

DISSERTATION

EDUCATIONAL CONTINUITY FOLLOWING THE 2013 COLORADO FRONT RANGE
FLOODS: A CASE STUDY OF LYONS ELEMENTARY AND MIDDLE/SENIOR HIGH
SCHOOLS

Submitted by

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ABSTRACT

EDUCATIONAL CONTINUITY FOLLOWING THE 2013 COLORADO FRONT RANGE FLOODS: A CASE STUDY OF LYONS ELEMENTARY AND MIDDLE/SENIOR HIGH SCHOOLS

Educational continuity is a complex social process where school, school district, and community leaders work together to continue providing education and all other school-based services for students following a disaster. Schools are vital social institutions that serve a variety of functions for students and communities and are integral to post-disaster response and recovery activities. Moreover, schools can offer protective mechanisms when they continue to care for and educate students following a crisis. However, current literature pays little attention to the organizational capacity of school districts to respond to disasters and what district-and school-level characteristics create the context for educational continuity. This research begins to fill this gap by exploring how the St. Vrain Valley School District (SVVSD) prepared for, responded to, and continued to educate Lyons students following the 2013 Colorado Front Range Floods. This dissertation draws from organization theory, school management, and disaster sociology literatures to frame the educational continuity process for Lyons Elementary and Middle/Senior High Schools.

The research questions that guide this dissertation are: 1) How did Lyons Elementary and Middle/Senior High Schools and the St. Vrain Valley School District keep students and staff together after the 2013 Colorado Front Range Floods? 2) What was the pre-existing social context that allowed school administrators to prioritize educational continuity for Lyons students? and 3) What resources were needed and what actions were taken by Lyons Elementary

and Middle/Senior High School staff to continue operations and assist students in recovering from the disaster? To answer these questions, I conducted a qualitative case study that included: 1) semi-structured in-depth interviews with 67 key community leaders, district administrators, school administrators, teachers, counselors, parents, and students involved in the educational continuity process; and 2) the analysis of secondary data in the form of preparedness plans, student created photo and story books, demographic information, and official and personal documents generated in response to the flood.

Findings from this dissertation research revealed five major influences that contributed to educational continuity for Lyons students. First, the school district purposefully dedicated time and resources to preparedness planning. This included employing a full-time emergency manager who developed and carried out critical training exercises prior to the flood. The knowledge gained from these activities contributed to the capacity of the school district to swiftly resume classes for students at a new location just eleven days after floodwaters displaced Lyons residents. Second, the school district had a well-established organizational ethos that was built on distributed control, dedication to students, strong social bonds, and a reciprocity of trust between and across organizational members. Third, this organizational ethos was developed with and supported by the superintendent of the district, who had a documented history and lauded reputation of being a strong and compassionate leader with years of experience. Fourth, parents, teachers, staff, and administrators were dedicated to helping students recover. School level efforts to facilitate recovery included establishing routine and stability, allowing space for flexibility and adaptability, and implementing the use of creative methods such as art and storytelling. Fifth, the above efforts were, in part, made possible because of the socioeconomic and demographic characteristics of the school district and the community of Lyons. The SVVSD has a robust fiscal budget that provided the immediate financial resources necessary to reopen

school quickly. The district and school staff are highly educated, well-trained, and have many years of experience, which made them well-equipped to respond to this event. Furthermore, like the demographics of the school district, Lyons is a mostly white, educated, upper-middle class community. Therefore, community leaders and families were able to draw upon their own education and social, cultural, and material resources to help facilitate the smooth transition and educational continuity process for Lyons students.

This dissertation operationalizes the concept of educational continuity and offers clear examples for how to plan for this process. Further, it contributes theoretically by advancing understanding of how preexisting organizational structures and management styles influence disaster recovery. Based on the findings from this research, I argue that schools and school districts should be more formally integrated into community level disaster preparedness and response frameworks and better utilized as emergent organizations when disasters strike. Finally, this dissertation contributes methodologically, by offering an in-depth case study for school district emergency managers to draw from when creating their own educational continuity plans. This work also reveals the need for more research to examine and measure preparedness, response, and recovery efforts and the organizational capacity of schools across a variety of locations and social contexts.

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cheering me on as I defend this dissertation. I am so very grateful for all the years I got to love you, hug you, laugh with you, and have you in my life; it ended much too soon.

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Laurie Carlson, thank you for agreeing to be an outside member of my dissertation committee. Your experience in education research and school counseling is such an important

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DEDICATION

This dissertation is dedicated to Gabriel James Gurley and Ella Jade Gurley. You are the light of my life, the love in my heart, and the best part of each of my days. Thank you for supporting and loving me as I worked to reach this goal. Your kindness, love, and boundless humor make this world a better place. I am so proud of you and so lucky to get to be your mama. I love you to the moon and back and forever before and forever after!

TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGEMENTS	v
DEDICATION	ix
LIST OF TABLES	xiv
LIST OF FIGURES	xv
CHAPTER 1: INTRODUCTION.....	1
Disaster Context	1
Lyons Elementary and Middle/Senior High Schools	6
Purpose of the Study.....	8
Theoretical Basis of the Study.....	11
Research Design	12
Research Questions	13
Significance of the Study.....	13
Dissertation Overview	14
CHAPTER 2: LITERATURE REVIEW.....	15
Foundations of Organization Theory.....	16
<i>Organizations as Social Structures</i>	17
Schools as Organizations.....	20
<i>School Management</i>	24
Disaster Sociology.....	27
<i>Emergency Management Organizations</i>	30
<i>Social Vulnerability and Disasters</i>	32
Class	33
Race	35
Age	37
<i>Educational Continuity</i>	40
Discussion.....	42
CHAPTER 3: RESEARCH METHODS.....	46
Research Design	47
<i>Research Questions</i>	48
<i>Qualitative Case Study Methods</i>	49

<i>Limitations of Case Studies</i>	50
Research Setting	50
<i>St. Vrain Valley School District</i>	52
St. Vrain Valley School District Employee Demographics	55
<i>Lyons Elementary School</i>	56
<i>Lyons Middle/Senior High School</i>	57
Data Collection	57
<i>Sampling</i>	59
Levels of Analysis	61
Dissertation Sample.....	64
<i>Gaining Entree</i>	66
<i>Participant Recruitment</i>	67
<i>Interviews</i>	68
<i>Secondary Data</i>	70
Data Management and Analysis	71
Ethical Considerations and Limitations.....	73
Personal Biography	76
CHAPTER 4: RESPONDING TO DISASTER	78
Community Response.....	79
District Response.....	83
<i>Safety and School Closures</i>	84
<i>Communication</i>	88
Communication Breadth and Depth	91
<i>Financial and Material Resources</i>	92
McKinney-Vento Act	92
District Operating Budget.....	95
Organizing Displacement	98
<i>Building Space</i>	100
<i>Displacing Main Street Students</i>	101
<i>Building Renovations</i>	103
<i>School Supplies</i>	104
<i>Transportation</i>	107
<i>Scheduling</i>	112
<i>Counseling Services</i>	113

Returning Home	115
Conclusion.....	116
CHAPTER 5: CREATING THE CONTEXT FOR SUCCESS	118
Emergency Preparedness.....	118
<i>Plans and Procedures</i>	119
<i>Emergency Management Staff</i>	125
<i>Training and Preparedness Exercises</i>	126
<i>Plan Implementation</i>	130
Organizational Leadership.....	131
<i>Superintendent, St. Vrain Valley School District</i>	133
Organizational Ethos	139
<i>Distributed Control</i>	140
<i>Dedication to Students</i>	142
<i>Social Bonds and Attachments</i>	144
<i>Trust, Communication, and Collaboration</i>	146
Reciprocity of Trust.....	146
Transparent Communication	148
Collaboration and Teamwork	149
Conclusion.....	152
CHAPTER 6: FACILITATING RECOVERY	153
Recovery Through Routine and Stability	154
<i>Keeping Students Together</i>	155
<i>Extracurricular Activities and School Traditions</i>	156
<i>Counseling Services</i>	158
Recovery Through Flexibility and Adaptability.....	160
<i>Attendance</i>	161
<i>Curriculum</i>	162
Recovery Through Art and Storytelling	165
<i>Through Our Eyes</i>	166
<i>Our Town Our Story</i>	171
<i>One Million Faces</i>	178
Conclusion.....	182
CHAPTER 7: CONCLUSION	184
Theoretical Implications	186

<i>Schools as Extending Organizations</i>	187
<i>Organizational Ethos and Disaster</i>	188
<i>Relationship Building and Communication</i>	190
Practical Contributions	192
<i>Recovery Planning</i>	192
<i>School-Community Partnerships</i>	194
<i>Community Resilience</i>	195
Future Research Directions	196
<i>Methodological Approaches</i>	196
<i>Diverse Locations, Contexts, and Hazard Types</i>	198
<i>Organizational Capacity</i>	198
Concluding Remarks	199
REFERENCES	201
APPENDIX A: INTERVIEW GUIDES	221
APPENDIX B: CONSENT AND ASSENT FORMS.....	227
APPENDIX C: RECRUITMENT FLYER	235
APPENDIX D: TRANSCRIPTION CONFIDENTIALITY AGREEMENT	236

LIST OF TABLES

Table 2.1 DRC Typology	31
Table 3.1 2013-2014 Demographic Information for Lyons Elementary School.....	56
Table 3.2 2013-2014 Demographic Information for Lyons Middle/Senior High School	57
Table 3.3 Overview of a Case Cluster Sampling Procedure Using Grapevines as Units of Analysis	60
Table 3.4 Breakdown of Participant Categories by Cluster Type	61
Table 4.1 School Closures for SVVSD	88
Table 4.2 St. Vrain Valley School District Budget Summary.....	96
Table 4.3 Amended St. Vrain Valley School District Budget Summary	97
Table 4.4 St. Vrain Valley School District Flood Expenses	98

LIST OF FIGURES

Figure 1.1 County Disaster Declarations Eligible for Public and/or Individual Assistance	2
Figure 1.2 Average Rainfall During the 2013 Colorado Front Range Floods	4
Figure 1.3 Damaged or Destroyed Structures, Pre-flood Stream Channels, Inundation Areas, and Flood Plain Lines.....	5
Figure 1.4 Aerial Photograph of Bridge and Road Damage Due to Rivers Re-routing During the 2013 Floods	7
Figure 1.5 Phases of the Disaster Life Cycle.	11
Figure 2.1 Components of Complexity Theory.....	23
Figure 3.1 Map Showing Location of Lyons, Colorado.....	51
Figure 3.2 Boundaries of the St. Vrain Valley School District and Lyons Schools.....	54
Figure 3.3 St. Vrain Valley School District Organizational Chart, 2013	55
Figure 3.4 Dissertation Sample by Role.....	65
Figure 3.5 ATLAS.ti Codebook	73
Figure 4.1 2013 Lyons Flood Timeline	79
Figure 4.2 School Displacement Timeline	84
Figure 4.3 Email Communication from Lyons School Administrators	90
Figure 4.4 Main Street School in Longmont, Colorado Photo Credit: St. Vrain Valley School District.	102
Figure 4.5 Communication and Map of Alternative Bus Routes	108
Figure 4.6 Email Communication: Reopening Lyons Schools	116
Figure 5.1 Five Mission Areas: FEMA P-1000 Guide to Improving Natural Hazard Safety in Schools	120
Figure 5.2 FEMA’s Continuity of Operations Program Management Cycle.....	122
Figure 5.3 St. Vrain Valley School District Organizational Chart.....	133
Figure 5.4 Interview, Dr. Don Haddad and the Superintendent Center	136
Figure 5.5 Reciprocity of Trust	147
Figure 6.1 Disaster Recovery for Lyons Students.....	154
Figure 6.2 Cover Image of <i>Through Our Eyes: Lyons Elementary Students Remember 2013 Flood</i>	166
Figure 6.3 Poems and Stories in <i>Through Our Eyes</i> , Created by Lyons Elementary Students...	168
Figure 6.4 Poems and Stories in <i>Through Our Eyes</i> , Created by Lyons Elementary 4 th Grade Students	170
Figure 6.5 Cover Image of <i>Our Town, Our Story: The Lyons Flood of 2013</i>	171

Figure 6.6 Photostory by Joe Christiansen in <i>Our Town, Our Story: The Lyons Flood of 2013</i>	173
Figure 6.7 Photostory by Hannah Baker in <i>Our Town, Our Story: The Lyons Flood of 2013</i> ...	174
Figure 6.8 Photostory by Cole Bonde in <i>Our Town, Our Story: The Lyons Flood of 2013</i>	175
Figure 6.9 Photostory by Creed Guidice in <i>Our Town, Our Story: The Lyons Flood of 2013</i> ...	176
Figure 6.10 Photostory by Colleen McGuire in <i>Our Town, Our Story: The Lyons Flood of 2013</i>	177
Figure 6.11 Students Participating in the One Million Faces Project	178
Figure 6.12 Lyons Elementary Students Creating Collages for the One Million Faces Art	180
Figure 6.13 <i>One Million Faces</i> Mural at Lyons Elementary School	181

CHAPTER 1: INTRODUCTION

In the early morning of September 12, 2013, residents of Lyons, Colorado awoke to the sound of roaring flood waters and debris crashing down the north and south forks of the St. Vrain Valley Creek and its adjacent canyons. While some were safe in their homes on higher ground, others were already wading through flooded areas to hike and climb to safety, carrying only what they could manage on their own. Word spread quickly among families with children that school would be closed that day. Little did they know, it would be over 11 weeks before they would return to Lyons Elementary and Middle/Senior High Schools.

This disaster, now named the *2013 Colorado Front Range Floods*, turned out to be one of the most severe hydrological events in the state's history (Cervone et al. 2016). This dissertation explores how the St. Vrain Valley School District (SVVSD) implemented a plan to keep students and staff of Lyons Elementary and Middle/Senior High Schools together during the temporary displacement process. In this work, I am using and theoretically developing the concept of *educational continuity*, which I define as a complex social process where school, school district, and community leaders work together to continue providing education and all other school-based services for students following a disaster. It is important to note, however, that the school district did not use this term to describe their preparedness plans or response efforts. Yet, as I will show, through their organizational structures and leadership, they managed to keep over 700 students safe and together after one of the most catastrophic disasters in Colorado history.

Disaster Context

In just eight days, Colorado received as much precipitation as is usually expected across an entire year. The heavy rains that drenched this typically parched state resulted in flash flooding in river systems along the front range of the Rocky Mountains. As the water met ground

that was hardened and scarred from widespread wildfires and drought in previous years, as well as a late summer heat in 2013 (Gochis, Schumacher, Friedrich et al. 2015), communities across the northeastern quadrant were inundated. The storm and subsequent flooding caused 10 deaths and 218 injuries and led to the evacuation and forced relocation of 18,147 residents (FEMA 2014). The Federal Emergency Management Agency (FEMA) designated 18 of Colorado's 64 counties as eligible for individual and/or public assistance: Adams, Arapahoe, Boulder, Clear Creek, Crowley, Denver, El Paso, Fremont, Gilpin, Jefferson, Lake, Larimer, Lincoln, Logan, Morgan, Sedgwick, Washington, and Weld (see Figure 1.1 for a map of federal disaster declarations) (Colorado Recovery Information 2015). Within these hard-hit counties, more than 28,000 people registered for assistance and over 21,000 visited disaster recovery centers (Gochis et al. 2015).

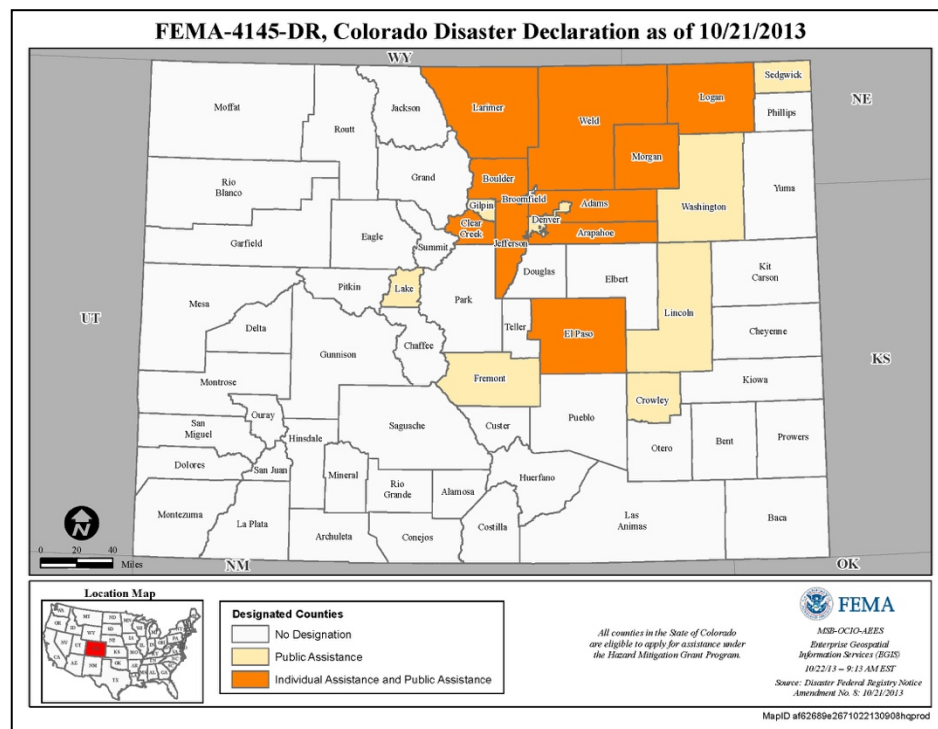


Figure 1.1 County Disaster Declarations Eligible for Public and/or Individual Assistance (FEMA 2013)

For many residents of Colorado, the impact of the flood was devastating. Across the 18 affected counties, 1,882 residential structures were destroyed, and 16,101 others were damaged

(FEMA 2014). As a consequence of flooding, over 1,000 bridges required inspection, 500 were completely destroyed, and 200 miles of highway in Colorado were washed away (Cervone et al. 2016). Many bridges and roads collapsed completely, leaving residents stranded in their communities with no accessible routes to safety (Colorado National Guard Public Affairs 2013). This led to the largest U.S. airlift evacuation since Hurricane Katrina in 2005 (Colorado National Guard Public Affairs 2013). Recent estimates suggest that the final cost of this disaster will approach \$4 billion in damages, making it the most costly in state history (Aguilar and Bunch 2015).

Boulder County is located along the foothills of the Rocky Mountains to the northwest of the capital city of Denver. It was, by a variety of indicators, the county hardest hit by the flood. It began raining lightly in Boulder County on September 9, 2013, and then increased to four days of heavy rainfall ranging from 9.08 to 17 inches per day between September 12 and September 15, 2013 (see Figure 1.2 for rainfall accumulation) (Boulder County Flood Recovery 2013). To put this in context, Colorado typically receives an average of 14.6 inches of rainfall *per year* (U.S. Climate Data 2010). The city of Boulder ranks number one for flash flood risk in Colorado but has spent more than \$44.8 million dollars on flood mitigation projects since 1997 (City of Boulder 2018). These efforts were largely inspired by the work of the late eminent geographer Gilbert F. White, who is widely known as the father of floodplain management. The relatively minimal damage experienced in the city of Boulder, given the severity of the flash flooding, is in large part due to years of mitigation work (Colorado 2017). Nevertheless, other areas within Boulder County, such as Lyons, did not fare so well.

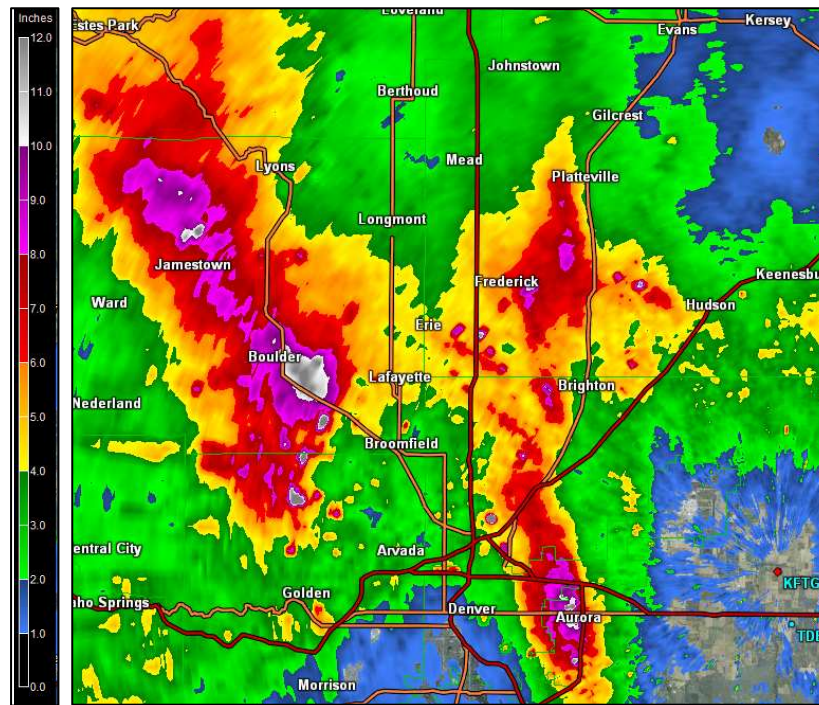


Figure 1.2 Average Rainfall During the 2013 Colorado Front Range Floods (Daniel 2013, Earthsky.org)

Lyons is located 17 miles north of the city of Boulder. Lyons is a small mountain town that sits along the St. Vrain Creek, which increased to ten times its normal size and drew a new course during the September 2013 flooding (Lyons Recovery Action Plan 2014). All five entrances to Lyons were destroyed and the community was divided into six islands in the historic floods (Pittman 2014). Residents and visitors who were in Lyons during the flood were isolated for 36 hours as they waited for the National Guard to be able to access the community and begin the evacuation of the approximately 2,000 people stranded on the islands (Pittman 2014; Town of Lyons 2013). The flooding caused a near complete loss of power, telephone services, sewage, and potable water and many public facilities were damaged or destroyed including the public works building, sewage treatment plant, the town hall, and the local public library (Lyons Recovery Action Plan 2014). Overall, 211 of the 960 homes in Lyons were affected with 84 of those sustaining significant damage (see Figure 1.3 for a map of flooded areas and structural loss in Lyons) (Pittman 2014). Most residents of Lyons were not able to return to their homes or

community until late October, nearly six weeks after the floods (Lyons Recovery Action Plan 2014). All businesses were closed for a minimum of seven weeks and many were unable to return for closer to 12 weeks (Pittman 2014).

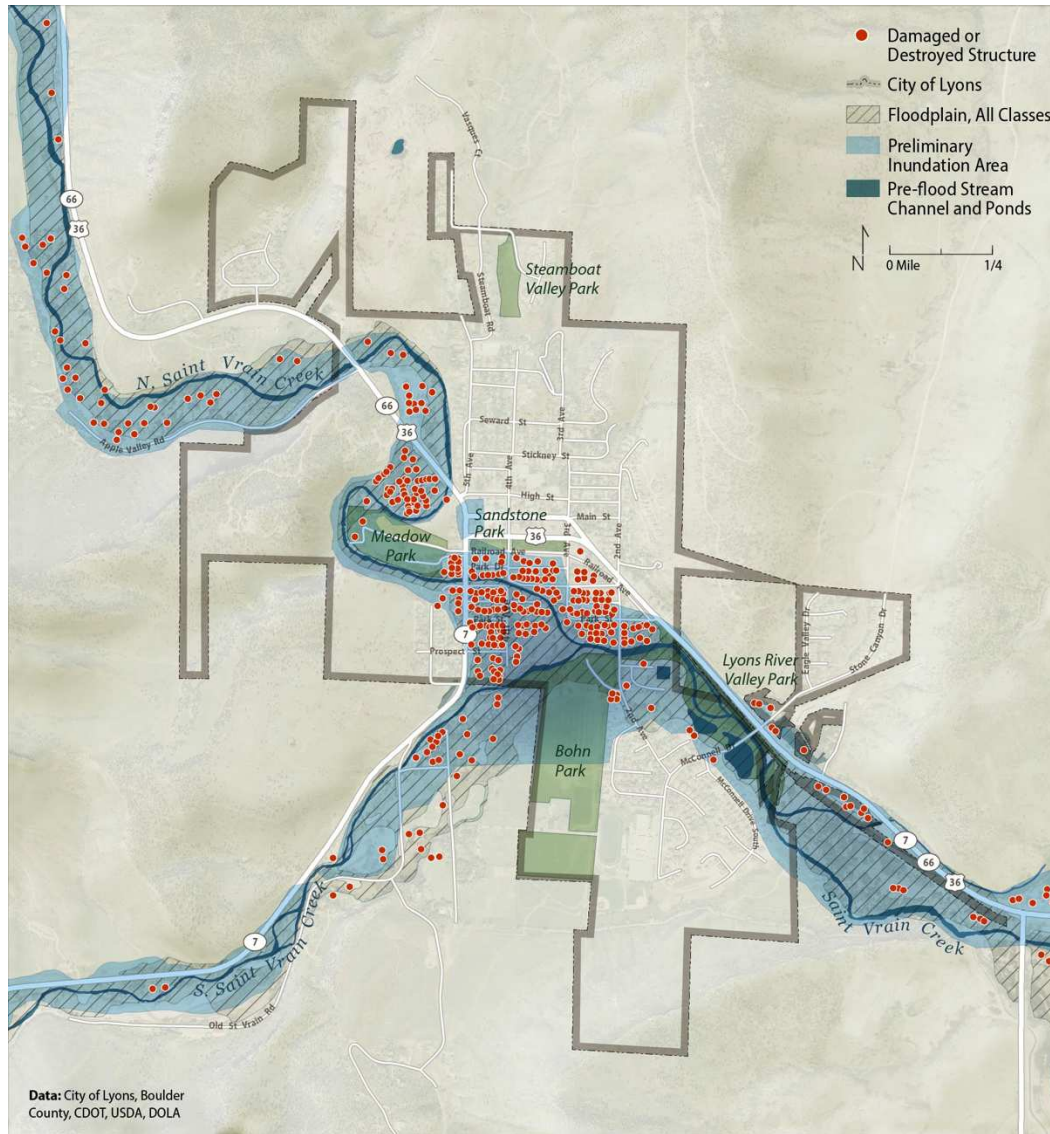


Figure 1.3 Damaged or Destroyed Structures, Pre-flood Stream Channels, Inundation Areas, and Flood Plain Lines (City of Lyons, Boulder County, CDOT, USDA, DOLA 2013)

Lyons Elementary and Middle/Senior High Schools

In the days and weeks following the flood, crucial decisions had to be made about restoring roads, bridges, and infrastructure so that residents could return safely to their homes to begin cleanup and reconstruction. Amidst all the post-flooding chaos, there were 744 Preschool through 12th grade students who should have been starting their fourth week of the 2013-2014 academic school year (Lyons Recovery Action Plan 2014:42). Although Lyons Elementary and Middle/Senior High Schools escaped the flood damage, the buildings were inaccessible to students and staff due to the massive destruction in other parts of the community, including lost transportation routes, flood debris, power outages, and water contamination (see Figure 1.4 for an aerial view of the flood damage and its geographic relation to Lyons Middle/Senior High School; Lyons Elementary is located northwest of the region shown on this map) (Lyons Flood Recovery Plan 2014).



Figure 1.4 Aerial Photograph of Bridge and Road Damage Due to Rivers Re-routing During the 2013 Floods

On September 19, 2013, the SVVSD implemented a plan to keep Lyons Elementary and Middle/Senior High Schools together (St. Vrain Valley School District 2013). Within one week of the floods—and with the feedback and collaboration of principals from both schools—the school district announced on their website that they would resume classes on a staggered start beginning the week of September 23, 2013, just 12 calendar days after the floodwaters ravaged Lyons (St. Vrain Valley School District 2013). Both schools were ultimately reopened as announced, just 11 miles east of Lyons at Main Street School in Longmont. The students, faculty, and staff met on their regular class schedule for nearly three months at the temporary location until they finally returned to their home schools on December 2, 2013 (Lyons Recovery Action Plan 2014).

Purpose of the Study

This dissertation is based on the premise that “Students can reach their full educational potential only when they are happy, healthy and safe and where a positive school culture exists to engage and support them in their learning” (Parliament of Victoria 2010:43). Schools are consistently identified as one of the strongest protective institutions for children’s well-being following a major disaster event (Fothergill and Peek 2015; Masten and Narayan 2012). Yet, little research is available to offer guidance on how schools should plan for student displacement, what resources make continuing education and school-based services possible after a disaster, and how educational continuity influences student, family, and community recovery.

In the United States, approximately 55 million children attend public and private schools each year (U.S. Department of Education 2013). Although this varies by state, most laws require approximately 180 days of school to be attended per year by children between the ages of six and eighteen (Bush, Ryan and Rose 2011). Families entrust that during this time, schools will both educate children according to state and federal standards as well as ensure that they are safe from environmental harms and threats such as violence, epidemics, and/or major accidents and disasters (U.S. Department of Education 2013). Therefore, school districts around the country take a variety of approaches to planning for school safety. The most common method to disaster planning for schools is to draw from local and state emergency management and community partners to create a district specific Emergency Operations Plan (EOP).

In March 2011, President Obama signed *Presidential Policy Directive (PPD)8*, which is a national directive on disaster preparedness centered around five key areas: Prevention, Protection, Mitigation, Response, and Recovery. This directive drove significant advancements in school preparedness planning and informed national guidance for high quality school operations plans, such as *Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard*

Safety (FEMA 2017; U.S. Department of Education 2013). One key element of these newer plans is an added focus on Continuity of Operations (COOP). Inspired by a long history of Business Continuity Planning (BCP) in the United States (Ketterer, Price and McFadden 2008), and established international best practices for school safety and disaster risk reduction (Petal 2008)—such as the *Comprehensive School Safety* framework (UNISDR 2017) and the *Sendai Framework for Disaster Risk Reduction 2015-2030* (UNISDR 2015)—current school COOP plans focus on “how a school and district will help ensure that essential functions continue during an emergency and its immediate aftermath” (U.S. Department of Education 2013:32). In addition to outlining how a district would maintain essential operations, communications, facilities, security, and a continuity of teaching and learning, these reports also recommend that school plans outline how they would handle lost instructional days, assign alternate school sites for displaced students, develop online learning tools when physical attendance is not possible, and maintain remote or cloud-based back-ups of educational records (Petal 2008). Unfortunately, despite this growth in attention around school preparedness, most K-12 schools in the U.S. still lack well thought out and exercised EOP and COOP plans (Andreasen 2011).

Even as studies on disaster mitigation and preparedness continue to expand rapidly, there is still a dearth of academic research available to support decision making processes around student and school displacement following disasters in the United States. Youth who are displaced from school for extended periods of time due to a disaster tend to have higher dropout rates, increased criminal activity, lower grades, and suffer from other educational and behavioral problems (Barrett, Ausbrooks, and Martinez-Cosio 2008; Fothergill and Peek 2015; Masten and Narayan 2012; National Forum on Education Statistics 2010). Peek (2008) points to missed school days as a leading contributor to the vulnerability of children, families, and their

communities and calls for more research to focus on how organizations—such as schools—work to protect and support children following disaster.

Hurricane Katrina led to several new studies on children, schools, and education in the context of disaster. The storm and subsequent flooding resulted in the destruction of over 700 schools and the displacement of over 370,000 students (National Forum on Education Statistics 2010). Two months following Katrina, there were still 138,000 children not attending classes and approximately 20,000 to 30,000 students missed an entire academic year (National Forum on Education Statistics 2010). This tragedy put student displacement in the spotlight as researchers began documenting the negative impacts of long-term disruptions in the developmental, psychological, educational, behavioral, and social trajectories of students (Barrett et al. 2008; Fothergill and Peek 2012; Fothergill and Peek 2015; Peek 2012; Weems and Graham 2014) as well as lessons learned about what helped “Katrina kids” recover after being displaced far from their homes and schools of origin (Peek and Richardson 2010).

Since Katrina, many organizations have been working to improve the disaster plans for schools across the United States and internationally. There is mounting evidence that when properly prepared, schools can and do buffer the negative impacts of disaster by reestablishing daily routines for students, providing a community meeting place for parents, offering students healthy activities, peer interaction, and physical and mental health services, and providing a system of support and leadership to the community (Barrett et al. 2008; Fothergill and Peek 2015; Lai, Esnard, Lowe, and Peek 2016; Masten and Narayan 2012). Therefore, it is vital that school districts plan for each phase of the disaster life cycle *prior* to a disaster occurring to ensure that students begin attending school as quickly as possible following displacement (see Figure 1.5 for the disaster lifecycle).

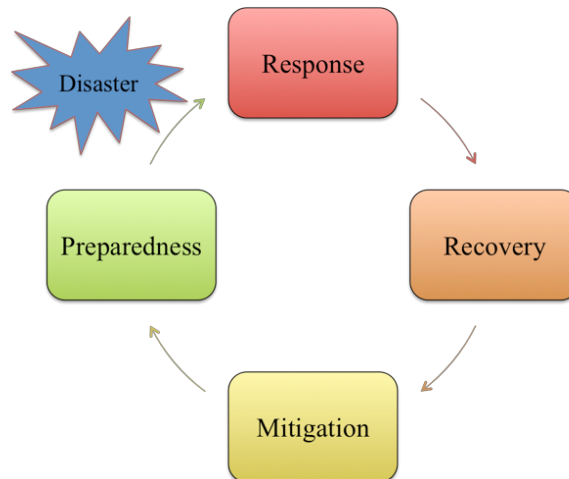


Figure 1.5 Phases of the Disaster Life Cycle.

Following their research of kindergarten through 12th grade students who were displaced from Hurricane Katrina, Picou and Marshall (2007:778) recommended, “Future studies should attempt to collect systematic data on the educational impacts of disasters directly from students, families, teachers, and administrators, and on the social problems associated with the transition to host school systems.” This dissertation builds on this recommendation by providing a case that elucidates how a positive recovery and educational continuity trajectory is possible when school districts are well-prepared, well-staffed, and have the knowledge and resources available to act before and after a disaster for the safety and well-being of the students and families they serve.

Theoretical Basis of the Study

To theoretically situate the process of educational continuity following disaster, I draw from three bodies of sociological knowledge. First, I provide a review of the *foundations of organization theory*. Second, I discuss *schools as organizations* that are complex, embedded in and transformed by shifts in local contexts and political histories, and are influenced by conducive or corrosive *management and leadership* styles. Last, I connect these theories to *disaster sociology* and argue for a more robust advancement and theoretical development of the

role that educational continuity plays in buffering the negative impacts of disasters for students and communities.

Research Design

There are lessons to be learned from the process of keeping students together and enrolled in regularly scheduled classes—as opposed to being displaced across multiple unfamiliar school environments—after a disaster upends their lives (Barrett et al. 2008; Fothergill and Peek 2006; Fothergill and Peek 2015; National Center for Homeless Education 2015; Picou and Marshall 2007). Thus, I chose Lyons Elementary and Middle/Senior High Schools as the site for an in-depth case study on educational continuity because:

- 1) They were the only school system in Colorado where students were displaced for an extended period of time after the 2013 floods, which makes them a unique case (Small 2009).
- 2) The SVVSD ensured that Elementary and Middle/Senior High School students and staff remained together throughout the displacement process, which had positive ramifications for individual as well as broader community recovery.
- 3) I have not been able to identify another post-disaster educational setting where this same level of educational continuity was achieved throughout the displacement process.

The purposive sample for this dissertation includes community leaders, school district administrators, and teachers and staff who were involved with creating, executing, and carrying out continuity of operations at Lyons Elementary and Middle/Senior High schools after the 2013 floods. I also interviewed parents and students to further contextualize this case with personal experiences of displacement and disaster recovery. I used qualitative methods, including interviews and secondary data analysis, to detail the complex and multi-scalar relationships that influenced the educational continuity process for Lyons students.

Research Questions

This dissertation explores the following research questions:

1. How did Lyons Elementary and Middle/Senior High Schools and the St. Vrain Valley School District keep students and staff together after the 2013 Colorado Front Range Floods?
2. What was the pre-existing social context that allowed school administrators to prioritize educational continuity for Lyons students?
3. What resources were needed and what actions were taken by Lyons Elementary and Middle/Senior High School staff to continue operations and assist students in recovering from the disaster?

Significance of the Study

This in-depth case study of the educational continuity process for Lyons Elementary and Middle/Senior High Schools has theoretical, methodological, and empirical significance for sociology and the field of disaster science. First, this study theoretically contributes to a limited body of knowledge regarding the role of schools in disaster response and recovery. Scholarship focusing on children and youth in disasters has expanded rapidly over the past decade (Peek, Abramson, Cox, Fothergill, and Tobin 2018). However, less is known about the organizational capacity of schools—as a core social institution that children in the U.S. rely on and are required by law to attend—to respond to disaster. This research helps to fill this gap by linking organization theory, school management practices, and the sociology of disasters. This dissertation also operationalizes the concept of educational continuity, which theoretically advances understanding of the role of schools following disaster. Second, this research contributes methodologically as it is the first in-depth case study of an educational continuity process following community-wide displacement. Finally, this work has applied and practical

significance. Emergency managers, city planners, and school board administrators look to evidence-based academic research to inform their disaster plans. This dissertation provides a unique case that emergency planning professionals can draw upon to enhance and improve strategies to reduce risk and improve options for educational continuity in schools following a disaster.

Dissertation Overview

The subsequent chapters of this dissertation include a review of the literature, a detailed explanation of the research methodology and methods that I used to collect data, three chapters that are organized by major themes identified through data analysis, and a conclusion. Specifically, chapter two presents the theoretical framework for this study, reviewing and building on organization theory, school management, and sociology of disasters. In chapter three, I describe my methodological approach, including a summary of the research design, methods, setting and population, sampling approach, data management, and data analysis strategies. In chapter four, I discuss the community and district response and document how the displacement and educational continuity process unfolded for the Lyons students and staff. In chapter five, I highlight the leadership capacity of the district and schools and identify the preexisting conditions that led to successful outcomes for students. In chapter six, I discuss the specific strategies that were implemented at the school level to support the educational, emotional, and behavioral recovery of students. I conclude the dissertation by discussing important theoretical implications and practical considerations and offer recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

The origins of disaster sociology primarily centered on collective and organizational behavior in response to extreme events (Quarantelli 1987; Quarantelli and Dynes 1977). Yet, even with decades of research in this substantive focus area, schools as key social institutions remain understudied in the context of disaster. This gap in scholarship is particularly problematic, given that schools are a focal institution in every given society in nearly every city in the world. School buildings are the one place—outside of detention facilities and courtrooms—that children and youth are legally required to be in the United States (Lareau 2008). Yet, our understanding of how schools prepare for, respond to, and recover from disaster is lacking. Even more sparse is literature on how school disaster planning is integrated into broader community response networks and how this has the potential to positively influence community resilience (Anderson 2005).

Considering these pressing scholarly issues and remaining gaps in the literature, I theoretically situate the process of educational continuity following disaster by drawing on three distinct bodies of sociological knowledge. First, I explore the sociological roots of organization theory to frame this dissertation. Second, I move into a discussion of schools as complex social organizations that are embedded in and transformed by shifts in management and leadership styles. Third, I connect these theories to the substantive subfield of disaster sociology and argue that educational continuity is a complex social process that includes continuing education as well as all the other school-based activities and operations that can and do facilitate recovery for students. This literature highlights the gaps that currently exist in our understanding of how educational continuity is carried out after disaster and how it operates as an institutional mechanism to support broader community recovery and resilience processes.

Foundations of Organization Theory

Modern organization theory has an interdisciplinary history rooted in sociology, anthropology, psychology, political science, engineering, and many other disciplines (Peltonen 2016). There have been paradigmatic shifts that have influenced organization theory over time, such as functionalist (Burrell and Morgan 1979) and systems perspectives (Merton 1945), resource dependency theory (Pfeffer and Salancik 2003), network theory (Scott 2004), organizational ecology (Hannan and Freeman 1977), and more recently, a wider range of approaches such as critical theory and psychoanalytics (Peltonen 2016). Yet, many of the subdisciplines of business and management studies still draw heavily from systems traditions that are more conservative and hierarchical in their approaches to organizing organizations. This is particularly true in fields such as emergency management, whose origins stem from militaristic frameworks of top-down command and control structures (Dynes 1970). Despite its enduring impact, this approach has been criticized as being ineffective for the complex environment of disaster response, which requires far more flexibility and adaptability (Comfort, Waugh, and Cigler 2012; Kendra and Wachtendorf 2006).

The sociological origins of organization theory are largely based on the work of Max Weber. As Penelton (2016) articulates,

In organization theory, Weber is significant insofar as he opened the early study of administrative rationality and industrial bureaucracy as the dominant social form of modern organizations (e.g. Merton 1940). Weber is a colossal figure in social theory, having made an enduring mark on the theory of modernity, understanding of political life, approaches to social behavior, human science methodology, and many other areas central for a unified social science.

Just as all theories shift over time in response to social change, organization theory has recently begun to emphasize the “interpretive, subjective nature of an organization” and “highlight everyday interaction and action as processes constituting organizational reality in a fashion that diverges from the objectivity of the systems theory and related functionalist

approaches” (Penelton 2016:16). This is important for understanding how many modern organizations have been restructured to incorporate more diverse and creative management and leadership practices that include adaptability, flexibility, and distributed control as demonstrated in this dissertation.

Organizations as Social Structures

The various sociological definition of organizations centers around two main features: symbols and structures of social relationships (Bidwell 2006). Symbols, such as knowledge, beliefs, and moral authority can be solidified by patterned actions that extend beyond any individual (Bidwell 2006). Structures are institutionalized social relationships, often based on a shared value or interest, and can provide “stability and meaning to social behavior” (Scott 1995:33). Organizations are also defined by a process of institutionalization, where organizational structures are often arranged around politics and the values and beliefs of an elite or dominant class (Bidwell 2006).

For Talcott Parsons (1951), structure was defined by the enduring dynamics of the social system. He provided a clear framework to conceptualize how social relationships are patterned over time, where people fill interdependent and specialized roles that make up the structure of a society. From this perspective, society exists *sui generis*. However, he also offered a *Voluntaristic Theory of Action*, which explained how individuals come to the system with unique motivations and desires for action (Swidler 1986). From this perspective, individuals can make choices based on their personal goals, however, those goals are largely defined by the structure of the system. For the structured system to dramatically change there has to be 1) a clash of values that is strong enough for a group with alternative values to reorient the rest of society to those values, 2) the new group has to be able to take over management of the subsystems based on this new set of values, and 3) the system needs to return to a new state of equilibrium. The

sources of structure for Parsons were based on the consensus of individuals within the system. To this end, social structures are just a reflection of the needs and values of society. If there is a problem with the functionality of a value or patterned arrangement, the system will change and adapt to reflect the goals of its members and what was best for its survival.

