduate-level classes required for principals as a matter of public policy.

School leaders should proactively forge partnerships with local professionals and members of the school community willing to donate their time and resources to help hasten recovery. Partnerships should cross regions and state lines which would enable schools to have support systems beyond the flood-impacted areas. Partnerships could be symbiotic allowing partners to share time and resources if affected by disasters.

Community Partnerships

The literature review suggested community partnerships tend to have positive outcomes across business and educational organizations (Baham, 2017; Lee, 2017). In consideration of the framework of adaptive leadership and functional theory, leaders should be creative and proactive in their effort to prepare for disasters. Leaders should also recognize how communities can positively and negatively affect each other. In the case of community partnerships, proactive planning leads to positive results (Jones, 2018; Scarinci, 2014). Louisiana, flood-related disasters from 2005-2020 (e.g., Hurricanes Katrina, Rita, and Laura) resulted in devastating losses of human life, property, and normalcy (Davis et al., 2019). Yearly, disasters impact millions of people globally (Jones, 2018). Flood disasters from rainfall, tsunamis, hurricanes, typhoons and naturally occurring hydrologic cycles from global phenomena such as El Nino and La Nina have caused devastating losses of life and property (Deria et al., 2020). While this study is Louisiana-specific, the human experience, findings, and implications of the data could be helpful for professionals considering natural disasters at a global level given the comprehensive nature of the three-point offensive and defensive plans.

Further Studies

This study is Louisiana-specific. Disasters affect many communities globally every year (Davis et al., 2019; Jones, 2018). Additional research should be conducted to ascertain the impact of prevalent disasters affecting school communities. One natural disaster can destroy an entire school or series of schools within a small region. By better understanding the causes, effects, and appropriate responses to natural disasters, educational leaders can be prepared to deal with the impacts.

Implications for Leadership

The word used most often by research participants when describing flood experiences was "devastating." Educational leaders are vested with the trust of the people in communities served by schools. Careful consideration and forethought could help educational leaders respond to crises in a meaningful and planned manner.

Educational leaders should not wait for local, state, and federal governments to necessarily create policies requiring attention to disaster scenarios. While leaders have the option of becoming active in policy discussions, considerations of the data and recommendations of this study could make schools and school systems agents of positive change. By implementing the offensive and defensive strategies afforded in this study, educational leaders will be better equipped to present ideas and plans of action to stakeholders.

Administrators are provided with research data to support expenditures on offensive and defensive disaster strategies. Implementing the proactive and reactive recommendations noted could lessen downtime if disasters are experienced, streamline operations, employ cloud-based technology which could serve daily school functions and, as backup, create meaningful school and community partnerships, and guide administrators in creating risk management and budgetary plans. The combined impact could result in short- and long-term cost savings in addition to schools becoming models from which other leaders can glean valuable information about the impact of floods on educational systems.

Conclusion

The purpose of this qualitative phenomenological study was to understand the lived experiences of members of K4-12 public and private school communities impacted in Louisiana by flood disasters from 2005 to 2020. The five themes which emerged during the study were (a) emotional trauma, (b) loss of pertinent records and classroom resources, (c) downtime during and after flooding events, (d) required resources came from various sources during and after flood events, and (e) healthy life meanings and outcomes. Essential to the outcome of the study was a viable offensive and defensive plan which administrators can rely on as they plan for flood disasters.

Offensively, schools should (a) proactively offer training regarding floods and emotional trauma, (b) create partnerships with other schools located reasonable distances away yet close enough to work with a flood-affected school, and (c) use electronic tools within the classroom as

a daily procedure as a proactive tactic to school closures. Defensively, schools should (a) use cloud-based technology incorporated into daily school functions to maintain records and communication, (b) maintain appropriate savings and insurance policies, and (c) and have community partnerships ready in the event help is needed during and after a disaster. While the study focused on Louisiana floods, elements of the findings and recommendations may potentially be applied to various natural disasters nationally and globally since the same overall impact on affected schools could be the same.