An alternative discussion of organizations as social structures comes from Pierre Bourdieu. In Bourdieu's theory of social reproduction, he discusses structure as defined by the relations between the field and the habitus (Hilgers and Mangez 2014). A field is "a relatively autonomous domain of activity that responds to rules of functioning and institutions that are specific to it and which define the relations among the agents" (Hilgers and Mangez 2014:5) The habitus is the process by which objective structures within a field influence the specific tastes, inclinations, and beliefs of an individual actor (Hilgers and Mangez 2014). The habitus does not ultimately determine our actions, but it does influence the choices we make as we set out into the world. Bourdieu's analysis of fields is an important advancement in organizational literature because it expands the focus to include an examination of how multiple organizations in a field support or constrain the functioning of a single organization (Emirbayer and Johnson 2008).

Bourdieu (1979) theorizes additional concepts important to defining and understanding the function of structured organizations in society—*structured structures* and *structuring structures*. Structured structures are made up of past interactions within fields that structure the habitus of a person that is then passed on through generations. Structuring structures are in the present and future and represent the way a person's habitus is structuring the fields that they are entering. Here the habitus is structuring the structure of the field so that future players will have to contend with the rules that have been created through this process. The sources of structure for Bourdieu come from the volume, amount, and relative utility of economic, cultural, or social capital that a person has as they enter each specific field (Bourdieu 1986).

Bourdieu (1986) outlines three primary types of capital: 1) *economic*—money and resources, 2) *cultural*—embodied through skills, talents, or know how; objectified through art and other material representations; or institutionalized through degrees or certification, and 3) *social*—social networks or connections that can be converted to economic capital. From an organizational perspective, the levels of capital within and between organizations shape the structure of the field.

Building on this foundation, scholars such as James Coleman (1988), Putman (2000), Stolle (2003), and Rothstein (2005) have debated over the primary source of social capital. For example, Rothstein (2005) argues that institutions may have more influence over access to social capital than the individual networks identified by earlier scholars,

The truth of the situation may be precisely the opposite of what Robert Putnam, and many in his wake, have proposed. The causal connection may not go from the sociological level (individuals-networks) to the political (the state and its institutions), but rather the reverse. It may be that a particular type of state institution produces individuals and organizations with high (or low) social capital. Now that the nearly organic view of the emergence of social capital triggered by Putnam's work is proving incorrect, there is reason to think along different lines. Maybe it is a particular type of political institution that produces social capital, rather than social capital being produced by a particular type of political institution. (p. 104)

Like Coleman (1988), Rothstein points to the school system as a potential source for the very interactions and diverse social encounters that allow for trust building and the development of social capital (Englund 2009).

These sociological lenses on organizational structure shed light on how complex systems change over time and have the potential to influence the values, beliefs, and actions of organization members. This, in turn, influences how the organizational structure operates. Although heavily criticized in some corners, Parson's systems theory clarifies how organizations adapt to changing environments and elucidates the possibilities for finding new states of equilibrium after disruption. From Bourdieu's perspective, and as examples in this dissertation

will illustrate, the amount of social and material resources that an organization dedicates to improving internal functions and external relationships will ultimately shape the outcomes for individuals that those organizations serve. Bourdieu's theory on structures serves as a useful theoretical tool for exposing and analyzing the complex internal and external mechanisms that influence how an organization operates. Therefore, given the topic of this dissertation, I now move into a discussion of how schools operate as organizational structures.

Schools as Organizations

In sociology, the terms "organization" and "institution" are often used interchangeably, but they have varied theoretical origins and distinctions worth noting. In fact, Zucker (1983:1) asserts "Organizations are the preeminent institutional form in modern society." According to Scott (2005) an *organization* is narrowly defined as a system or physical entity that is formed when people come together to achieve a particular purpose and maintain organizational structure through rules and regulations (e.g. business, school, hospital, non-profit). An *institution* is more broadly defined as having both abstract and concrete properties, governed by customs and values, and is constructed by enduring social patterns that define or constrain action (i.e. marriage, education, religion) (Scott 2005). Over the past four decades, theorists have begun to acknowledge organizations as open systems influenced by their external environments and have illustrated the complex process by which organizations in our society are either constrained or supported by the larger institutional structure (Zucker 1983). For the purposes of this dissertation, I am describing how the educational continuity process is carried out by the organization of the St.Vrain Valley School District (also described as a school system), which is nested under and operates within the boundaries of the social institution of education. However, in the following sections I present the terms as they are originally conceptualized by the authors in the literature under review.

Two of the most popular theoretical advances to studying educational organizations in the United States in recent years are new institutionalism theory and complexity theory. New institutionalism perspectives draw from classical organizational sociology, such as Merton's (1940) systems theory, but incorporate new ideas from cognitive influences such as social constructionist and societal-structural approaches to understanding how knowledge is created and how we analyze organizations (Peltonen 2016). This shift in institutional research has had an influence on recent analyses of schools as formal organizations (Bidwell 2006). Rowan (2006:204) describes the historical development of how schooling became institutionalized,

[M]ass schooling—as an institution in society—had its origins in European ideologies of the state, the role of citizenship, and the rights and responsibilities of individuals, all of which converged to bring about a theory of mass education for societal development.

According to Meyer and Rowan (2006), in the past 2 decades there has been more attention paid to the increasingly central role that educational institutions play in society. However, institutional analysis of schools from organizational scholars found that “educational institutions did not seem to conform to key tenets of organization theory” (Meyer and Rowan 2006:5). Instead of being consistent with other bureaucratic hierarchies that are typically bound by tight relationships between the top and bottom institutional levels, Stanford School scholars in the 1970's found that hierarchical relationships in educational institutions were loosely bound (Meyer and Rowan 2006). They also proved to be remarkably stable over time, due to relationships that were built on shared beliefs and values (Meyer and Rowan 2006).

Kauffman (1995) suggests that for organizations, such as schools, to meet constantly changing demands, they need to have a particular “fitness landscape” that can create the context for adaptability. A “fit organization,” according to Morrison (2002:2) is one that is loosely coupled and characterized by the following benefits, in that they:

- allow sections of the organization to continue and evolve separately;
- can be, and are, more sensitive to the demands of the environment;

- enable local responses (i.e., within selected sections of the organizations) to be made to local environmental demands;
- permit sections of the organizations to experiment with new structures;
- are able to isolate problems and, thereby, to prevent wholesale breakdown or total collapse of the organization (the domino effect);
- enable flexible, sectionally self-determined responses to be made to unpredictable environments and circumstances;
- are cheaper to run than tightly coupled organizations.

Theoretical advances in understanding how schools operate as organizations have helped to establish more successful school management frameworks (Kauffman 1995). These frameworks draw from organization theory as it applies to business management, but also expand efforts to capitalize on and promote areas where they are uniquely successful (Morrison 2002).

Complexity theory is another useful tool for exploring how schools operate as organizations. At its core, this theory breaks from traditional cause and effect models focused on linear, predictable relationships (Morrison 2002). Instead, it broadens our ability to understand more complex, and sometimes chaotic phenomena, as they exist in interconnected networks operating in open and adaptive systems versus closed systems as theorized by earlier organizational scholars (Morrison 2002) (see Figure 2.1 for a diagram illustrating the many characteristics of complex organizations).

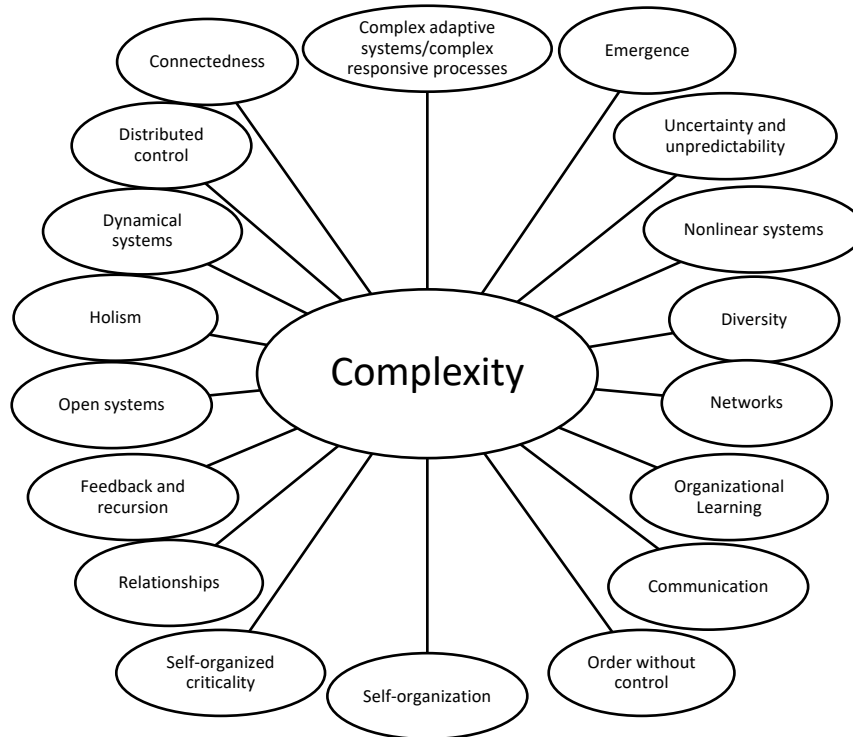


Figure 2.1 Components of Complexity Theory (Adapted from Morrison 2002)

A central tenet of complexity theory is self-organizing behavior that is only possible through a leadership style of *distributed control*. Here, organized behavior is the product of many smaller independent interactions where components of one level act as the building blocks for outcomes at another level (Morrison 2002). From this perspective, it is not possible to analyze one element of the system alone, as the whole is greater than the sum of its parts and each elemental interaction within the system impacts the overall organizational behavior. Stacy et al. (2000) recommend that complexity theorists move away from thinking about “complex adaptive systems” to focusing more on “complex responsive systems” to explore how people interact with one another and spontaneously organize over time. For Stacy et al. (2000), feedback and communication are at the heart of effectively run organizations, as is demonstrated by examples throughout this dissertation.

Just like other organizations, school districts are required to make regular predictions about and plans for future uncertainties. To weather the frequently changing demands, complexity theorists argue that connectedness and distributed knowledge are necessary for large organizations to function (Morrison 2000). In school systems, students are connected to peers, families, teachers, social groups, and others, just as teachers and administrators are connected to each other, the students they serve, external professional associations, social service agencies, policy and funding bodies, and other community members. For these complex systems to survive, schools cannot be weighed down by internal bureaucracies and a centralized command and control knowledge-base. Instead, complexity theorists argue, school systems need to distribute knowledge across their organizations and capitalize on the connectedness and communication networks that can circulate information rapidly (Morrison 2000). Therefore, in the next section I focus on how schools and school districts are managed and what attributes contribute to the successful organization of schools.

School Management

Schools and school districts have long been identified as a core social and legal institution in the United States, yet their history as an institutional form is understudied (Shoked 2017; Gamson and Hodge 2016). In 2013, nearly 50 million children were educated in public schools operated by approximately 13,515 districts (Snyder, de Brey, and Dillow 2016). According to Gamson and Hodge (2016:217), the school district “remains the primary platform on which we sort our local educational politics, school building construction, leadership, enrollment, governance, and busing and transportation.” Yet, the ability to analyze the functions of a school district gets complicated because the very definition of a school district varies across contexts. Definitions of a school district include references to school boards, geographic boundaries for a collection of schools or student enrollment, legal entities, central offices, and

many more variations on operational boundaries (Gamson and Hodge 2016). There also exists a tension in the literature of whether school districts operate from a centralized source of leadership and control or a more complex, loosely bound system based on distributed control.

In a historical review of the literature on school districts, Gamson and Hodge (2016:220) identify three common narratives dominating the scholarly landscape: 1) school districts serve as governing bodies to ensure educational democracy; 2) school districts have remained relatively static organizations since coming into their modern form in the early 20th century; and 3) school districts are “monolithic bureaucracies that are pathologically flawed and completely incapable of reinvigoration or reinvention.” Each of these rudimentary categories has been critiqued and fleshed out by scholars to highlight issues of educational inequity, stifled innovation, and the results of a multitude of reform programs over the decades (Gamson and Hodge 2016). Despite the harsh but common assessment of districts as “outdated institutions that [are] no longer capable of adapting to new circumstances or leading schools toward necessary improvements” (p.222), Gamson and Hodge (2016) conclude their extensive review with a call for researchers to continue to search for examples of innovation, unrecognized strengths, ambitious instructional practices and improvements, policy advancement, and pathways for harnessing the constantly evolving nature of relationships and organizational form to improve future opportunities for students.

Research responding to this call has highlighted successful management styles and leadership qualities of school administrators—as explained in more detail below—but scholars also recommend the expansion of services to include school-community partnerships. School-community partnerships are defined as “intentional efforts to create long-standing relationships among schools or school districts and organizations in the local community” (Valli, Stefanski, and Jacobson 2018:31) Valli, Stefanski, and Jacobsenn (2018) outline the ways that schools

expand their traditional services of education to include functions that support families and communities—such as health and social services—through school-community partnerships. They found that this mission expansion to serve the broader community enhances student learning, strengthens schools, and supports struggling neighborhoods. And as explained in this dissertation, strengthening school-community partnerships has the potential to increase a school districts capacity to respond to disaster.

To successfully fulfill both the core mission of educating students and cultivating robust school-community partnerships, scholars recommend that school districts develop diverse, flexible, adaptable, and complex management strategies (Morrison 2000). Leaders of complex school systems rely on and draw upon the distributed knowledge base and experience of their networks. In fact, Morrison (2000) argues, it is impossible for leaders to effectively manage if they believe they are the source of organizational intelligence and knowledge or the center of hierarchical power and control. Instead, authority, control, and knowledge should be distributed across a diverse network of trusted individuals that also own responsibility for organizational success and failures. To this end, Morrison (2000:19) concludes, “Leadership is no longer the activity of gatekeeping and directing, but of enabling and empowering.” This paradigm shift in how we understand school leadership as changing from the responsibility of an individual to a distributed process across multiple social contexts has resulted in the need for new policies and procedures for training leaders in educational institutions (Davidson and Olson 2003).

Sociology of leadership studies point to the fact that leadership is far more than an outcome. It is the practice of building an ethos or culture that exhibits trust, accountability, creativity, and advancement. According to Slater (1995), there are four sociological paradigms of leadership: 1) *structural-functionalist*—seen as a set of measurable behaviors or skills, 2) *political-conflict*—described as power relationship between the dominant and subordinate, 3)

constructivist—consisting from the meaning behind behaviors versus the actions themselves, and 4) *critical humanist*—based on the symbolic social construction of leadership through subjective value systems. The constructivist perspective is most relevant for examining leadership in relation to organizational ethos. Drawing from Deal and Peterson (1994), Slater (1995:458) explains,

[L]eaders act to represent important organizational values. They use symbols to anchor the faith and confidence of others, to communicate purpose, and to build passionate identification with the school... [Leaders] ... focus on the creation of a shared sense of meaning and the development of internal cohesion and commitment.

Building on this perspective, management scholars have discussed the importance of “sensemaking” which is identified as a process of social construction and an essential organizational activity that influences decision making, identity formation, and how an organization responds to crisis (Maitlis 2005). Research in this area indicates that leaders play an important role in terms of sense giving, which is defined as “the process of attempting to influence the sensemaking and meaning construction of others toward a preferred redefinition of organizational reality” (Gioia and Chittipeddi (1991:442). Given that leadership and policy making for schools begins at the level of the school district, it is imperative that scholars investigate how people in positions of power construct a sensemaking narrative—especially in times of crisis. Similar to how collective narratives shape disaster recovery (Chamlee-Wright and Storr 2011), organizational sensemaking has the potential to positively or negatively shape the ethos of a school district. In the next section, I turn to a review of the literature on disaster sociology to frame the context for how school districts respond to disruptive events.

Disaster Sociology

The first major sociological study of a disaster was a dissertation written by Samuel Henry Prince in 1920 (Perry 2018). Prince studied the response to the 1917 Halifax Harbor explosion where he explored how disaster results in social disintegration with the potential for

social change (Dynes and Quarantelli 1993). He specifically focused his efforts on organizational relief systems and critiqued the ways that many groups, such as the Salvation Army and the Roman Catholic Church, failed to cooperate with one another effectively. While Prince's research helped to lay the groundwork for the sociological study of disasters, another 30 years would pass before the social sciences would develop the subfield of disaster sociology (Dynes and Quarantelli 1993).

One of the first definitions of disaster was provided in work by Charles Fritz (1961), which established a formal, albeit narrow definition of disaster as,

Actual or threatened accidental or uncontrollable events that are concentrated in time and space, in which a society, or a relatively self-sufficient subdivision of a society undergoes severe danger and incurs such losses to its members and physical appurtenances that the social structure is disrupted and the fulfillment of all or some of the essential functions of the society, or its subdivision, is prevented (p.655).

This definition was later altered by Kreps (1985) to highlight the social structure of disasters as:

Events in which societies or their larger subunits (e.g., communities, regions) incur physical damages and losses and/or disruption of their routine functioning. Both the causes and effects of these events are related to the social structures and processes of societies or their subunits.

The renewed interest in disaster studies followed the end of World War II, which led to funding from United States military organizations to university researchers in the 1950's. The military was particularly interested in learning about how citizens would react to a wartime event, such as an atomic bomb explosion on U.S. soil (Quarantelli 1987). Mileti (1999:20) explains that this specialty area funded in response to the Cold War was originally labeled "social disorganization," yet was later dropped when researchers found that disasters resulted in a strengthening, rather than a breakdown of community functioning. Although geographers were active in studying natural hazards at the time, funding agencies sought out sociologists and psychologists to study issues associated with group behavior and social control in disasters (Quarantelli 1987).

The political and economic context of the Cold War period shaped the field in many ways, as elaborated on in Quarantelli's (1987) summary of the history of the field: first, there was an applied focus on organizations and organized behavior following disaster; second, much of the response to disaster was based on a command and control model that still exists today; third, the focus of most major studies was on disasters occurring in the U.S. given the interest of the funding agencies; and, fourth, what constituted a disaster was largely based on the need to parallel extreme peacetime and wartime events, which resulted in the studies of extreme, high impact events such as earthquakes and tornados, with less focus on long term events such as famine and drought.

In a later review of the field of disaster sociology, Kathleen Tierney (2007) documents theoretical and empirical changes over time. She contends that disaster sociology has long suffered from research priorities that are problem-focused, applied, agency-based, practitioner and policy oriented, and interdisciplinary—and therefore, are largely atheoretical. However, given that disasters disrupt social systems, systems theory has been the most widely used theoretical tool in the field (Tierney 2007). Tierney (2014) recommends that scholars seeking to advance theoretical and empirical approaches, begin at the level of analysis where disaster disruptions and social processes occur, such as communities, organizations, and institutions. This is consistent with recent definitions of disaster that focus more heavily on social relations and social change as characteristics of disasters (see Perry 2018 for a review of definitions).

In the mid-1970's, disaster researchers began debating how important it was to stop viewing disasters as natural or 'God-made' events that were out of human control. Instead, they argue, that it is important to understand disasters as socio-economic problems that were constructed through complex histories of human/nature interactions (O'Keefe, Westgate, and Wisner 1976). In addition, organizational response to disasters has shifted over time. For

example, the organizational structure of emergency management has been encouraged by advancements in organization theory—and other management subfields—that highlight strengths of adaptability, flexibility, collaboration, and innovation for a more successful response to emergent needs in a disaster context (Kendra and Wachtendorf 2007; Waugh and Streib 2006). Given the focus of this dissertation, this is the area of literature I turn to next.

Emergency Management Organizations

In the 1960's, scholars at the Disaster Research Center began focusing on organization theory to help uncover how groups involved in disaster situations were structured and how they operated (Drabek and McEntire 2003). This work resulted in a typology of organizational forms in disaster response (see Table 2 for the DRC Typology): Type I) *established organizations*—which function in the same ways during a disaster as in non-disaster times (e.g. fire departments responding to a fire event); Type II) *expanding organizations*—which carry out the same tasks as they would normally, but under a new structure (e.g. the Red Cross expanding services in response to a disaster, including adding additional volunteers to meet increased demand); Type III) *extending organizations*—that perform new types of tasks under an old structure (e.g. a school or church being operated by the same staff, but now being used as an evacuation shelter or donation center); and Type IV) *emergent organizations*—where new structures are created with entirely new tasks in response to an unfolding disaster (e.g. citizen groups joining together to carry out search and rescue) (Dynes 1970). Many studies have since followed that have worked to operationalize organizational change under the complex conditions of disaster (e.g. Bardo's 1978 typology of adaptation and change).

Table 2.1 DRC Typology (adapted from Quarantelli 1995)

		Tasks	
Structure		OLD	NEW
	OLD	Type I Established	Type III Extending
	NEW	Type II Expanding	Type IV Emergent

According to Barton (1969), the level at which organizations engage in disaster related activities is dependent on many additional factors including organizational roles, relationships, normative actions, conflicts, available resources, leadership, preparedness planning, and organizational goals and centralized authority. What is clear from the literature is that disasters are not static nor linear, but instead are complex processes that require multiple organizational approaches to respond to the unique needs of each event. Given this understanding, recent theoretical developments have expanded on earlier functional and structural closed-systems approaches, to draw from theories that include an open system analysis of how organizations become flexible, adaptable, and de-bureaucratized to necessarily respond to the rapidly changing conditions of a disaster (Kendra and Wachtendorf 2006).

One of the leading scholars writing on adaptability and organizational resilience to disasters is Karl Weick (Kendra, Clay, and Gill 2018). In his early work focusing on group behavior and sensemaking, Weick (1993) outlined four attributes that contribute to organizational resilience: 1) *improvisation*—willingness to adapt or alter a routine depending on circumstances; 2) *vital role systems*—sharing knowledge across all roles in an organization so every member understands how the whole system functions; 3) *wisdom*—understanding the boundaries of what a person knows or does not know; and 4) *respectful interactions*—effective

and transparent communication of information across organizational networks (Kendra, Clay, and Gill 2018).

Pine (2006) draws from management theory to scrutinize how emergency management is structured and organized and how disaster response could be improved by the theoretical application of management strategies, sustainability, diversity, systems theory, flexible thinking, and dynamic organizational structures. Kendra and Wachtendorf (2006) highlight that the social relationships of organizations are no different from those in non-disaster times and recommend that emergency management uses dynamism, creativity, and innovation to manage the social and physical systems and relationships that are rapidly changing in a post disaster context. Their research resulted in a typology of three forms of improvisation for emergency management: *reproductive improvisation*, which is the recreation of an existing capacity; *adaptive improvisation*, which amends an existing capacity to respond to changing demands, ultimately producing a new system; and *creative improvisation*, which creates an entirely new capacity in the absence of an existing model or plan (Kendra and Wachtendorf 2006). They recommend that these are values that should be adopted and integrated into organizational culture to better respond to complex circumstances. In the following section, I move from a discussion of organizations and disaster to focus on how social vulnerability differentially impacts certain populations.

Social Vulnerability and Disasters

Wisner, Blaikie, Cannon, and Davis (2005) define social vulnerability as “the characteristics of a person or group and their situation that influences their capacity to anticipate, cope with, resist, and recover from the impact of a natural hazard” (p. 11). Disaster sociologists and vulnerability scholars are primarily concerned with the socio-demographic characteristics of class, race/ethnicity, gender, and age. However, more recently scholars working in this subfield

have expanded their scope to include vulnerabilities based on ability, health, language and literacy, and household and family structure, among others (Thomas, Phillips, Lovekamp, and Fothergill 2013). Each of these social realities is embedded in a historical context that has shaped outcomes for individuals in society and contributes to vulnerability in times of disaster. These groupings are not static and do not operate in isolation from one another. In fact, they are often compounded in a way that negatively impacts the most vulnerable populations during extreme events. Therefore, in the 1980's, scholars began to develop the theoretical approach of social vulnerability analysis to highlight how extreme events intersect with pre-existing social inequalities to produce unequal outcomes following disaster (Bolin and Kurtz 2018). For the purposes of this dissertation, I will discuss how class, race, and age are important factors for understanding how schools—and the students they serve—are differentially vulnerable to extreme events.

Class

At the core of social vulnerability studies is the concept of social class. In the United States, social class is often measured by material resources, such as income and wealth, and nonmaterial resources, such as education and power (Bolin and Kurtz 2018). Members of our society are then stratified such that the location in a particular social stratum can often determine one's opportunities and life chances (Fothergill and Peek 2004).

Income and wealth inequality in the United States has been rising rapidly. In 2010, households in the top 20% of the U.S. population earned half of all personal income in America, while the top 5% made 21.3% (U.S. Census 2010). In contrast, households in the lowest 20% garnered only 3.3% of all income and earned less than \$20,000 per year (U.S. Census 2010). This situation is even more extreme for wealth gaps, with half of the global household wealth owned by the richest eight men in the world (Hardoon 2017).

During times of disaster, access to social and financial resources can mean the difference between life and death, with poorer people in the world suffering the greatest losses (Bolin and Kurtz 2018; Fothergill and Peek 2004; McCoy and Dash 2013). Disaster scholars have found that people with greater access to financial and social resources are: 1) less likely to live in risky areas with substandard housing; 2) more likely to spend money on preparedness activities such as stocking up on medication and food and securing their homes through activities such as retrofitting and installing storm shutters; 3) more likely to be educated, which can impact their ability to understand and follow warning and evacuation messages as well as complex disaster recovery funding mechanisms; 4) more likely to have access to transportation for evacuation and the available resources to spend on hotels and food once they do; and 5) more likely to have the personal and financial resources necessary to navigate the short- and long-term recovery processes following disasters (Fothergill and Peek 2004).

Higher income families, with positive economic and community networks, also tend to recover better and as a result are more resilient (Brunsma, Overfelt, and Picou 2007; Elliott and Pais 2006; Freeman, Narin, and Gollup 2015; Fussell and Harris 2014; Mileti 1999; Pais and Elliott 2008). They typically have high quality homeowner's insurance, health insurance, and the resources necessary to mitigate negative impacts of the disaster so they recover more quickly (Fothergill and Peek 2004). It is clear that at each stage of the disaster life cycle there is an inverse relationship between income/wealth and disaster vulnerability. Indeed, a recent paper by Howells and Elliott (2018) demonstrates that as property damages from disaster increases in a community, so does wealth inequality (specifically along lines of race, education, and homeownership), which further exacerbates already wide wealth and income gaps. Therefore, it is necessary to study the historical, political, cultural, and socioeconomic contexts of the

locations where disasters occur to develop disaster policy and practice that does not magnify and contribute to increases in income and wealth inequality.

Race

In addition to class, people are stratified based on their race and ethnicity. These social grouping unequally divide members of society, where those that belong to dominate groups (e.g. white, non-Hispanic) tend to have greater access to resources and rewards than those belonging to groups with less valued positions (e.g. Black, Latino, Native American, Asian American) (Bolin and Kurtz 2018; Grusky 2018) (see Saperstein and Penner 2018 for a discussion of the fluidity of racial categories). Decades of sociological research have highlighted the disadvantages associated with being part of a minority population in the United States (Grusky 2018; Omi and Winant 1994). Race scholars have also engaged in rich debates on identity politics, within group marginalization and discrimination, and the critical analysis of whiteness (Rasmussen et al 2001). It is also critical to note the ways that race intersects and interacts with other social vulnerabilities, such as class and age, to determine one's life outcomes (Collins and Bilge 2016).

In her book, the *Social Construction of Whiteness*, Frankenburg (1993:6) defines “whiteness” as a “set of locations that are historically, socially, politically, and culturally produced and, moreover, are intrinsically linked to unfolding relations of domination.” The normativity of being white often results in a perspective that white people are not racialized (Frankenburg 1993). However, the invisibility of this dominant social position is a form of covert racism that is pervasive in U.S. culture. Frankenburg (1993) argues that by naming whiteness, and the privileges associated with it, we can make racial domination more visible. In addition, Rasmussen et al. (2001) draw attention to the need for more critical analyses of within group

differentiation, as some privileges are not extended to all members of a dominant racial group, such as poor or queer whites.

Racial group membership has objective material consequences in terms of income, wealth, education, housing, and health, as well as more subjective outcomes that can be harder to measure, such as the privileges associated with being a member of dominant groups that hold decision-making power in U.S. institutions (Grusky 2018). These pre-existing inequalities directly impact how different racial groups withstand and recover from disaster (Bolin and Kurtz 2018). For example, Hurricane Katrina exposed severe race and class disparities that resulted in disproportionate damage, death, and long-term consequences for Black, as compared to white, residents (Bolin and Kurtz 2018). And across the U.S., minority populations are more likely to live in environmentally hazardous areas, such as in low-lying flood plains (Adeola and Picou 2017), or near toxic waste facilities (Bullard and Wright 2009), putting them at increased risk when disaster strikes.

In a recent study focused on identifying how race interacts with hazards damages, Howells and Elliott (2018) found,

Whites who lived in counties with very little hazard damage (\$100,000) over the 1999–2013 period gained, on average, \$26,000 in wealth. By comparison, similar whites living in counties that experienced \$10 billion in hazard damage gained nearly five times that much, or \$126,000. For blacks, results cut the other way. Those who lived in counties with just \$100,000 in hazard damage gained an estimated \$19,000 on average; whereas those living in counties with \$10 billion in hazard damage lost an estimated \$27,000.

These statistically significant differences in wealth gains and losses held even after controlling for other social indicators, such as age, education, income, homeownership, and county population size. These findings point to the need for a closer examination of unequal disaster preparedness, response, and recovery mechanisms.

For the purposes of this dissertation, which is highlighting a successful disaster response and educational continuity process for students, it is critical to acknowledge that just because the

community under study is mostly white, that this is not a racially neutral story. Instead, as described in the following chapters, the social class and racial demographics of the study participants, are aligned with the dominant culture, which places most of this community in a context of privilege, where students benefited from the social and material resources available to their schools and community.

Age

Age is another important characteristic that influences disaster preparedness, response, and recovery trajectories (Peek 2013). Although the elderly and children are often grouped under the classification of age as a social vulnerability, they have distinct—and vastly different—outcomes based on their social positions and physical and developmental stages in the life course (Peek 2013). For the purposes of this literature review, I will focus on the vulnerability of children and youth.

Anderson (2005) suggests that a lack of understanding of children's needs has a significant influence over their life chances before, during, and after a disaster strikes. Given their age, children are at a marked disadvantage politically. They are too young to vote, they do not carry out or conduct research, they do not occupy professional positions that inform policy making, and they are rarely given the opportunity to become champions for their own needs (Anderson 2005; Peek 2008). The World Disasters Report of 2001 estimated that, in the previous decade, approximately 66.5 million children were affected by natural disasters each year (Penrose and Takaki 2006; UNICEF 2011). This number is estimated to increase up to 175 million children per year due to the growing influence of climate change on the frequency of natural disasters (Peek 2008; UNICEF 2011). Children are also at a greater risk to death and injury than adults in many lower-income countries (UNICEF 2011). Despite the number of children affected by disasters each year, children and youth have long been an underrepresented,

understudied, and largely invisible population within the field of disaster research (Anderson 2005; LaGreca 2006), yet this research has expanded rapidly in the past decade (see Peek et al. 2018 for a review of literature on children and disaster).

Children's vulnerability can be categorized into three main groups: psychological, physical, and educational (Peek 2008). Thus far, most of the research on children and disasters has focused on the psychological, emotional, and behavioral impacts to children (Peek et al. 2018). Numerous studies in this domain have shown that children often experience higher levels of psychological distress than adults due to their developmental and coping capacity to process trauma based on age group (Masten and Osofsky 2010; Peek 2008; Norris et al. 2002). Like adults, losing a loved one or experiencing a real or imagined threat of life negatively impacts the mental health of children (Nastasi, Overstreet, and Summerville 2011). Other circumstances that contribute to this are the degree of loss, extent and intensity of exposure, separation from family and/or displacement, preexisting household conditions, socio-demographic characteristics of the child, prolonged exposure to media coverage, and the levels of parental conflict and stress (Peek 2008). In fact, one of the top indicators of children's vulnerability to post traumatic stress disorder following a disaster is the well-being and mental health of parents, particularly that of their mothers (Lowe, Godoy, Rhodes, and Carter 2013; Tees et al. 2010; Green et al. 1991) and one of the most effective buffers against mental health problems in children is the re-establishment of schooling that provides mental health services (Nastasi, Overstreet, and Summerville 2011).

Children also face physical vulnerabilities when disaster strikes (Peek et al. 2018). Due to their size and dependency on adults, children are among those with the highest rates of death, injury, and illness in disaster (Peek 2008) and this may vary by hazard type, age of the child, and race-ethnicity of the child (Zahran, Peek, and Brody 2008). Factors that contribute to the

increased harm of children include: environmental risks such as polluted air, water, and soil; extreme cold or heat; living in dangerous areas at high-risk to disaster, spending time in structurally unsound schools and homes, the loss of parents or caregivers, and being malnourished (Peek et al. 2018; Peek 2008).

A third category of vulnerability that Peek (2008) introduces is educational vulnerability. Educational vulnerabilities can impact children across the life span as disasters often remove children from or disrupt healthy learning environments temporarily or indefinitely. Education is affected by disaster through the partial or complete destruction of the physical school buildings, displacement of children, families, and/or school teachers, loss of records that delays reenrollment, jumping from school to school as families try and resettle in new locations, family instability, unsupportive school environments, poor grades, the loss of family and friends, or the economic need to join the labor force (Fothergill and Peek 2015; Peek 2008; Fothergill and Peek 2006).

The mass displacement and relocation of over 348,000 school aged children following Hurricane Katrina in 2005 inspired more research highlighting the importance of quickly reestablishing schools as a priority in disaster planning and recovery (Peek et al. 2018; Fothergill and Peek 2015; Picou and Marshall 2007). More recently, it is estimated that Hurricane Maria will result in the displacement of 22,710 to 42,771 school-age children from Puerto Rico to the mainland U.S. (Meléndez and Hinojosa 2017), but that migration is ongoing and final numbers and long-term consequences of this displacement are still unknown (see Hamm-Rodríguez and Morales 2018 for more information on Maria's displacement of Puerto Rican students to Florida). This growing body of literature has revealed that when students spend prolonged periods of time out of school—or when they are placed in schools that are unprepared to accept displaced students—there may be an increase in negative psychological impacts, delinquency,

discipline and behavior problems, lower grades, hopelessness, and familial economic and housing problems both as a cause and consequence of educational disruption (Barrett et al. 2008; Fothergill and Peek 2015; Picou and Marshall 2007). In addition, studies have found that schools are important sites for emotional and behavioral health interventions following disaster (Lai et al 2016; Peek et al. 2018; Pfefferbaum et al. 2012). Despite these advancements, there is still a dearth of literature available that focuses on educational continuity when children are removed from their regular learning environments temporarily or indefinitely following disaster.

Educational Continuity

Reopening schools quickly following disaster is a top priority for school administrators (Mutch and Gawith 2014). As discussed above, schools are a dominant social institution in children's lives (Peek et al. 2018). They are also one of their greatest socializing influences, second only to the family (American Academy of Pediatrics 2008). From a practical standpoint, it is important to understand educational disruption and the ways that schools might buffer some of the negative effects of disasters for student populations. For example, when students are displaced and forced to stay home from school because of a disaster, it may affect their own educational trajectory and even their overall life chances and life opportunities. This is aligned with findings from education sociologist, James Coleman (1988), who examines negative trajectories and higher dropout rates for students who are forced to make multiple school changes in their young lives.

In this context, educational continuity has been defined by a school district in Canada as a school management plan that “includes the processes, procedures, decisions, and activities to ensure that school divisions can continue to function throughout disruptive events such as an emergency, a disaster, or a crisis” (Jackson 2008:C-1). This is an ongoing and cyclical process

akin to the disaster life cycle, which highlights the stages of mitigation, preparedness, response, and recovery. According to Jackson (2008) educational continuity planning should include:

1. Planning and Preparation—the preparation of a proactive Educational Continuity Plan (ECP) designed to respond effectively to disruptive events that have the potential to interrupt education continuity.
2. Response—the implementation of an education continuity assessment process and appropriate immediate scaled implementation of the ECP that includes the deployment of necessary supports and resources.
3. Recovery—the prioritized recovery of critical functions to the defined minimal level.
4. Resumption—resuming “ALL” educational services to the “new” normal levels (p. C-1).

Educational continuity has also received attention from international agencies working on behalf of children such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Children's Fund (UNICEF), and Save the Children. These organizations have produced many reports that highlight the negative consequences of disaster for children and underscore the importance Disaster Risk Reduction (DRR) in the educational sector. DRR may encompass a range of activities and include elements of planning for educational continuity, such as developing guidelines for using schools as emergency shelters, identifying alternate sites for temporary schools or online instruction, establishing national guidelines of educational continuity based on the Interagency Network for Education in Emergencies Minimum Standards (2010), establishing rapid needs assessments for documenting immediate impacts to schools, developing response plans to include temporary learning facilities and psychosocial support, and backing up student educational records in cloud-based systems or through other means (UNESCO 2018). In addition, Cadag et al. (2017) highlighted the need for educational continuity following flooding in the Philippines. However, this work did not define educational continuity, nor did the authors operationalize the concept. Instead, they demonstrated how disruptions in education due to floods contributes to the larger global learning crisis.

In the United States as of late, federal agencies have generated reports and guidance documents focused on school safety across the disaster lifecycle and address a range of hazard

types (FEMA 2017; U.S. Department of Education 2013). Yet, even these planning documents dedicate little space to the idea of keeping schools—including the students and teachers—together after disaster. In the scholarly domain, little has been written about educational continuity as an organizational goal or institutional process for school districts following emergencies and extreme events. Most of the education literature focused on continuity is about pedagogy and curriculum-based trajectories, without mention of the multitude of non-education services provided by schools (Gorwood 2018). From a broader familial and community perspective, educational *discontinuity* among children and youth often keep parents home from work, places more pressure on family and friends for care, and could ultimately deplete the volunteer supply and workforce of the community slowing the overall recovery process (Peek et al. 2018).

In this dissertation, I am arguing for the theoretical advancement of educational continuity as an organizational process that includes continuing daily operations and reducing gaps in all the services that schools provide: transportation, nutrition, mental and physical health, peer-to-peer and adult-to-child relationship building, community networks, and ultimately the continuity of curriculum-based education. As highlighted in chapter one, I define educational continuity as a complex social process where school, school district, and community leaders work together to continue providing education and all other school-based services for students following a disaster.

Discussion

Through the process of completing this literature review, I have identified a convergence in the fields of organization theory, school management and leadership, and disaster sociology. Organization theory has shaped education research and emergency management alike. Many advancements have been made in understanding how to manage complex organizations in

disaster (Comfort et al. 2012; Kendra and Wachtendorf 2006; Waugh and Streib 2006). For example, school systems and emergency management organizations are both characterized as needing flexible leadership and management strategies to meet the daily demands of their complex environments (Morrison 2002). Both bodies of knowledge point to frameworks that support organizational resilience through characteristics of loose coupling, adaptability, improvisation, transparent communication, sensemaking, and distributed knowledge and control.

There is much that can be gleaned from understanding how school systems operate in disaster contexts and how the successful organization of a school district response might support ongoing and parallel emergency management operations. Literature in both fields have focused on breaking down the command and control structures of organizational leadership that inhibit adaptability, which is a central requirement in the post-disaster context. As the role of schools becomes more salient in the emergency management response, there is utility in capturing the best empirically tested strategies documented in education literature for how to successfully fulfill school-community partnerships. Damanpour and Gopalakrishan (1998:4) argue, “Innovation adoption is a means of changing the organization to facilitate the adaptation to changing environments in order to sustain or increase organizational effectiveness.” Given that innovation is a cornerstone of emergency management, I argue that 1) learning from and working with organizations that institute innovation in non-disaster times has the potential to improve disaster response coordination and organization, and 2) that educational continuity following displacement is an innovative response to disaster.

Furthermore, it is imperative to acknowledge that adults are in a position of power and authority over children. As much as it is becoming increasingly important to hear from children and youth about their own experiences in disaster (Cox et al. 2017), there is still a need for scholars to continue to investigate how adult decision-making processes affect the lives of

children and youth. This includes a close examination of how leadership and management structures of school districts can positively or negatively influence educational continuity and disaster recovery for students. The organization of school is a daily lifeline for children and families. In non-disaster times, schools provide access to education, mental and physical health services, nutrition, transportation, peer-to-peer and safe child-to-adult bonding and mentoring spaces, and free childcare. These are essential functions for every community in the United States, yet, access to these services are vastly unequal across school districts. In time of disasters or extreme events, these life-saving and sustaining services become even more important. The advancement of planning initiatives and regulations that fund and support these school-based social services are necessary, but more scholarly research is needed to better understand the social vulnerability of school systems, school leaders, and the support mechanisms that can make them resistant to and resilient from disaster.

Finally, it is clear from the literature on complexity theory and school leadership that self-organizing, distributed control, and decentralized command is essential for positive organizational outcomes. Yet, there exists a contradiction in this theoretical framing, because although studies on leadership point to the effectiveness of distributed control across an organization, there is still a hierarchy of power in the organizational structure and ultimately the top decision makers are held accountable for student outcomes (Beabout 2008). In fact, the movement towards standardized test scores and education reforms often demand more centralized control mechanisms. This is an important acknowledgement because in extreme circumstances, such as when disasters strike and daily operations are disrupted, blame is often directed at those same leaders that are encouraged to distribute control across their organizational networks. It is not a goal of this dissertation to analyze this contradiction, but future scholars should consider that organizational structures do have individual leaders who are responsible for

daily outcomes, even when they are active champions of more advanced management strategies that decentralize the organizational structure.

CHAPTER 3: RESEARCH METHODS

This dissertation is a case study of the educational continuity process at Lyons Elementary and Middle/Senior High Schools following the 2013 Colorado Front Range Floods. Case study methodology is particularly suited for in-depth investigations or evaluations of programs, organizations, and/or processes (Marshall and Rossman 2011). Sociologists and disaster researchers have a long history of using case studies to connect focused research questions to larger policy issues and theoretical constructs (Phillips 2014). This case study of *educational continuity* has significance for the sociological study of organizations and the field of disaster research because it illuminates the process of keeping displaced students together following a disaster event and draws attention to the protective mechanisms of schools. Rethinking schools as core social institutions in disaster recovery and promoting their influence on community resilience has practical and theoretical implications for the future of mitigation and planning efforts to reduce the harm caused by extreme events.

Educational continuity following disaster is an understudied phenomenon and therefore warrants a more in-depth examination. To explore this process, I collected data in the form of: 1) semi-structured interviews with key stakeholders and decision-makers whose influence and effort made educational continuity possible; 2) semi-structured interviews with students and families that experienced the educational continuity process first-hand; and 3) secondary data in the form of news reports, personal videos, poetry, and photographs created by participants, community and school meeting videos, school district public communication, emergency plans and guidance at the school, district, county, state, and federal levels, and two disaster photo story books created by students at each school. In this chapter, I detail my research design, data collection methods, and data analysis procedures. I also discuss the limitations of this research.

Research Design

This case study is both *descriptive*—asking questions about *what* happened—and *explanatory*—asking questions about *how* and *why* it happened. There are many approaches to conducting a case study, but a central focus is that it allows for a flexible research design. Yin (2012:6) suggests that although you should try and define a clear case design from the outset, it is important to understand that the “virtue of the case study method is the ability to redefine the ‘case’ after collecting some early data.”

With this in mind, I began my research by reviewing news accounts of the flooding in Lyons and then conducting three exploratory interviews with key stakeholders that verified the occurrence of educational continuity at Lyons Elementary and Middle Senior High Schools. Although I had originally intended to choose one of these schools as a case for investigating school displacement, the exploratory interviews clarified that the educational continuity process was carried out through a collaborative effort between the St. Vrain Valley School District (SVVSD), Lyons Elementary and Middle/Senior High Schools, and the Main Street School in Longmont, which served as the temporary location during displacement. After learning that the two schools were kept together during the displacement process—and that most decision making happens at the district level—it became clear that studying one of these schools in isolation from the other would have been insufficient. The case of interest was the educational continuity process itself, which was the product of both schools coming together, sharing resources, and cohabitating in one building throughout the displacement process.

To fully understand and capture the educational continuity process that unfolded in the aftermath of the floods, I chose to use a “case cluster” method where I identified three groups (or clusters) to include in this study: 1) *Community Level*—key leaders in Lyons who were instrumental in disaster planning, response, and recovery; 2) *District Level*—administrators

within the SVVSD; and 3) *School Level*—administrators, teachers, counselors, parents, and students at both Lyons Elementary and Middle Senior High Schools as well as a key administrator representing the Main Street School. I collected data using a combination of semi-structured interviews and secondary data analysis to achieve methodological triangulation—the practice of collecting and comparing more than one type of data or method (Denzin 1978; Bekhet and Zauszniewski 2012; Yin 2014)—to increase the validity and robustness of my results (Marshall and Rossman 2011). Prior to collecting any data, I submitted a research proposal to the Colorado State University Institutional Review Board (IRB); I was granted approval for this study on March 14, 2016 and have renewed the protocol annually since its initial approval.

Research Questions

This research on educational continuity is framed by the following questions:

1. How did Lyons Elementary and Middle/Senior High Schools and the St. Vrain Valley School District keep students and staff together after the 2013 Colorado Front Range Floods?
2. What was the pre-existing social context that allowed school administrators to prioritize educational continuity for Lyons students?
3. What resources were needed and what actions were taken by Lyons Elementary and Middle/Senior High School staff to continue operations and assist students in recovering from the from the disaster?

According to Penelton (2016), there are three primary ways to analyze an organization. First, a *micro-level* analysis focuses on the behavior of individuals or groups and the relationship they have with each other and with the larger organization. Second, a *meso-level* analysis focuses on organizations as whole systems with management and leadership styles often highlighting the importance of trust and collaboration. Third, a *macro-level* analysis highlights the relationship

between the organization and its operating environment (Penelton 2016). To answer the above research questions, I provide examples from the data in chapters four through six that elucidate each level of analysis to fully capture the process of educational continuity as it was carried out in a specific social context.

Qualitative Case Study Methods

The purpose of qualitative research methods is to study real people in natural settings rather than in artificial isolation (Marshall 1996; Phillips 2014). Qualitative methods allow the researcher to gain an in-depth understanding of the experiences of a small group of research participants—including gathering rich contextual details and exploring related and contradictory themes (Rubin and Rubin 2012)—rather than a breadth of knowledge that can only be attained through large, representative samples (Ambert, Adler, Adler et al. 1995). While quantitative research is necessary to uncover statistical relationships between variables, and then to link these results to theory, it is not able to identify whether “the mechanisms producing the statistical relationship are the same as those described in the theory” (Ragin, Nagel and White 2004:10). Disaster researchers have used qualitative methods since the inception of the field, with in-depth interviews and case studies being the most common forms of qualitative data collection (Phillips 2014; Stallings 2002). As Stallings (2007) notes, the methods used for sociological inquiry into disasters are not unique, but rather, it is the context in which those methods are employed that makes disaster research distinct.

For the purposes of this dissertation, I follow Yin (2013) and define a case study as an in-depth investigation into a social phenomenon that is situated in and influenced by the specific context in which it occurs. This approach is heralded for its effectiveness at uncovering the differences between what was planned and the reality of what actually occurred (Anderson 1998; Noor 2008), which is a core aim of this research. Organizational case studies are also intended to

focus specifically on one unit of analysis, feature, or process—such as educational continuity—rather than on the entirety of the organization under study (Noor 2008). Another advantage of a sociological case study is to support or challenge existing theories based on new evidence (Ragin 1992).

Limitations of Case Studies

Although case studies have become more popular in recent years with scholars conducting qualitative research, as with any method, there are limitations. The most common critique of the case study is its lack of generalizability (Bryman 2008; McClintock 2006; Yin 2014). In his work on rigorous sampling for case studies, McClintock (2006) acknowledges that this approach is also criticized for its small sample sizes, which are not useful in multiple hypothesis testing and multivariate analysis. However, Yin (2014) and McClintock (2006) alike argue that the methodological goals of generalizability, multiple hypothesis testing, and multivariate analysis are not meant to be compatible with goals of the case study methodology. Instead, it is more appropriate to develop a sampling framework with a goal of representing and assessing variability across organizational processes within a case rather than generalizability across cases (McClintock 2006). In the concluding chapter, I offer directions for future research using additional methodological approaches to investigate the organizational capacity of school districts to carry out educational continuity.

Research Setting

Lyons is a thriving tourist destination and arts community that is nestled along the front range of the Rocky Mountains in Boulder County, just west of Longmont (see Figure 3.1). Every year thousands pass through Lyons on their way to Rocky Mountain National Park, earning Lyons the moniker of “Double Gateway to the Rockies.” It’s geography also led Lyons to be one of the most devastated communities during the 2013 floods, given that it is located at the

confluence of the North and South St. Vrain Creeks (Rumbach 2014). As described in the introduction of this dissertation, flash flooding damaged much of the town's infrastructure, including roads, bridges, sewer, water, gas, and two public parks. Many local businesses were flooded and over 200 homes were directly impacted, including two mobile home parks that sat in low-lying areas near the river (Rumbach 2014).

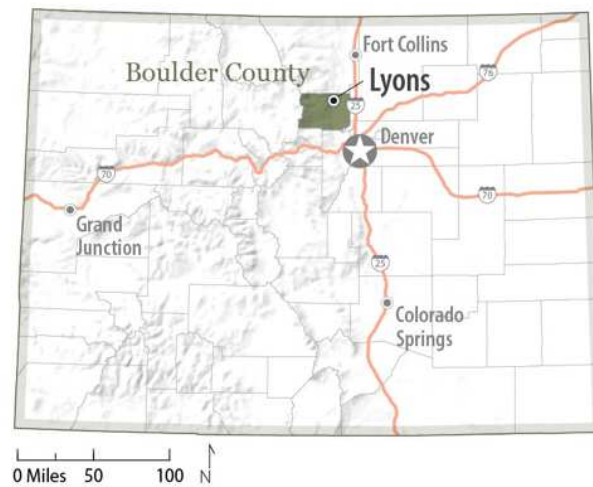


Figure 3.1 Map Showing Location of Lyons, Colorado
(Lyons Recovery Action Plan 2014)

Prior to the 2013 Colorado Front Range Floods, Lyons was home to 2,281 residents (U.S. Census 2013). The population was predominantly white (94.1%), male (52%), and highly educated (57.4% of the population holds a bachelor's degree or higher, compared to only 28.8% of the U.S.) (U.S. Census 2013). The median annual household income in Lyons was \$89,063 with only 6.4% of the population living below the poverty line—much lower than the national poverty rate of 14.5% in 2013 (U.S. Census 2013). Lyons residents are politically liberal, with 71% of the population voting Democrat in the 2016 presidential election (City Data 2018). Lyons is well known for supporting local businesses, community music and arts events, and outdoor sports. In fact, 99% of the businesses are locally owned (Town of Lyons 2015). Although there are some local jobs through retail, agriculture, hospitality, and manufacturing,

Lyons is known as a “bedroom community” where most of its residents are employed outside of city limits in other larger communities such as Denver, Boulder, or Fort Collins (Town of Lyons 2015).

Approximately a quarter of Lyons’ population is made up of children and youth under the age of 19, which is consistent with national age demographics (U.S. Census 2013). Best estimates suggest that due to flood displacement and lost housing stock, the population of Lyons dropped 18% after the 2013 disaster, down to 1,865 residents in 2015 (Illescas 2015). At this time, it is still unclear which residents were permanently displaced and who, specifically, was able to return and rebuild after the floods. But these demographics help to tell part of the story of the successful response and recovery for Lyons students. As disaster sociologists have long noted, households and communities with higher socioeconomic status tend to fare better when disaster strikes (Howell and Elliot 2018; Mileti 1999).

Prior to the 2013 floods, there were three schools in Lyons: Lyons Community Montessori—serving children ages 6 months to 7 years, Lyons Elementary—including children in Pre-Kindergarten through 5th grade, and Lyons Middle/Senior High—encompassing 6th through 12th grade (Lyons Recovery Action Plan 2014). Due to months of lost business revenues following the flood, the Montessori school had to close its doors for good (Lyons Recovery Action Plan 2014). Many parents and educators came together to raise money and fill the need of early childhood education in Lyons by opening Lyons Valley Preschool in December 2013 (Lyons Valley Preschool 2015). This newly established Preschool serves children ages 2.5-6 years of age.

St. Vrain Valley School District

Lyons Elementary and Middle/Senior High Schools are part of the SVVSD. This district is the seventh largest in the state with approximately 32,000 students (U.S. Department of

Education 2015). The district oversees 53 Pre-K-12th grade public, alternative, and charter schools across 411 square miles including the communities of eastern Boulder, Broomfield, Dacono, Erie, Firestone, Frederick, Hygiene, Longmont, Lyons, Mead, Niwot, Peaceful Valley, and Raymond (see Figure 3.2 for a map showing school locations and district boundaries). The organizational structure of the SVVSD is robust, with many individual departments equipped with their own leadership teams, to carry out daily operations across the 53 schools (see Figure 3.3 for the organizational chart in 2013). As I explain in more detail in chapter four, the staff that filled these positions at the time of the floods were experienced, highly educated, and had the resources available to respond immediately to the needs of Lyons schools. Lyons Elementary and Middle/Senior High Schools serve the largest geographic area of the SVVSD, covering many mountain regions and unincorporated areas. They draw children from further away than any other school and are in the westernmost region of the district.

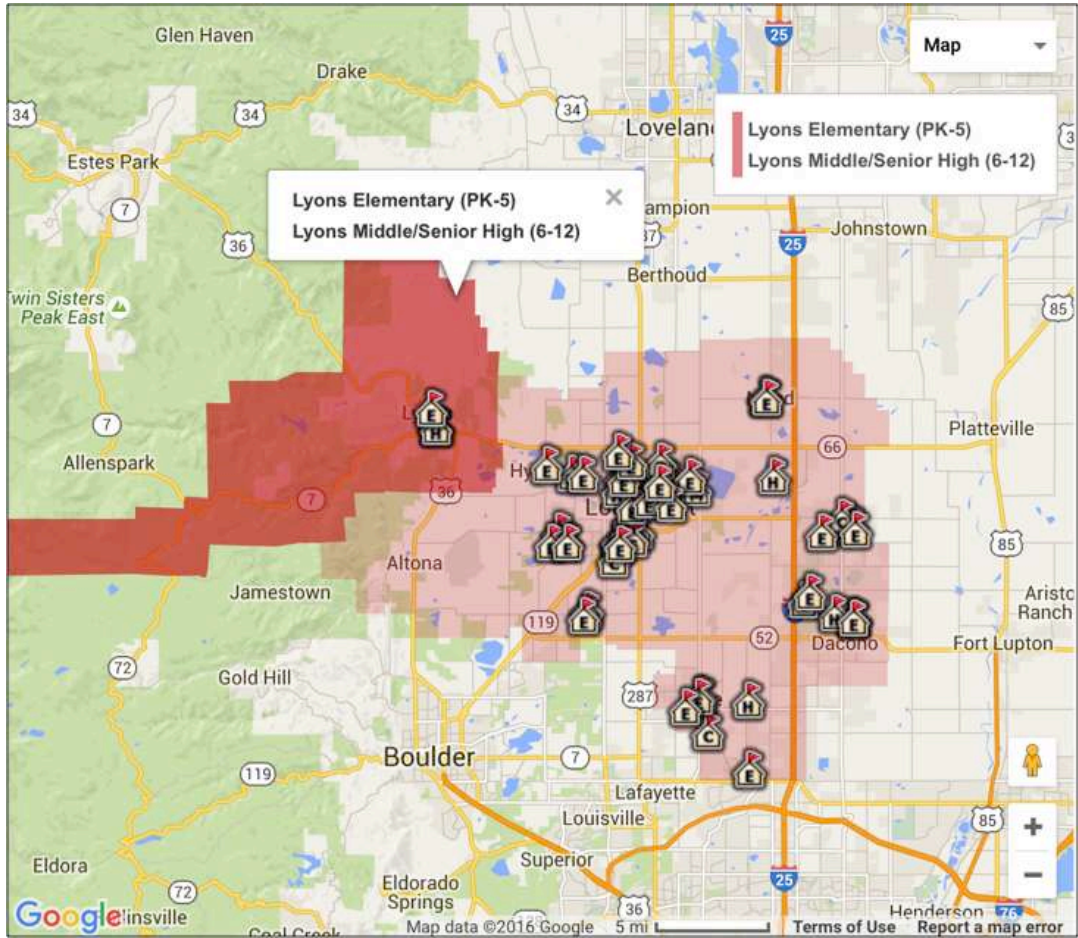


Figure 3.2 Boundaries of the St. Vrain Valley School District and Lyons Schools (St. Vrain Valley School District 2014a)

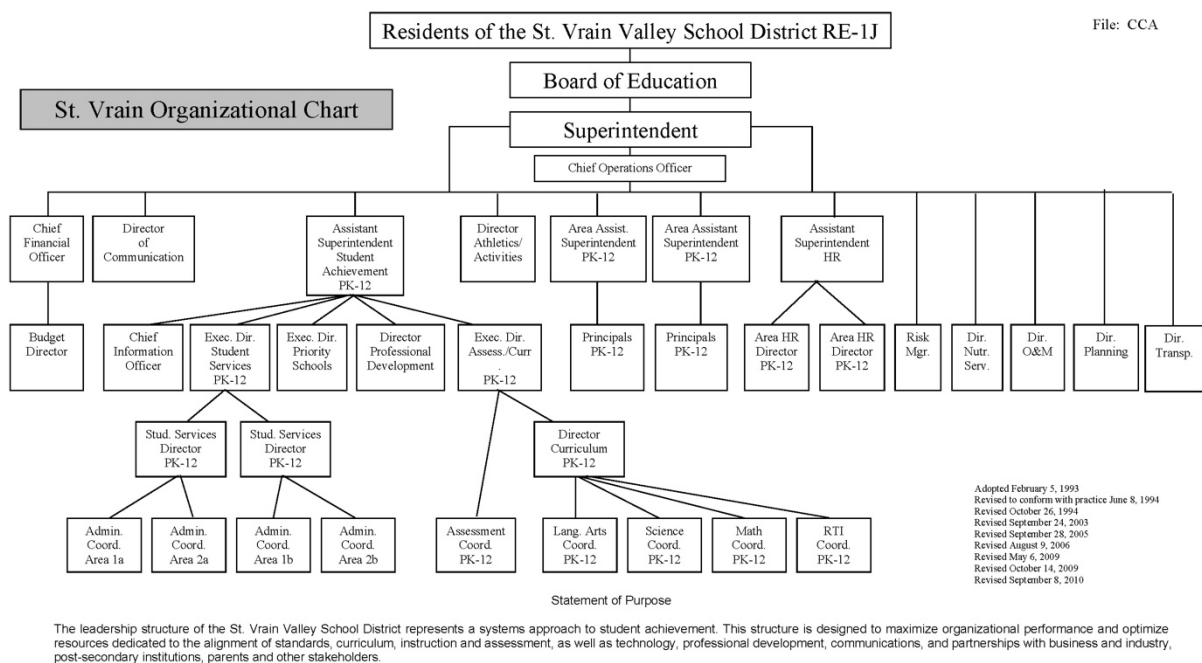


Figure 3.3 St. Vrain Valley School District Organizational Chart, 2013

St. Vrain Valley School District Employee Demographics

The SVVSD is a well-resourced school district with well-paid employees. In fact, the salary for the superintendent is the highest in the state of Colorado (Colorado Department of Education 2018). Principal and assistant principal average salaries are the fourth highest and average teacher salaries are the 17th highest out of 198 districts across the state (Colorado Department of Education 2018). The Colorado Department of Education (2018) also reports on the gender and race of principals, assistant principals, and teachers. In 2018, the SVVSD principals and assistant principals were 56% female and 94% white and teachers were 77% female and 93% white (Colorado Department of Education 2018). The SVVSD has a below average teacher turnover rate—11% for the 2014-2015 school year as compared to a 17.1% state average and 14% national average in 2014-2015.

Lyons Elementary School

During the 2013-2014 academic year, Lyons Elementary School enrolled 339 students, with 41 to 55 students in each of the K-5th grades (see Table 3.1) (U.S. Department of Education 2015). The elementary school population was 47% male and 53% female; 87% white, 7% Hispanic, and 6% other races (U.S. Department of Education 2015). During the 2013-2014 school year, 76% of students were eligible for free- or reduced-price lunch (U.S. Department of Education 2015). However, this was largely due to the McKinney Vento Act, which mandates that all homeless or displaced students be provided with a free lunch. This service was available for the entire 2013-2014 school year, even when students were no longer displaced. During the 2015-2016 school year, this number dropped back down to the typical average of 12% of elementary students being eligible for free or reduced lunch (National Center for Education Statistics 2017).

Table 3.1 2013-2014 Demographic Information for Lyons Elementary School (U.S. Department of Education 2015)

Lyons Elementary School (2013-2014 School Year)							
County:			Boulder County				
Grade Span:			Grades PreK-5th				
Locale:			Rural: Fringe (41)				
Magnet:			No				
Total Students:			339				
Classroom Teachers (FTE):			17.94				
Student/Teacher Ratio:			18.90				
Title I School:			No				
Free Lunch Eligible:			258				
Reduced-Price Lunch Eligible:			0				
Enrollment Characteristics (2013-2014 School Year)							
Enrollment by Grade							
	PK	KG	1	2	3	4	5
Students	31	41	55	55	53	49	55
Enrollment by Race/Ethnicity							
	American Indian/ Alaskan	Asian/ Pacific Islander*	Black	Hispanic	White	Two or More Races	
Students	0	8	6	25	294	6	
*Combined Asian and Native Hawaiian/ Pacific Islander Categories							
Enrollment by Gender							
			Male		Female		
Students			159		180		

Lyons Middle/Senior High School

During the 2013-2014 academic year, Lyons Middle/Senior High School enrolled 405 students, with 51 to 79 students in each grade (see Table 3.2) (U.S. Department of Education 2015). The school population was 51% male and 49% female; 84% white, 10% Hispanic, and 6% other races (U.S. Department of Education 2015). The year of the flood, 75% of students were eligible for free- or reduced-price lunch (U.S. Department of Education 2015); similar to the elementary school pattern, this dropped to 14% for middle and high school students in the 2015-2016 school year (National Center for Education Statistics 2017).

Table 3.2 2013-2014 Demographic Information for Lyons Middle/Senior High School (U.S. Department of Education 2015)

Lyons Middle/Senior High School (2013-2014 School Year)							
County:	Boulder County						
Grade Span:	Grades 6-12						
Locale:	Rural: Fringe (41)						
Magnet:	No						
Total Students:	405						
Classroom Teachers (FTE):	23.49						
Student/Teacher Ratio:	17.24						
Title I School:	No						
Free Lunch Eligible:	295						
Reduced-price Lunch Eligible:	7						
Enrollment Characteristics (2013-2014 School Year)							
Enrollment by Grade							
	6	7	8	9	10	11	12
Students	56	48	79	57	60	51	54
Enrollment by Race/Ethnicity							
	American Indian/ Alaskan	Asian/ Pacific Islander*	Black	Hispanic	White	Two or More Races	
Students	2	14	2	39	339	9	
*Combined Asian and Native Hawaiian/ Pacific Islander Categories							
Enrollment by Gender							
	Male				Female		
Students	206				199		

Data Collection

Choosing a sample is fundamental to the design of any qualitative study given that researchers can never study *all* people and places (Marshall and Rossman 2011). Marshall and

Rossmann (2011) discuss the importance of being critical when choosing sites to study to increase the quality of the data that is gathered. They recommend choosing research locations where:

(a) entry is possible; (b) there is a high probability that a rich mix of the processes, people, programs, interactions, and structures of interest is present; (c) the researcher is likely to be able to build trusting relationships with the participants in the study; (d) the study can be conducted and reported ethically, and (e) data quality and credibility of the study are reasonably assured (Marshall and Rossmann 2011:101).

The field study location of Lyons and Longmont, Colorado fit the above criteria for this case study. I reside in Fort Collins, which is a one-hour drive from Lyons and a 30-minute drive from Longmont where the SVVSD offices are located. My proximity to these field sites allowed the opportunity to immerse myself in the community throughout the data collection process and make frequent return visits to follow up on leads, schedule last minute meetings, and revisit many participants over the course of the study when necessary. I also spent many days working in coffee shops and walking around Lyons, handing out flyers about my research and posting them to community boards when appropriate. In addition, I had personal connections within the community that I drew upon to identify key stakeholders and gatekeepers for the study.

In addition to proximity, it is important to describe my positionality, here defined as “the notion that personal values, views, and location in time and space influence how one understands the world” (Sánchez 2010:2258). I am an educated white woman, like the identity of many of the research participants in this study. I also have school age children that are being educated in Northern Colorado in a neighboring district. I sit on the emergency planning committee for my own children’s schools and I had common connections with participants in this study and a good understanding of how the schools and district where I was conducting my research operated. This shared identity also made it easy for me to establish trusting relationships with key administrators, teachers, and parents as I was an “insider” or someone who belonged in that space and could identify and empathize with the issues and challenges they were facing. Of all

the qualitative research that I have conducted, the recruitment effort and interviewing for this dissertation research proved to be the least challenging.

Although proximity and positionality mattered, I ultimately chose to study educational continuity in Lyons because it is a unique case. There is a lack of scholarship that documents positive examples of post-disaster displacement processes for students. At the time that this project was developed, I was not able to find any other example of a school being able to keep all their students together and in regularly scheduled classes for the duration of a community wide displacement from a disaster. Therefore, to my knowledge, this is the first study of an educational continuity process following a disaster in the United States. In response to this gap in knowledge—and with the understanding that more children are placed in harm’s way every day as billion-dollar disasters continue to wreak havoc on communities across this nation—I conducted a case study to learn more about *what* conditions made educational continuity possible and *how* and *why* particular decisions were made by adults across the SVVSD to keep students and staff together following the 2013 Colorado Front Range Floods.

Sampling

For this study, I chose to use a “case cluster” method that is particularly suited for sampling organizational processes (McClintock 2006). With this approach, the researcher begins by defining the process as the unit of analysis and then identifies naturally occurring “clusters” where it is conceived that the organizational processes may be occurring (e.g. educational continuity as it is carried out by the school district, the schools, and the community). This method is helpful when it when it is not possible to create a full list of processes occurring within a specific case. By choosing the clusters and following the “grapevine” procedures, as defined in Table 3.3 below, the researcher systematically samples participants in a way that gives structure to the data. There are several advantages to the cluster sampling method including that it: 1)

facilitates hypothesis testing; 2) makes the data collection process traceable and replicable; and 3) improves the external validity of the research (McClintock 2006).

Table 3.3 Overview of a Case Cluster Sampling Procedure Using Grapevines as Units of Analysis (Adapted from McClintock 2006:80)

An Overview of a Case Cluster Sampling Procedure Using Grapevines as Units of Analysis	
Procedure	Reason
Stage 1—Define the process unit of analysis: “Grapevines are informal information sharing networks among organizational constituents.”	A definition is needed to identify the boundaries of data collection.
Stage 2—Identify process clusters: Grapevines could be identified by observing conversational or other communication patterns in connection with: events (school board meeting), locations (the lunchroom), and roles (support staff).	No list of grapevines exists.
Stage 3—Enumerate a list of grapevines from observation and interviews related to each of the above process clusters.	This will permit selection of a sample representing the purposes of the study.
Stage 4—Stratify the grapevines according to meaningful analytic concept(s).	This will ensure representation of important variation among the processes and will facilitate analysis.
Stage 5— Gather data on each grapevine.	Assess grapevine demographics and effects on organizational outcomes.

After conducting three exploratory interviews with key stakeholders to define and solidify my case, I identified the following clusters: 1) *Community Level*; 2) *District Level*; and 3) *School Level*. After defining and operationalizing each case cluster (see Table 3.4), I implemented a purposive sampling technique (Marshall 1996; McClintock 2006)—drawing from public sources such as news articles and community, district, and school websites—to locate key representatives at each level. Next, I used targeted and snowball sampling techniques to build my “grapevines” by asking participants to identify additional key people that captured the social networks involved in the educational continuity process (see Figure 3.4 for a breakdown of participants in the final sample). This required a flexible and pragmatic approach where participants were identified by other respondents based on their levels of involvement with the 2013 floods, their decision-making capacity and roles regarding continuity of operations plans, and their involvement in the educational continuity process. In the following sections I provide a

rationale for who is included in each of these clusters to establish meaningful boundaries for understanding the social processes that contributed to educational continuity in this specific context.

Table 3.4 Breakdown of Participant Categories by Cluster Type

Cluster 1: <i>Community Level</i>	Cluster 2: <i>School District Level</i>	Cluster 3: <i>School Level</i>	Total
Local Government and Community Organizations-including Non-Profit, Faith-Based, Art- and Youth-Based Sectors	Athletics, Community Schools, Construction and Maintenance, Custodial Services, Emergency Management, Financial Services Homeless Education, Nutrition, Operations, Technology Services, Transportation, Superintendent's Office	Administration, Counseling Services, Emergency Management, Parents, Students, Teachers	
N=7	N=17	N=43	N=67

Levels of Analysis

Community Level. (N=7) In his work on small N's and community case studies, Harper (1992) argues that the sociological definition of community can take many forms depending on what boundaries the researcher uses as criteria for establishing who exists within or outside of any given community of interest. For the purposes of this dissertation, I define the "community level" as those individuals in Lyons who were heavily involved in the immediate disaster response following the 2013 Colorado Front Range Floods.

The community level includes people who: 1) were identified during my initial exploratory interviews as being key decision makers during response and recovery for Lyons; 2) were in official leadership positions, whose work influenced outcomes for students and families; or 3) had the potential to, or did in some way, contribute to the reuniting of students and the subsequent educational continuity process for Lyons Schools. These are community leaders who were not a part of the SVVSD, but whose social and political location in the community of Lyons made them actors in the educational continuity process. This included representatives

from the Town of Lyons, Lyons Board of Trustees, local churches who helped to house evacuees and provide resources, and support persons that became integral to the response as the disaster unfolded.

District Level. (N=17) The district level was more easily characterized by what Harper (1992) calls “bureaucratically derived boundaries.” These are clear inclusions based on the employee structure that is predetermined by the organization itself. To best capture the educational continuity process, I interviewed key district administrators in leadership roles that had decision-making capacity to shape outcomes for Lyons students and schools. Departments represented included the official district leadership administration team, emergency management, transportation, food and nutrition, building operations and maintenance, custodial services, homeless student services, IT, planning, and athletics. Although community and school level representatives play an important role in the post disaster recovery process, my research revealed that educational continuity is carried out—and most heavily influenced by—the capacity, resources, and political will of the school district.

School Level. (N=43) School level representatives were comprised of a diverse group of individuals spanning many levels of influence. The individuals in this level were conceptually grouped by the uniting goals of 1) being particularly concerned with and responsible for student well-being, and 2) sharing the physical and social space where educational continuity was being carried out (i.e. the school buildings).

The school level included principals, front office staff, school resource officers, counselors, teachers, parents, and students. In terms of being actively involved in carrying out an educational continuity plan, each group within this level played a unique role. Principals were the most actively involved in planning and response, working closely with the school district to carry out specific goals and tasks related to educational continuity. Teachers were instrumental in

acting as the conduit of information between the district, principals, and the students and families they serve. They were also in a unique position to be the first responders to emotional, behavioral, and educational needs of students in the classroom. If they did not resume their roles as teachers, and if they did not act in the best interest of their students, no educational continuity plan, no matter how robust, would have been successful.

The school level also includes the parents and students who were the focus of the educational continuity process. Although students and their families were involved in community meetings and discussions that led to the decision to keep students together, it was not their responsibility to reopen schools, employ and train teachers, or carry out the educational continuity plan. Yet, for the purpose of this case study, their voice was vital in helping to characterize the educational continuity process. Without the feedback of this community, I would not have been able to clearly evaluate the success of the leadership at the school and district levels, nor would I have been able to properly characterize the self-reported recovery trajectories of students and how specific approaches and mechanisms (such as art projects) affected their well-being.

Given that this study is exploratory and descriptive, it was not my goal to draw a random sample. Ungar (2003) argues that instead of generalizations, qualitative research provides rich, locally constructed accounts of a phenomenon that can bolster transferability across contexts. In addition, Lareau (1996:231) suggests, “What qualitative research can do is illuminate the meanings people attach to their words and actions in a way not possible with other methodologies.” As such, my approach to sampling was to fulfill the specific goal of including people who could speak to the planning for and carrying out of an educational continuity process. In addition, I sampled to include students, families, and staff who were affected by this

process to create a case study that could be utilized by district and emergency managers in the future to improve their own continuity of operations plans.

Dissertation Sample

Given that Lyons is a small town, many of the participants in this study had roles that spanned two or even all three of the cluster types. As much as researchers try and develop clean and discrete sampling strategies, field work often exposes the complexity of social structures and the human experience. Accordingly, qualitative researchers need to be flexible and adapt to these circumstances. During my sampling and data collection process, I quickly realized that many of the community leaders and school employees were also the parents of students who attended Lyons Elementary and/or Middle/Senior High Schools. When this information was revealed, I adapted my interviewing strategy by using two interview guides. I asked questions about both their official capacity in the decision-making process as well as their experiences as a parent during this time (see Figure 3.4 for a breakdown of participants by their lead and secondary classifications).

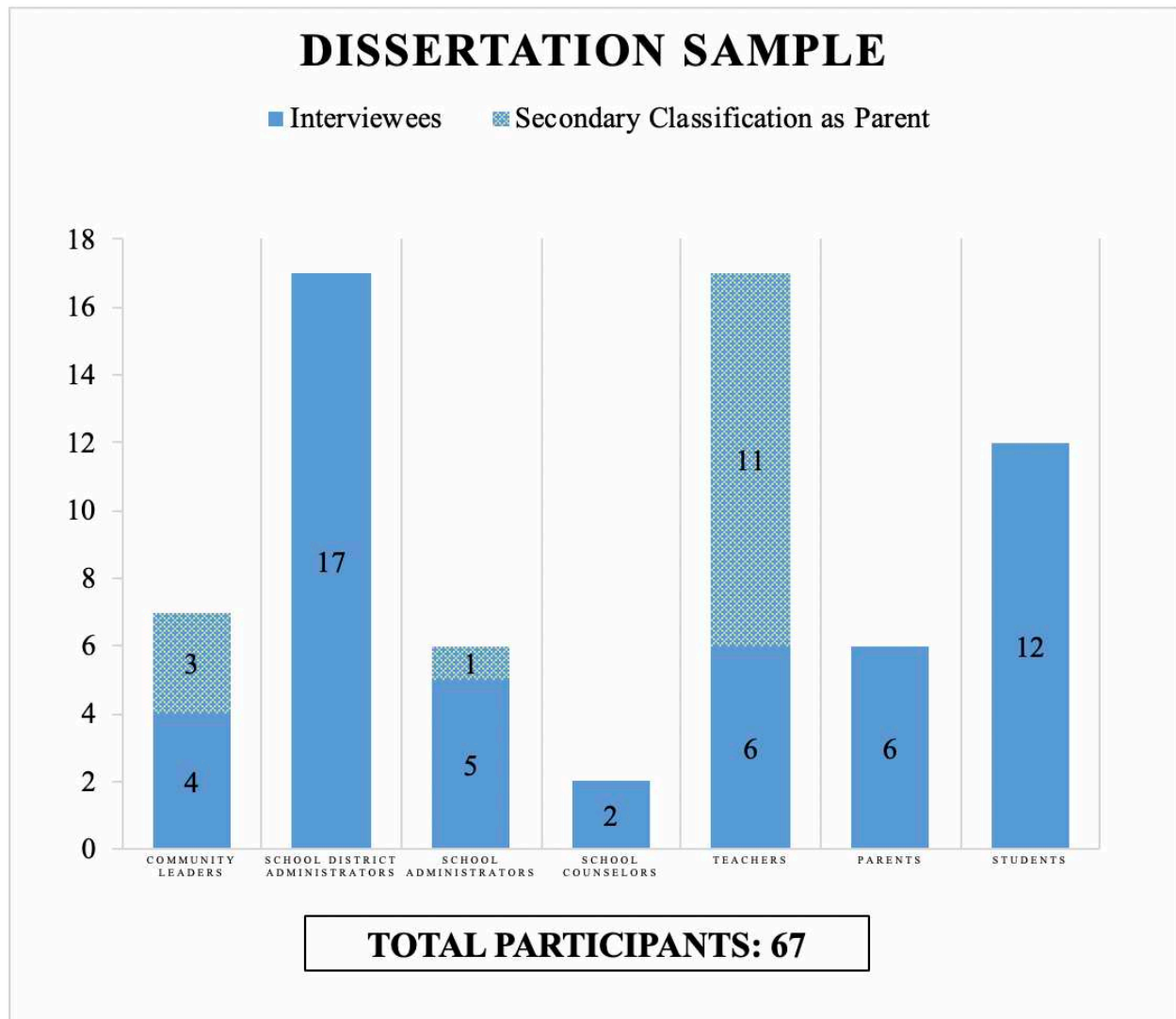


Figure 3.4 Dissertation Sample by Role (The shaded sections represent participants in that category that were also parents of students at Lyons schools in 2013)

To illustrate, I interviewed only six participants that fell into the “parent-only” category. However, 15 other participants—that I originally requested to interview based on their professional roles—were also parents. This is not only a methodological nuance that makes reporting sample numbers somewhat blurry. It had real ramifications in the context of the educational continuity process, as many of the people who were making important decisions on behalf of the school and community were also making these decisions based on their personal experiences as parents wanting what was best for their own children. To be clear, I did not

double count these interviewees, but it is important to acknowledge their dual roles and how they influenced the data generated.

Gaining Entree

During the aftermath of the 2013 Colorado Front Range Floods, I began volunteering at the local disaster assistance center and attending long-term recovery meetings for Larimer County. I initially started volunteering for purely personal reasons, but over time I realized that this would be a perfect fit for my dissertation research as I was already learning so much and getting to know many of the key actors and gatekeepers in this space. My dissertation topic crystalized when I met a woman who was an active lead on the long-term recovery committee and a parent of a Lyons Elementary School student. Larimer County happens to border Boulder County, where Lyons is located. Although this woman's home was in the southwestern corner of Larimer County, she was in the SVVSD boundaries. I told her about my research interests and she immediately began telling the story of the Lyons schools. I expressed a desire to learn more and she graciously offered to introduce me to the principal, staff, and other parents whose children attended her son's school.

Qualitative researchers have long documented the importance of gatekeepers for helping provide access to communities of interest (Marshall and Rossman 2011; Phillips 2014). These initial connections were invaluable in helping to gain entrée into the field. Having the support from a local parent gave me credibility and opened access to many circles of people who may not have been willing to talk to me otherwise. In fact, we conducted my first scoping interview together, which was helpful in that she asked questions and raised topics that I would not have known to ask about.

There are challenges worth noting regarding conducting research in schools following disaster. As Mutch and Gawith (2014) found, researchers might have difficulty using schools as

research settings following a disaster because the school buildings may have been damaged and out of service, staff time might be compromised as they are dealing with their own recovery and that of their students, and/or school and district staff may need the time and space to focus on their primary goals of reestablishing routines and continuing to educate students. To respect the needs of the SVVSD community, I did not begin collecting data until the early spring of 2016, two and half years following the disaster event. This meant that students and staff had returned to their normal routines and interviewees were no longer struggling with the day to day challenges of response and recovery.

Participant Recruitment

My gatekeeper helped establish initial connections for this research and provided a few personal emails and phone numbers for people that she thought would be important to interview for my study. In addition, I made lists of people I was interested in interviewing from the Town of Lyons and the SVVSD websites, where I selected possible participants based on their leadership in each department that was involved in the disaster response or the displacement and educational continuity process, respectively. I utilized the same strategy for each of the schools and made lists of staff and teachers I hoped would participate. Once I had all my lists created, I sent out emails to each person explaining the goals of my research and asking them to participate in my study. Given that this population is made up of professionals with public email addresses and regular office hours, this was a relatively easy process. However, one challenge I faced was that I was hoping to interview people over the summer and many of the teachers were not available during this time of year. Therefore, it took many more follow-up emails and a delay until the fall semester for me to locate and interview the teachers for this study.

Recruiting parent and student participants required more creative approaches as their information was not publicly available and it was not legal for district or school level informants

to share personal information for Lyons families. I initially began by contacting the referrals that were given to me by my gatekeeper. I also followed Facebook groups such as “Lyons Happenings,” “Lyons Mamas,” and other pages related to Lyons schools and the SVVSD, where I posted information about my research and an invitation to participate. I used snowball sampling strategies, asking each parent I interviewed to refer me to other parents who might be interested in my study.

In addition to asking parents I interviewed if I could interview their children, I also contacted the students that were listed as authors in the *Our Town, Our Story* flood book. Given that these students were adults at the time of my research, I felt that it was ethical to send them messages directly through social media and emails that I was able to find online. This generated many responses and the students seemed eager to be interviewed and referred me to their friends as well.

Interviews

To answer the research questions guiding this study, I conducted in-depth interviews with members of the previously described participant categories. I used Rubin and Rubin’s (2012) responsive interviewing style, which involves asking main questions, probes, and follow-up questions that emphasize “the importance of working with interviewees as partners rather than treating them as objects of research” (p. xv). To explore how educational continuity was achieved following the 2013 Colorado Front Range Floods, I used a semi-structured interview guide to ensure that “the participant’s perspective...unfold[s] as the participant views it (the *emic* perspective) not as the researcher views it (the *etic* perspective)” (Marshall and Rossman 2011:144) (see Appendix A for Interview Guides). This is a fundamental tenet of qualitative research.

After my initial scoping interviews, I decided to interview community leaders, school district employees, and school administrators because of their leadership positions and responsibility to act as decision makers in the post-disaster context. This allowed me to more fully capture the perspectives, judgments, and actions that were made by a network of adults on behalf of the students at Lyons Elementary and Middle/Senior High Schools. Next, I interviewed parents and students who experienced the educational continuity and displacement process. Although the decision-making processes are the focus of this research—which primarily took place at the administrative level—I interviewed parents and students to contextualize how they viewed this process and to describe what it meant for their overall recovery from the disaster. Interview questions were organized around themes including plan development, timeline of events, decision-making, implementation procedures, and lessons learned. While there were certain questions that I asked of all interviewees, I also adapted my interview guide based on the specific roles and responsibilities of each participant. In addition to semi-structured interviews, I also informally met with some key participants multiple times to verify new findings or to get more information about specific areas of interest.

I collected data from April 2016 through December 2016. All interviews took place in the location most convenient for the participant. Interviews were conducted in offices, classrooms, coffee shops and restaurants, and in family homes. I went to the place that the interviewee felt most comfortable and identified as the site where he or she wanted to be interviewed. I also conducted three interviews over the phone with individuals who either no longer lived in Colorado or were unavailable for an in-person meeting. Each interview was recorded with an Olympus digital audio recorder. Interviews lasted between 30 minutes and two hours. Open-ended interview questions allowed for consistency between interviews, while providing

flexibility so that the participant could frame and structure the responses from their own perspective (Marshall and Rossman 2011).

Secondary Data

To supplement the interviews and achieve methodological triangulation, I collected many forms of secondary data to further document the educational continuity process. I scanned and/or uploaded each piece of secondary data described below into ATLAS.ti—a qualitative data analysis and research software—for content analysis to help contextualize and verify findings from qualitative interviews. In total, I uploaded 79 text, image, and video files for analysis. I describe the types of secondary data I collected and analyzed in greater detail below.

First, Lyons Elementary and Middle/Senior High Schools assisted students by providing creative outlets for them to explore their flood experiences through photo stories, drawings, and writing. These stories were then published in two books and distributed to community members: *Our Town, Our Story*—written by Lyons High School students (Busby and Campagna 2014); and *Through Our Eyes: Lyons Elementary School Children Remember the September 2013 Flood*—created by Lyons Elementary students (Thomas 2014).