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Appendix A

Invitation to Participate

Dear Research Study Invitee,

My name is Shane Milazzo, and I am a doctoral student at the American College of Education. I would like to please request your participation in a doctoral qualitative research study I am compiling named A Phenomenological Qualitative Study of Flood Disasters Experienced by Louisiana School Communities. The purpose of the qualitative phenomenological study will be to understand the lived experiences of K4-12 private and public school educators who experienced school flood disasters in Louisiana. The study will address how school educators and administrators in Louisiana interpreted flood-related events in preparing for, surviving during, and recovering from flood disasters while finding shared perceptions and meanings in the experiences among educators.

You are being asked to participate in a research study that will assist with finding perceptions, shared meanings, and shared commonalities among the research population. Conducting this qualitative methods study will help garner a better understanding of the professional educator experience during and after flood disasters in Louisiana. The research may will help find themes or potential recovery solutions for those who experienced Louisiana school flood-related disasters.

Participation is anonymous research study is voluntary and you may choose to withdraw from the study at any time if you wish. The research will be securely as per the requirements of the American College of Education Institutional Review Board (IRB). The IRB may be contacted at any time by emailing irb@ace.edu. If you would like to participate in this study, please read the informed consent letter attached. While there will be no direct financial benefit to you, your participation is likely to help us find out more about educators' experience in schoolrelated flood events. The potential benefits of this study will aid the recovery efforts of schools and decrease faculty, staff, and student hardships as school communities attend to disaster situations.

Thank you in advance for your willingness to participate in the study. Sincerely,

Shane J. Milazzo

Appendix B

Informed Consent

Prospective Research Participant: Read this consent form carefully and ask as many questions as you like before you decide whether you want to participate in this research study. You are free to ask questions at any time before, during, or after your participation in this research.

Project Information

Project Title: A Phenomenological Qualitative Study of Flood Disasters Experienced by

Louisiana School Communities

Researcher: Shane Milazzo

Organization: American College of Education

Email: shane.milazzo2025@my.ace.edu

Telephone: 337-654-5012

Researcher's Dissertation Chair: Dr. Tiffani Bateman

Organization and Position: Dissertation Chair

Email: tiffani.bateman@ace.edu

Introduction:

My name is Shane Milazzo, and I am a doctoral candidate student at American College of Education. I am doing research under the guidance and supervision of my Chair, Dr. Tiffani Bateman. I will give you some information about the project and invite you to be part of this research. Before you decide, you can talk to anyone you feel comfortable with about the research. This consent form may contain words you do not understand. Please ask me to stop as we go through the information, and I will explain. If you have questions later, you can ask them then.

Purpose of the Research

The purpose of the qualitative phenomenological study was to understand the lived experiences of K4-12 private and public school educators who experienced school flood disasters in Louisiana. The study will address how school educators in Louisiana interpreted flood-related events in preparing for, surviving during, and, and recovering from flood disasters while finding shared perceptions and meanings in the experiences among educators. You are being asked to participate in a research study that will assist with finding perceptions, shared meanings, and shared commonalities among the research population. Conducting this qualitative methods study will help garner a better understanding of the professional educator experience during and after flood disasters in Louisiana. The research may will help find themes or potential recovery solutions for those who experienced Louisiana school flood-related disasters.

Research Design and Procedures

The study will use a qualitative methodology and phenomenological research design. The study will be comprised of at least 20 professional Louisiana public or private school K4 through 12th grade educators and administrators, purposefully selected, who will participate in answering the research questions. The study will involve computer-mediated communication to be conducted online at times most convenient for participants. Interviews will be recorded in audio format only for the purposes of ensuring correct and accurate transcription. Participants will be sent transcripts from their interviews solely to ensure accurate transcription.

Participant Selection

You are being invited to take part in this research because of your experience as an educator or administrator in a K4 through 12 public or private school in Louisiana who experienced school flood events. Your experiences allow you to contribute much to the purpose

of the study. Your experiences meet the criteria for this study. Participant selection criteria are as follows:

- 1. A Louisiana professional educator or administrator in a K4-12 public or private school
- 2. Experienced a flood event affecting the school's operation

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate. If you choose not to participate, there will be no punitive repercussions and you do not have to participate. If you select to participate in this study, you may change your mind later and stop participating even if you agreed earlier.