Second, I gathered disaster preparedness plans¹ from Lyons Elementary and Middle/Senior High Schools and the St. Vrain Valley School District, as well as emergency guidance documents at the city, county, state, and federal level to compare school preparedness, evacuation, and displacement policies. This allowed me to analyze the preparedness and emergency operations plans that were in place and to better understand how these were created and adapted in real time to meet the needs of Lyons students. The documents updated after the floods highlight the lessons that were learned and identified areas that were changed to prepare for future disasters. I read these documents and coded them for specific guidance and protocols

¹ I was specifically asked not to share the plans, emergency response charts, and other supplemental data I collected in my dissertation because they contain personal information about SVVSD staff members.

around continuity of operations planning and the laws and standards that were in place pertaining to disaster preparedness and recovery for schools in Colorado.

Third, I gathered video recorded community and school meetings that were posted on the Town of Lyons and SVVSD websites, respectively. I also gathered news articles written about Lyons during and following the floods—with special focus on community recovery and schools—to provide a contextual narrative within which to frame my study. Fourth, on multiple occasions, the families I interviewed generously offered to share personal email communication from the schools, photos and videos of the flood related activities, and personal writing and social media pages dedicated to flood recovery.

Finally, I collected Lyons Elementary and Middle/Senior High School data from before and after the floods, including enrollment and demographic numbers for students, and salary and demographic data for district employees and teachers. I used the U.S. Department of Education and U.S. Census websites to gather these quantitative indicators.

Data Management and Analysis

At the outset of the interviewing process for this research, I created an interview matrix that included the name, date, time, and length of the interview. At the end of each week of data collection, I submitted all audio recordings to a professional transcriptionist to be transcribed verbatim and cross-checked for consistency. As soon as the transcripts were returned, I uploaded them into ATLAS.ti so that I could begin analyzing the data as the research unfolded. I stored all collected data in a secure and password protected location in my home and on my computer. I erased the names of the participants and replaced them with numbered identifiers.

Rubin and Rubin (2005:201) explain that data analysis is a process that begins with raw interviews and moves to an interpretation that entails, “classifying, comparing, weighing, and combining material from the interviews to extract the meaning and implications, to reveal

patterns, or to stitch together description of events into a coherent narrative.” Throughout the research process I performed preliminary data analysis to identify emerging themes. Ambert et al. (1995:884) contend, “Qualitative research often begins initial analysis even while data are being collected” and that “the process of doing qualitative research is cyclical and evolutionary rather than linear-as is the process typical of quantitative research.”

Before beginning the data analysis process, I created an initial codebook in a Word document. This process captured a list of potential themes and initial codes that were likely to emerge from the data given my research questions and design (Marshall and Rossman 2011). Once I began coding, many more codes and memos were added to the codebook as new themes emerged. Data analysis occurred in three stages: 1) *open coding*—searching for the most general themes and patterns that emerge in the data; 2) *axial coding*—searching for more generalizable thematic patterns; and 3) *representative coding*—selecting interview quotes that represent relevant findings (Marshall and Rossman 2011). I revisited and reread transcripts multiple times as new themes emerged, and new codes were identified. In the end, I generated 248 unique codes and grouped them into 20 main thematic categories that I used to organize this dissertation and tell the story of educational continuity in Lyons (see Figure 3.5 for an example of my ATLAS.ti codebook).

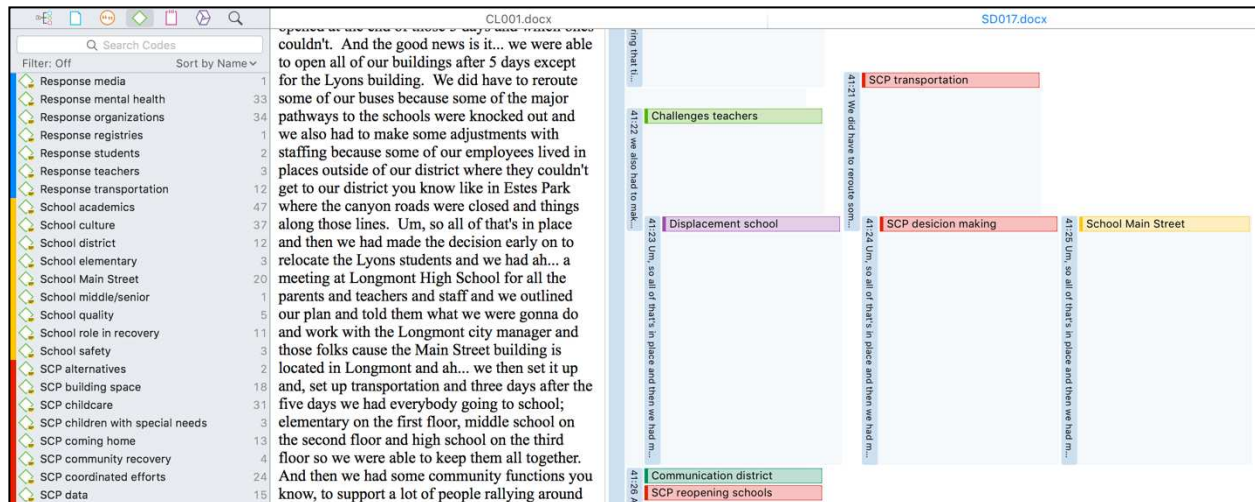


Figure 3.5 ATLAS.ti Codebook

Ethical Considerations and Limitations

There are many ethical considerations in all research that involves human subjects. As mentioned above, the first step for my dissertation was to clearly outline the details of my study and submit a proposal to the Institutional Review Board (IRB) at Colorado State University prior to collecting any data. Although there are many resources available regarding ethical standards for conducting research with human subjects, there is little guidance available that addresses the “ethical landmines” that arise when doing disaster research, especially during the long-term recovery period (Browne and Peek 2014). Researchers need to be aware that participants may have unique and complex vulnerabilities and heightened emotional states as they have often just experienced a traumatic and potentially life changing event (see Appendix B of Fothergill and Peek 2015).

Browne and Peek (2014) argue that the work of the IRB—typically highlighting ethical issues in the development stage of research projects—does not extend to identifying ethical dilemmas that occur at later stages in the data collection process. They build on the work of W.D. Ross to highlight the need for disaster researchers to build an “ethical toolkit” to “help sharpen critical awareness and help recognize when there are competing moral considerations at

play,” especially when conducting long-term ethnographic post-disaster research (Browne and Peek 2014:114). This is a highly reflexive process where the responsibility is on the researcher to make ethical decisions that are sometimes unclear regarding *fidelity, reparation, gratitude, justice, beneficence, self-improvement, and non-maleficence* (Browne and Peek 2014).

Throughout my research, I was mindful of the complex ethical issues that could arise and followed recommendations by Browne and Peek (2014:92), who argue for an “ethics-as-practice” approach as each stage of research progresses.

One major ethical consideration for this research is the fact that I have chosen to reveal the location where the research took place and the schools that the students attend. Even if I were to use pseudonyms for the school names, there is only one elementary and one middle/senior high school in Lyons. Moreover, it is difficult in disaster research to make the location of the event anonymous, as so much of the recovery process—and the utility of the findings—is tied to the place where the event occurred. Therefore, to maintain as much confidentiality as possible under these circumstances, I am using pseudonyms for all the individuals that participated in this research. Throughout my writing, I minimize personal descriptions that could reveal a person's identity or professional role. For instance, I use general terms like “community leader” or “school administrator” instead of specific job titles or affiliations as there is often only one person who assumes that specific role. The one exception where I do use people's given names is when I am quoting or relaying information from a publicly available online source. I hope that being diligent in protecting individual identities helped to reduce some of the ethical dilemmas of the project, although I know it is possible that some respondents could be identified.

I began collecting data two and a half years after the disaster. The distance from the event could be considered a limitation as individual and collective narratives may have been concretized and much of the detail and nuance could have been lost. However, I felt that it was

important to give the community time to recover and allow educational continuity to fully play out before trying to analyze the process. Future studies should collect data during all phases of an educational continuity process to capture the changing influences on decision making over time.

Another limitation of this study is that the families at Lyons Elementary and Middle/Senior High Schools are largely white, upper middle class, and highly educated and the schools and the district are affluent as well. Given these characteristics, Lyons students are akin to what could be considered “resilient” in disaster literature. This highlights a concern that positive outcomes associated with this approach to educational continuity might be attributed as being only possible for highly resourced schools that serve more privileged students. As findings in this dissertation suggest, social and material resources are necessary for schools to respond to disasters and help children recover. However, it is my hope that some of the lessons learned from this research will also be transferable to school districts with fewer resources and serve as an example of how critical it is that we adequately fund schools, so we can better serve students when disaster strikes.

Although Lyons is a small and relatively homogenous community, this research contributes to our understanding of what is possible in terms of continuity planning for schools in disasters. The findings may not be directly replicable or transferable to a large city or a more ethnically and economically diverse location, yet, the policy outcomes that may arise from this research have significant potential to change the way school displacement and continuity of operations in disaster are understood in the context of community recovery. At the very least, this research will add to the dearth of knowledge available offering best practices for schools hoping to better protect their students and build community resilience.

Personal Biography

My original interest in studying disasters came from growing up on the east coast of Florida, which is frequented by hurricanes and tropical storms. Living through Hurricane Andrew in 1992, where many of my family members in Miami lost their homes, made me keenly aware of the devastation and long-term impacts of disasters. When Hurricane Katrina struck on August 29, 2005, I was living in Fort Collins, Colorado. Like many other people around the world, I was glued to my television screen watching the heart wrenching disaster unfold before my eyes. But this time, I was holding my nine-day-old baby girl and viewing this event through a new lens; that of a mother. At that moment, I felt devastated and helpless. I sat with my daughter in the safety of my home and watched my fellow new moms on the streets of New Orleans, holding their own infants crying and scared, likely not knowing how they would be able to keep them safe from the tragedy that was unfolding around them.

When I began graduate school at Colorado State University one year later, I knew that I wanted to do research that helped mothers. After Lori Peek invited me to conduct fieldwork with her and Alice Fothergill in New Orleans in the summer of 2007 to study the experiences of children following Hurricane Katrina, I knew what I would do for my master's thesis. In that work, I interviewed single mothers who were displaced from Hurricane Katrina to Colorado and the resource providers that assisted them when they arrived to the state. This research highlighted the downward mobility that single mothers were experiencing and the glaring gap between resources that were being provided and those that were being accessed by single moms (Tobin-Gurley 2008; Tobin-Gurley, Peek, and Loomis 2010).

When flooding began in Colorado in September 2013, my attention was again drawn to the devastation unfolding on the screen, but this time, the disaster was happening much closer to home. Now with two school-age children of my own, and a few years of a PhD program

completed, I was ready to decide on a dissertation research topic. As Adler and Adler (1987) argue, sociologists embarking on qualitative research should start where they are socially and geographically located. There are advantages to choosing a study location close to where you live and a research topic that is familiar and relevant to your own life. As I explain above, my personal volunteer work following the floods connected me to key actors in the response and recovery efforts in Northern Colorado who helped identify the displacement and educational continuity process that was unfolding for Lyons Schools. As an active member on the emergency management committee at my own children's schools, and with even more awareness of the lasting impacts that extreme events have on vulnerable populations, I knew I had to conduct research that could improve the way schools across this nation prepare for and respond to extreme events. I believe that the unique opportunities provided by disasters deepen our understanding of the forces that threaten a child's welfare, and those that protect it.

CHAPTER 4: RESPONDING TO DISASTER

This chapter provides a detailed account of the actions that led to educational continuity for Lyons Elementary and Middle/Senior High School students. The purpose of this chapter is to describe specifically *how* the St. Vrain Valley School District (SVVSD) kept students together during the community-wide displacement of Lyons residents following the 2013 Colorado Front Range Floods. The findings in this chapter are supported by interview data from key community leaders, district and school administrators, teachers, staff, and students to highlight the decision-making processes that followed the flood.

The subsequent sections are organized to reflect the efforts made by the SVVSD and Lyons Elementary and Middle/Senior High Schools. First, I offer an overview of the unfolding disaster and the immediate community response in Lyons to contextually ground and elucidate how community leaders responded to the event. Second, I explain how the district moved into action in the immediate aftermath, highlighting the important communication efforts and financial resource management strategies that laid the groundwork for a successful and swift path to educational continuity. Third, I discuss how the district organized the school displacement process and the logistical efforts that were necessary to continue educating 744 pre-K through 12th grade students just 12 days (7 school days) after widespread flooding forced school closures. Finally, I argue that this case study demonstrates that it is not only a well written plan that leads to positive outcomes, but also a series of well-intentioned, well-resourced actions carried out by well-trained school leaders that contribute to educational continuity for students after a disaster.

Community Response

Before offering a detailed account of how Lyons schools and the SVVSD responded to the 2013 floods, it is important to first document what was unfolding at the community level. When a disaster occurs, life safety is the top priority for emergency responders. Before a community can think about repairing infrastructure, rebuilding homes, or getting children back to school, they must make sure everyone has basic needs met. In this section, I provide relevant information regarding the context of the flooding as it unfolded in Lyons, Colorado in September 2013 (See Figure 4.1 for a timeline of flooding in Lyons, Colorado).

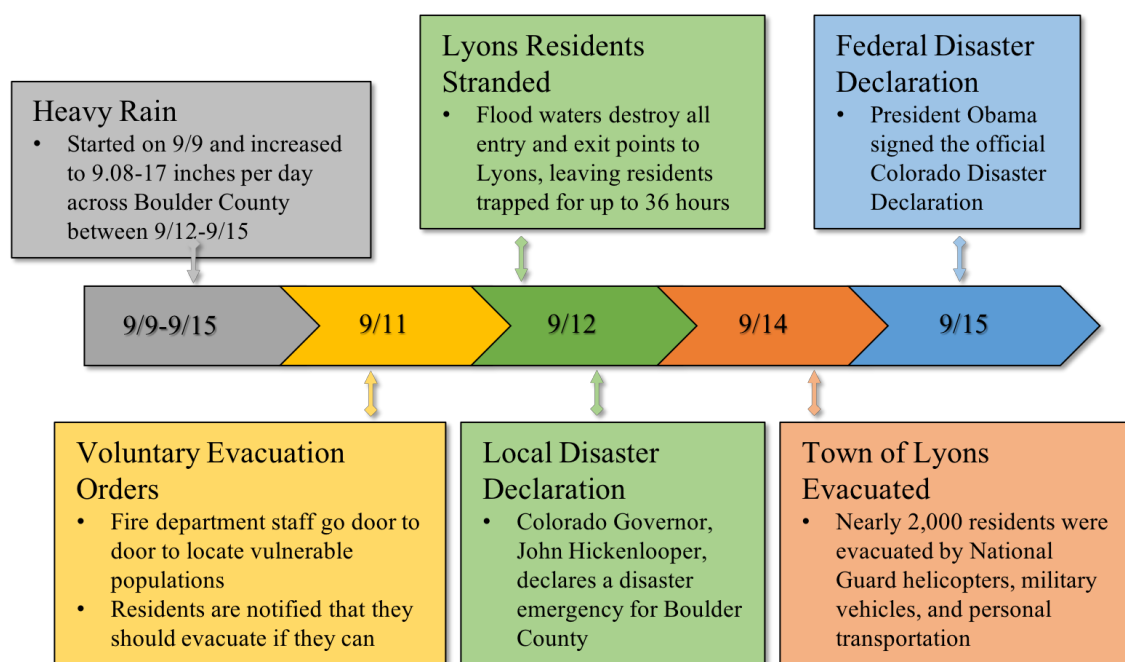


Figure 4.1 2013 Lyons Flood Timeline

As discussed in the introduction of this dissertation, Boulder County was inundated with rain beginning on September 9 and increasing to 9.08 to 17 inches of rainfall per day between September 12 and September 15, 2013 (Boulder County Flood Recovery 2013). Lyons was one of the hardest hit by flash floods, where the St. Vrain Creek grew to ten times its normal size, leaving residents stranded on six islands that were isolated due the destruction of roads and bridges, eliminating all entry and exit points to the community (Pittman 2014). Approximately

2,000 residents and visitors who decided to stay put as the flooding began, had to remain for 36 hours before they were able to evacuate to neighboring communities.

As days of near constant rain saturated the ground and rivers began to swell, emergency response personnel had to make many choices rapidly to keep Lyons residents safe. One major decision that community leaders faced was whether to issue a mandatory evacuation order. In times of disaster, carrying out a mandatory evacuation can be a highly contested financial and political decision that has safety and time constraint ramifications (Fairchild, Colgrove, and Jones 2006). The reason for this is because once a city decides to issue a mandatory order, they are then legally responsible for enforcing it. This includes requiring people to leave their homes, issuing fines or other penalties for those who violate the order, and redirecting critical resources, such as law enforcement, to carry out evacuation orders rather than prioritizing first response efforts (Fairchild, Colgrove, and Jones 2006).

A town leader in Lyons knew that this would not be received well by many members of the community who were capable of living “off-the-grid²” and would prefer to remain in their homes, even without power, water, or other public services. Despite her concern that it was not safe to stay in Lyons, Laura, a key person involved in many of these decisions, explained why they did not force people to leave,

That was a discussion that we had between law enforcement and the town. If we said that you have to evacuate, then law enforcement had to arrest people. That’s why we made that decision. We really wanted everyone to evacuate to make things easier. It was not safe. Period. We had no fire protection for three months. So, if one person was using a candle and started the house on fire it was going to take the whole town out.

We made the decision that there were people very capable of living off the grid in the area. But, [we said], especially if you have children, we really want you to go, but we are not going to force you to go.

² Living “off-the-grid” means that homes are self-sufficient and are not connected to public utilities. This is common in mountain and rural communities where municipal utilities are either not as available or people choose to live disconnected from public utilities due to political ideology, for economic reasons, or to live a sustainable lifestyle.

Lyons emergency operations staff issued a voluntary evacuation order and sent out messages to climb to safety and shelter in place. Laura—and the rest of the limited emergency management team available—worked around the clock to assess the situation, notify people of the damage that was occurring and the dangers of staying, and keep them apprised of the developing plans to get people out of harm’s way.

On the evening of September 11, 2013, after two days of rain that had not subsided, the fire department staff began going door to door to check on vulnerable populations in the area that were pre-identified on an emergency list created by the Town of Lyons. At the time, they were encouraging people to evacuate as they knew the situation was only getting worse. Laura explained,

Around 11 p.m. [on the night of September 11] is when we started telling people to get out. We have a list of the most vulnerable that the fire department checks in with regularly. So, their staff went out and started communicating door to door with those people.

At the same time, Laura began notifying public works that the water was rising rapidly. Next, she contacted the town clerk—who also served as the web master—and said, “I’m going to need you to e-blast and get an emergency signal out to folks via our system. That it’s time to go to high ground. Meet me at Town Hall.” By the time they made it to the Town Hall it was approximately 12:30 a.m. on September 12 and the building was already beginning to take on water. She recalled, “All of our records dating back to the 1800’s are in this building. We started moving records from low areas up onto tops of desks and [the town clerk] was e-blasting the community updates that the banks were out and people needed to seek shelter.”

Through the early hours of September 12, Laura and her limited staff who could make it to Town Hall began calling people on the phone tree to see if they could get the local church opened as shelter for those who needed to flee their homes as the sirens began to alarm residents at 2:00 a.m. They quickly realized that the space would be too small, and they would need to

open Lyons Elementary School for sheltering. Unfortunately, no one at the town hall had a key to open the locked school so they had to track down a teacher who lived nearby to open the building. As the night wore on, it became clear that very few people could make it to the main island and that immediate evacuation out of Lyons would not be possible.

As daylight broke on the morning of September 12, the gravity of the situation and the extent of the damage was visible. The town administrator decided to begin making announcements and providing updates at Sandstone Park in Lyons, which she did every day for the next three days until they were able to begin evacuating residents. Laura, a representative from Lyons, explained how that first day unfolded and how they were able to communicate with residents who were isolated across six islands,

The morning of the 12th was when we realized how serious it was. We told people that we would do updates, every couple of hours, and then we would have another formal update that afternoon and again the next morning. The rest of that day the shelter went into full gear. We started realizing people couldn't get to it and they needed to shelter in place, so we set up a communication system that night. I needed to get four board members in to have a quorum [to officially declare a disaster]. They hiked over the hill...we have pretty athletic people. The board and I decided to identify someone on each island that was medical personnel or had medical background, someone who had some form of emergency training, and then someone who could coordinate communications.

When asked how it was possible to identify residents with these skills so quickly, Laura explained that it was based on preexisting relationships that she and other city council members had with the residents of Lyons.

On September 12, 2013, Colorado Governor John Hickenlooper declared a disaster emergency for Boulder County, along with 13 other counties along the Front Range of Northern Colorado. It was 36 hours before anyone from outside of Lyons was able to make their way into the town to begin assessing the damage and coordinating plans for evacuation. Once the floodwaters began to recede slightly, the National Guard was able to help fly or drive people out

of Lyons to the neighboring communities of Longmont and Boulder. Laura explained how the evacuation process unfolded,

We have about 2,000 people that live in the town limits and then there's about that many, if not a little more, that live in the [surrounding] area that has Lyons as a zip code. Those were the folks that helicopters were landing at the high school for regularly. They landed on Main Street. Most of our folks met at the elementary [school] and loaded up to evacuate. Some people who had a place to go drove out. It was very different for everyone. The most vulnerable—the ones who had lost everything—they went by National Guard with what they had and went to the evacuation center at Life Bridge Church in Longmont. They were very organized.

On October 15, 2013 President Obama signed the official Colorado Disaster Declaration. By this time, nearly all the residents of Lyons had evacuated, and the town was officially closed to public access (Lyons Recovery Action Plan 2014).

District Response

How a school district responds to a disaster is largely influenced by preparedness plans, access to financial and material resources, community context, and pre-existing relationships and social networks that can be accessed and built upon in the aftermath of an event. Mutch and Gawthi (2014:57) contend, “Post-disaster social relationships are important predictors of coping and resilience.” (See Bonanno et al. 2010, Cahill et al. 2010, Gordon 2007, and Prinstein et al. 1996 for more research in this area). Once the disaster strikes, it is critical that these material and social resources are utilized effectively to make informed decisions in the best interests of the students and staff that are affected. As illustrated below, the SVVSD made significant efforts to evaluate the unfolding disaster, build on pre-existing relationships, and communicate effectively with parents, staff, and students. They made many swift and informed decisions to get students back to school safely and efficiently and utilized multiple forms of communication with parents, students, and staff to keep everyone informed in the days, weeks, and months following the flood. (See Figure 4.2 for a timeline of school displacement for Lyons Elementary and Middle/Senior High Schools).

Anna, a lead emergency management staff member at the school district, attributed the success of the immediate response to the preexisting relationships between local government, the school district, and the communities of Lyons and Boulder,

We worked really closely with the mayor and the town administrator at Lyons. We worked closely with the Boulder Sheriff's Department and with the fire department. I think a lot of those successes are based on the fact that we had the relationships that we had. We've reached out to them before. It wasn't like meeting the mayor for the first time or working with the Sheriff's Department for the first time. I'm on a first name basis with the Sheriff and first name basis with his sergeant that works that area. I know the fire chief, and all of those things... it's not just me, but [the superintendent] and other key players. We already had built somewhat of a professional relationship with all the key players, and that's huge cause you don't want to do that in the middle of an emergency.

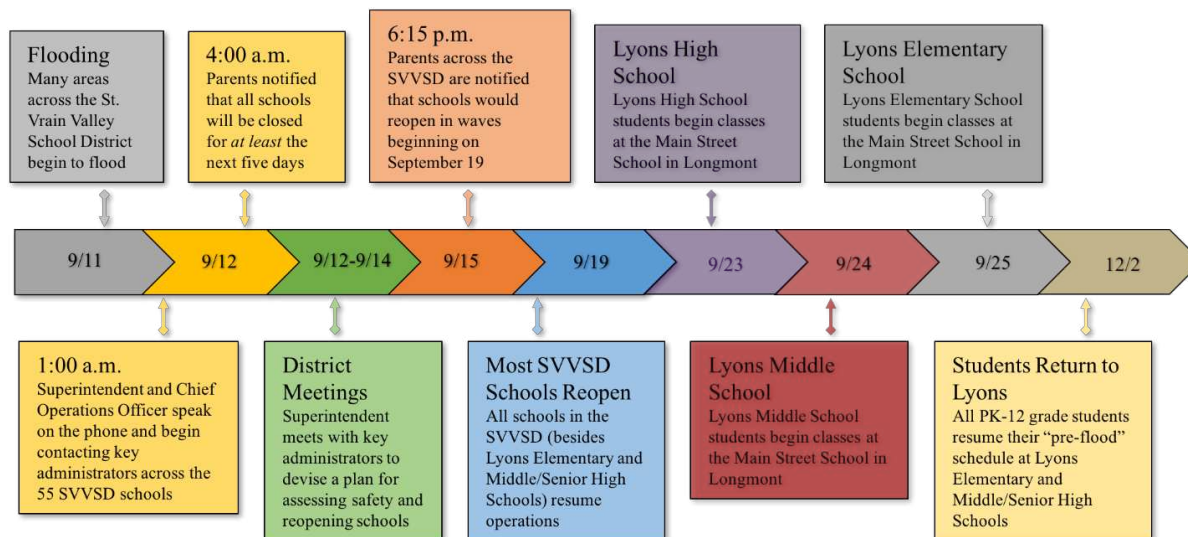


Figure 4.2 School Displacement Timeline

Safety and School Closures

Initially, safety was a top priority for school district officials. On the evening of September 11, as waterlogged Lyons was further inundated by all the rain, district administrators moved into high gear. At 1:00 a.m. on September 12, the Chief Operations Officer of the District notified the superintendent about the rapidly unfolding situation (see Figure 3.3 for the SVVSD Organization Chart that was active in 2013). After speaking with one another and coming up with a preliminary plan of action, they began making telephone calls to key district

administrators and employees as well as to the representatives from each of the 53 schools in the district to gather additional information. By 4:00 a.m. on September 12, parents were informed that all schools and extracurricular activities would be cancelled for at least the next five days. The decision to close all schools for five days was based on the understanding that roads and bridges were damaged, and many school facilities needed a comprehensive assessment before the district could safely allow students to return to class.

The message about school closures was communicated through a “Shout Point” system that sends notifications to families via email, telephone, text messaging, and other parent pre-selected preferences for school-parent communication. Anna explained how they utilized this service,

We used every form [of communication] we could get our hands on. We put information up on the [District] website. We used our Shout Point, which goes to individuals. They can sign up however they want the messaging to come in. It can come in through their email, text messaging, voice message, home phones, personal cell phones. We utilized that a lot.

On the morning of September 12, a leadership team comprised of the Superintendent, the Chief Operations Officer, the Director of Security and Emergency Management, and other available administrative staff met in person to begin assessing the damage across the district. Jay, a high-ranking district administrator who oversaw the response recalled,

We met, and we started to talk about where things were in each part of our district, you know? And there was Lyons, Mead, Firestone, Frederick, Dacono, Erie, Longmont, Niwot. Some areas had their water supply compromised, some areas had roads that were knocked out, and even though the building was intact you couldn’t get to it, you know? And our bus routes couldn’t run, those kinds of things. So quickly what we understood is that the entire district had been impacted either through power outages, roads knocked out or you know, in the case of Lyons, the entire town being evacuated.

In the days following the flood, the school district began holding in-person and phone meetings to brainstorm *how* they were going to continue to educate 744 Pre-K through 12th grade students from Lyons schools. Although a substantial number of these students lived outside the

flooded areas—43% of Lyons Middle/Senior High School students and 16% of the Elementary students reside outside of the Town of Lyons in neighboring communities (SVVSD 2015-October Count Report)—residents of Lyons were being encouraged to evacuate their homes due to flood damage, road closures, and other infrastructure failures. The leadership team had many in-person and phone meetings and communicated via email with the Lyons town council, the city manager, and the parents, staff, and principals at Lyons schools until a final decision about when and how to reopen school was agreed upon. Jay recalled why he—with the input and feedback from families and staff—ultimately decided to keep students together as opposed to distributing them across still-operating schools throughout the district,

I was getting flooded with emails and phone calls and one common theme was, “Please keep our kids together.” Because one of the plans that we have is to disburse kids throughout the entire district; that’s what usually happens. And it was one of those things where there were some differences of opinions a little bit from our staff, but ultimately it was something that I felt that was in the best interest of everyone. We had the facility to do it and so that’s the direction we went. But, it was so clearly articulated by the Lyons community, you know, that was a huge priority for them.

As is apparent from this quote, Jay listened closely to concerns that he was hearing from the Lyons community and school staff. As he admits, he ultimately had to make a decision that he felt was in the best interest of the students—keeping them together versus scattering them across the District—even if there may have been some differences of opinion. As I will discuss in more detail in chapter five, taking the time to listen to the desires and concerns of community members, staff, and parents, and then making informed decisions on their behalf, is a key leadership attribute that was necessary and instrumental in this case of carrying out an educational continuity plan.

On Sunday, September 15, the superintendent announced that the SVVSD would reopen all schools outside of Lyons on Thursday, September 19 and Lyons schools would reopen at the Old Longmont High School (now named the Main Street School) on a staggered start with high

school students returning on Monday, September 23, middle school students on September 24, and elementary students on September 25. The superintendents public email read,

6:10 p.m.: Sunday, September 15

Dear SVVSD Parents, Guardians, Teachers and Staff:

I would like to convey my deep concern to the entire SVVSD community for the severe damage this catastrophic storm is inflicting on our families, neighborhoods and towns. Please know that you are all in my thoughts and prayers.

At this time, All SVVSD schools, with the exception of Lyons Elementary and Lyons Middle/Senior, are still scheduled to reopen on Thursday, September 19. When our students and staff return to school, please be assured that our facilities will be safe, fully staffed and prepared to support a safe and supportive school environment.

Until normal access to the Town of Lyons is restored and other public safety concerns are fully addressed, Lyons Elementary School and Lyons Middle/Senior High School will reopen on a staggered schedule the week of Monday, September 23 at the Old Longmont High Building, 820 Main St. in Longmont.

We will continue to consult with law enforcement, town officials and other authorities to monitor the condition of the infrastructure needed to safely reopen our schools. Our concerns include clean water, the power grid, natural gas, sewage systems, walking paths, roads, highways, and school bus routes among others.

We are also concerned that SVVSD students, teachers and staff who live outside the area have safe travel routes to schools and other District facilities. We will continue to consult with municipal engineers and other public officials to monitor the condition of our interconnecting roads, bridges and highways.

I would like to thank District personnel who have been working tirelessly to ensure that our schools will be safe to reopen. I am equally grateful to our emergency responders who continue to ensure the highest level of public safety under extremely dangerous conditions.

Finally, I want to express my sincere appreciation for the tremendous support and innumerable offers of assistance from many throughout our community during this difficult time. While our communities have sustained serious damage, I am confident that we will emerge from these tragic events stronger and more united in our commitment to our students and the entire St. Vrain community.

Sincerely,
[Superintendent of Schools]

This email and other emergency communications were posted, and later archived, on the district website along with other information that was shared as the disaster unfolded and throughout the displacement and recovery process.

In total, all students across the SVVSD missed at least 5 days of school due to infrastructure damage and road closures, transportation safety issues, and minor school building damage. Although Lyons schools were not affected by the floodwaters, they were completely inaccessible due to significant damage to local infrastructure. Most of the Lyons students and staff were displaced from their homes due to the community wide—strongly encouraged but not mandatory—evacuation. Given that the district had to prepare the Main Street School to be ready for incoming students, Lyons high school was closed for 7 days, middle school did not reopen for 8 days, and the elementary school resumed classes after 9 business days (see Table 4.1 for school closure information).

Table 4.1 School Closures for SVVSD

# of School Days Missed	Schools Closed	Damage Level
5	All non-Lyons SVVSD schools	Minor damage to buildings, roads, and bridges
7	Lyons High School	Major damage to infrastructure across Lyons: water, power, roads, and bridges
8	Lyons Middle School	Major damage to infrastructure across Lyons: water, power, roads, and bridges
9	Lyons Elementary School	Major damage to infrastructure across Lyons: water, power, roads, and bridges

Communication

As mentioned in the previous section on keeping students, families, and staff safe, one key component of disaster response and educational continuity in schools is effective communication (Ronan and Johnston 2005). Research shows that successful communication can

and does save lives, improves the chance for informed decision making, and positively influences recovery (Mileti et al. 2004; Seeger 2006). At the school district level, it is imperative that decision makers keep staff, families, and students apprised of school closures and schedule changes following a disaster event and any plans for continuity or discontinuity of educational services. The SVVSD worked to develop strong communication methods for contacting parents and families before and after the disaster. They established phone trees, used robust communication technologies, such as Shout Point, communicated through email and telephone, used social media, and held public meetings that were video recorded and uploaded to the district website for anyone to view who could not attend in person. District leadership also posted and archived all written and video communication to the district website.

As the disaster continued to unfold and leaders within the school district needed to communicate important decisions regarding the displacement and movement of students to the Main Street School, they held in-person meetings where they could discuss their plans and get feedback from parents, teachers, and staff at Lyons schools (see Figure 4.3 for communication informing parents about the in-person meetings). As most Lyons families were displaced from their homes, the district representatives recognized that not everyone would be able to attend the meetings. To remedy this problem, leaders at the school district decided to video record the meetings and post them on their website so that those who could not attend still had access to the same information as everyone else. This is a good example of procedural justice, which is critical for trust building and is “concerned with the impact of the fairness of decision-making procedures on the attitudes and behavior of the people in and affected by those decisions” (Korsgaard, Schweiger, and Spienza 1995:63).

During our interview, Jay, a lead school administrator, discussed why this was such an important tool for communication,

Well, the reason we videotaped was because we knew people were not necessarily going to be able to attend, so if we could videotape all of those, a lot of thinking went into what are the questions that we are going to answer? What is the specific information, logistical information, background information that we can provide that's gonna help people? And then, make it available in various formats. You know, so they can't make it to the meeting, you can get it posted on the District website; we can get it posted on the *Times Call* website. I imagine the *Lyons Recorder* also posted that information.

Dear Parents and Guardians of Lyons Elementary and Lyons Middle Senior High:

On the evening of Wednesday, September 18th, the District will hold parent information meetings to discuss school plans to relocate Lyons K-12 schools to the Main Street Building in Longmont, and the preschool program to Hygiene Elementary.

These meetings will be held at the Longmont High School Auditorium, 1040 Sunset Street in Longmont. The meeting for parents of elementary students will begin at 5:00 P.M., and the meeting for parents of middle/high students will begin at 6:30 P.M.

For those who are unable to attend these meetings, the proceedings will be video taped and posted to the District website (www.svvsd.org). Also, your principals will distribute follow up information on the afternoon of Thursday, September 19th.

If necessary, additional follow up parent meetings can be scheduled to assist parents in this time of transition.

[Name Redacted]
Principal, Lyons Elementary

[Name Redacted]
Principal, Lyons Middle/Senior High

Figure 4.3 Email Communication from Lyons School Administrators

Communications representatives from the SVVSD worked closely with local news media outlets and Lyons residents to distribute information about the unfolding event. The approach taken by key administrators was to increase redundancy and draw on as many channels of communication as they had available. This strategy was effective as many Lyons residents had limited access to regular lines of communication. Redundancy allowed the messages to flow to those who could receive them, and they used word of mouth to help pass on important messages

to others about what was happening with the schools. Nicolas, a school district employee who helped manage communications and outreach after the event, explained,

There was phone, there were emails, there was the newspaper, there was the grapevine, which especially with Lyons, there was a very strong citizenry network. Very robust in terms of disseminating information. So, we used all the tools that we had internally, partnered with the media, and worked very closely with the *Times Call*, and the *Lyons Recorder*³, especially. Then the phone system we had, email, probably doing some texting as well, at that point.

Communication Breadth and Depth

The communication approach taken by the SVVSD and Lyons schools was admirable and heralded as a success across interviews for this study. When coding the data, it became clear that the approach was successful because of two main communication strategies that I define as: *communication breadth*—the process of utilizing many varied outlets for information distribution—and *communication depth*—the process of frequently offering accurate and up-to-date information from reliable and trusted sources. For example, Jay explained,

We told our community that they could expect regular updates on our website; communication updates, phone blasts, and email blasts. We were sending out an update to where we were in the process from day one, at least once and sometimes twice a day to all our parents, and students, and the community. The good news is everyone pitched in and it did work really well; knock on wood as well as it could for a situation like that.

Regular, clear, and consistent communication from trusted sources after a disaster has been shown to improve response and recovery efforts (Mileti 2004). As evidenced by the above conversations, and as a result of the breadth and depth of their approach, the district achieved *communication redundancy*—which I define as the consistent and repetitive flow of information across multiple channels with the same message—making every effort to keep families and staff apprised of the decision-making processes that were occurring regarding educational continuity.

³ The *Times Call* and the *Lyons Recorder* are local news organizations that reach people in the Lyons community through print and online publications.

Financial and Material Resources

When schools become unusable following a disaster, implementing an educational continuity plan for students requires a tremendous amount of financial and material resources. Each school district across the United States is operating under a variety of budgetary constraints that make them more or less able to respond to the needs of children when disaster strikes. These public-school budgets are typically derived from a combination of mostly local and state funds and some limited federal resources (see St. Vrain Valley School District 2014b for a full breakdown of the annual operating budget for the 2013/2014 fiscal year). When a district is impacted by a disaster, they rely on a combination of resources including, but not limited to, allocated risk management funds from their annual budget, federal disaster recovery funds, state level contributions, and voluntary donations. In this section, I describe the federal policies and financial contributions that allowed the SVVSD to quickly open the Main Street School and continue educating Lyons students for nearly three months.

McKinney-Vento Act

In 2001, Subtitle VII-B of the McKinney-Vento Homeless Assistance Act (42 USC §§11431-11435) was reauthorized by Title X, Part C of the No Child Left Behind Act. The McKinney-Vento Act was created to guarantee educational protections for children and youth who are homeless and/or living in temporary housing, including those that have lost their homes or have been displaced due to natural disasters (National Center for Homeless Education 2015). According to this act, the term ‘homeless children and youth’ includes individuals who “lack a fixed, regular, and adequate nighttime residence” as well as,

1. children and youths who are sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason; are living in motels, hotels, trailer parks, or camping grounds due to the lack of alternative adequate accommodations; are living in emergency or transitional shelters; are abandoned in hospitals; or are awaiting foster care placement;

2. children and youths who have a primary nighttime residence that is a public or private place not designed for or ordinarily used as a regular sleeping accommodation for human beings
3. children and youths who are living in cars, parks, public spaces, abandoned buildings, substandard housing, bus or train stations, or similar settings; and
4. migratory children who qualify as homeless for the purposes of this subtitle because the children are living in circumstances described in clauses (i) through (iii) (National Center for Homeless Children 2015:1).

Every school district in the United States is required to employ a homeless education liaison to help identify, assist, and manage the students that qualify for resources under this Act. Based on the understanding that natural disasters disrupt the lives of students and negatively impacts their social, emotional, and academic well-being, the McKinney-Vento Act requires districts to: 1) allow homeless students to continue attending their school of origin until they are in stable, permanent housing; 2) provide free transportation to and from school; 3) enroll disaster-affected students even if they do not have the required documents such as medical and immunization records, transcripts, proof of residency, and legal guardianship; and 4) support the homeless liaison in collaborating with community agencies that can help meet the diverse needs of homeless students and their families (National Center for Homeless Children 2015).

Immediately following the floods, the Homeless Education Liaison at the SVVSD worked to quickly identify families who had been displaced and encourage them to fill out the necessary paperwork to qualify for the McKinney-Vento Act resources provided by the federal government. This proved to be challenging because of the diaspora of students and the difficulty locating families in the immediate aftermath of the flood. Jake, a school district representative who assisted homeless families explained,

Well, it was crisis mode, cause the registrars and the people in the office were trying to get me forms as quickly as possible. What we ended up doing—because it was almost impossible to get a form for every student in all three levels—they ended up giving me a list of students to cross reference, you know, who were part of the school at that time. And incredibly enough, the office people knew most of their students and families and what their situation would be within the next couple of months or the remainder of the school year. And basically, that's what it is you know? We try to make sure that we're

providing that stability for them in the safest environment during the crisis of their homelessness. The school is the safest and healthiest environment at the time when they're dealing with this.

The district was dedicated to making sure that everyone from Lyons schools received assistance during this post-disaster transition. However, there were many grey areas in terms of what would or would not be covered by the McKinney-Vento Act given that many students attending Lyons schools lived outside of the impacted areas and were not displaced from their homes. Jake was tasked with differentiating the categories of who was truly homeless and who was just displaced from their school. He recounted,

Technically not everybody became homeless. There was displacement of entire schools; the whole three levels [elementary, middle, and high school] were displaced into Main Street. But there weren't a whole lot of students that were technically without a home. I would say that in total there wouldn't have been more than a hundred students that were literally homeless and didn't have their own place due to the floods washing it out.

However, Jake went on to explain that while the students that were technically homeless did receive access to the full McKinney-Vento Act benefits, there were many resources that were still made available to all Lyons students given that they were displaced from their home schools. This included school-wide free breakfast and lunch for students, transportation to and from school and extracurricular activities, and waived fees for sports, music, and before and after school childcare programs. Funding for these services came from a combination of the McKinney-Vento Act, the Community Schools program budget, and district funding.

Ella, a school district administrator who works with the Community Schools before and after school program, explained how supportive the district was in filling in any gaps to meet the needs of displaced students,

The district picked up costs for anybody who wouldn't have qualified [for McKinney Vento resources]. They worked pretty diligently with each household to get that application filled out as quickly as possible and to identify the needs of the family. I have to say, from a spectator standing on the outside and looking in, the district just went above and beyond trying to accommodate the families. Not just the families in Lyons, but the families...you know...other families that were impacted by flooding throughout the

Longmont area. They spent a tremendous amount of time reaching out to families to get their needs met.

We started on the first day serving breakfast and serving everybody free lunch. Anybody who didn't qualify, the district picked up. The district also picked up the cost of any employee from that school, because what you don't want to forget is, you might have a teacher in a classroom teaching and she lost her home, or he lost his home up there, but they're still down here teaching and trying to make it, you know? We continued to provide free and reduced meals all the way through to the end of the school year.