Procedures

We are inviting you to participate in this research study. If you agree, you will be asked to participate in a computer-mediated communication interview. The type of questions asked will attend to a qualitative phenomenological study that seeks to find perceptions, shared meanings, and shared commonalities among the research population. Research questions will generally be open-ended so that you can convey experiences accordingly.

Duration

The virtual interviews portion of the research study will require approximately 15 minutes to complete. You can additional time as needed to fully convey your experiences pertaining to the research questions.

Risks

The researcher will ask you to share personal and confidential information, and you may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the discussion if you don't wish to do so. You do not have to give any reason for not responding to any question.

Benefits

While there will be no direct financial benefit to you, your participation is likely to help us find out more about educators' experience in school-related flood events. The potential benefits include aiding the recovery efforts of schools and decrease faculty, staff, and student hardships as school communities attend to disaster situations.

Reimbursement

As a result of your participation in this research study, you will receive a complimentary copy of the dissertation once it is approved by the committee.

Confidentiality

I will not share information about you or anything you say to anyone outside of the researcher. During the defense of the doctoral dissertation, data collected will be presented to the dissertation committee. The data collected will be kept in a locked file cabinet or encrypted computer file. Any information about you will be coded and will not have a direct correlation, that directly identifies you as the participant. Only I will know what your number is, and I will secure your information.

Sharing the Results

At the end of the research study, the results will be available for each participant. It is anticipated to publish the results so other interested people may learn from the research.

Right to Refuse or Withdraw

Participation is voluntary. At any time, you wish to end your participation in the research study, you may do so without repercussions.

Questions About the Study

If you have any questions, you can ask them now or later. If you wish to ask questions later, you may contact me or my committee chair at any time. This research plan has been reviewed and approved by the Institutional Review Board of American College of Education. This is a committee whose role is to make sure research participants are protected from harm. If you wish to ask questions of this group, email <u>IRB@ace.edu</u>.

Certificate of Consent

I have read the information about this study, or it has been read to me. I acknowledge why I have been asked to be a participant in the research study. I have been provided the opportunity to ask questions about the study, and any questions have been answered to my satisfaction. I certify I am at least 18 years of age. I consent voluntarily to be a participant in this study.

Print or Type Name of Participant:

Signature of Participant: _____

Date:

I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily. A copy of this Consent Form has been provided to the participant.

LOUISIANA FLOOD DISASTERS

Print or type name of lead researcher:

Signature of lead researcher:

Date:

PLEASE KEEP THIS INFORMED CONSENT FORM FOR YOUR RECORDS.

Appendix C

Site Permission



My name is Shane Milazzo and I am a doctoral candidate at American College of Education (ACE) writing to request permission to virtually interview applicable personnel in your organization that meet the criteria of the research study. The qualitative phenomenological study being conducted calls for virtually interviewing principals and teachers who experienced flooding events impacting schools in Louisiana. This information will be used for my dissertation research related to *A Phenomenological Qualitative Study of Flood Disasters Experienced by Louisiana School Communities.*

Participant numbers: At least 20 educators and administrators from around the state of Louisiana that meet the stated criteria. Participants will receive a complimentary copy of the approved dissertation.

Important Contacts for this study include:

Principal Investigator: Shane J. Milazzo

E-mail: shane.milazzo2025@my.ace.edu

Phone: 337-654-5012

Dissertation Chair: Dr. Tiffani Bateman

E-mail: tiffani.bateman@ace.edu

	Thank you for your attention to this issue and prompt response. I appreciate your time
ind co	onsideration of my request.
	Regards,
	Share J . Milazzo
ite P	ermission Granted:

A total of 8 site permission forms were approved during the study.