District Operating Budget

As part of the annual operating budget, the SVVSD policy is to allocate a portion of the general funds to the *Risk Management Fund* which is “used to account for the payment of loss or damage to the property of the school district, liability claims, workers compensation claims, and related administrative expenses” in the event of a natural disaster or other losses (St. Vrain Valley School District 2014b:4). The district was able to draw on these funds to begin minor repairs across the district as well as to fund the immediate costs of making the Main Street School ready for Lyons students in just seven school days. Jay, a lead District administrator, explained how they allocated the resources to respond swiftly in the immediate aftermath of the flood,

The good news is we had a pretty good budget with the fund balance, you know? We have that stuff... reserves for a rainy day so to speak. We were able to call on our own reserves to do that [open Main Street]. There were some reimbursements from FEMA, but obviously those resources weren't available from the outset, so we used our own resources. We also opened up our other schools, we opened up Mead High School and Niwot High School for families that had been displaced. At several of our high schools we opened up gymnasiums where people could come in and sleep with their families for several days and local agencies helped us with that. We also gave our buses to Boulder County to evacuate families from that community because cars had been immobilized. So, we did call on a lot of resources in the form of buses, facilities, food, medical attention a lot. But we had the money to do that... and that's where we got it.

Gabriel, a financial administrator for the school district, confirmed this process and explained how they managed these emergency funds,

We have a risk management fund which is where we put property and liability. We transfer money from the general fund into that fund and that pays for all of our insurance

costs. We try to keep a \$3 million fund balance for that type of situation and most of it is going to be covered by insurance, but we have to pay for it up front and then get reimbursed.

He went on to explain that although they initially had to move some money into the fund to begin paying for expenses, they ended up getting reimbursed for more than they expected, which left the fund with a higher than expected balance for the following year,

From a financial point of view, we try to keep a stable fund balance, something that's going to be helpful in those times. During that time, we actually moved \$800,000 from the general fund because we were out-performing for the year. Not knowing what insurance was going to cover, we moved \$800,000 to the risk management fund. When we found out that the total was only \$300,000, that meant the next year we didn't have to shift as much over to the risk management, because we just left the remaining in there.

In 2014, the district was able to amend the original budget to include additional flood related expenses that were unexpectedly incurred (see Tables 4.2 and 4.3 for a comparison of the original and amended budgets for the 2013/2014 fiscal year).

Table 4.2 St. Vrain Valley School District Budget Summary, 2013/2014 Fiscal Year

	Budgeted Expenditures	Appropriated Reserves	Total Expenditures and Reserves
Operating Funds			
General Fund	225,051,720	\$ 16,248,585	\$ 241,300,305
Capital Reserve Capital Projects Fund	4,883,000	-	4,883,000
Fair Contributions for Public School Sites Fund	760,000	4,407,558	5,167,558
Nutrition Services Fund	8,838,909	-	8,838,909
Governmental Designated Purpose Grant Fund	14,460,000	-	14,460,000
Risk Management Fund	2,428,000	49,245	2,477,245
Special Activities Fund	6,307,000	3,931,515	10,238,515
Student Activity Fund	175,000	146,316	321,316
Self-Insurance Fund	12,283,077	-	12,283,077
Sub-Total—General Student Population	275,186,706	25,783,219	299,969,925
Colorado Preschool Program Fund	993,000	100,316	1,093,316
Community Education Fund	4,755,000	507,000	5,262,000
Sub-Total—Operating Funds	280,934,706	25,390,535	306,325,241
Other Funds			
Bond Redemption Fund	33,875,067	-	33,875,067
Building Fund	400,000	37,279,879	37,679,879
Student Scholarship Fund	50,200	24,800	75,000
Total Budget	315,259,973	62,695,214	377,955,187

Table 4.3 Amended St. Vrain Valley School District Budget Summary, 2013/2014 Fiscal Year

	Budgeted Expenditures	Appropriated Reserves	Total Expenditures and Reserves
Operating Funds			
General Fund	223,758,707	24,822,367	248,581,074
Capital Reserve Capital Projects Fund	8,700,000	-	8,700,000
Fair Contributions for Public School Sites Fund	860,200	4,422,689	5,282,889
Nutrition Services Fund	8,858,909	-	8,858,909
Governmental Designated Purpose Grant Fund	14,867,000	-	14,867,000
Risk Management Fund	4,069,000	435,245	4,504,245
Special Activities Fund	6,307,000	3,237,036	9,544,036
Student Activity Fund	175,000	143,346	318,346
Self-Insurance Fund	13,205,000	-	13,205,000
Sub-Total—General Student Population	280,800,816	33,060,683	313,861,499
Colorado Preschool Program Fund	1,111,500	198,170	1,309,670
Community Education Fund	4,755,000	507,000	5,262,000
Sub-Total—Operating Funds	286,667,316	33,765,853	320,433,169
Other Funds			
Bond Redemption Fund	33,875,067	-	33,875,067
Building Fund	400,000	36,380,453	36,780,453
Student Scholarship Fund	50,200	24,800	75,000
Total Budget	320,992,583	70,171,106	391,163,689

Although the District did have to spend internal funds to respond to the event, they were able to apply for disaster assistance at the federal and state levels to recoup some of these costs (see Table 4.4 for a snapshot of expenses that were included in the SVVSD application for FEMA disaster recovery funds).

Table 4.4 St. Vrain Valley School District Flood Expenses

Project	Total Cost	Federal	Colorado	SVVSD
Building Repair	\$27,677.49	\$20,758.12	\$3,459.69	\$3,459.68
Facility Repair	\$50,353.53	\$37,765.15	\$6,294.19	\$6,294.19
Building Replacement/ Repair Main St/ESC	\$587.61	\$440.71	\$73.45	\$73.45
Emergency Protective Measures	\$2,867.91	\$2,150.93	\$358.49	\$358.49
Facility Repair/Bus Facility	\$341.49	\$256.12	\$42.69	\$42.68
Accelerated Debris Removal	\$431.96	\$367.17	\$32.40	\$32.39
Building/Replacement Repair Erie High School	\$502,434.83	\$376,826.12	\$62,804.36	\$62,804.35
St. Vrain Valley School Subtotal				\$73,065.23

Organizing Displacement

When schools become unusable due to disasters, the school district is responsible for making sure that education for students continues. In many cases, when students are displaced, they end up enrolling in schools that are closest to where they are living, even if only temporarily (Jaycox et al. 2007; Johnson and Ronan 2014). Unfortunately, this method of educational continuity may produce negative side effects.

First, nearby or distant intake schools may not have the resources to assume, educate, and counsel new students who have just been displaced from a disaster (Jaycox et al. 2007; Pane et al. 2008; Reich and Wadsworth 2008). Second, the students are then faced with having to build new and unfamiliar peer and adult relationships that may not be as supportive as the ones they were used to at their home schools (Peek and Richardson 2010). Third, there may be drastic differences in the quality and standards of education at the new schools that could impede (or improve) learning and growth for the student during recovery (Peek and Richardson 2010; Pfefferbaum et al. 2016). Fourth, having to split up children across multiple, unfamiliar schools

reduces the opportunity to heal together through community support, which has been shown to strengthen recovery (Pfefferbaum et al. 2016; Robertson and King 2007). Fifth, when large numbers of displaced students enter a school, there may be conflicts over resources and students may be bullied or otherwise mistreated by students in receiving schools (Fothergill and Peek 2015).

Even though splitting up and scattering children across school districts may be problematic in many ways, it is unreasonable to think that all school districts would or should have empty buildings at the ready where they could keep students together during an extended displacement following a disaster. Furthermore, as Koursky (2016) highlights, in some contexts where disasters displace students from poorly performing schools, students have shown improvement when they are displaced to better schools, therefore mitigating some of the negative impacts of displacement. That being said, school districts have begun acknowledging the benefits of keeping students together after disaster, which has resulted in creative approaches to educational continuity in recent years.

For example, after Joplin High School was destroyed by the 2011 Joplin Tornado, the district split the students into two groups, where the ninth and tenth grade students attended an old and vacant middle school building and the eleventh and twelfth grade students were moved into a wing of the local mall that was renovated and turned into classrooms for students. This allowed students to have familiar peer support and continue the same education with the same teachers and staff, even though not all four grade levels could remain together (Cox et al. 2017; FEMA 2017).

Unlike the Joplin example, where students were moved to other locations within their communities and only a portion of families were displaced from their homes, the 2013 Colorado Front Range Floods resulted in a near complete evacuation and displacement of all Lyons

residents. This is an important distinction, as it meant that most of the Lyons Elementary and Middle/Senior High School students, staff, and faculty that were residents of Lyons were living in temporary housing during the duration of the displacement period.

Once the decision was made to keep Lyons students together at the Main Street School in Longmont, the district had to organize, facilitate, and fund the process of readying the Main Street School to educate Lyons K-12 students. This was no small feat. The following sections outline the steps taken to relocate students to the Main Street School, renovate the school for incoming students, organize transportation and scheduling, get teaching and education supplies, and maintain extracurricular activities for all Kindergarten through 12th grade students.

Building Space

When districts prepare and plan ahead, there is a much higher likelihood that they can move into action and keep students together when disaster strikes. Six months prior to the flood, the emergency manager for the SVVSD led a disaster preparedness tabletop exercise with directors from each of the major divisions of the district including emergency management, nutrition services, technology, custodial services, operations and maintenance, and human services where they developed two alternatives for educating students if a disaster were to occur: 1) they would either divide students between other schools across the district, or 2) they would use another building within the district as a temporary location to keep all of the students together during displacement (FEMA 2017). Due to this pre-planning, when the floodwaters made Lyons schools inaccessible and therefore unusable, the district was able to quickly implement a strategy to keep all K through 12th⁴ grade students together in one building in

⁴ Unfortunately, they were not able to keep the preschool students that attended Lyons Elementary at the temporary Main Street location due to space limitations. Instead they found a location in Hygiene, Colorado where they reopened the preschool for the duration of the displacement.

nearby Longmont—a neighboring community 11 miles east of Lyons. Jay, a key district administrator, elaborated,

When we had the flood is the first time that we've ever used it [Main Street School]. It's always been part of our knowledge that it's a school building that's available to us. But one of the things that was really important to me was to keep everyone at Lyons together, because what I was hearing from the community was they didn't want their kids to be dispersed throughout the district because of the emotional struggles they were having as a result of the flood. And so, keeping them all together was a priority and we were able to do that at this particular school at the Main Street building.

Taking stock of building space across the school district during preparedness planning efforts allowed administrators to quickly assess options for reopening school for Lyons students just days after the disaster.

Displacing Main Street Students

At the time of the 2013 Colorado Front Range Floods, the property known as Main Street School—formerly the Old Longmont High School—was being used as a space for special programs in the SVVSD (See Figure 4.5 for a photo of the Main Street School). There were approximately 75 students who had just begun using the building at the beginning of the 2013 school year after outgrowing the nearby Lincoln Center School. The special programs being run out of the school included a Serious Emotional Disability (SED) program—a K through 12th grade special education program for children with emotional disabilities, and the Life Skills Alternative (LSA) cooperative education program—a transition program for 18 through 21-year-old students with disabilities who are preparing for adulthood after public education ends. Moving this population of students back to their old school was not an easy decision for school administrators, who candidly spoke about their reservations with displacing the Main Street students. For example, one district official explained,

We ran into one issue where we moved kids from Main Street to our Lincoln Street building and we probably didn't communicate as well in making that decision with those parents. Some of them felt like, 'why are we getting displaced?' We explained to them that we have 800 kids waiting for a facility. I think they weren't as concerned about the

move, but maybe just how quickly it happened without much communication with that smaller group. And I remember hosting a couple of family nights to talk to all the parents and apologized to them. We ended up in a good place, I don't know that you have the luxury of doing it a lot better. But, I gotta say the parents overall were great. I mean they understood what we were dealing with, it was not a minor event, you know?



Figure 4.4 Main Street School in Longmont, Colorado Photo Credit: St. Vrain Valley School District.

Although there were some reservations from the parents of Main Street students about being displaced back to the Lincoln Center School—and some regrets from the school district about having to make this decision—when I interviewed Kristina, a representative from the Main Street School, she saw it this way,

I think it was such a new experience for so many people. When you have such a big overwhelming situation that impacts so many people I think everybody has to be flexible and adaptable. What I saw happen was a really strong community pulling together to support our students. For this population that is critical because they thrive on routine and predictability and if they could sense that staff were struggling with those kinds of things, that would really make for difficult days. It was only a short time that they'd been removed from that building [the Lincoln Center School] so it wasn't like they were going somewhere totally new that they'd never been. There was familiarity with the building and the schedule.

The families, teachers, and staff involved in the movement of the 75 Main Street students back to their previous school location conveyed a sentiment of understanding that the Lyons students just

experienced a devastating disaster and needed a space to be educated while their home community and schools were inaccessible.

Building Renovations

Having a building space available is not the only necessity for keeping students together after a disaster. There are a variety of standards, laws, and requirements that needed to be met for students to be able to attend school safely (see Colorado Department of Public Health and Environment 2005 for a full list of requirements). When the SVVSD solidified their decision to use the Main Street School as an alternative education site for Lyons students, they began renovations immediately. Anna, a member of the emergency management team for the district, described what went in to making the building usable for Lyons students in just 11 calendar days (7 school days),

What we had to do in a very short period of time—because we had areas in the building that hadn’t been used for a very long time—is we had to do some mitigation. We had to create rooms. We had to get the fire code [updated]. We had the fire marshal get involved. We built classrooms in a matter of days. We tore up carpet. Laid flooring down. Built rooms. We had to have a changing room for some of our students that needed assistance with changing because of disabilities. The principal at Lyons didn’t have an office so we had to make him and his secretary an office. We took what used to be a library and community room and broke that down into several classrooms. We put up walls. We put down new flooring. We brought in phones and technology. We had a lot of work to do.

The Main Street School building has three levels: a basement, a first floor, and a second floor. Therefore, the principals decided it would make the most sense to have the elementary school operate on the basement level, the middle school on the second level, and the high school on the third. It was only possible to fit all the Lyons students into this space because they were small schools to begin with, educating only 744 students across all of the Pre-K through 12th grade levels. The organization of classrooms provided distinct divisions between the schools and allowed the students to remain with their peers during class transitions, rather than having the school levels overlap. Anna explained it this way,

I'm pretty sure we were classroom to classroom ratio. We didn't have a place for study hall because we didn't have a library, so we made a makeshift study hall area at one end of the building on one of the floors. We had three levels in this building, so we just separated them out... high schoolers had the top, middle schoolers middle, then the garden level was the elementary school. That helped a lot.

Although the students had far less space at their temporary school, they were able to remain in the same classes and with the same teachers and peers for the duration of the time they were displaced.

In addition to reconfiguring classroom space to house the students, improvements needed to be made to allow for robust internet access, safety measures including the installation of call buttons at the front doors, security systems and locks, and upgrades to the building for fire safety standards required for public schools. They also had to contend with the fact that the Main Street School had very limited outdoor space with no playground for the students to use for recess.

Michael, a head administrator at Lyons Elementary School explained,

There were a lot of weird complexities. There was no playground. So, we got them to fence in an area so at least you could keep a kid from falling into the street, because it was downtown Longmont. Instead of a morning recess, we did a regimented movement break. So, kids would go from station to station and do different movement activities in the morning. We did have some free play at lunch where kids ran around and crashed into each other. But it was good, it was safe, and we didn't have any injuries. That was an issue that we were able to make light of. We really miss our playground back in Lyons, we really have great playgrounds.

As Michael explains, although it wasn't perfect, they were able to be flexible and adapt to the new building space, keeping students safe, which was their top priority.

School Supplies

While building renovations were underway, materials and supplies were being gathered in order to set up classrooms and continue educating Lyons students at the new location. When students and teachers left their classrooms on Wednesday, September 11, 2013 they had no idea they would not be returning the following day. This meant that teachers left supplies on their desks, including laptops, lesson plans, and daily teaching materials and students left their

cubbies, desks, and lockers full of books, backpacks, homework, athletic gear, musical instruments and other equipment, as well as personal items such as glasses and medications. Just days after the floodwaters began to recede, the principals worked closely with the city of Lyons to allow a caravan of buses, trucks, and cars to make one trip back into the now cordoned off city to gain access to the schools to retrieve the necessary supplies. Jennifer, a middle school teacher, explained,

The town was completely sealed off. The only way you could get in and out is with a resident license. During that week, when other schools went back, they arranged for a school bus to drive the teachers from Longmont to Lyons with a National Guard escort. And then from there they put us in Suburban's and took us around, because all the bridges were blown out. They got us into the school from the back and gave us two hours to collect all the things that we would need for up to a year. They sent us in there with boxes and tape and head lamps and gave us two hours to collect everything we needed.

Anna elaborated on the tremendous amount of work that had to be done in a short period of time to clear out the Lyons schools and salvage materials to be used at Main Street,

We went in with no power. With flashlights and keys and we emptied every locker and put them in a trash bag and labeled them. Loaded up every locker. We had to go in and dump all of the personal refrigerators, the big refrigerators, the big freezer units in the kitchen area, nutritional services. We had to get all of that stuff out and dumped. We had some dead animals in there because you know pets in the classroom, things like that.

We had a lot of teachers who went with us. We had staff from the district plus we had a teacher from every classroom. I think we gave them two or four boxes a piece. I can't remember the exact number. We said this is all you got so mark them, what your classroom is, put your name on here, and then fill them up and stick them outside the door. No light, so we'd open up windows as much as we could and do what we could. We went around with dollies and we loaded stuff up in these open bed trucks and warehouse trucks. We then brought them over and unloaded and had people come in, movers come in from the district and move stuff around to the classrooms that had been assigned to those teachers.

As Anna described, in addition to collecting teaching materials, the principals, teachers, and volunteers helped bag the contents of each locker and desk to bring to the students. They retrieved band equipment, athletic uniforms, wall decorations, Chromebooks (laptops), and anything else they thought they would need to begin classes on Monday, September 23, 2013 at

the Main Street School. And as Jennifer explained above, they had no way of knowing how long it would be before they were able to return to their home schools. Every decision regarding the displacement process was made with the assumption that they might not be able to return until the following school year.

Once the principals and teachers inventoried and organized all the supplies they retrieved from the Lyons schools, they began making lists of the things they still needed. They reached out to other schools across the district, borrowed books and supplies from the district overstock warehouses, and accepted donations from people across the country who wanted to help. Amanda, a kindergarten teacher, was so impressed with the outpouring of support from the district and others who wanted to ensure the children had everything they needed to get back to school. She explained,

They did have curriculum from the warehouse to bring in and then the most amazing thing is we would receive boxes of donations from people from all over the country. The thing that you don't think about during [the disaster] was that the kids showed up and parents said, "When we left the house, we didn't grab backpacks, we didn't grab lunch boxes." So, none of the kids had backpacks and lunch boxes; they had no school supplies of any kind. Other schools within our district did backpack drives. It was amazing to tell the parents "here's a backpack."

Once the school supplies and donations were gathered, the teachers worked to make the classrooms as normal as possible for students returning to school following the flood. Dawn, an elementary school teacher explained how they tried their best to make the new classrooms as comfortable and familiar as possible for the students,

I think everyone came together, you know? We brought whatever we could that was on the walls so that they felt like they were coming back into a similar classroom situation. Everything on the walls... the colors, the diagrams, everything we took down, we put up there. So, when they did come back, it was really just open communication with the kids. Yeah, we're here in a different place, but we're still going to learn and be together, you know? We're going to get through this.

Bringing materials from their home schools to decorate the new classrooms was described as necessary for educational continuity and for creating a comforting space for students to learn after being displaced.

Transportation

Following the flood and subsequent evacuation, most of the Lyons students were displaced from their homes and scattered across Northern Colorado.⁵ Therefore, it was imperative that the school district coordinate a transportation plan that could best serve the most students and relieve some of the transportation burden for the already overwhelmed parents and families who were displaced from their homes. Given that many roads and bridges across Northern Colorado were damaged, this came with significant challenges including students spending increased time on buses, parents scheduling carpools and changing drop-off and pick up locations, and the school frequently updating of bus routes depending on the needs and location of students (see Figure 4.6 for an example of communication regarding bus route updates.)

⁵ To date, I have still not been able to find a source of data that shows exactly where displaced families landed. To my knowledge, this was not recorded in any systematic way. See the conclusion chapter for a recommendation for districts to better track student displacement.

There was a coordinated effort between the superintendent, the principals of the schools, and the transportation director to effectively organize and plan alternate bus routes to get displaced children to school safely. Quenton, a lead member of the transportation team, explained how they utilized central locations that were in closest proximity to the most students who needed transportation to and from school,

I think in some situations we were detouring a half an hour out of the way to get kids to the tri-town schools and that's what we had to do. Once everybody was evacuated, we planned meetings out at the different sites to talk with individuals who were displaced and where they were going to be housed. Once we received that information, we looked at it, and planned temporary routes and pickups. In some cases, from very centralized locations like, you know, large stops near parks where we found there was a large gathering of individuals, possibly other schools near where they were displaced. We'd pickup at that school to get them to Main Street School.

Some students were displaced closer to the Main Street School, while others were still living in their mountain homes with limited access to main roads connecting their neighborhoods to the Longmont area. This meant that for many students, travel time to and from school became significantly increased. Amanda, a kindergarten teacher for Lyons Elementary, expressed her worry about how this impacted students,

A whole other issue was that these poor kids are getting up at like 6:00 a.m., so by the time they get to me they were already tired. I know that was really hard for parents and kids to be on the bus so long and then to be at the school so long.

Amanda explained that although her five- and six-year-old students were mostly resilient and handled the transition well, the additional hours of riding on the bus was clearly wearing them out before they even arrived at school.

A combination of bus routes, carpooling amongst parents, teachers, and staff, and personal transportation by the older teenagers who were able to drive, made it possible for students to continue attending school during the displacement process. Participants repeatedly mentioned that one reason why transportation went so smoothly was because of the supportive networks and relationships that made up the community or "culture" of Lyons. The strong

supportive relationships in this “mountain strong⁶,” community were also supplemented by material resources, which are often lacking in more socially vulnerable communities exposed to disaster.

As described in the methods section, Lyons has a highly educated population, where the average household income is far above the national and state averages. These resources mattered in terms of transportation and carpooling. Parents who engaged in these activities owned personal vehicles, possibly had flexible work schedules, had teenagers that had access to or owned their own vehicles, and had the money available to purchase gas to drive long distances to get their children to school.

In addition, the close social networks within the Lyons community meant that many of the parents were close friends or had preexisting relationships with their children’s teachers. This resulted in co-organizing of carpools where teachers were also helping to transport their students to school. Jeff, a school district planner, explained how he witnessed the helpful behavior of the Lyons school community,

There were people setting up car pools at the community meetings who were living with friends in Boulder, and they would drive their kids from Boulder to Longmont for school. So, there was kind of that helping and sharing community. I just call it helping each other out—or a sharing economy—getting a hold of the carpooling information from different areas where folks [were staying].

Stacia, one of the athletic directors for the High School, spoke to the strength of this community and reiterated that “a lot of parents stepped up” and used their own vehicles to carpool children to and from sporting events as well.

In addition to parents and teachers offering to help transport children to school, older students were often able to drive themselves, as well as siblings and friends, to school. When asked about how the bus routes affected her decision to continue going to school, Aiden, a Lyons

⁶ Lyons “Mountain Strong” became part of the recovery narrative for the community, appearing on street signs, bumper stickers, and t-shirts across Northern Colorado.

High School student explained, “I really don’t know ‘cause I, all my friends, we were all older, so we had cars. I’m sure that they offered buses, though. They tried really hard to accommodate us in any way we needed.” While Chloe, another high school student remembered,

There were some people who had to take a lot of buses. But then a lot of students, high school wise, took a lot of kids home. I know I did. I took some people home if they needed to and everything, just cause. I mean we didn’t have our regular school buses and routes.

Buses were not only used to transport children to and from school but were also needed for sporting events that were now being held at new locations following the flood. In response to a question about transportation for extracurricular activities, Quenton recalled,

Busing took place. In fact, in some cases it was easier because now we have all of those activities coming right out of Longmont rather than going all the way out to there [to Lyons]. There were some scheduling changes of course because now the fields were no longer available at Lyons High School to be able to be utilized. You couldn’t get in and out anyway. They did have to refocus where those activities were held and that sort of thing. But, we scheduled just like it was out there [in Lyons], but just the pickup was at a different location.

Getting to and home from school was not the only transportation issue that emerged after the flooding. Enrolling Lyons K-12 students at a school that typically educated 75 students was a big change to the traffic patterns surrounding the school, which had limited parking, no drop-off lane, and is located on Main Street, the main business corridor running through Longmont. Anna described the challenges associated with student drop off and pick-up at the Main Street School,

We had a substantial number of parents. We worked out with the city a traffic plan because the problem with Main Street is it’s one of our oldest most historical buildings so the traffic pattern wasn’t conducive [to school drop off and pick up]. The parking lot wasn’t really conducive so they [the City of Longmont] allowed us to park at the courthouses down the street. People could walk in. They changed some of the street signage to allow for turns. We took down some signs, put up some signs, so we were able to get that all done before we moved the kids. Then for the first couple of weeks we had law enforcement there helping us do traffic control. I was out there. I brought in extra school security to help with the traffic pattern because parents couldn’t just sit in their car. They had to drop off and go. There just wasn’t room for any lingering. So that was challenging.

Fortunately, school representatives reported that neighbors surrounding the Main Street School and the City of Longmont were flexible and helped accommodate the new congestion brought about by moving Lyons students to the new location.

Scheduling

Another top priority was to keep the students on their regular class and extracurricular activity schedules. This meant that the principals at each school—Lyons Elementary and Lyons Middle/Senior High—had to work closely together and with all the teachers to create a schedule that did not conflict with the needs of the other school or with the classroom space that was available. On September 15, the new schedule was announced to the families of Lyons Elementary and Middle/Senior High Schools. To keep all the students together and to ease the fears of parents about so much transition following the floods, they discussed their plan at the in-person community meetings held in Longmont. Bob, a key administrator from Lyons Middle/Senior High School, highlighted what they told parents at that meeting,

I think it was on maybe Tuesday night or Wednesday night, we had a meeting at Longmont High and explained the exact same bell schedule, exact same teachers. The only difference is the location in which your son or daughter will be getting an education.

In addition to keeping students on a familiar class schedule, it was also important for Lyons school administrators and teachers to allow students to continue participating in sports and other extracurricular events. Anna, at the SVVSD, explained that even amidst all the coordination and planning to get schools reopened for students to return, they put a lot of effort into keeping extracurricular programs running as well,

We looked at that, too. If we were to split schedules at a high school, how does that impact the after-school activities? How do we keep the football team, the orchestra? We ended up moving the whole orchestra room. All of that was a part of the planning that had to be done. Parents wanted to keep their kids in as much of a normalcy role as they possibly could, so I don't think we saw a huge drop off in extracurriculars. And our surrounding schools were great, our other high schools, in sharing the field and doing stuff like that so that the kids could still do football and other sports and events.

Principals at both schools expressed that there were challenges associated with creating new master schedules, assigning classrooms, and the combining the elementary school with the middle/senior high school in a much smaller space than they were used to. However, every person involved in this process spoke to the importance of keeping students on track educationally and with the support of familiar teachers and peers through consistent class and extracurricular schedules.

Counseling Services

Schools play a central role in the social, emotional, and academic well-being of students. Many studies have shown that when disasters disrupt the daily routines of children or when children are forced to miss school or attend a new school, the negative impacts of the disaster can be exacerbated (Fothergill and Peek 2015; La Greca 2006; Masten and Narayan 2012; Peek et al. 2018;). Getting students back into classrooms is critical as schools are one of the primary institutions in children's lives that can serve as a mediator of negative social and emotional trauma. School counselors and teachers can and do identify children and youth who may be traumatized or have emotional and/or behavioral challenges, offer mental health services and interventions to students in need, and provide consistent and familiar adult-to-child relationships that children and youth can count on (Johnston et al. 2016; Lai et al. 2016; Pfefferbaum et al. 2012a; Pfefferbaum et al. 2012b; Tipler, Tarrant, Johnston, and Tuffin 2016; U.S. Department of Education 2013).

Disaster mental health scholars agree that when students are impacted by a disaster, it is important to have additional counseling resources and mental health interventions available in schools to meet children's social, emotional, and behavioral needs (Lai et al. 2016). Therefore, when Lyons students began classes at the Main Street School, the District had trauma counselors

available to speak with children and teachers. Jay, a lead administrator at the school district explained,

We had counselors from other schools that came in. We had interventionists from other schools that came in. We had Boulder County mental health counseling support. Everybody in the district chipped in you know? Lyons is part of our St. Vrain family and so there were just tons of people coming in to support in a variety of different ways.

Although outside trauma counseling teams were made available to all staff and students in the immediate aftermath of the floods, Lauren, one of the guidance counselors at the Middle/Senior High School, explained that the students were much more interested in speaking with a school counselor they were familiar with or to rely on their teachers for support.

In addition to providing extra counseling staff to the Main Street School, the counselors, teachers, and administrators at both Lyons Elementary and Middle/Senior High Schools held assemblies for students about trauma, created classroom activities and art projects to help children and youth process their feelings and experiences, and provided space for students to talk about and process the disaster in a safe classroom environment (see more about these activities in chapter six). Lauren described how they organized the assembly sessions,

Yes. Things started to bubble then [when students returned to school]. But thankfully, both [counselor name redacted] and I have a good relationship with Boulder County Mental Health. They pulled a team together that came in and we did a middle school assembly session and a high school assembly session about trauma and what you're experiencing and why you're experiencing that. We included everybody, cause some of our kids don't live in Lyons. These people were in their homes, so we wanted them to have the information of what people might be experiencing. It's just a part of a sense of community, so everyone attended. Then we had breakout groups. All the interventionists in our district and many counselors in our district were part of that. We broke into smaller groups for kids to process and discuss what they were going through and also get connected to resources beyond me and [counselors name redacted]. A reminder that we're available and other resources are available.

Michael, an administrator at the elementary school, described how he and the teachers approached caring for the children in the early weeks at Main Street.

We asked teachers to let kids tell their story. Whatever you kind of need to do. We did have trauma response people from the district come in who successfully were there for

that percentage of kids that really needed to unload. That was helpful. The classrooms just looked different for the first couple of weeks at that temporary building. A lot of art. We had an art therapist come in who was a parent who just started working with kids.

And Dawn, a kindergarten teacher added,

They were okay. The teachers brought in people to talk to the kids and do drawings. Any time they wanted to talk, or cry or whatever. It was left open for them to experience their emotions, because we're telling them this is a difficult thing. They were really very good at communicating. Helping them to deal with everything. And being there for the parents. Because some of these are new parents and their kids had just come in to kindergarten and it's emotional anyway. I mean, you're dealing with a lot of different dynamics.

It was clear that the school district and school administrators, counselors, and teachers made substantial efforts to provide a safe space for children to process the trauma resulting from the 2013 Colorado Front Range Floods. Not only did they have outside Boulder County Mental Health professionals and trained trauma counselors available for children and staff, but they also brought in art therapists, were flexible in their teaching and classroom management to allow for emotional processing, and provided a source of support for students to grieve together as a community. As I speak to in more depth in chapter five, the fact that many of the teachers were displaced from their homes and experience the same flood related issues as the children made the opportunity for bonding and supporting one another even more powerful.

Returning Home

On October 24, 2013, parents of Lyons Pre-Kindergarten, Elementary, and Middle/Senior High School students received an email from the SVVSD Department of Communications letting them know that after the Thanksgiving holiday break they would all be returning to their home schools in Lyons (See Figure 4.6 for the official email letting families and students know when they would return to Lyons schools).

Parents and Guardians of Lyons Elementary & Middle-Senior Students:

On Thursday, October 24, officials with the Town of Lyons notified the District that repairs to the community's infrastructure are ahead of schedule, allowing our schools to reopen in Lyons sooner than originally expected.

Barring unforeseen complications, all Lyons PK-12 students will resume their "pre-flood" schedule on Monday, December 2, immediately after the Thanksgiving Holiday. In the interim, bus transportation from Lyons to the Main Street School will be increased to accommodate families returning to their homes.

A meeting to review and discuss the details associated with the move back to the Lyons buildings will be held at 6:30 P.M. on Wednesday, November 6 in the Longmont High School auditorium, 1040 Sunset Street. We encourage parents and other family members to attend this important informational meeting.

For families that are unable to attend the November 6 meeting, additional information concerning the move will be provided via the District ShoutPoint parent notification system and the school websites.

Thank you.

Department of Communications

Figure 4.6 Email Communication: Reopening Lyons Schools

Eleven weeks and two days had passed from the time the Lyons schools closed on September 12 to the date when Lyons students returned to their home schools on December 2.

Conclusion

The utility of this case study is to provide specific examples that school administrators and emergency managers can learn from so they can better prepare for disasters that may impact schools in the future. In this chapter, I described *how*—through a combination of material and social resources—the SVVSD was able to keep Lyons Elementary and Middle/Senior High School students together during the displacement from the 2013 Colorado Front Range Floods.

Specifically, this chapter began by highlighting the initial community response to the floods, including a timeline demonstrating the early moments of the disaster and the decisions being made until community members could be evacuated to safety. The second section provided an account of how the school district responded, including the important goals of prioritizing safety, communicating effectively, and managing financial resources to be able to move into action and continue educating students as quickly as possible. Third, this chapter provides a detailed account of how the district and schools were able to organize the displacement process. This included securing access to the Main Street School and relocating the students that were originally housed there, renovating the building to be safe and up to code, and the tremendous undertaking of bringing supplies from the Lyons schools to Main Street. This section also discussed the transportation rerouting efforts that made sure all students still had a reliable way to get to school safely, the thought and care that went in to rewriting all the master schedules, and the mental health resources that were made available to students following the flood.

There are few examples that illustrate exactly *how* a school district executes educational continuity following school wide displacement from a disaster. In this chapter, I illustrated the logistical financial, material, and human resources that were necessary for the Lyons students to continue being educated in just 11 calendar days. The SVVSD was certainly prepared, had a highly educated and well-trained staff, and had the fiscal budget to support action. However, it was not only these material resources that made educational continuity possible. It was also series of well-informed decisions and strong leadership that allowed adults to prioritize student safety and well-being. In chapter five, I expand on this idea by describing *what* social relationships, organizational structures, processes, and people created the context for success and *why* the district and school administrators prioritized educational continuity for Lyons students.

CHAPTER 5: CREATING THE CONTEXT FOR SUCCESS

The prior chapter described *how* the St. Vrain Valley School District (SVVSD) was able to achieve educational continuity for Lyons students. This chapter moves the analysis forward through providing a deeper investigation into *what* social relationships, structures, processes, and people created the context for success. It also explores *why* the SVVSD and the community of Lyons responded in a way that prioritized educational continuity for students following the 2013 Colorado Front Range Floods.

The findings from this research suggest that there were three main influences that created the context for educational continuity. First, the district had developed and practiced emergency operations plans that allowed them to act quickly in the face of a major disaster. Second, there was a clear organizational structure built on strong leadership and a highly educated and experienced staff. Third, there was a well-developed organizational ethos that prioritized relationship building and supported educational continuity for Lyons schools. This organizational context was established long before the floods and was sufficiently flexible and adaptable enough that it inspired members to act and for new leaders to rise to the occasion following the flood.

Emergency Preparedness

“You can’t just be shooting from the hip”
~ Jay, Lead Administrator, SVVSD

How well a school district can respond to a disaster is strongly influenced by the social and economic investments they make in emergency planning, staff training, and relationship building before an event. Because it is not required by law that every school in the United States develop and practice robust emergency plans (U.S. Government Accountability Office 2016), levels of preparedness in schools vary greatly across jurisdictions. This section outlines how the

SVVSD prioritized disaster preparedness through hiring, planning, and conducting preparedness exercises with core administrators and staff on a regular basis. These efforts helped to build a climate of safety that filtered down into each of the schools and ultimately resulted in a stronger recovery for Lyons students.

Plans and Procedures

In part due to variability in preparedness planning, President Obama signed *Presidential Policy Directive (PPD) 8* into law in March of 2011. This national directive on disaster preparedness drove significant advancements in school preparedness planning and informed national guidance for high quality school Emergency Operations Plans (EOP's) (U.S. Department of Education 2013). This directive led to the September 2011 release of the Department of Homeland Security's (DHS) *National Preparedness Goal*, which defined five mission areas to prevent, protect against, mitigate, respond to, and recover from threats and hazards (see Figure 5.1 for a description of the five mission areas as they pertain to school districts, including activities that should occur before, during, and after a disaster) (U.S. Government Accountability Office 2016).

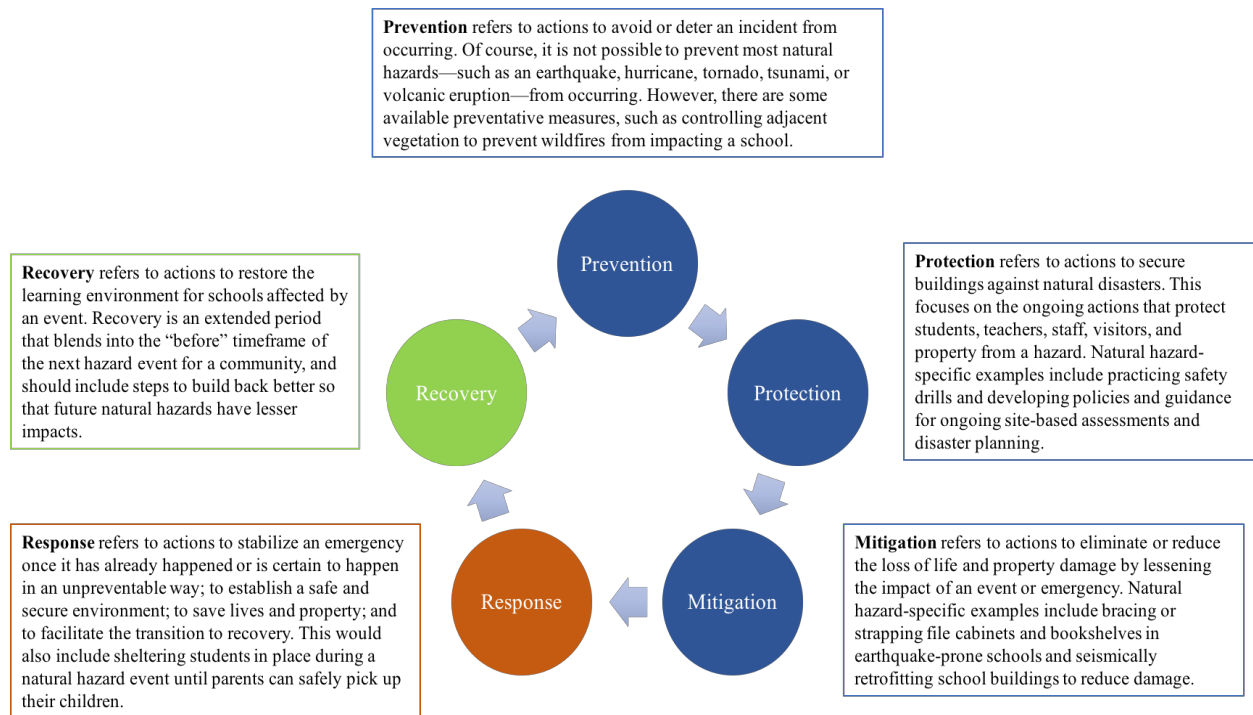


Figure 5.1 Five Mission Areas: FEMA P-1000 Guide to Improving Natural Hazard Safety in Schools (Adapted from FEMA 2017)

In response to the 2011 *National Preparedness Goals*, two companion reports were created in partnership with various federal agencies to guide districts in developing their school safety plans: *Guide for Developing High-Quality School Emergency Operations Plans* (U.S. Department of Education 2013) and *FEMA P-1000: Safer, Stronger, Smarter: A Guide to Improving School Natural Hazards Safety* (FEMA 2017). These guides were developed with the understanding that “Schools that have taken steps to reduce their risks and have adequately prepared for emergencies can respond effectively, [recover] quickly, and help support the entire community to recover from a disaster” (FEMA 2017:xxiii).

By 2013, there were 33 states that legally required every school district to have a comprehensive school safety or emergency plan (Council of State Governments Justice Center 2014). Colorado is one of these states, and in May 2013, the state revised and passed the following three statutes,

COLO. REV. STAT. § 22-32-109.1 (2013): [F]ollowing consultation with the school district accountability committee and school accountability committees, parents, teachers, administrators, students, student councils where available, and, where appropriate, the community at large, each school district board of education shall adopt and implement a safe school plan, or review and revise, as necessary in response to any relevant data collected by the school district, any existing plans or policies already in effect. In addition to the aforementioned parties, each school district board of education, in adopting and implementing its safe school plan, may consult with victims advocacy organizations, school psychologists, local law enforcement agencies, and community partners. The plan, at a minimum, shall include the following: [a conduct and discipline code; safe school reporting requirements; an Internet safety plan; agreements with state agencies; a school response framework for school safety, readiness, and incident management plan; and a safety and security policy.]

COLO. REV. STAT. § 24-33.5-1213.4 (2013): The school response framework [creates] the framework for school emergency incident response and emergency preparedness, including emergency communications and the responsibilities of school resource officers. Pursuant to the school response framework, emergency response personnel are community partners with schools. As part of its duty to regularly inspect school buildings to ensure compliance with the fire code, the division, local fire departments, and certified fire inspectors may partner with schools in assessing each school's implementation of [the National Incident Management System (NIMS)], the interoperability of the school's emergency communications equipment with state and local emergency response agencies, and the implementation of a school resource officer program.

COLO. REV. STAT. § 24-33.5-1801 (2013): [Finds that r]esources are needed to fully develop safety plans and practices in Colorado's schools, colleges, and universities . . . [and may be provided by the school safety resource center.] (Council of State Governments Justice Center 2014).

These statutes were revised again in 2016 and have supported the advancement of school safety planning in schools throughout the state. This legal context is especially important as these laws went into effect just four months prior to the 2013 Colorado Front Range Floods.

Continuity of Operations (COOP) plans are often written as an annex or in addition to the required EOP for a school district. The purpose of a COOP plan is to specify “how a school and district will help ensure that essential functions continue during an emergency and its immediate aftermath” (U.S. Department of Education 2013:32). Essential functions for a school district include, but are not limited to, “business services (payroll and purchasing), communication (internal and external), computer and systems support, facilities maintenance, safety and

security, and continuity of teaching and learning” (U.S. Department of Education 2013:32). Both the U.S. Department of Education and the Colorado School Safety Resource Center base their recommendations for COOP plans off FEMA’s (2017) *Policy, Plans, and Evaluation Division’s Continuity Program Management Cycle*, which states,

An organization’s resiliency is directly related to the effectiveness of its continuity capability. An organization’s continuity capability—its ability to perform its essential functions continuously—rests upon key components or pillars, which are in turn built on the foundation of continuity planning and program management. Those pillars are Leadership, Staff, Communications, and Facilities. The continuity program staff within an agency shall coordinate and oversee the development and implementation of continuity plans and supporting procedures. (see Figure 5.2.).

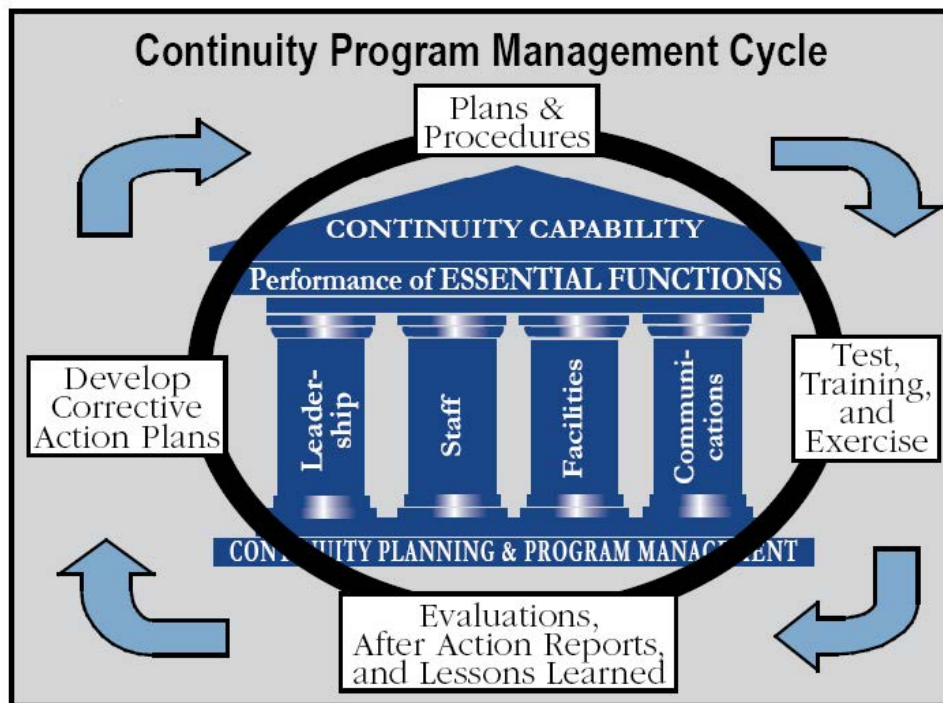


Figure 5.2 FEMA’s Continuity of Operations Program Management Cycle (FEMA 2018)

Although written plans are an important first step to emergency preparedness, they do not guarantee a successful response to and recovery from a disaster (FEMA 2017). Written plans vary greatly and draw from a variety of sources of information that may not be up to date and based on current best practices (U.S. Government Accountability Office 2007). For written plans

to be successful, they need to be well-informed, practiced frequently, and shared widely with all constituents who may be impacted by an event, including district and school administration, teachers, families, students, and community members. Plans need to be flexible and cover a wide range of hazards and emergencies that could potentially disrupt school district operations. And plans need to be updated regularly, which requires the commitment, time, labor, and monetary resources of a school district, which may be struggling to balance emergency planning with higher priorities, such as classroom instruction time, teacher training, and academic achievement goals (U.S. Government Accountability Office 2016). Jay, a high-ranking administrator for the school district, emphasized why emergency planning was so important to him and other members of the SVVSD,

It's the old adage that on any given day you know, things could go terribly wrong and you just have to plan for that. It's just what you do, you know? You've got people's lives at stake. You can't just be shooting from the hip.

Researching and writing comprehensive plans—and training and educating staff across the district to carry out these plans—is an ongoing process and it is necessary that school districts, and those that oversee disaster management, regularly update their disaster plans to reflect changing local, state, and federal policies and best practices. When asked how frequently the SVVSD updates their disaster plans, Jay explained,

Ah, every year. We meet more than once a year. We do complete overhauls every year you know, numbers and update people and personnel and all those kinds of things. But [emergency managers name redacted] will convene meetings throughout the year and we'll have large-scale meetings and small-scale meetings and that's why we needed somebody that thinks about it 24/7, and not just when they have a free moment, you know what I mean?

Just months before the 2013 Colorado Front Range Floods, the emergency management team and school district representatives engaged in brainstorming meetings, training sessions, and were developing and updating emergency operation plans for the SVVSD. In addition to this plan, each department across the district was responsible for establishing their own protocols for

continuity of operations if a disaster were to occur. However, at the time of the floods, no formal COOP plan had been written for the SVVSD.

Preparedness training and plan development created a context where the emergency management team and other administrators were able to act quickly and make an informed decision to use the Main Street School as a temporary location for Lyons students during the duration of their displacement. Research by Kreps (1991), Drabek (2001), and Kendra and Wachtendorf (2006) highlight the importance of robust preparedness plans to support organizational improvisation after disaster. Kendra and Wachtendorf (2006:2) assert,

Improvisation plays an equally important role in emergency management, where training, practice, and knowledge of both the field and the community serve as repertoires of material emergency managers can draw upon in the ambiguous and dynamic conditions of a disaster where not every need has been anticipated or accounted for.

To this end, Anna discussed how regular meetings and training exercises influenced the immediate response efforts,

We had a team. I pulled together a lot of the directors from nutritional services, technology, custodial services, our operations and maintenance staff, and human resources. We all came together. We were having regular meetings to talk about what it would look like if we had to take an entire school, and couldn't go back for a week, for a month, for six months. What does that look like? We broke it down like you would a COOP plan—because I had previously done a lot of COOP planning. We had already pre-identified Main Street as an area that we could utilize.

As discussed in more detail below, having an experienced, full-time emergency manager made it possible to have well-written and well-practiced plans. Jay elaborated that although there were plenty of lessons learned regarding preparedness planning following the disaster, they did not need to change or update any of their existing plans because of how robust they were to begin with. He recalled,

It took something, top to bottom, everybody: the custodians, the nutrition services, human resources, technology departments, the whole nine yards. They all helped, and we had done a lot of planning before. I don't want you to think that we didn't learn anything, because we certainly did, but nothing dramatic where we would say "Gosh, we really need to go back and re-visit the way we see things here," you know what I mean?

Emergency Management Staff

In the United States, it is not required by law that school districts have full time emergency managers on staff. However, school districts that do employ well-trained emergency managers have additional staff time and expertise available to create plans and are likely more equipped to handle the logistical requirements of carrying out an EOP in the aftermath of a disaster. In 2011, the SVVSD dedicated the resources to hire a full-time Director of Security and Emergency Management who is tasked with overseeing all the emergency plans and safety practices for schools across the district. This was the first time in the district's history that they had a full-time emergency manager. The presence of this position was instrumental in shaping the district's response to the 2013 floods.

When asked if all school districts employ someone dedicated entirely to developing and implementing emergency operations plans, Jay explained,

You know, I think some of the larger districts do, but I know a lot of the smaller districts don't. We're one of the larger districts in Colorado [7th largest], so it's a thing that I thought was important. We didn't have one before I was a [role redacted], but this was something that I felt was extremely important, especially as large as we are and as much as we continue to grow, and many scenarios which you can imagine...we just needed somebody devoted to that 24/7.

Jay's assumption is almost certainly correct. In fact, Kaiser (2016) discovered that 69% of Colorado school districts do not even have any emergency management information published on their websites. His research further highlighted a rural-urban divide as most Colorado districts that published emergency management information served urban populations (Kaiser 2016).

As noted above, the Director of Security and Emergency Management position was created in 2011 and was filled by a highly qualified individual with over 25 years of experience working in emergency management and law enforcement in Colorado. This person had been in the role for two years and nine months before the 2013 Colorado Front Range Floods struck the Front Range. The director had worked to develop and practice a robust emergency operations

plan that built on past experience and relationships, and consisted of best practices from local, state, and federal plans. Anna explained where they got the information to develop these plans,

We pull from different resources. What I like to do is have some continuity between the county plans, which also has continuity with the state plan. I try to align our planning around that. Again, I sit with Boulder County. They have an EOC [Emergency Operations Center], and I have a seat at theirs and I have one at Weld County.

Anna's experience with local EOC's and her familiarity with local and state plans were helpful for developing safety practices and plans for the District. She also went on to explain how these pre-existing relationships outside of the school district supported her post-disaster efforts in managing a district wide response to the 2013 floods, as she was able to personally draw upon these connections.

As the data for this dissertation highlights, having the staff available to lead emergency preparedness efforts for a school district has many advantages, including time to build relationships with local government officials, staying up to date on regularly changing disaster planning best practices at the local, state, and federal levels, carrying out training and emergency preparedness exercises with schools across the district, and connecting with and developing materials for families and students to promote safety in schools, households, and across the communities in which they live. It is important to underscore again, however, that these positions come with a cost. Not all school districts have enough funding to employ a full-time emergency manager or have staff that can dedicate the necessary time to create and update emergency preparedness plans for schools across a district (FEMA 2017).

Training and Preparedness Exercises

As mentioned previously and has been shown time and again in the emergency management literature, written preparedness plans are only useful if they are practiced and updated often and executed by a competent, caring, and well-trained staff (FEMA 2017). Six months prior to the 2013 Colorado Front Range Floods, when the SVVSD held the tabletop

exercise to identify a secondary location for students if they ever had to close a school because of an emergency (FEMA 2017), they invited representatives from major divisions across the district, including emergency management, nutrition services, technology, custodial services, operations and maintenance, and human services. During this training, they developed two options for continuing to educate students in the event of a disaster; they would either divide students across other schools throughout the district or they would institute an agreement with the tenants of the Main Street School in Longmont to use their building as a temporary school location during displacement. Coincidentally, they happened to choose Lyons as the case study to demonstrate how this process would unfold. However, the disaster scenario they focused their attention on was wildfire instead of floods.

Jeff, a planner for the District explained how the decision-making process around the hazard scenario unfolded,

The thing that's really interesting from the planning side of it, a month before the floods we were going through an exercise of a catastrophe. Like, there's something that happened that wiped out a school and we had to figure out what to do with those students. The case study that I was using was Lyons, and the thing that was interesting about it, I didn't pick flood, I picked wildfire. Like, when does a five-hundred-year flood happen?

We were toying with the idea of what to do about Lyons and how to move them. Or do we keep the school together, do we move it apart, or move it around or whatever? It was on everyone's minds. So, the idea was that we would probably keep them together and we'd try to find space large enough for them. One option was Main Street, the other option was—I was researching large commercial structures to move them into. A makeshift school for the time being if their homeschools were offline or whatever.

Jeff went on to explain that his research into large commercial spaces in the area emerged from his knowledge of the school district response following the 2011 Joplin Tornado. As mentioned earlier, after an EF-5 tornado destroyed Joplin High School, the district worked with the city to lease and renovate part of the local mall to continue educating their eleventh and twelfth grade students while their home school was being rebuilt (Cox et al. 2017). Each time a disaster devastates a community there are lessons that can be learned that improve the safety and

preparedness of school districts in the future, as is demonstrated by how Jeff's thinking was influenced by the actions of the Joplin School District.

The table top exercise that was held by the SVVSD was effective because it was robust and included internal members of the school district and Lyons schools as well as emergency management representatives and stakeholders from the community. This is consistent with the recommendations outlined by the *2013 Guide for Developing High-Quality School Emergency Operations Plans* which states,

Effective school emergency management planning and development of a school EOP are not done in isolation. It is critical that schools work with their district staff and community partners—local emergency management staff, first responders, and public and mental health officials—during the planning process, as an effective school EOP is supported at the district level and integrated with district, community, regional, and state plans. This collaboration makes more resources available and helps to ensure the seamless integration of all responders (U.S. Department of Education 2013:5).

Nicolas, a member of the communications team for the district, remembered attending the table top exercise and confirmed this approach to conducting a successful exercise,

I can tell you that [the training] was very complex and lasted for hours. It involved not only school district personnel, but they involved external stakeholders like law enforcement, fire officials, etc. They were in-depth exercises that were designed to find the weaknesses in the process.

As this finding suggests, training and preparedness exercises are helpful, even if not designed for the specific hazard event that takes place. Wildfires were the hypothetical event chosen for Lyons because the community is at high risk for that hazard. When they did consider a flooding event, it was in the context of spring run-off. They never imagined that they would encounter ground saturation and flash flooding in September.

The exercise for the Lyons case was not the only preparedness training the district had completed in recent years. Their approach to emergency management was to conduct exercises regularly, make sure all the staff and participants took them seriously, and build emergency

management and preparedness into regular school district operations. When asked about this approach, Nicolas explained,

We absolutely discuss those scenarios, not just during exercises, but on an almost weekly [basis]. We would have those conversations throughout the course of the school year, because there are always evolving situations and there's never one type. They come at all times of the day and night and they involve internal people and external people, you know? The potential of having different unforeseen activities arise was part of the normal routine for us, so we were always talking about, "Okay in this scenario, what are we gonna do?" This was a very active, robust process that was happening all the time. You know, with the intention of doing the best we could with the resources we have.

The SVVSD also made practicing preparedness a top priority within each of their schools. Kimberly, a middle school teacher in Lyons, explained how she thought about and approached drills for active shooting and other emergency scenarios in her classroom,

We have a great SRO [School Resource Officer], and he's really serious about lockdown drills, fire drills, and tornado drills. I, myself—the kids know how serious I take [the drills]—I always tell them, "I will not be that one teacher that we read about in the newspaper that was not prepared. You guys are going to do as I say." So, for the lockdown, we're totally quiet. Nobody moves. Nobody talks. I always try to keep myself really informed on that and I think they do a good job here [Lyons Middle/Senior High School].

And Michael, an administrator at Lyons Elementary School, explained that this commitment has gotten even stronger since the floods,

We take drills really seriously. I don't know if I took drills as seriously the school year before. And I don't know if it's because of the situation we're in or if it's because it's just a good opportunity to hold some values dear. But we take drills very seriously. Kids are dead silent during drills. We do evacuation drills. We do drills because they matter.

Practicing drills and hypothetical disaster scenarios makes everyone involved more capable of acting when disaster strikes. These exercises are not only useful for teaching people what to do in a crisis, but also for making them more comfortable with who oversees which focus areas and where each person can work together and be flexible in their roles when needed. Ivan, a district administrator in charge of operations, explained how emergency preparedness trainings brought the staff closer together and helped them define and expand their roles

following the floods. He said, “Probably the training that we do certainly brings us together, helps us to understand different roles and responsibilities, I believe it also helps us to jump out of our lane and to fill a lane that needs to be filled.”

And as Mark, a lead administrator at one of the Lyons schools reflected, “I think that the plans we have are fine, but until you’re in that situation, you know...the situation brings it to life.” This was a common sentiment expressed by administrators across the district and supports Kendra and Wachtendorf’s (2006) finding that organizational improvisation is a cornerstone of emergency management. Respondents agreed that it was not the written plans that they turned to when the disaster struck, but instead, it was the practicing of plans, exercises, and the relationships that were built with people who participated in multiple training sessions over the years that they relied on to get schools back up and running for Lyons students.

Plan Implementation

“All hands on deck”
~Josh, Administrator, SVVSD

In order to pull off the herculean effort of reopening a new school for Lyons K-12 students in seven business days, it required “all hands on deck.” This imagery was used by multiple participants as they described the response efforts of the district and the Lyons schools. In post disaster contexts, it is common to hear people discuss how everyone jumps into action for the sake of the greater good. In fact, disaster researchers have long referred to this social process as the “altruistic” or “therapeutic” community response to disaster (see Barton 1969; Fritz 1961; Phillips 2015).

Staff worked overtime and through the weekends, putting their personal lives and household flood recovery on hold, to prioritize getting students back to school as soon as possible. When reflecting on how much effort it took to get the Main Street School up and running, Leo, an administrator in charge of managing school facilities across the district asserted,

Ya know, you'd hear a lot of things, but you got talkers and doers. And the doers will show up and get it done. That's what I saw. You can talk about it all day, but someone has to make it happen. And I saw a good group of people make it happen. No matter what the rules are, this is a disaster.

Leo went on to explain that from the moment district administrators heard about the floodwaters, they immediately got to work assessing roads and bridges for transportation and safety considerations, communicating with staff across 53 schools in the district, and responding to the flooding that was damaging the district administration buildings in Longmont.

It was a network of people who were dedicated to their jobs that made educational continuity possible for the Lyons schools. When asked to describe the effort that went into moving Lyons students to the Main Street School, Anna recalled,

I have to give credit. Our custodial services were working twenty-four seven. They were pulling in people; substitute custodians. An unbelievable amount of people to move, if you think about it. To move everything that we needed from those two schools down here, unload them. It was an unbelievable process. We didn't use outside resources. Everything was done in house. We used our custodial services. We have plumbers. We have electricians. We have people who lay floor. Our number one priority was getting that school ready to go for our kids.

As illustrated by the above example, implementing preparedness plans following the floods truly did require “all hands on deck.” Getting people to dedicate their personal time—above and beyond what is required of them in their professional roles—takes much more than emergency management training. It takes many years of investment in trust and relationship building to motivate people to act in the best interest of the organization when disaster strikes.

Organizational Leadership

“We’re not a district of schools, we’re a school district”
~ Cassie, Administrator, SVVSD

Just as disasters provide a unique opportunity to examine the social conditions of society, they can also serve as a test to an organization's leadership structure and its ability to respond to a crisis. Creating robust organizational structures, maintaining social networks, and establishing

trust among members are key markers for successful emergency management and the ability to implement disaster plans effectively in any organization (Jung 2017; Waugh and Streib 2006). Just as disaster planning and practice should be a central part of organizational operations, scholars have observed that it is also necessary that strong leadership skills, collaboration, and organizational capacity building be formally integrated into emergency management and response (Waugh and Streib 2006).

There are many publications dedicated to educating and training people to be better leaders with the goal of improving organizational capacity, growth, and longevity (Darling-Hammond et al. 2007; Mitgang 2012; Sashkin and Walberg 2003). This evidence-base shows that strong leadership is a central component to any successfully run organization. However, less is known about how specific leadership styles play out in extreme events and what structural and personal characteristics facilitate organizational resilience after disaster (Arnold, Douglas, and Wilbon-White 2015). This section provides specific examples of how clear leadership roles—as outlined in the SSVSD Organizational Chart (see Figure 5.3) and the District Incident Management Structure⁷ supported a successful educational continuity process. This includes the leadership of a highly experienced superintendent, whose management style promoted an organizational ethos centered on common values of trust, communication, and collaboration. The following sections demonstrate that it is both a collaborative team environment along with specific individuals that demonstrate outstanding leadership in the face of challenges and threats that create the context for success.

⁷ I was specifically asked not to share this chart in my dissertation as it contains personal information of staff members.

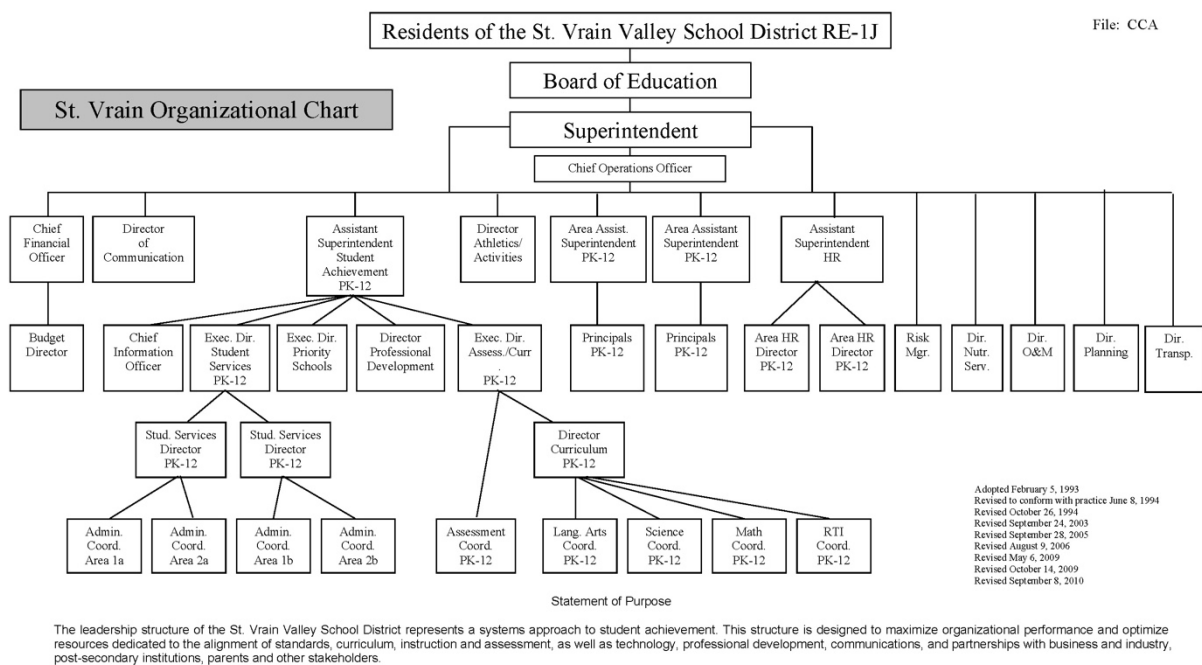


Figure 5.3 St. Vrain Valley School District Organizational Chart

Superintendent, St. Vrain Valley School District

In this study, there were many people who were recognized as being particularly helpful during the displacement and educational continuity process, including the custodial staff, front office staff, communications director, chief operations officer, director of security and emergency management, middle school music and art teachers, the athletic director, and principals and assistant principals at both schools. Although it was clearly the collaboration of a large team of individuals whose dedication and actions made the response and recovery process possible, the superintendent was consistently acknowledged across interviews as being a central source of support. As described below, he fulfilled his professional role as a superintendent, based on the organizational structure of the SVVSD, but he also embodied a management style that was successfully transferred into an effective approach to emergency management leadership.

In 2009, Dr. Don Haddad⁸ was hired as the superintendent of the SVVSD. He was promoted to this position after 24 years of service in Northern Colorado public schools where he started as a physical education teacher in 1985 (Camron 2013). His tenure included work within the SVVSD as a high school principal, assistant superintendent, and deputy superintendent (Bounds 2018). His wealth of experience earned him respect and acknowledgement as a talented and trusted leader long before the floods occurred. For example, in July of 2013 Dr. Haddad won a national Superintendent of the Year Award. The *Denver Post* (Torres 2013) highlighted this success, and the recognition served to underscore what a powerful leader he was *before* the disaster happened,

The National Association of School Superintendents, which serves more than 17,000 school district leaders across the country, selected Haddad after reviewing data, conducting background searches and interviewing superintendents throughout the country. Candidates were to show outstanding achievement as a school superintendent, a demonstrated belief in continuous improvement and a commitment to collaboration and mutual support in the profession. “It is clear that our country’s educational system faces tremendous challenges and is in need of dynamic and continuously improving leadership,” Theresa Daem, executive director for the organization, said in a statement. “The real answer is leveraging the collective know-how of stellar district superintendents like Dr. Haddad.”

Dr. Haddad received this award after serving in this position for just four years. Under his leadership, the district was also chosen as one of only 16 in the country to receive a “Race to the Top” grant from the federal government to be used for Science, Technology, Engineering, and Mathematics (STEM), early childhood education, and extended school year programs.

Haddad’s experience as an educator and principal built a strong foundation of knowledge and experience that contributed to his leadership style. In an interview with the Superintendent Center (2018), Dr. Haddad was asked “How do you see today’s superintendent?” (see Figure 5.4 for a transcript of this interview). His response highlights many of the qualities that are

⁸ In this section, I am using the real name of the superintendent as the background information presented here is publicly available online.

acknowledged by organizational and emergency management scholarship as related to effective leadership approaches. These characteristics were also highlighted by many research participants who confirmed Dr. Haddad's vision that a successful public education is achieved through student and community well-being, good communication, adaptive and flexible leadership, teamwork and collaboration, and public service.

Interviewer: How do you see today's superintendent?

Dr. Don Haddad:

First and foremost, a superintendent must be so fully committed to the mission of public education and its core role in our way of life, that any combination of obstacles, however formidable, cannot distract him or her from success. More than ever, a superintendent must exude a burning belief that every child and every community deserves schools that advance student learning and strengthen the community's overall social and economic well-being. Without these core personal beliefs, a superintendent will find it hard to effectively confront the complex problems facing public education or muster the character required to lead.

A superintendent in the 21st century must be a game changer. He or she must have a vision for a better future and the combined experience, education and personal credibility to inspire the community to embrace a new vision and help make it happen. To systematically confront and overcome today's tough obstacles, a superintendent must also manage complex budget realities, organizational resistance, strategic corporate and business partnerships, conflicting political interests, board governance dynamics, and the host of legal and regulatory requirements governing everyday operations. What's more, a successful superintendent thrives on the challenge of managing all these tasks every day.

Today's superintendent must also have a passion for proactive, systematic and honest communication inside and outside the organization. He or she must have the ability to articulate the nexus between successful, well-funded schools and a strong economy, higher property values, public safety, a quality service industry and the overall health and well-being of the community. A successful superintendent continually reminds the general public that school quality plays a fundamental role in the community's ability to thrive and succeed.

Another ingredient to a superintendent's success is the ability to adapt quickly to a changing external environment. A successful superintendent has this ability and continually builds his or her leadership team's capacity for adaptive change. An excellent example is the manner in which a superintendent navigates dramatic economic swings and massive school funding cuts. A seasoned superintendent knows how to strategically leverage unpleasant situations and initiate changes that would otherwise be more difficult to implement for political or logistical reasons.

In today's highly politicized world, a superintendent must understand the politics of school reform. Topics such as pay-for-performance, vouchers, charter schools, teacher and principal effectiveness, corporate sponsorship, extended school year, and non-traditional leadership continue to surface as panaceas for what some say ails public education. Sifting through the rhetoric and research requires the experience to decode the competing interests involved and the integrity to maintain strong values in the midst of complex challenges, chaos, and corruption.

Finally, a successful superintendent is a consummate public servant. Their allegiance must be to the students, parents, and community, elevating constituent interests above his or her personal recognition or gain. Today's superintendent stands firm in the face of unpopular decisions, does not acquiesce to special interest groups or succumb to the latest educational fads. He or she is motivated by the fact that their decisions change lives every day and that they can inspire a generation of students to achieve a better future for themselves and others.

Mark Twain once said, "Out of the public school grows the greatness of a nation." A superintendent holds this belief dear and is passionate about strengthening this great American institution of public education.

Figure 5.4 Interview, Dr. Don Haddad and the Superintendent Center (2018)
(<http://schoolsuperintendents.us/index.php/heating-featured-members/436-meet-don-haddad>)

As the head of the school district, the superintendent had a tremendous responsibility to manage and care for hundreds of staff members and thousands of students. Strong leadership skills are necessary to build and maintain a reliable team that can be trusted to carry out the mission and vision of the district. The leadership style of the superintendent is critical for effectively facilitating day to day operations and is even more instrumental when responding to an emergency or extreme event.

Drawing from McMaster (1996), Morrison (2012) highlights the three A's of effective leaders who work in complex organizations, such as school districts. He states,

1. They *allow* (a) matters to emerge; (b) connections to grow; (c) ambiguity, uncertainty, and paradox; (d) experimentation (and their possible failure); (e) errors to be made without needless blame; (f) freedom and autonomy amongst the participants as individuals and groups;
2. They are *accessible* (e.g. formally, informally, cognitively, communicatively, emotionally, psychologically) but not intrusive;
3. They are *attuned* (capable of listening, responding, intuiting, deliberating, putting trust in people). (pgs. 60-61)

Interviews with SVVSD staff, Lyons faculty, parents, and students, and local community leaders revealed the SVVSD superintendent did fulfill the three "A's" of successful leadership. First, he *allowed* his staff to have the freedom and autonomy to make decisions without judgement or blame. As an illustration of this approach, James, a parent and community leader in Lyons recalled, "All they [the superintendent and his staff] said was, 'Do whatever you need to do.' They had no caveats. They had no conditions and no direction for us except 'Whatever you need to do, do it and we'll just go from there,' which was really nice." James explained that the superintendent encouraged everyone to act and that he showed great trust and confidence in the abilities of his staff to make executive decisions on behalf of the students.

The superintendent was also *accessible*—physically, psychologically, and communicatively. Nicolas, a member of the communications team for the SVVSD, reflected on how leadership unfolded after the flood. From his perspective, the superintendent was intimately

engaged with the staff and community across the district and was available to meet people's needs as they arose. He recalled,

I think that it's fair to say that throughout this process, the superintendent was really highly involved and very much in charge. We were meeting as a staff... my recollection is multiple times a day, sometimes face-to-face, sometimes on the phone, but daily in the very least, and he was extraordinarily engaged. He wasn't a hands-off kind of a leader in this... very much hands-on, collecting information, making decisions.

Nicholas's quote underscores that a leader can both be "in charge" while also still allowing others the autonomy to make their decisions and remaining highly accessible to team members.

Many other participants expressed how surprised they were to see the superintendent at the Main Street school so frequently, talking with parents and students, working with staff, and offering his assistance and resources to make sure everyone had what they needed. Ella, a district administrator on the nutrition services team, explained,

[The superintendent] doesn't do anything just off the top of his head that impacts our student body, or education, or our parent communities. He goes out and talks to them. He has parent groups. He has community groups when we're making big decisions. He has a really good style of educating and listening so that people are comfortable with change. I think that just sort of filters all the way down. Any given day that you ever went over there [to the Main Street School], there was half a dozen to ten people in the cafeteria, you know, working with the kids and being out there visiting and talking with the teachers. I think that support really helped to make a difference.

Making himself available to meet the needs of Lyons staff and families helped to establish and solidify their trust and respect for his leadership in the district.

The superintendent was also *attuned* to the needs of others and trusted his team to make decisions. He was characterized as being kind, thoughtful, and supportive of their emotional needs during displacement from their home schools. Laura, a Lyons elementary school teacher, remembered,

Oh my gosh, the work they did. It was above and beyond. The superintendent and the district, they were just, I don't know, I can't think of one thing that wasn't amazing. One of the things I really appreciated during that time was how, at the times when you were not able to be as professional as you really would like to be, you know, and you're sobbing in the hallway, or you're breaking down, or you're cussing up a storm because it

is so bad and that's what people do when they get stressed out, that there was no judgement about how anyone handled it. I just really felt like the district supported us so fully, and there was no judgement.

Cassie, an administrator who works with the before and after-school childcare programs for the district, described how the superintendent's leadership helped develop a narrative of teamwork that formed a strong identity for the school district. She explained,

His leadership is "This is who we are. We need to come together." He's put leadership into place to be able to do that; it's a trickledown effect. To be able to see that really was beneficial. If you don't have that leadership or you don't have that partnership or that willingness, it doesn't matter how prepared you are.

The superintendent for the SVVSD was clearly well-liked and respected by all the participants in this study. It is worth pausing here to note that across interviews with 67 professionals and family members across the SVVSD, not one person made a negative comment about his leadership or performance. Instead, most of the participants elaborated, often unprompted, on their trust of and respect for the superintendent's commitment to students, families, and staff. And when I did ask the question about whether any leaders emerged in the aftermath of the disaster, he was the person identified most frequently by participants.

Organizational Ethos

In addition to understanding how the leadership style of a superintendent is important in a post-disaster context, it is equally important to analyze how and in what ways that leadership style is then translated into an organizational ethos that supports others to successfully respond to crisis. For the purposes of this dissertation, I define *organizational ethos* as a social context centered around distributed control, dedication to organizational members (i.e. students and staff), strong social networks, and common values of trust, communication, and collaboration (see Stevenson 2006:362 for a similar definition of organizational ethos in the context of education administration and leadership).

In their research into terminology regarding school culture, climate, and ethos, Glover and Coleman (2005) highlight the overuse and abuse of the concept of ‘culture’ to describe the complex web of organizational relationships in schools. They found instead, that ‘ethos,’ “refers to the more subjective values and principles underpinning policy and practice” that includes an emphasis on how people in an organization work together (Glover and Coleman 2005). To more clearly characterize the relationships within the SVVSD, I organize this section of the chapter into four categories of *organizational ethos* that emerged as being integral to the educational continuity process: 1) distributed control, 2) dedication to students; 3) strong social bonds and community attachments; and 4) common values of trust, communication, and collaboration. Each of these focal areas did not operate in isolation, but rather built on one another and were interdependent functions that together created a context for success.

Distributed Control

As discussed in chapter two, complexity theory serves as a useful tool to understand the ways that school leadership unfolds in a post-disaster environment and has the potential to promote or stifle adaptive and resilient behaviors. Although many studies of leadership and organizational theory are premised on individual personality traits and characteristics that guide an organization and its outcomes in response to crises, I argue, similar to complexity theory, that it is distributed control, where there is no single leader or central mechanism of control, but rather autonomy, where control is distributed across a network of actors whose decisions and actions collectively contribute to organizational success. In her book on the history of school leadership and practice, Gunter (2016:6) writes, “Leadership is not the property of one person who is functionally effective and emotionally resilient but is a resource that is shared and used to generate learning opportunities.” Urlick and Bowers (2014:97) note that shifting from

authoritative to collective or distributed control “promotes the restructuring of schools” and has been found to have the “largest effect on student academic growth.”

These scholarly views closely align with the leadership style of Dr. Haddad and his administrative team, where autonomy, decision-making, and authority was distributed across the district following the 2013 Colorado Front Range Floods, allowing space for new leaders to rise and strong relationships to be nurtured. This finding was illuminated across many interviews, but was clearly articulated by Cassie, an administrator for the district who reflected on the motivation behind the organizational leadership style promoted at the SVVSD,

It’s what’s in the best interest of kids, but it also, you know, we’re a school district. When I first started, one of the things Dr. Haddad said was, “We’re not a district of schools. We’re a school district.” Every department works closely with every other department. You’re not off on your own, doing your own thing. I think that is very beneficial.

Interviews with district and school administrators, teachers, staff, and families revealed that the individuals in leadership positions did make decisions from their positions of power and authority as outlined in the organizational structure. However, my data show that in addition to the leadership carried out from the top down, there was also a concerted effort to distribute leadership across the district to empower multiple actors to respond to the disaster. This allowed for autonomous decision making and facilitated teamwork throughout the district. For example, Josh, an administrator who oversaw the response and recovery for the SVVSD was working in a similar position in a different state when I interviewed him. When he reflected on what he learned from his experience at the SVVSD he said,

I’m trying to mirror some of that [how the SVVSD operated] in a new place, and I can tell you, the cultures are very, very different. The mentality is nowhere near the same about dedication and stuff. I mean, they’re dedicated, but everybody’s in their own little place where I’m at now. And we’re trying to build more of a team effort.

Josh explained that the leadership style of the SVVSD is unique and that the high-level administrators dedicated ample time to team building and empowering employees across the

district to make decisions on behalf of the students they serve. It was clear that this organizational leadership did not arise only in response to the floods, but instead was built over many years.

In his work on school leadership and complexity theory, Morrison (2012) explains that leaders in complex organizations “cultivate conditions rather than direct practice.” This style of leadership is effective because it allows for innovation and problem solving through the encouragement of self-motivation and autonomy in others, so that they are empowered to own the outcomes of their work. Morrison (2012:57) goes on to explain,

Leadership moves away from being coercive and authoritarian and adopts more humanistic principles, promoting the organizational health and climate of the school, and building on mutual trust. Leadership must attend to the human side of the organization, both personally and interpersonally.

This leadership style—led by Dr. Haddad but distributed and carried out by many people across the district—was identified as being fundamental to the success of the educational continuity process for Lyons schools.

Dedication to Students

Organizations that have a clear vision, mission, and identity are likely to be more resilient in the face of external threats. Morrison (2002:15) states, “When an organization is clear on its identity, then it is favorably situated to respond intelligently to its environment.” As evidenced by the examples in this chapter, the superintendent promoted a specific narrative of, “We are not a district of schools, we are a school district.” This statement was repeated by multiple participants in my study and demonstrates how there was purposeful investment in *collective identity building*—here defined as the process of collectively creating a positive narrative that inspires organizational actors to work toward a common goal based on shared values, beliefs, behaviors, and normative expectations.

A core indicator of the collective identity in the school district was a clear emphasis on the dedication to students. This theme emerged as a central motivating factor for why so many staff members worked around the clock—many while dealing with their own personal losses from the flood—because of their long-standing commitment to putting the student’s needs first. This was articulated well by Raymond, who was a lead member of the technology team at the SVVSD. He remembered,

[There was] a real commitment, I would say, by most people to students. Everybody in the school district could probably work somewhere else for more money. So literally at the end of the day there is some part of everybody’s heart that, you know, we’re here for the students. When things like that [the flood] happen, “Okay let’s put aside petty differences and do the right thing.”

And Ella, a member of the nutrition services team, explained how this was a fundamental value in the school district,

You could see the accountability from the employees...I mean they have a lot of stuff going on with the flood and everything in their home, but they still came back for the kids. That’s what’s unique about this district and what always steps forward with this district is the commitment to the kids and education.

It was clear that the commitment to students drove many of the decisions that were being made from the superintendent all the way to the custodial staff, who worked tirelessly to reopen the schools. Cassie, a lead member of the before and after school childcare program for the district, recalled,

When you look at our custodial staff and our construction, they had spent that entire summer—we had new schools that were being built—so the entire summer they were building and finishing that construction. And the custodial department really assisted in moving and getting the school set to be opened. And then they had a month, and boom, they were back at it again. So, the long hours that were worked, it was just, “Okay this is what we need to do.” And being able to pull that off was because it’s what is in the best interest of the kids.

The common goal and motivation to work together on behalf of the students contributed to staff feeling empowered to be able to do something positive in the face of crisis. Michael, a principal in Lyons, recalled

I think that was important because everybody knew that we were all looking out for one another. It wasn't like we abandoned the school level in favor for our [personal] survival. It was like school level survival was a part of survival. And I think that was important. It felt good to be able to do something. I'm sure you've heard people worked like literally around the clock for those [11] days.

Creating an identity built on a commitment and dedication to the students was a clear part of the SVVSD organizational ethos that encouraged each team member to take responsibility for student safety and work to meet the common goal of educational continuity.

Social Bonds and Attachments

“Building know-how and know-who”
~Nicolas, Communications Lead, SVVSD

In his review of the state of the field of hazards and disaster research, Mileti (1999:147) discusses the important role of social bonds and attachment to the success of organizational response to disaster. He states that these relationships, “have been shown to foster adaptive behavior both before and after disasters” (Mileti 1999:148). One example of community level relationship building that was organized and promoted by the school district before the floods, is a program titled *Leadership St. Vrain*, which was “designed to provide parents and other community members the opportunity to deepen their knowledge of [the] district’s mission, operations, and strategic priorities” (SVVSD 2018). Nicolas, a member of the communications team for the district, explained that this program helped to build strong social bonds between the parents, community, and the school district that were critical as the disaster unfolded,

[There is] a parent training program where we bring parents in every year from across the District and they meet every month. It’s not all parents, we have some other community members that don’t have children that participate. They come in for two and a half hours a month to learn what’s called the *know-how*. How does this district work? Finance, safety, curriculum, any number of major topics about how school district functions; school law. So that’s *know-how*. And then there’s *know-who*. Do you have a personal relationship with the superintendent, with the assistant superintendents, with members of the Board, with other key players in their school system? So, we’re building *know-how* and *know-who* constantly. You have a growing number, a critical mass of parents that understand how the district works, not at the superficial level, but at a deep level, and are connected, have the phone numbers, have personal relationships with people in positions

of power and influence in the district. So, you have to have this infrastructure in place before anything happens. And, as I said, a culture of communicating routinely.

This well-established program was mentioned multiple times by participants as an avenue for deeper parental involvement within the SVVSD and as a concrete example of the commitment of district leaders to establish a collaborative framework for community partnerships and district transparency.

Personal networks were also strong between the school district and the town leadership of Lyons. Although there was not a formal written plan in place for the community leaders of Lyons to use the Elementary School as a temporary Town Hall during the displacement period, Laura, a key leader in Lyons explained,

Every disaster is individual. You can never recreate. We would have never, ever, ever thought all utilities would be out. And all access to the community being out. So, you can't plan for it. I think the biggest thing is the relationships that you have. We didn't have formal written agreements in place and it all still worked beautifully. So, it really does all come down to knowing the players, trusting the players. People not second guessing each other. "Do you really need that?" Nobody ever did that. They [the school district] literally handed over the building and said "We'll figure out that part. Do what you need to do here." And we just converted that elementary school into a town hall, evacuation center, national guard point, um, pretty amazing.

Laura's quote demonstrates how preestablished networks were critical to the trust that occurred between the community of Lyons and the school district, which enhanced their ability to act quickly and continue vital response and recovery operations.

Although disaster outcomes are often context specific and contingent on a complex web of interacting variables, there are many lessons that can be learned from each event that can be transferred across locations. The importance of relationship building and community connections are two of those. When asked about whether the lessons learned at the SVVSD during this event were transferrable to other school districts, Josh, a leader of the SVVSD in charge of disaster response said,

I mean it all comes down to people and how they're gonna react to something. And how you plan. I think the training that our team did with the FEMA training center and working on multi hazard crisis planning; it actually was critical to all of us knowing how the other ones think and they [the city of Lyons] were involved in that process. So, we knew that the city knew that we are a supporter [in a disaster]. We are a resource to go after and help evacuate people. We knew it was part of their plan. So, we could plan accordingly. So those are transferrable wherever you go. You just can't assume that somebody knows something.

Trust, Communication, and Collaboration

Reciprocity of Trust

"Trust...you work years to gain it and you can lose it in a day"
~Nicolas, Communications Lead, SVVSD

The SVVSD had an organizational ethos supported by a reciprocity of trust across the Lyons schools, and the broader community which emerged as being integral to the educational continuity process. I define *reciprocity of trust* as a relationship-building process that occurs over time, where actors demonstrate their own trustworthiness and reliability through a series of positive actions, while simultaneously trusting others to act in the best interest of the group. To successfully facilitate the displacement of 744 students, it was important that those involved trusted each other to make decisions and take action that would benefit students. My interviews revealed that trust was a reciprocal process that occurred on multiple levels: the community leaders of Lyons trusted the school district, the district leaders trusted the administrators at each school, school administrators trusted their teachers and staff, school staff trusted parents and students, who in turn trusted the community leaders in charge of recovery. Trust at each level also needed to be reciprocated and flow in the opposite direction, as demonstrated by Figure 5.5.