Appendix D

Subject Matter Experts Agreeing to Review Items

SME Agreement 1

Email from Subject Matter Experts Agreeing to Review Items

February 23, 2021

Retired K4-12 Public School Teacher with more than 35 years experience

Dear Mr. Milazzo and ACE Dissertation Committee:

My name is **Constant and I** am a subject matter expert in the field of education or flood disasters. I have reviewed the research questions posed in the qualitative phenomenological study by Mr. Shane Milazzo in partial fulfillment of ACE dissertation requirements and I concur that the research questions are appropriate and relevant in this field of study. The research questions submitted to me were:

Research Question 1: What are educator and school leaders' experiences regarding the allocation of resources in efforts to rebuild the school community after flood-disasters in Louisiana public and private K4-12 schools?

Research Question 2: What are the experiences of educators and school leaders in Louisiana public and private K4-12 schools in being able to maintain operational status and academic rigor after a flood-disaster?

Research Question 3: What are educator and school leaders' experiences regarding recovery efforts made by K4-12 public and private school communities in Louisiana in response to flood disasters?



SME Agreement 2

Email from Subject Matter Experts Agreeing to Review Hems

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February 23, 2021

Section Charf-Public Assistance Technical Services

Dear Mr. Milazzo and ACE Dissertation Committee

My name is a subject matter expert in the field of education or thood detasters. I have reviewed the research questions posed in the qualitative phenomenological study by Mr. Shane Milazzo in partial fulfillment of ACE dissertation requirements and I concur that the research questions are appropriate and relevant in this field of study. The research questions submitted to me were:

Research Question 1: What are educator and school leaders' experiences regarding the allocation of resources in efforts to rebuild the school community after flund-disasters in Louisiana public and private K4-12 schools?

Research Question 2: What are the experiences of educators and school leaders in Louisiana public and private K4-12 schools in being able to maintain operational status and academic rigor-after a flood-disaster?

Research Question 3: What are educator and school leaders' experiences regarding recovery efforts made by K4-12 public and private school communities in Louisiana in response to flood disasters?

Sincerely:

SME Agreement 3

February 23, 2021

State Application Liaison, Public Assistance

Dear Mr. Milazzo and ACE Dissertation Committee:

My name is and 1 am a subject matter expert in the field of education or flood disasters. I have reviewed the research questions posed in the qualitative phenomenological study by Mr. Shane Milazzo in partial fulfillment of ACE dissertation requirements and I concur that the research questions are appropriate and relevant in this field of study. The research questions submitted to me were: *Research Question 1: What are educator and school leaders' experiences regarding the allocation of resources in efforts to rebuild the school community after flood-disasters in Louisiana public and private K4-12 schools? Research Question 2: What are the experiences of educators and school leaders in Louisiana public and private K4-12 schools in being able to maintain operational status and academic rigor after a flood-disaster? Research Question 3: What are educator and school leaders "experiences regarding recovery: efforts made by K4-12 public and private school communities in Louisiana in response to flood disasters?*



Appendix E

Field Test Feedback Modifications Form

[Date]:

[Name of Subject Matter Expert]:

[Title of Subject Matter Expert]:

Dear Mr. Milazzo and ACE Dissertation Committee:

My name is [name of subject matter expert] and I am a subject matter expert in the field of education or flood disasters. I have reviewed the research questions posed in the qualitative phenomenological study by Mr. Shane Milazzo in partial fulfillment of ACE dissertation

requirements and I recommend the following modifications (list all modifications):

Sincerely:

[Name of subject matter expert

[E-mail of subject matter expert]:

[Phone number of subject matter expert]:

Appendix F

Open-ended Interview Questions

- 1. What flood-related disasters have you experienced as an educator or administrator?
- 2. What is your perception of how the flood-related disasters impacted school operations?
- 3. What is your perception of how the flood-related disasters impacted students academically?
- 4. What is your perception of how the flood-related disasters impacted students emotionally?
- 5. Describe your overall perceptions of the flood-related disasters.
- 6. What life lessons and meanings did you derive from flood-related disaster experiences?
- 7. Describe changes made in school operations as a result of flood-related experiences.
- Describe changes made in school disaster-planning and recovery as a result of floodrelated experiences.
- 9. Describe how technology may have been used to address flood-related disasters or to plan for future flood-related disasters.
- 10. Is there anything else you would like to add to this interview? If so, please do so now.