Trust is a key component of leadership. If the members of a community or organization do not trust those in charge with making decisions on their behalf or if they feel like they don't have the autonomy and support to take action, there are likely to be more fractures and less unified movement toward an end goal. Morrison (2012) states,

Connectedness implies relationship, for example, between individuals and teams; between teams; between subsystems; between the institution and its environment. Further, these relationships are mutual, not one-way. On an interpersonal level, this suggests an increased need for trust between equal partners—a collaborative rather than a competitive mentality (p. 19).

Jay, a lead administrator explained how he saw this unfold for his team,

I think that the team I had, we’ve been together for a long time, so we had a pretty decent knowledge of the district and the communities. We were able to make quick decisions based on knowledge and information and not just, “Well, I hope this is the right thing.” It was more that we had a good solid knowledge base to operate from and familiarity with the community and we trusted our community and our community trusted us, so if we were making decisions everybody was being very supportive of it.

In her work founding the Pearlington Project Katrina Foundation, Inc.—a nonprofit foundation whose mission was to rebuild homes following Hurricane Katrina—Angela Cole found that “leadership is not linear—it is circular and interconnected” (Arnold, Douglas, and Wilbon-White 2015:546).

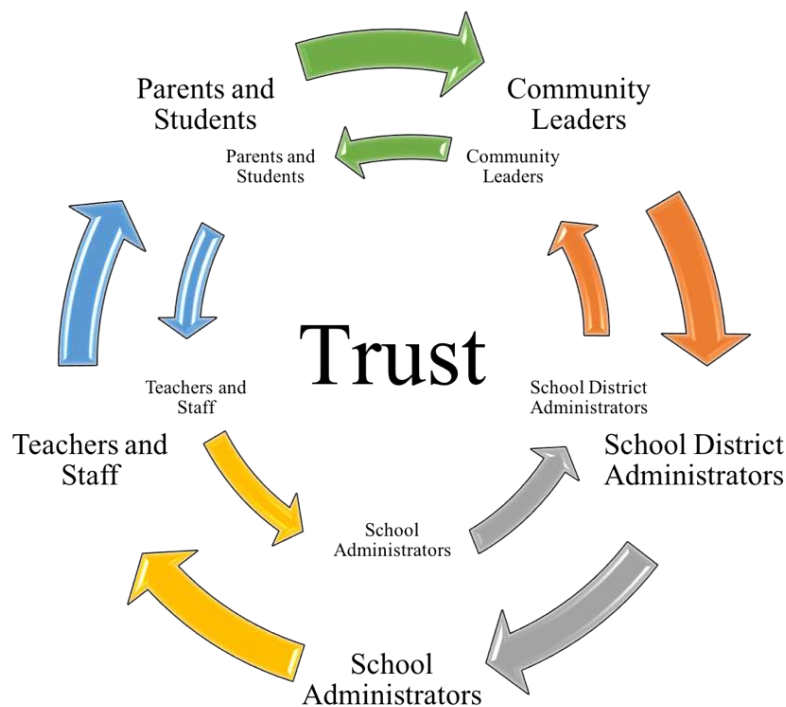


Figure 5.5 Reciprocity of Trust

Michael, a principal in Lyons, emphasized how important trust in leadership was for everyone involved in the educational continuity process,

It's just another indicator of how important trust is in leadership, primarily. Trust really is about dependability, consistency, honesty, ya know, integrity. Being able to have a culture that's built upon trust, so when things go awry the emotional confidence is already there to be able to go, "Ok, what are we doing, how do we do this, ok I need you, what do we have?" I think that's a huge component to it. I think trust is what made this successful. This was an opportunity for the district to demonstrate that.

Transparent Communication

In addition to trust, *transparent communication* was central to the successful response of the district—which I define as the process of openly sharing the same evidence-based, clear, consistent, and trusted messages to all constituents across a variety of platforms. This is underscored by scholarship on educational leadership, which identifies strong communication as a fundamental variable for the successful organization of a school district (Cilliers 1998; Morrison 2012; Peters 1989). Rego and Garau (2008) assert that during times of crisis, effective communication provides both emotional stability and tactical guidance for those affected. According to complexity theory, for communication to be effective, it needs to “take multiple forms, be through multiple channels, and be open” (Morrison 2012:20). As discussed in chapter four, the SVVSD had many official communication tools that were in place prior to the floods to communicate with parents and families, such as the Shout Point system, email, phone, and social media.

These mechanisms were utilized in the early response phases of the disaster and helped to keep lines of communication open between the district, the schools, and the families of Lyons. In addition to the specific tools used, this process helped solidify communication as central to the organizational ethos that was established across the district that was grounded in trust, inclusiveness, and transparency. Ella described how this communication style was ingrained in the district,

I think the one thing is top-down, good communication with the community members and good communication with our parents and students. You could see how that had really been ingrained in the district. I mean we really worked hard to keep all voices in the room. It was really important to us we made the best choices and that we knew that we had everybody's voice in the room to be able to make sure we didn't miss anything.

When asked how they were able to ensure inclusiveness, where everyone's voices would be heard in the weeks following the flood, Ella explained,

We had a lot of meetings. We had meetings with all the families. We invited them all to the big auditorium and talked to them about the process, asked them what they needed, asked them if we were on track with what their goals. A lot of that with the staff also. The thing is good communication, good listening, and accountability to make changes based on the needs of the day. I think that we learned that we could do that well.

The efforts made by the community of Lyons, the SVVSD school district, and leadership at both schools to implement a transparent communication system following the floods were effective. As evidenced by the number of public meetings held, the receptive commitment to community dialogue, and the emails and meeting video footage that was made available on the school district and Town of Lyons websites, this was consistent with Morrisons (2012) recommendation of communication being open, taking multiple forms, and being distributed across multiple channels. This approach also helped to build trust in leadership and form strong networks amongst those affected by the disaster.

Collaboration and Teamwork

"We're not in this alone"
~ Cassie, Administrator, SVVSD

The organizational ethos of the SVVSD also included an emphasis on strong collaboration and teamwork across the district and within each of the schools. When asked how he would describe his leadership style, Jay, a key SVVSD administrator explained, "I would say it's collaborative in nature. I like to gather feedback and input and involve people in decisions; lead from a perspective of 'we together' versus 'me individually'." Strong collaboration networks are critical for organizational response following disaster (Waugh and Streib 2006).

However, research shows that for teams to be successful, they must have experience working together and learning from one another prior to being able to achieve successful performance outcomes (Kayes 2015). Much of the non-performance activities, such as learning team dynamics, building relationships and trust, and identifying areas for improvement, are part of a learning curve that show breakdown in productivity initially, but leads to better performance of teams over time (Kayes 2015).

Professionals in my study, across the SVVSD and within both schools, had an average of 12 years working for the district and many more years of experience working in their unique fields. Jay explained that their success was partially attributable to how much experience the individuals on his team had with one another. He explained,

I was fortunate because we had so much experience on our team and everybody had 30 plus years. It took something, you know, top to bottom, everybody; the custodians, the nutrition services, human resources, I mean everything, technology departments, the whole nine yards. They all helped with great work.

In the post-disaster context, effective collaboration and teamwork requires that individuals trust in one another to make autonomous decisions based on a common understanding of district operations, protocols, and a shared vision of success (Waugh and Streib 2006). This longstanding finding in the literature was confirmed by Anna, who explained that it was truly a group effort that led to a successful response and recovery; one that she had not seen in all her years as a first responder,

You know, all of our staff...there wasn't any one person that I would say stood out. I think that the administration at both schools, the principals of both of the schools, I mean the dedication from...it couldn't have happened without the custodial staff. I just have to give them props because they worked so hard. It was an effort from O&M [Operations and Maintenance] all the way up. [Superintendent name redacted] worked relentlessly, and what he was doing to make sure that the students didn't skip a beat educationally. The whole team pulled together. I tell you, I worked Katrina. I worked Black Forest. I worked at Windsor Tornado. This was just amazing to see so many different departments and concerned people come together to make it happen for these kids. It was really amazing for me, and I'm twenty-five years into being a first responder.

In his work on organizational resilience following crises, disasters, and breakdowns, Kayes (2015:5) explains “By working together as part of a team, team members increase their knowledge of others expertise and also increase knowledge and skills at coordinating behaviors.” When asked “What made educational continuity possible for the St. Vrain Valley School District?” Nicolas, a member of the communications team answered,

What made it possible? Well, first of all we had a building. Secondly, we were a very strong team. Everyone cared. Everyone wanted a solution, and I think the response that we all got to that idea was very positive. Everyone on the leadership team at St. Vrain was extraordinarily helpful in this process. They were all making tough decisions and responding and moving towards this goal, systematically. So, I’d say the leadership of course was there with the superintendent, and it was also the directors. This is not a one-person deal. Everyone’s gotta be pullin’ in the same direction.

The feeling of strong collaboration, teamwork, and support from the district and the community appeared time and again across interviews as being a critical part of their success.

Cassie, an administrator for the district, explained how everyone came together to offer support,

You know, we’re not in this alone. We work with the Department of Safety and Security. We work with transportation. We work with nutrition services... I mean again it’s a lesson in humanity, you know? You see bumper stickers [that say], “Lyons Strong,” but it really wasn’t just Lyons. Everybody pulled together and did what was needed to be done and figured it out to the best of their ability. You didn’t really have to ask for help because there were already people there saying what do you need?

This was also expressed by Bob, a principal in Lyons, who noted how proud he was of the tremendous effort that was dedicated to making the educational continuity process a success for Lyons students,

That was pretty impressive when you start thinking about the total number of people involved in making it happen. It wasn’t three principals, two assistant principals, and four secretaries, you know, it was a whole team of people.

Respondents from various backgrounds and professional statuses repeatedly discussed their tremendous respect for the collaborative effort that took place after the flood. Although they largely spoke to the teamwork that happened following the event, the identity of the district that

was promoted from the top-down, was built on years of relationship building that created a context for people to come together and act collectively on behalf of the students.

Conclusion

In this chapter, I outlined how the SVVSD worked to “create a context for success” through intentional emergency preparedness planning efforts and strong leadership and relationship building that contributed to organizational resilience following the 2013 Colorado Front Range Floods. This context was built on an *organizational ethos* that was promoted across the school district. This included 1) distributed control, 2) dedication to students; 3) strong social bonds and community attachments; and 4) common values of trust, communication, and collaboration.

As discussed in chapter two, Smith (2003:468) compares ‘ethos’ to Bourdieu’s concept of ‘habitus’ and describes school ethos as “a complex dynamic interaction of continuous construction and re-construction of individuals’ and institutions’ habituses.” According to Glover and Coleman (2005:258), this includes an “ingrained disposition to act, think and feel in a particular way, and is shaped by the process of socialisation.” The themes that emerged from my data showed that there was in fact the creation and re-creation of an ethos that defined the identity of the school district, both as a structuring structure and a structured structure.

CHAPTER 6: FACILITATING RECOVERY

The previous two chapters describe *how* the St. Vrain Valley School District (SVVSD) kept students together during the community-wide displacement of Lyons, explained *what* social relationships, structures, and processes created the context for success for students, and answered *why* the school district and the community of Lyons responded in a way that prioritized educational continuity for students following the 2013 Colorado Front Range Floods. In this chapter, I shift from describing the preparedness and response efforts that led to a successful educational continuity process to focusing on the actions that were taken by the district and Lyons schools to facilitate recovery for students over time.

Research on children and youth in disaster find that both stability and flexibility are essential to recovery (Cahill et al. 2010; FEMA 2017; Fothergill and Peek 2015; Gibbs et al., 2013; Madrid et al. 2006; Mutch and Gawith 2014; Pfefferbaum et al. 2017; Prinstein et al. 1996; Walsh 2007). In her work on strengthening child, family, and community resilience following traumatic events, Walsh (2007:213) states, “Flexibility is needed to reallocate roles and adapt to changed conditions and unforeseen challenges. At the same time, to reduce the sense of chaos and disorientation that occurs with disruption and transitional upheaval, it is crucial to restore order, safety, and stability.” In addition to reestablishing normal routines quickly, research demonstrates that “emotional processing and arts-based activities are strategies that support children’s recovery” (Mutch and Gawith 2014:57).

These findings reflect many of the actions taken by teachers and staff at Lyons Elementary and Middle/Senior High School to help children begin to heal and recover from the floods. In this study, I found that there were three primary ways that adults worked to ease the disaster-related burdens on students: *routine and stability*, *flexibility and adaptability*, and *art*

and storytelling (see Figure 6.1). This chapter and prior research demonstrate that these areas contribute to students emotional and educational recovery following disaster (Cox et al. 2017). Yet, to carry out these forms of emotional support, it took dedicated and well-trained teachers and staff, supported by material resources, trust, and robust social networks that included students, parents, teachers, and staff at Lyons schools, SVVSD employees, and members of the community that worked for the best interests of children and youth affected by the floods.

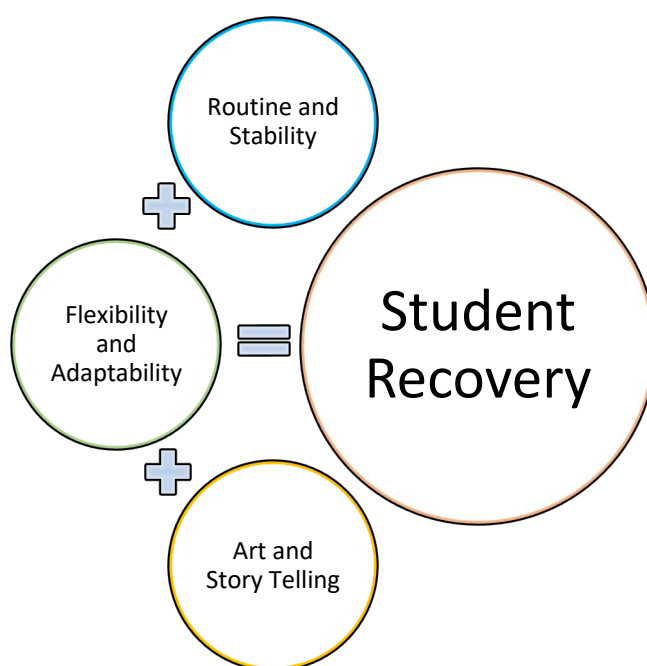


Figure 6.1 Disaster Recovery for Lyons Students

Recovery Through Routine and Stability

FEMA's (2017:5-6) *Safer, Stronger, Smarter: A Guide to Improving School Natural Hazard Safety*, states that "schools can help provide the normalcy that children often desire, while also allowing adult caregivers to focus on re-establishing their own 'new normal'."

When families are displaced from their home schools following an extreme event, they often end up attending new schools with unfamiliar teachers and peers, which can make recovery

more challenging as their academic lives are upended and familiar relationship ties are severed (Fothergill and Peek 2015; Peek et al. 2018; Pfefferbaum et al. 2017). Therefore, when given the proper support, schools can and do serve as an anchor for both students and their families by producing stable recovery environments. In this case, efforts to establish routine and stability for Lyons students included keeping students together throughout the displacement process, maintaining extracurricular activities and school traditions, and providing counseling services that students were familiar and comfortable with.

Keeping Students Together

For Lyons students, much of the disruption caused by displacement was buffered by the fact that the St. Vrain Valley School District managed to keep all the students together in one new location, with the same peers, teachers, and staff. This allowed for routine and stability to be established more quickly for students. For example, when asked about the benefits of keeping students together, Anna, a key emergency management administrator explained,

Oh my gosh. There are so many. I think it allowed them to stay on track educationally. I think everything outside of their school, there were so many unknowns. Each had to deal with their own displacement. This provided some consistency for them. It provided them stability because they were seeing the same people every day. They had the same teachers. They had their same friends sitting next to them. They knew what their curriculum was. It was the one stable force that they had amongst this disaster.

Having all the children at the same school was not only important for student recovery, but also helped relieve some of the stress on parents. In addition, this proximity allowed adults the opportunity to monitor the emotional recovery needs of students while they were all in one place. Laura, a community leader in Lyons and a parent of students at Lyons High School, explained it this way,

Immediately following [the flood] and then for a long time after, there was a real spike in needing counseling services for Lyons kids. And, if you have them all in one place, you detect that. You know that. You staff that. You know? So, it wasn't just the relief of everyone [the students] that they can stay together in one building, it was also helpful for parents. I mean... we were... we were everywhere. We were in Boulder, we finally

ended up renting a place in Longmont. I hadn't slept for months, you know? It was like, "I don't even know where [daughter's name redacted] is, can someone keep an eye on her?" But, [at school] I knew where she was, and it was one drop-off and one pick-up, you know?

When asked how keeping students together at the Main Street School influenced the recovery process, Jake a lead administrator for the St. Vrain Valley School District, remembered,

I mean everything was just accommodated, adjusted, and improvised, you know, to the best of [the school district's] ability, to try to make sure that the school would function just as normal as any other day. [The district tried to] minimize the trauma and the experience that the kids were going through by having a place where they actually... came closer together. You would see 'em being supportive and cheerful. It's a tight community, but you saw 'em being even more sensitive to each other's needs. Just what everybody was experiencing—some of it at a higher level, some at a lower level—but it seems like everybody was really trying to keep each other afloat and help each other to maintain and go back into being sustainable.

And similarly, Bob, one of the principals in Lyons confirmed,

I think when school opened it really helped in a lot of ways. Because now it was semi-back to normal because you got to see your teachers, you got to see your friends, you got to hang out away from the stressful situation of living in a camper or whatever. And we had all of our sports continuing. I think that was a real unifying force between the devastation. I mean, that's what it was, it was just traumatic. But I think school was a safe place and so kids were—most of them probably wouldn't admit it—but they were glad to be back to school.

The stability generated by school reopening quickly, and the effort to reduce the burden on parents by providing transportation, reducing homework demands, offering free lunch and before- and after-school childcare, and keeping students on the same class and extracurricular activity schedules, were instrumental in facilitating the recovery process for students.

Extracurricular Activities and School Traditions

Interviewees frequently expressed that consistency and predictability of student's extracurricular activities and school traditions were helpful to the recovery process for students. The school principals, athletic directors, teachers, and staff worked with schools across the district to make sure that sporting events and other activities could continue. These activities were supported through the sharing of space and equipment from other schools when needed.

Laura, a parent of two high school students, remembered how worried her daughters were about homecoming and football games. She recalled,

What was harder for my kids—who were high school age—was, “what are we going to do about homecoming? What are we going to do about football games?” I remember attending football games in Longmont, I remember attending something outside at a track event, but it was there. People were just so accommodating. Amazing, amazing!

Many participants expressed how supported they and their children felt by the Lyons community members who continued to attend High School football games, even while being displaced from their homes. For example, Jennifer, a middle school teacher, explained how this facilitated recovery for both students and community members of Lyons,

Yes, we have a lot of those people going still, you know, even when our football games moved to Longmont High School or wherever. We still had a lot of our older community coming to those, because that was just a slice of home—even though it was not *at home*. I’ve been there for fifteen years, which is a long time, but not that long. So, I made sure personally that we were still honoring tradition and we were always playing the fight song. We were doing all that kind of stuff to pull that community spirit up even more, not just because of the school, but because of the whole town, because we share that name.

This serves as one of the many examples in this dissertation that illustrates the notion of a “therapeutic” or “altruistic” community of social actors coming together in some way to support the public good (Phillips 2015).

In addition to keeping extracurricular activities going during displacement, respondents expressed how important it was to continue school traditions that students were accustomed to. For example, a parent of a Lyons elementary student, Heather, recalled how special it was that the principals and teachers honored the tradition of the elementary Halloween parade at the Main Street School, where students dressed up and walked through the halls to show off their costumes. They even expanded this event to include the older students, allowing them to attend the parade and cheer for the younger children. Laura recalled,

The school had lots of little opportunities. I remember they were made to feel special. They got back to normal in their new classrooms and everything. They had the same activities they would have had with their [home] school. Like every Halloween they do a

little—they call it a parade—where kids show up and dress up in costume. Well they did that at the new school too. And so all of those things that were normal they did, and then there were lots of little special things too.

And Kimberley, a middle school teacher, explained how the older kids felt about getting to attend this event,

From what I know, they loved it. I mean, for Halloween, the elementary kids paraded down the senior hall, and all the seniors were out cheering them on, and who gets to experience that? I think they liked it.

School administrators and parents explained that focusing on traditions, milestone events, and extracurricular activities helped to establish routine and stability for students. This required a concerted effort from families and staff who prioritized these events, invested time, money, and personal resources to carry them out, and engaged with the broader community to provide a sense of normalcy for students.

Counseling Services

Decades of research on children and disasters have found that providing counseling services in schools following a disaster helps children and youth to begin to emotionally recover and return focus to their education (FEMA 2017; Lai, Esnard, Lowe, and Peek 2016; Peek et al. 2018). As discussed briefly in chapter four, the SVVSD worked with Boulder County to bring in additional services for both students and staff following the flood. However, participants asserted that it was not these outside resources alone that helped students, but the close relationships with teachers and school counselors, that were developed long before the floods, that made all the difference for their emotional and behavioral well-being.

For Lyons schools, the effectiveness of the mental health response was partly the result of their ability to provide stable and consistent counseling services in classrooms prior to the floods. For example, Mary, one of the elementary school counselors explained that the exercises she engaged children in post-flood were comforting for them specifically because they were familiar.

These routine counseling services and the familiar faces of the people providing them allowed children to grieve and process their feelings in a safe space. Mary remembered it this way,

One thing that I think was a big benefit to us is that our students are used to me being in their class every two weeks. Every two weeks I'm in there doing the curriculum, doing a lot of mindfulness. They are used to the format. They know that when we are in a circle we have a talking space. They know what mindful listening is. They know how we're going to communicate, and so having that forum already laid was very helpful because then they know that they can communicate what they want, what they don't want, and we keep it pretty open and pretty simple.

And Dawn, a kindergarten teacher added how this approach created an environment for students to collectively support each other's recovery,

I think one thing they allowed them to do is they got to draw and talk about their experience in front of the whole class. It was this unity; this confined, shared experience that all of them got to share with each other. And I think it just allowed them not to feel alone.

Lauren, a counselor at the high school, had a similar experience with her students and explained how helpful it was that students had strong and trusting relationships with teachers and counselors prior to the flood,

But really our students, I could tell were really trying to be self-sufficient. They're so connected with teachers. So much of the nuance of things is our small school environment. When kids have a need, they're not just waiting outside my door. They're going to talk to Mr. [teacher name redacted] or Mr. [teacher name redacted]. There was just connectedness there with student to teacher. That did alleviate some of my role and [name of counselor redacted] role. Our students didn't really want to talk to outside people, and so they waited for us. The help was there when needed. Initially, I think there was obviously still some shock. There were still kids kind of finding their way. They were excited to see their friends. They were excited to be back in the building. Have some normalcy in their life. It was probably a couple of weeks later where we really [saw mental health needs].

Lauren went on to explain how the 2013 floods impacted her students over the long term and how counseling service helped to facilitate their recovery,

I think for all of us, it was a bonding experience. With that connection to kids and their families, I think there's just a different kind of comfort level. I would say I probably do a lot more personal counseling in our school than other schools experience. It may be flood-related topics, but at this point [three years later], that's very intermittent that that comes up. I see the most reference to flood-related things when kids are writing their college essays, usually about what's something monumental that's happened in your life. Most of

our kids that survived that are still referencing [the flood] in their college essays as a pivotal life experience. I just think the connection made kids and parents feel like the interventionists and myself were a viable resource for all kinds of issues.

These experiences point to how pre-existing relationships developed between students, teachers, and counselors translated to a robust and effective mental health response in support of the social and emotional well-being of children and youth. In the United States, only 17.8 percent of districts meet the recommended student-to-school counselor ratio of 250:1 (Gagnon and Mattingly 2016). The current national median is 411:1 and Gagnon and Mattingly (2016:2) report that “Poor districts and districts with higher rates of traditionally disadvantaged races exhibit less access to school counselors across all examined measures.” Even when outside counseling services are made available in schools post-disaster, they may not be effective. In order to ensure that students have the social, emotional, and behavioral support they need to process disaster related trauma, school districts must invest in and prioritize regular counseling services for students.

Recovery Through Flexibility and Adaptability

Although the primary focus in the aftermath of the floods was to get students back on track and continue their education and routine as quickly as possible, it was equally important to create a space for flexibility, adaptability, and the honoring of students needs as they were recovering from the flood. According to interviewees, this was possible because of the commitment and dedication of well-trained teachers and staff, who were encouraged by school district officials, and who intimately understood what the students were experiencing as many of them were also displaced from their homes in Lyons. This helped reduce the stress of students and allowed for families to prioritize their recovery needs over the daily homework, schedules, and standards that students are usually held to in non-disaster times. The primary areas where

increased flexibility and adaptability was necessary and accommodated for students was in attendance and curriculum.

Attendance

According to Colorado state law, children between the ages of 6 and 17 are required to attend a minimum of 1,056 hours in middle and high school and 968 hours in elementary school (Colorado School Attendance Law — C.R.S. 22-33-101 et seq.). Therefore, getting schools back open quickly was not only for the benefit of students, but was also a requirement of state law. The educational continuity process ensured that the district could adhere to this legislation, and the number of absences experienced district-wide did not trigger any make-up days under this law. Kristina, a parent of students at Lyons Middle/Senior High School and a school administrator explained,

There was no make-up time. In fact, Lyons was out longer than anybody and there were no add on dates at the end of the year or anything. So, we were within the allotted—whatever that magic number is—that you can miss in a year.

Even though district-wide school attendance was within Colorado state law requirements, there was far more variability across student attendance depending on the extent that flooding impacted each household. Therefore, teachers and principals quickly realized that they would need to be flexible as many families were living in temporary accommodations far outside of district boundaries or their transportation options were limited given extensive road and bridge closures following the flood. Lauren, a school counselor, described their flexible approach to accommodating students who were struggling to get to school on a regular basis,

If they couldn't come at all, they couldn't come. We had one kid that's like, "I think I can do it Monday/Wednesday/Friday or Tuesday/Thursday." The teachers just kept their work, sent a lot of it through email, and tried to keep the education going for them, but understood that those are huge barriers. We had a couple of staff members that were in the same boat in that huge round-the-mountain backwards drive to get to Longmont. Some of them lived with other teachers, and some of them were making that journey. I think that at a teacher-to-teacher level, hearing what they were going through from your peers, it was easy to translate that to the hardships that kids were facing in that process.

In the early weeks of displacement, residents who lived farther west of Lyons would have to endure multiple hour drives to get from their homes to Longmont where the temporary Main Street School was located. As Lauren explains, teachers were also having trouble getting to school. One unintended benefit of keeping the entire school together throughout the displacement process was that the teachers intimately understood the challenges that students were experiencing at home as they were all affected by the same disaster.

Curriculum

When students returned to school, it quickly became clear that many of them were experiencing trauma and painful memories of the flood as well as the collateral effects of their household displacements. Teachers had to be sensitive to balancing the need to get through the daily curriculum, while also providing a safe space for the students to grieve and discuss their experiences. Adam, a teacher at Lyons High School, remembered,

There weren't full-on meltdowns, but they were just not able to function. You could just see kids shutting off. It would rain and that would trigger stuff, you know? We did our best to have class, and we definitely had class, but kids would kinda start falling apart. You could see it happening. You could direct them [to the school counselor] in the office. If a lot of them were falling apart, you just kinda had to stop the academic part of class and do something else. It wasn't necessarily sit and talk about the flood, but we tried to make stuff fun. I remember trying to really make the environment a welcoming, safe environment for the kids.

Many teachers also reported that as they were planning their lessons, they had to be sensitive to examples and illustrations that included water, rain, flood, or any other topics that might be associated with the recent disaster. Shawna, a special education teacher at Lyons Elementary School explained how this played out for one student and how it reminded her to be more sensitive and flexible with the curriculum. When asked what challenges she remembered the students experiencing, she recalled,

There was one particular student who I was working with, getting a benchmark assessment on him. In my minimal time with him before the flood he was a happy-go-lucky kid, really excited about learning, you know? I remember taking him aside to give

him a little test and he just... there was nothing there. I remember thinking, “Come on, you know, what’s up?” I was not even thinking—I mean that was bad on my part—not to even think about what he was thinking of. He’s not thinking of school. He was wondering what he was going to eat that night, what he would wear because he had two or three outfits, you know? I pushed him a little bit to just “please, keep going.” In the middle of the test he stopped, and he just looked at me and said, “Mrs. [name redacted], I can’t do it.” He was in third grade. He was like, “I just can’t.” I said, “what’s up?” He turned the book to the cover and he pointed. I looked, and it was titled, “Water, Water, Everywhere.” It was not about floods, but just water in general... what do we do with water, how do we use it for recreational purposes, I mean, but he couldn’t. He literally took that title of “Water, Water Everywhere,” and he was reliving [the flood].

Shawna went on to explain how teachers adapted to the students needs and focused on bringing happiness back into the classroom,

Main Street students were just not themselves, so we needed to create moments of happiness. I know that classrooms would have times for just talking about things, you know, pushing aside the curriculum. “Don’t worry, if something comes up, follow the curriculum, but let their writing kind of take whatever they need to get it out.” I just remember at the beginning, the first week or so, when the kids started to be okay at Mainstreet [and realize] “This is our new normal for right now,” the happiness came back.

John, a science teacher for Lyons Middle/Senior High School, explained how he adapted some lessons that might have triggered negative memories for the students. He explained,

When we went through it, we were definitely told not to dwell on it, not to discuss like, “Oh yeah, the damage here and landslides here” you know? For me, this was a major teaching moment. With the AP Bio kits, those are college-level kits, we talked about density, you know? It’s a flood. It’s a natural event that happens, and you know, yes, some people died. “Did organisms die? You bet? Was the landscape changed? Yes, it was.” We were told to discuss things, but don’t dwell on them, and if students want to discuss things, it’s okay, but try and discuss them and keep it moving.

And Sophia, a teacher at Lyons Elementary remembered the fun activities they did to keep students spirits up and help them process the flood event, even while they were each struggling with their own flood-related hardships,

We did a lot of art and drawing and we listened to a lot of music and danced around a lot in my class. You knew you had to get all this stuff done [curriculum], but you also knew that the social empathy piece was way more important than giving the math lesson. I think we all just did. We were all very much in survival mode helping each other out. I think it was more difficult, almost, for the teachers. We were trying to be these strong

people for the kids and for the community and still do our job while we were still dealing with it [flood recovery] ourselves.

It is important to remember that in a disaster context—where teachers are often the first responders to children’s needs—they may be putting their own recovery on hold or are experiencing personal hardships while trying to care for children (Pfefferbaum et al. 2017). In these circumstances, it would be useful to have additional resources to care for the mental and physical needs of teachers and staff in a post-disaster context (Pfefferbaum et al. 2017).

In addition to adapting to the needs of students in the classroom, teachers also realized that homework was becoming a burden on students, many of whom were living in temporary accommodations during the displacement process. Joanne, an Elementary School teacher in Lyons explained the balance of trying to be flexible while maintaining routine for the students, “We were certainly more flexible with kids who could not do homework. [But for those who could] we really tried to keep it as normal as possible. So, routines, get back into a schedule, do things the way we did before.” This was also true for students at the High School level. When asked if there was any testing or homework forgiveness following the flood, Chloe, a senior at Lyons Middle/Senior High School, explained,

There was. They were more lenient. Especially in the new school and then transitioning back to the old school. They weren’t so strict about us getting it all done and everything because they knew it was a tragic event, and they could relate to us. So, they gave us a lot of freedom on the homework. Of course, they wanted us to try and get it done and everything. Once we were back at the new school for like over a month, then they started getting a little bit stricter about the homework and everything. But at first, yeah, they were, they were pretty ok with us.

Flexibility and leniency on homework demands helped students to recover as they were struggling to find time to complete homework after long commutes and displacement from their homes, but it also offered them the space to begin the emotional recovery process. When asked what the greatest needs of the students were, Mary, a school counselor for Lyons, explained that

it was having an outlet to process their feelings, not being pressured to complete homework, and being connected to their community. She remembered,

Time to be heard and to express their feelings, whether it's verbalizing, voicing, drawing. Flexibility, pressures not there on the homework, connection. I mean, that community piece is just so huge. It brings in consistency and maintains things that could stay normal in their life. Areas where they could have some control. So, I guess that's typical in any situation where feel out of control.

It was clear, based on interviews with students, teachers, and parents, that an important part of the healing and recovery process for students was being together and supporting one another. This was accomplished through a process of flexibility with routine, kindness with consistency, and expectations with improvisation. The approach of being open and understanding to the challenges that students were facing helped teachers and staff prioritize the social and emotional recovery needs as they arose, so that the educational progress could continue.

Recovery Through Art and Storytelling

Art and storytelling are therapeutic approaches for helping children and youth recover from disaster (Cahill et al. 2010; Fletcher et al. 2016; Prinstein, La Greca, Vernberg, and Silverman 1996; Walsh 2007). Years of research have demonstrated the effectiveness of using creative methods to heal from traumatic events. For example, Walsh (2007:213) states,

Suffering can be transcended in creative and symbolic expression through the arts. Music, such as participation in community or congregational singing, can release sorrow and be uplifting, restoring spirits to carry on. Finding ways to express the experience of trauma and survival through writing and artwork can facilitate resilience.

Schools that respond to the needs of children and youth through these approaches have reported positive mental health outcomes for students (Roje 1995). Lyons was well-known as an art- and music-based community prior to the floods. The art teachers and counselors at Lyons schools had previous experience working with local artists and integrating art and music into the curriculum. Therefore, soon after the floodwaters ravaged Lyons and displaced students across

Northern Colorado and beyond, the counselors, teachers, and parents at Lyons Elementary and Middle/Senior High Schools began brainstorming ways that they could help students recover through creative projects using art and storytelling. To this end, there were three main creative projects (and many smaller efforts) that were collectively activated by parents, teachers, counselors, and community members in Northern Colorado to help students recover: *Through Our Eyes*; *Our Town, Our Story*; and *One Million Faces, Rise to Shine*.

Through Our Eyes

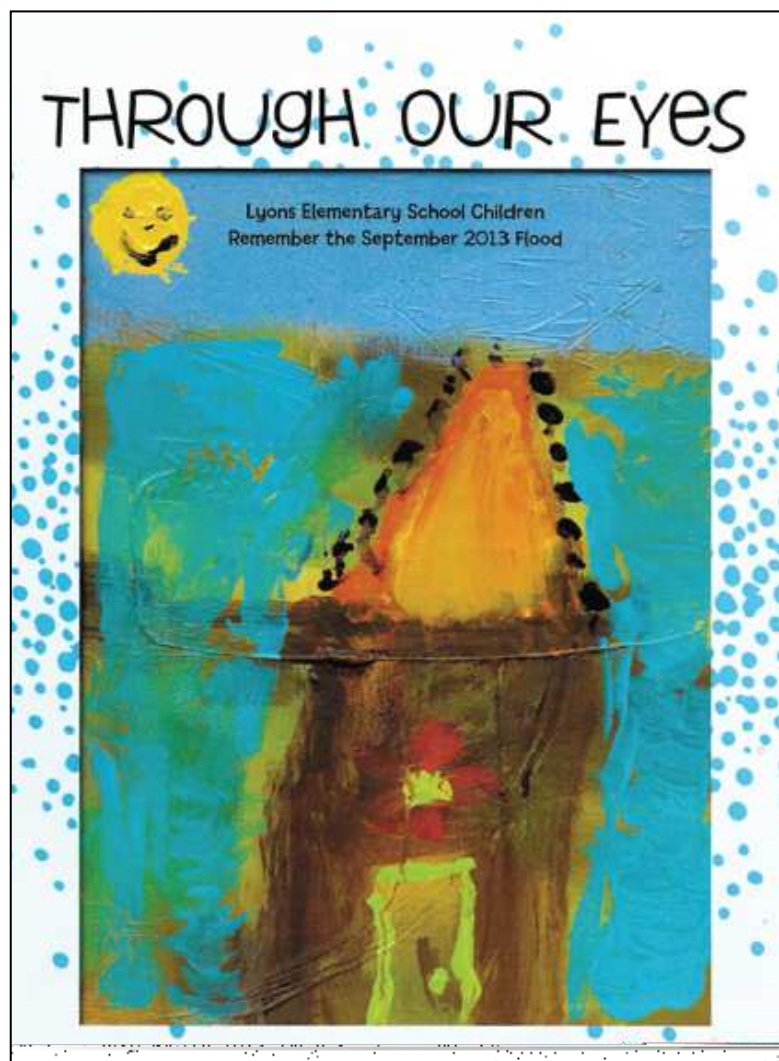


Figure 6.2 Cover Image of *Through Our Eyes*: Lyons Elementary Students Remember 2013 Flood.

Through Our Eyes: Lyons Elementary Students Remember 2013 Flood is a book that was created by a group of parent volunteers to help children at Lyons Elementary School document their flood stories (see Figure 6.2). The parent who spearheaded this effort, Claire Thomas, described her intention for the book,

[I]n October 2013, I decided I would volunteer to create a book for the school as an avenue for any child who wanted to share his or her experience (through words or pictures, or both). It took the rest of the school year for contributions to trickle in, and only kids who wanted to be included in the book took part.

I wanted the book's focus to be on what the children (not their parents) felt, saw, and did during the flood. How their lives changed. What their hopes for the future are. While parents focused on their new realities (lanterns and port-a-potties, renting apartments or rebuilding, etc.), kids saw this tragic event from their own unique perspectives. This book is a compilation of their stories and illustrations, straight from their own hearts and eyes. As they grow and want to remember how they and their classmates felt during the September 2013 flood, I hope they will look back here. (Thomas 2014:1)

This publication was funded by Diana Ralston, the Oskar Blues CAN'd Aid Foundation, and through a fundraiser held by Crested Butte Community School (Thomas 2014). Volunteers collected oral stories, written poetry and essays, and drawings and paintings over the course of the year following the flood and then compiled them into a book that represented the voices of Lyons schoolchildren and teachers from pre-K through 5th grade (see Figure 6.3 for an example).

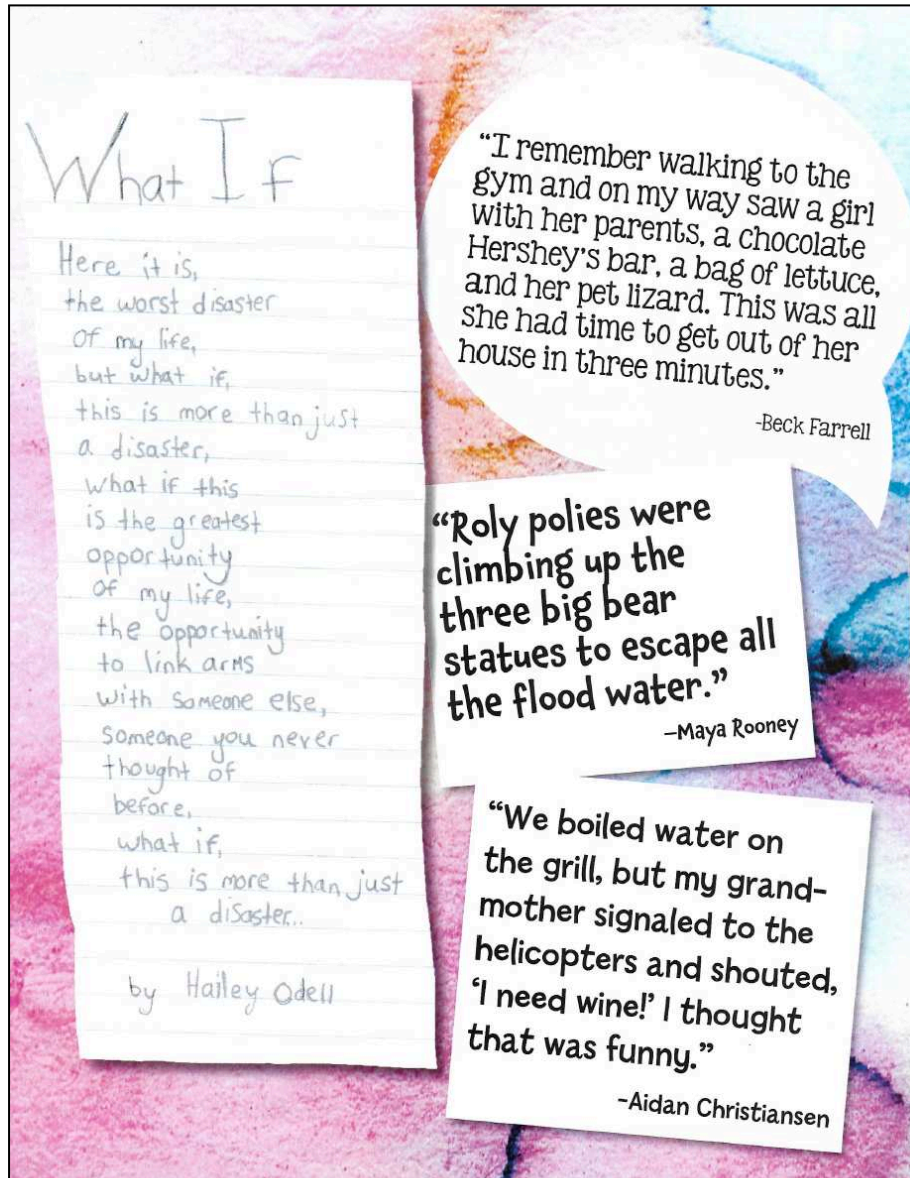


Figure 6.3 Poems and Stories in *Through Our Eyes*, Created by Lyons Elementary Students

Across the interviews for this study, participants spoke fondly of this book as a way for elementary students to process their feelings about the flood. Heather, a parent of a fourth grader reflected on how the book was a powerful way to document the experiences of those affected. She said, "I think that the book was strategic because it let everybody tell their stories... of the past, the history of how they got there." And Dawn, a Kindergarten teacher explained how

impressed she was with how teachers and parents worked together to meet the emotional needs of students. She remembered,

There was a lot of talking, a lot of communicating. The teachers are great about really communicating with the kids and letting them be in touch with their emotions and their feelings if they needed to talk. And the PTO [Parent Teacher Organization] is great. They came in and interviewed the kids and allowed them to express themselves individually and they wrote a little book [Through Our Eyes].

In total, this book captured over 250 quotes, stories, poems, and pieces of artwork created by Pre-K through 5th grade students and teachers at Lyons Elementary School. These ranged from one sentence memories offered by younger children (such as in Figure 6.3), to full diary entries and detailed accounts of flood experiences by older students (see Figure 6.4 for an example of older students contributions).

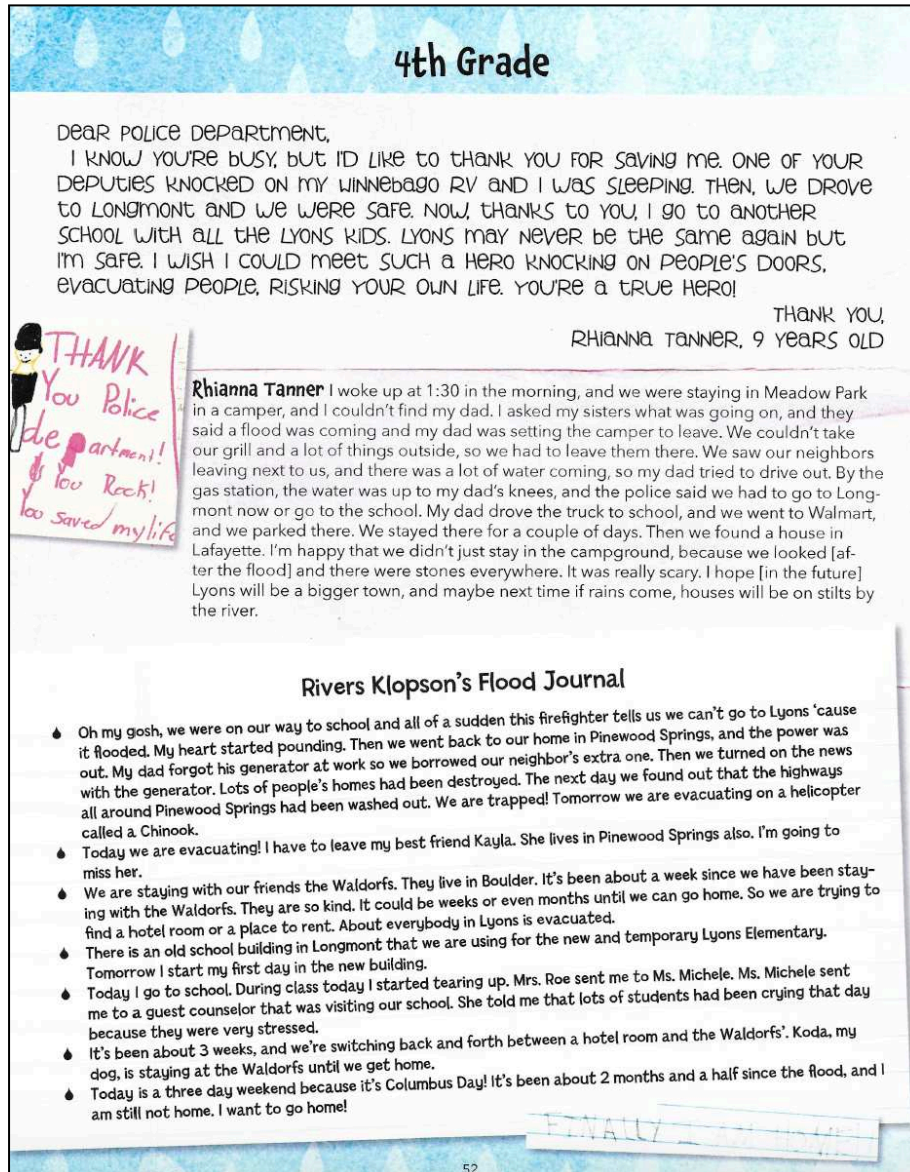


Figure 6.4 Poems and Stories in *Through Our Eyes*, Created by Lyons Elementary 4th Grade Students

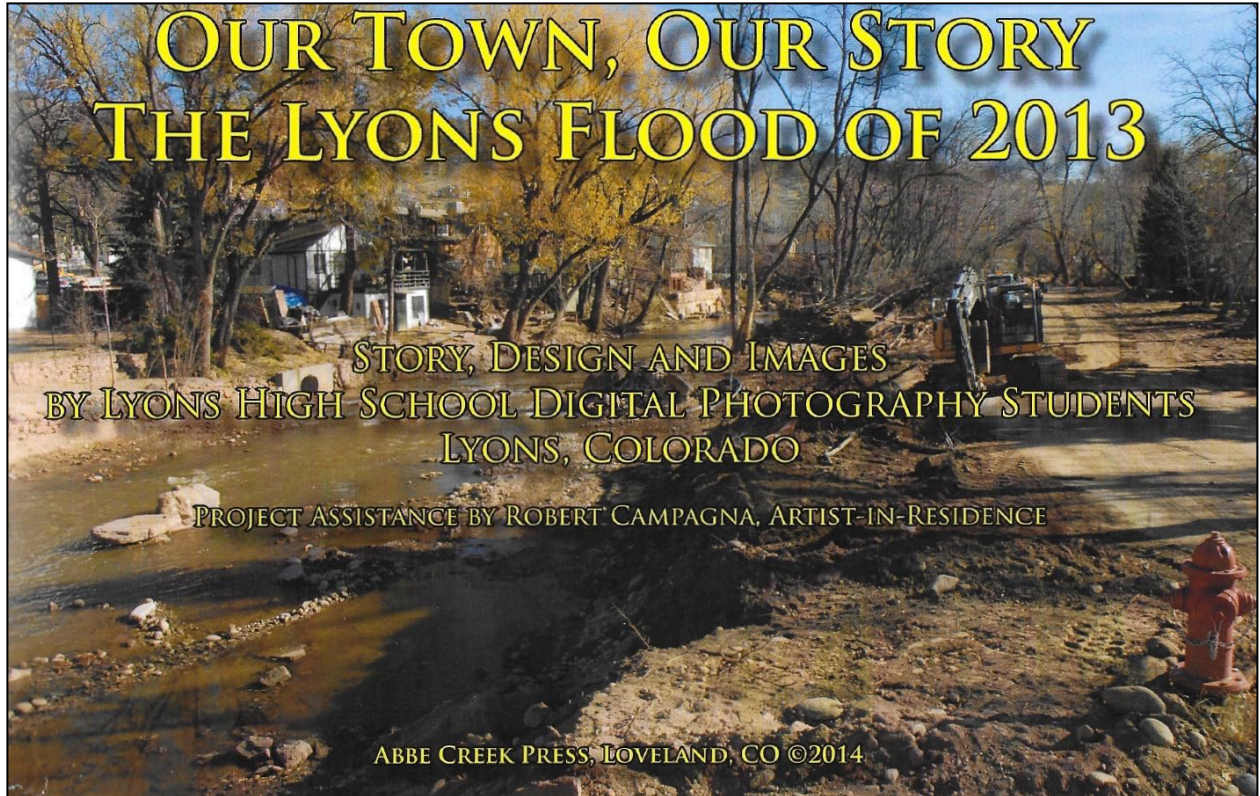


Figure 6.5 Cover Image of Our Town, Our Story: The Lyons Flood of 2013

Our Town Our Story

Our Town, Our Story: The Lyons Flood of 2013 is a book that was created by Lyons Middle/Senior High School art teacher Stephanie Busby, Bob Campagna, a local artist, and the 20 Digital Photography students that took Ms. Busby's class during the Fall semester of 2013 (See Figure 6.5 for the cover image of the book). Ms. Busby described the inspiration for this book this way,

September 12, 2013 may be one of those events that our youth will look back upon and realize that their lives were changed. The ENTIRE [*emphasis in original*] town of Lyons was evacuated. The town government was handed a task that would be hard for any entity to prepare for. The elementary, middle and senior high schools were all relocated, people lost homes, possessions, businesses, pieces of history, jobs, and pets. Most tragically, one life from Lyons was lost in this flood disaster.

This book is a keepsake, presented through the eyes of twenty Lyons High School Beginning Digital Photography students. It is their reaction, their view and THEIR STORY [*emphasis in original*]. Those first few days back at school, teaching at our temporary building in Longmont, I had a beautiful view of Meeker Mountain and Longs

Peak from the classroom window, knowing that at the foot of those epic mountains, our town was a destruction zone. It was heavy on my mind. And as if it was supposed to happen, I was introduced to Bob Campagna, a photographer and Artist-in-Residence. After meeting with each other, we began to discuss how we might be able to memorialize such a tragedy and bring beauty to the event. It was then that this book project was born! We knew people needed to see how this flood had affected Lyons students. We felt it was extremely important for the material to come from the students themselves - a healing art form in itself. The enormity of this flood needed to be documented so that years from now, it will not be forgotten (Busby and Campagna 2014:5-6).

For the students to take photographs of the destruction in Lyons, Kimberly, a middle/senior high school teacher, had to arrange for the Town of Lyons to grant them special access into the community as it was closed to visitors in the early weeks following the flood. She explained how this was possible,

I had lived in Lyon's for so long, and I had worked for a couple different places and knew the town people and the mayor. I talked with her and really got things into place, and just [claps] made it happen. I had couple of parent volunteers drive the kids from Main Street to here [Lyons Middle/Senior High School], and then lead different groups. That made it real for the kids, when they got to Meadow Park. I mean, there were kids that just kind of fell apart. A lot of them have had their birthday parties there when they were little. There was [the student] I talked about [that lived] across the river in the trailer park where her house was lost. Then right when we got back, I started working with them on the writing piece.

The pre-existing relationships and social networks between teachers, parents, and community leaders helped to facilitate this meaningful opportunity for students that may not have been possible without these connections. The photo story book is organized by each students contribution of their favorite photos and captions illustrating what that photo meant to them (see Figures 6.6 through 6.10 for examples of student photo stories).

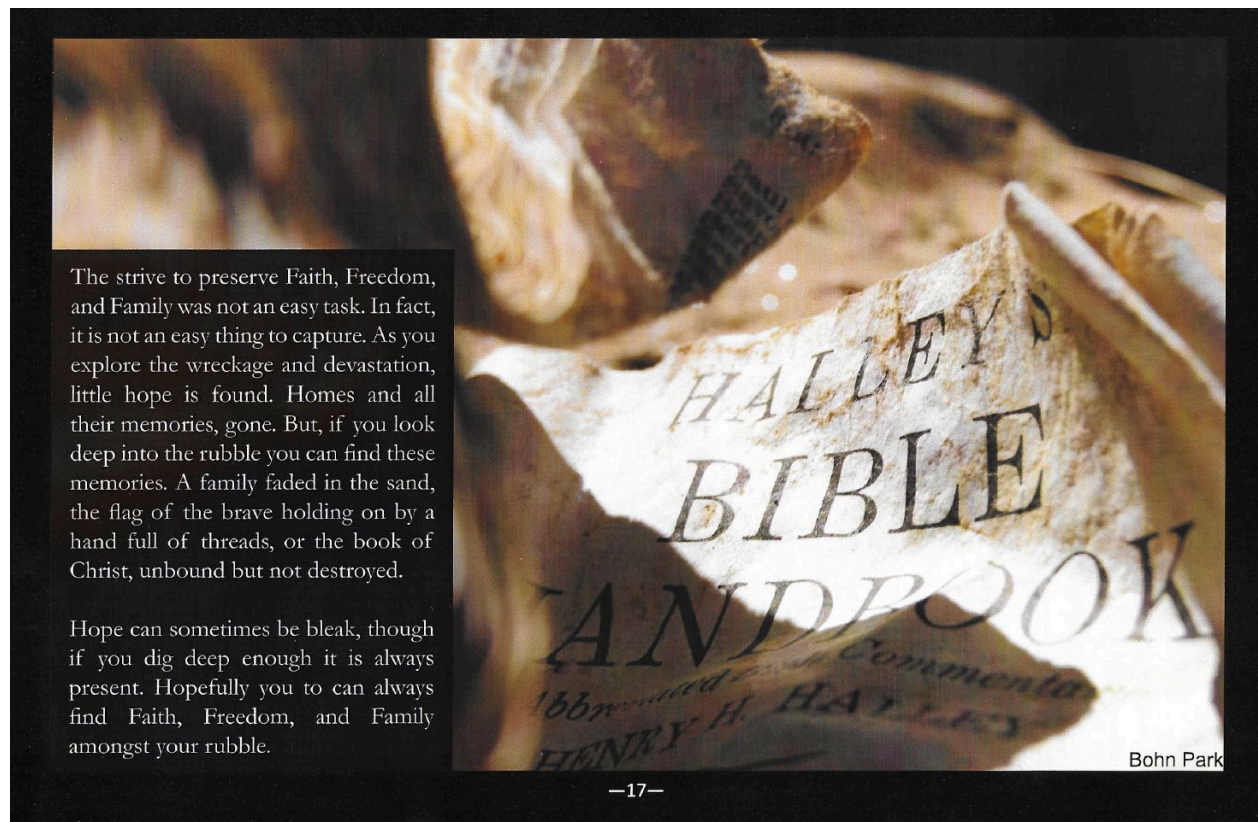
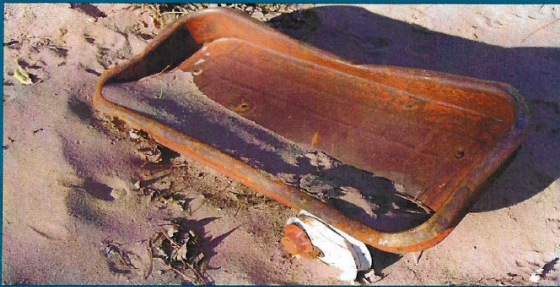


Figure 6.6 Photostory by Joe Christiansen in *Our Town, Our Story: The Lyons Flood of 2013*

When walking in these damaged areas my eyes itched and burned from the dust. It was noisy, all the trucks, tractors and other equipment were operating to clean the area.

I again drive down the U.S. 36 canyon to school in Lyons. Each day I find some new detail that looks different. It's so devastating. Everything was disrupted. The river ran through the church we attend. Ironically it was called "The River Church." We now hold service in the High School on Sundays. Our church will be rebuilt.

The little town that has been such a big part of my life was buried in debris. Lyons will be okay. It will take time, but I know the people are strong enough to make it through. We will forever be LYONS STRONG.



Above: Meadow Park shed; **Below:** near the water filtration plant; **Lower left:** Meadow Park.



—35—

Figure 6.7 Photostory by Hannah Baker in *Our Town, Our Story: The Lyons Flood of 2013*

Beyond the fence remnants is Bohn Park. This particular angle was taken next to a fallen fence while workers vigorously attempt to rebuild the park.



I walk home every day from school. I used to walk through Bohn Park, but it's now destroyed. Now I take the concrete pathway home, just like everyone else. I liked seeing the

softball fields, but they are completely destroyed. It looks like a tornado massacred the softball fields. I don't like walking the new route home. It feels different. I feel displaced.

—43—

Figure 6.8 Photostory by Cole Bonde in *Our Town, Our Story: The Lyons Flood of 2013*

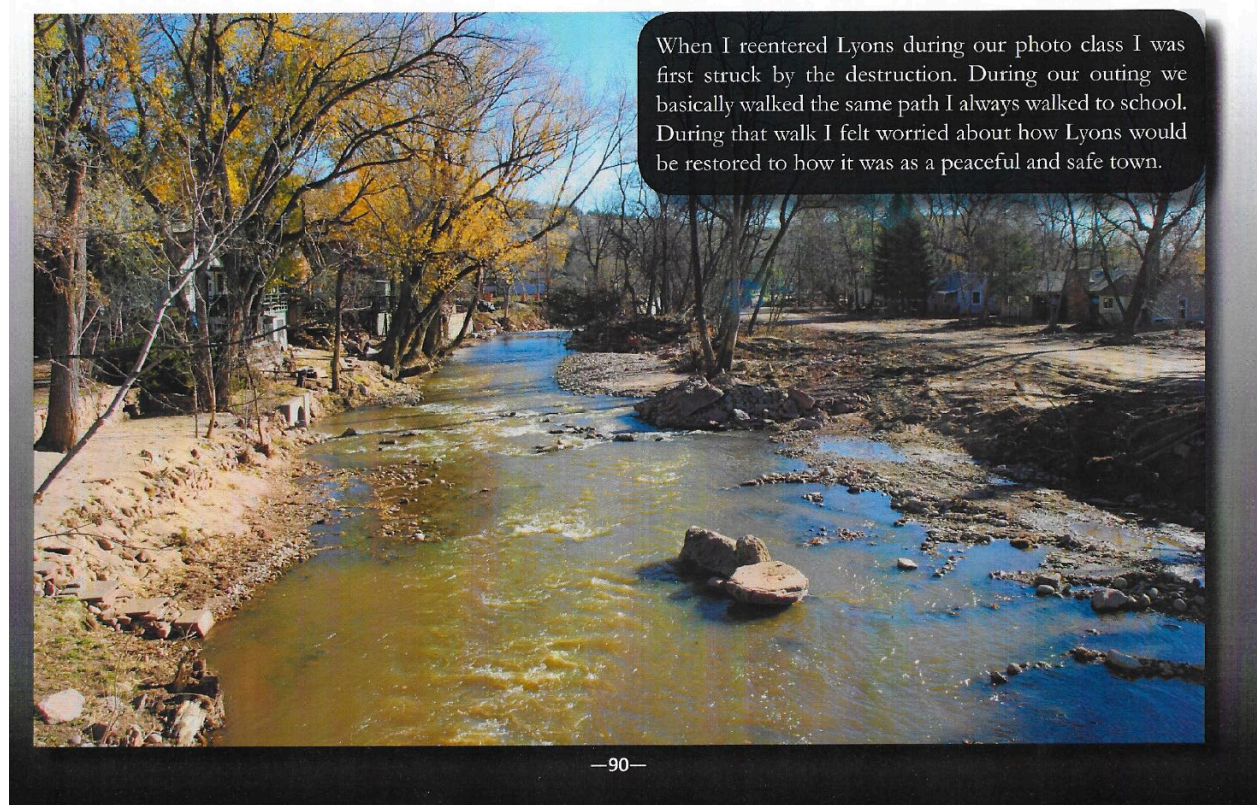


Figure 6.9 Photostory by Creed Guidice in *Our Town, Our Story: The Lyons Flood of 2013*

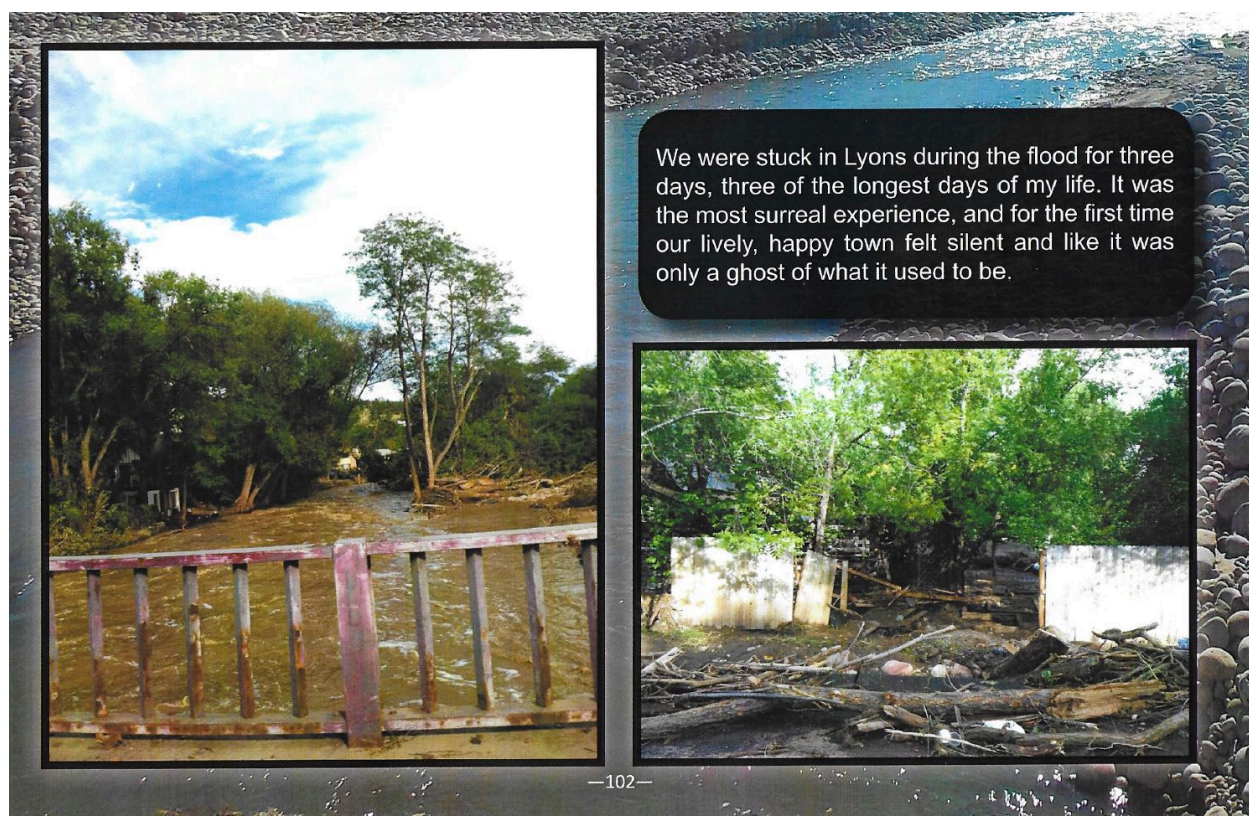


Figure 6.10 Photostory by Colleen McGuire in *Our Town, Our Story: The Lyons Flood of 2013*

In total, over 500 photo books were printed and sold (Bryen 2014). The students also participated in an art exhibit that was hosted by Oskar Blues, a local brewery in Lyons. Kimberly elaborated on how she organized this part of the project,

We got busy right away, having them select their final two photos that we enlarged, had them printed, and framed them. They looked really nice. I told the kids, “We’re going to have an art show.” And actually, we talked about “What you would like to do with this project?” I think we said if we could raise five hundred dollars to donate to the trails that would be great. We had the art show, and the art show started at six, and at five-thirty there’s a line out the door.

Book purchases resulted in over \$10,000 in revenue that was donated to the Longmont Community Foundation to help repair trails that were damaged in the flood (Bryen 2014).

When asked about what was learned that could be transferred to other locations, Mark, a principal in Lyons, described how the book project was a positive strategy that could be replicated to help students and communities recover from disaster,

I think that book and that art project were pivotal. I think doing something that collects and holds everybody together, it's positive and focused. And having community support to do that is something I would totally recommend. What can you capitalize on? How do you create this to be able to make this awful thing that happened into a survivor's tale that brings everybody together including the community?

Only one high school class worked on the *Our Town, Our Story* project, but it was clear from interviews with students and teachers that it had a positive impact on student recovery and would have been beneficial to expand to include all the students, had there been time and resources available to do so.

One Million Faces



Figure 6.11 Students Participating in the One Million Faces Project ©Peggy Dyer 2014.
Source: <http://www.onemillionfaces.org>

Michele Bourgeois⁹, a school counselor at Lyons Elementary school, partnered with Peggy Dyer, a local photographer, to create the *One Million Faces* and *Time to Shine* project (see Figure 6.11 for photo examples from the project). Dyer began the *One Million Faces* project in 2009 to photograph the faces of one million people to raise money for local charities across the country. In June of 2013, Bourgeois met Peggy at a yoga festival where she took part in the project. After the floods displaced and disrupted the lives of her students, Bourgeois, along with Dyer and a group of *One Million Faces* team members decided to welcome the students back to

⁹ I did not use pseudonyms for Michelle and Peggy in this section as their names and associated information is publicly available online at <http://www.onemillionfaces.org/?p=777>

their home school by memorializing the event through photography, writing, singing, and art. On December 2, 2013, after being displaced for nearly three months, over 350 students, teachers, and staff were greeted by smiling faces with cameras and white boards, ready to sing, photograph, and create memories of the flood.

Mary, one of the school counselors for Lyons, explained that it was Dyer's bright spirit and positive approach to people that made her the perfect candidate to work with Lyons students. She explained,

She [Peggy Dyer] gives voice to each and all. She honors the hero in everyone. She shines bright and she honors the brightness in others. Not only was everyone impacted on some level by this particular flood, but everyone has their storm, their personal flood, day in and day out. Peggy's work and her very presence says to one and all, big and small, "You are seen. You are heard. What you have to say matters."

The photo sessions, writing, and artwork were also accompanied by a song—written by Bourgeois called "Time to Shine"—and movement practices to promote healing. Mary explained how they integrated music and movement into the project,

[Time to Shine] is all about shining your light through everything, hard times, ups and downs, whatever. I would sing it with the kids, I'd teach them the song, and then we did a moving story, based on Sydney Solis' Storytime Yoga called the "Weariest Journey." It starts out with you as the hero of your own story, so we thought this would be perfect and I just sort of modified her words a little bit to include "you go through rain, rainbows, sunshine, etcetera." We went through the weather pattern, we taught that moving story, and then we got Peggy and photographed the kids the first day we got back to Lyons.

[The children wrote on white boards] whatever their message to the world was and it was totally open ended. Some kids were like, "I love the Broncos" and some kids were like, "I Survived the Flood," and "Shine your Light and be Strong." Everything from A to Z. But, what I think the powerful piece was, is that she came back as an artist-in-residence and they created collages with their art work, with their picture, and then it was the end of the year, so we continued singing the song, we continued doing the moving story, they were doing art with their message, and then at the end of the year, we unveiled the mural. It was a process of healing.

A representative from *One Million Faces* explained how the mural project, led by Peggy Dyer unfolded,

On January 27, 2014 Dyer began a three-week artist-in-residence program at Lyons Elementary teaching art and collage-making in the classroom. Each child created two original seven-inch collages on wood, one for the school mural and one to take home. Parents, and community members rallied to prep materials and work alongside the kids messages to create inspiring original art collages (One Million Faces 2014) (See Figure 6.12 for a photograph of students participating in the art component of the project).



Figure 6.12 Lyons Elementary Students Creating Collages for the One Million Faces Art Installation ©Peggy Dyer 2014. Source: <http://www.onemillionfaces.org>

The art collages were then turned into a mural that was hung on the walls of Lyons Elementary School (see Figure 6.13). When asked what the school did to help the kids recover from the floods emotionally, a parent of a fourth-grade student at the time of the flood, described the art wall. She explained, “The point of *One Million Faces* was really more of an inspirational [effort], just to try and get the kids to be inspired and feel stronger and [give] their statement to the world.” She went on to explain that this was a positive way for students to process what they had experienced during the flood.

more of everyone that was affected with it, and maybe a little follow-up after would've been cool.

And Jennifer, a music teacher at Lyons Middle/Senior High School explained her efforts to create a video and musical performance to help students begin to recover,

Yes, I made a video. This is actually really cool. We sometimes have a theme for our last concert in May, and so that year we just made it water. All of our songs that the bands played and the choirs sang related to water in whatever capacity. And then the art department did a bunch of projects based on water, which was really cool. There's a very famous composer named Eric Whitacre and he wrote a piece called "Cloud Burst" that imitates a thunderstorm. During the recovery, I was listening to a lot of his music because most of [it] is vocal and it's really kind of soothing. I sent him an email through his publicist and said, "I just want to let you know that our community's going through this trauma and your music has been really comforting to me personally and I look forward to playing Cloud Burst, which is really hard piece, at our May concert." I didn't expect it, but the week before we left the school, he sent an autographed copy of the score with the poem written on it and, you know, written to my kids at the Mainstreet school right before we moved out. So that was really meaningful. Then we played that piece. We have windows in our auditorium—which no one ever has windows—and while we were performing, at one point you have the thunder going on in the band and the conductor turns around and has the audience snap their fingers and it sounds like rain. And then a thunderstorm came through for real. And so we were seeing like real lightning and stuff. It was awesome.

In addition to the music concert and video, Jennifer also worked with students and the school resource officer to tell their flood stories on a video that was shared internally with staff and students.

Conclusion

As this chapter demonstrates, there are many ways that schools can adapt to disruption and work collectively and creatively to help buffer the negative impacts of a disaster for the students they serve. The interventions described above include a focus on establishing routine and stability for students as quickly as possible, while at the same time implementing a flexible and adaptive approach that allows time and space for students to grieve, heal, and begin the recovery process. The examples in this chapter also demonstrate the positive outcomes that occur when well-intentioned adults with resources, support, and strong social networks make concerted

efforts help children process and heal in safe, productive, and developmentally appropriate ways using art and story-telling.

The findings detailed in this chapter are not new ideas. Disaster psychology and related fields have contributed a substantial body of literature offering these recommendations as effective approaches to disaster recovery. What is new and novel, is that the district administrators, teachers, and staff for Lyons schools, had the financial and material resources, social networks, capacity, training, experience, and ingenuity to implement these practices quickly, thoughtfully, and appropriately to respond to children's needs. This is a context of privilege. As Hurricane Katrina and other disasters in low-income areas have made clear, school recovery is not equal. The preconditions of a school and district can tremendously influence how the recovery process unfolds. For example, many schools do not have consistent school counselors that support students in non-disaster times (Fothergill and Peek 2015; Gangnon and Mattingly 2016). Therefore, it would be nearly impossible in a post-disaster setting to recreate the trusting, supportive relationships between students, teachers, and counselors that were identified in this chapter as being critical to recovery for Lyons students.

CHAPTER 7: CONCLUSION

This dissertation examined the educational continuity process for Lyons Elementary and Middle/Senior High Schools following the 2013 Colorado Front Range Floods. In this work, I operationalized and theoretically developed the concept of *educational continuity*, which I define as a complex social process where school, school district, and community leaders work together to continue providing education and all other school-based services for students following a disaster. Specifically, I documented *how* the St. Vrain Valley School District (SVVSD) kept students together during the community-wide displacement of Lyons, *what* social relationships, structures, and processes created the context for success, and *why* the school district and the community of Lyons prioritized educational continuity and helped to facilitate a healthy recovery for students.

In chapter one, I introduced the case study and disaster event, outlining my research questions and the structure of the dissertation. Chapter two presented the theoretical grounding for this research, including a review of organization theory, school management, and disaster sociology literatures. Chapter three provided a detailed account of the case study methodology and qualitative approaches I used to collect data. Chapter four described the immediate response period, where I offer a detailed timeline for how the disaster unfolded and what actions were taken by the Town of Lyons and the SVVSD following the floods. In chapter five, I discussed the social and material resources that created the context for a successful educational continuity process, specifically emphasizing the preparedness planning efforts and organizational ethos of the school district. Chapter six moved into a description of the recovery process, underscoring the creative approaches used by the SVVSD and Lyons schools to meet the needs of students and help them heal from the disaster and resulting displacement from their homes and schools.

The primary research questions that are answered in this dissertation are,

1. How did Lyons Elementary and Middle/Senior High Schools and the St. Vrain Valley School District keep students and staff together after the 2013 Colorado Front Range Floods?
2. What was the pre-existing social context that allowed school administrators to prioritize educational continuity for Lyons students?
3. What resources were needed and what actions were taken by Lyons Elementary and Middle/Senior High School staff to continue operations and assist students in recovering from the disaster?

To answer these questions, I followed Penelton (2016), who asserts that there are three primary ways to analyze organizations. First, a *micro-level* analysis focuses on the behavior of individuals or groups and the relationship they have with each other and with the larger organization. Second, a *meso-level* analysis focuses on organizations as whole systems with management and leadership styles often built on trust and collaboration. Third, a *macro-level* analysis highlights the relationship between the organization and its operating environment (Penelton 2016).

With this understanding, I collected data at each level of analysis to develop a rich case study. I found that at the *micro-level*, individuals and groups across the SVVSD trusted and supported one another to work toward a common goal of helping students recover. At the *meso-level*, the SVVSD and the Lyons schools had a well-developed ethos, strong leadership, and an organizational structure that supported staff to carry out a successful educational continuity plan. At the *macro-level*, the preexisting relationships that the superintendent and the district emergency manager had with key leaders in the Town of Lyons and Boulder County created a mutually beneficial context where the Town of Lyons utilized the Lyons school buildings for

their emergency response operations and the school district drew from local resources to effectively open a new school in just 11 calendar days and keep their students together for the duration of the displacement. This would not have been possible without the positive preexisting relationships that were built long before the floods. This multi-level analysis elucidated valuable insight into school response and recovery, and ultimately provided a rich description of the educational continuity process.

In this concluding chapter, I expand on this analysis by outlining the theoretical implications of this research and describe how this work extends previous knowledge on organizations in disaster. Next, I point to the practical contributions of my findings and explain how they build on the limited state of knowledge regarding student displacement and educational continuity. Then, I offer recommendations for how future investigations on educational continuity can and should use additional qualitative and quantitative methods—in a variety of geographic locations and diverse social contexts—to better understand the capacity of schools and school districts to respond to disaster. Finally, I close with a brief statement regarding the need for better integrating schools and school districts in disaster preparedness, response, recovery, and resilience frameworks.

Theoretical Implications

Schools are one of the core institutions in nearly every child's life. Yet, schools across the United States vary in their ability to keep children safe (Peek 2018) and continue educating students following a disaster. To date, no sociological research has examined an educational continuity process for kindergarten through 12th grade students following community-wide displacement. An extensive search of the literature revealed many mentions of the need to implement educational continuity plans (FEMA 2017; Petal 2008). However, I have yet to find a single study that documents this process or explores its theoretical underpinnings. This research

offers a substantial contribution to the limited scholarship available on student displacement and the organizational management of schools following disaster. Educational continuity is a relatively new concept in the disaster literature that I believe can advance theoretical and applied understanding of the role that schools play in both student and community recovery. Therefore, in the following sections I discuss how schools function as extending organizations, how a strong organizational ethos contributes to the ability of a school district to successfully respond to crisis, and how relationship building and communication are the cornerstones of an effective educational continuity process.

Schools as Extending Organizations

This dissertation builds on early work from the Disaster Research Center (DRC) (Dynes 1970:138) (see Table 2.1), which focuses on the structures and tasks of organizations responding to disaster. The DRC typology includes: Type I) *established organizations*—carrying out regular tasks under their regular structure; Type II) *expanding organizations*—carrying out old tasks, but under a new structure; Type III) *extending organizations*—performing new tasks under an old structure; and Type IV) *emergent organizations*—both new tasks and structures are formed to respond to the disaster (Dynes 1970).

In answering my first and third research questions regarding *how* school and district administrators kept students together during displacement and *what* resources were necessary to do so, I found that Lyons schools and the SVVSD operated as *extending organizations*, where they utilized their preexisting organizational structure to expand routine tasks related to education, transportation, counseling, medical care, nutrition, and employment, but also took on new tasks such as evacuation sheltering, temporary town hall services, public transportation, and donations management following the flood. Although schools were not a focus of his early work, Dynes later (2006) describes schools as “appropriable social organizations” that can be used as a

source of social capital for a community experiencing disaster. The findings in this dissertation support this claim. When schools are appropriately funded, staff is well-trained, and school administrators are included in city and county disaster planning efforts, they can and do provide valuable resources during disasters that protect children, families, and the broader community.

In addition, school districts are rarely discussed in literature focusing on organizational resilience to disasters. However, Kendra and Wachtendorf (2003:48) argue,

Resilient communities provide the context in which organizations themselves become more resilient. An economically strong community is better able to respond to disastrous events than one that is economically troubled. At the same time, organizations provide the infrastructure for a community's resilience, in that organizational resources, networks, and overall capacity are what make coordinated, community-wide response possible.

Like Dynes, Kendra and Wachtendorf did not specifically discuss schools as organizations that make communities more resilient. Therefore, I build on this body of work by providing a solid example for how school districts can contribute to community resilience when they have the organizational capacity to do so. In this case, I found that the ability of the SVVSD to act as an extending organization contributed to both the resilience of Lyons students and families, but also to the broader community as essential post-disaster functions may not have been possible without their support. Organization and disaster resilience scholars should include schools and school districts in their research to advance theoretical understanding of the supportive roles that they play in assisting communities at each phase of the disaster life-cycle.

Organizational Ethos and Disaster

In chapter five, I answer my second research question, which focuses on *what* pre-existing social context allowed school administrators to prioritize educational continuity. I found that the SVVSD had a robust *organizational ethos*, which I define as a social context centered around distributed control, dedication to organizational members (i.e. students and staff), strong social networks, and common values of trust, communication, and collaboration. Having a strong

organizational ethos created the foundation for the school district to effectively adapt and respond to 2013 Colorado Front Range Floods. The concept of “ethos” has been connected to Bourdieu’s work and defined as an organization’s habitus (Smith 2003). Drawing from an ecological perspective of schools, Smith (2003:463) argues,

Habitus external to the school provide dispositions that continuously construct and re-construct school ethos, and the evolving ethos itself provides developing dispositions and contexts for situated co-learning and participation in communities of practice.

From this perspective, organizational ethos is both a structure and a process. The term has gained popular usage in place of a school “culture” or “climate” and has been largely operationalized in discussions of school-level educational outcomes (McLaughlin 2005), attendance and attainment (Banerjee, Weare, and Farr 2014), substance abuse interventions (Bonell et al. 2010), and other outcome-based studies. However, less research has focused on how organizational ethos at the school district level influences disaster response and recovery, which is a gap this research fills.

Kendra and Wachtendorf (2006) point to the necessity of robust organizational management and leadership at every level of emergency management for teams to better prepare for the improvisation that is needed to respond to crisis. This same logic applies to school districts. The organizational ethos developed by leaders of the SVVSD contributed to their ability to effectively improvise as they responded to the disruption in daily routines following the flood. Organization theorists and disaster scholars alike point to the need for complex organizations to be adaptable, flexible, and innovative in their approaches to responding to chaos or changes in their environment (Comfort 1994; Morrison 2002). Chaotic conditions are defined as “those that significantly interfere with the developmental project of sustaining a meaningful daily routine” (Weisner 2008:217). Well organized school districts have the potential to positively shape this post-disaster environment for students, ultimately reducing disruption and speeding recovery.

One primary way that the SVVSD transferred their organizational ethos into an effective disaster response was through *collective identity building*—which I define as the process of collectively creating a positive narrative that inspires organizational actors to work toward a common goal. The narrative across the district- and school-levels was clear. Everything they did was “for the kids.” This shared commitment of prioritizing education and continuity of services for students motivated respondents to work around the clock, often putting their own recovery needs on hold for the greater good of the children and youth they serve. This collective identity of the SVVSD existing long before the floods and was made possible through purposeful efforts by leadership to promote relationship building and establish protocols for effective communication. Therefore, this is the area that I turn to next.

Relationship Building and Communication

As described throughout this dissertation, the successful planning and response was in large part due to the relationship building, collaboration, and communication efforts that resulted in a reciprocity of trust across the school district and with the broader community of Lyons. In chapter five, I define *reciprocity of trust* as a relationship-building process that occurs over time, where actors demonstrate their own trustworthiness and reliability through a series of positive actions, while simultaneously trusting others to act in the best interest of the group. Decades of organizational research have recognized trust, collaboration, and communication as essential building blocks for complex organizational structures (Morrison 2002). However, scholars have also observed that for communication between service providers and service recipients to be effective, there must be mutual cultures of understanding (see Browne 2015:24 for a discussion of the mismatch between what she vividly describes as “recovery culture” and “wounded culture”).

To this end, my research contributes to the theoretical advancement of successful communication strategies for complex organizations. It also demonstrates the power of communication that occurs in contexts where “insiders are working with insiders.” Lyons is a small, socially homogenous community with highly educated residents, and therefore there was no ‘cultural mismatch’ between most families, school leaders, district administrators, emergency responders, and community leadership. Recognizing and addressing these dynamics prior to a disaster is necessary so effective communication strategies can be implemented to meet the needs of all people affected by the event.

Based on the data I collected, there were four types of communication that contributed to an effective disaster response and educational continuity process, which I define as: 1) *communication breadth*—the process of utilizing many varied outlets for information distribution; 2) *communication depth*— the process of frequently offering accurate and up-to-date information from reliable and trusted sources; 3) *communication redundancy*—the consistent and repetitive flow of information across multiple channels with the same message; and 4) *transparent communication*—the process of openly sharing the same evidence-based, clear, consistent, and trusted messages to all constituents across a variety of platforms. The SVVSD invested time, technology, and thoughtful effort to begin communicating with parents, teachers, and staff as soon as the flood began. The breadth, depth, redundancy, and transparency of communication efforts during the response and throughout the displacement process helped build trust and community between families, staff, and leadership, which supported the educational continuity process.

As explained in chapter two, Stacy et al. (2000) recommends moving away from language of “adaptive systems” to focusing more on “complex responsive systems” to explore how people interact with one another and spontaneously organize over time. My research

supports this shift in thinking as the innovation and improvisation necessary during the rapidly changing post-flood context was possible, in part, because of the responsive communication efforts that were at the heart of the organizational response.

Practical Contributions

In addition to the conceptual developments and theoretical implications derived from this research, there were also many practical and applied lessons to be learned. This case study provides important examples for how to improve the way school districts and schools prepare for, respond to, and recover from disaster in order to better protect and serve students. This section highlights three practical recommendations for consideration: 1) recovery planning; 2) school-community partnerships; and 3) school safety as a function of community resilience.

Recovery Planning

Disaster preparedness plans typically focus on the immediate response phase of disaster. This is understandable as it is critical for saving lives and moving people out of harm's way. However, scholars have begun to highlight the importance of better planning for the recovery phase as well, which has been shown to be the most costly and longest time-period of the disaster life-cycle (FEMA 2017). For example, Mileti (1999:10) explains, "Recovery was once viewed as a linear phenomenon, with discrete stages and end products. Today it is seen as a process that entails decision making and interaction among all stakeholders—households, businesses, and the community at large." As highlighted by FEMA (2017:5-1), more robust planning for school recovery is also necessary,

While the emergency response period is typically brief—lasting only minutes, hours, days, or weeks—recovery may take months or even many years after a major event... In the case of schools, the goal often focuses on the restoration of education and learning, as well as recovery for the people who make up the school system. Post-disaster recovery is often more challenging and time consuming than people expect. Thus, planning the recovery—which includes understanding the various steps, policies, persons, costs, and opportunities involved in this process—can greatly facilitate the speed and effectiveness of post-disaster recovery activities within schools and surrounding communities.

My data support the current national guidance on school preparedness from the U.S. Department of Education (2013) and the Federal Emergency Management Agency (2017). First, the SVVSD dedicated time, money, and human capital to creating, practicing, and carrying out school emergency operations plans. It is critical for school districts—and the public funding mechanisms that support them—to invest in emergency management through financial resources and trained personnel. The success story described in this dissertation was made possible primarily because of the highly educated staff, full time emergency manager, and a fiscal budget that was available to respond immediately before any additional financial support arrived.

Second, it is increasingly important that schools plan for recovery by creating Continuity of Operations (COOP) plans. These documents should propose multiple strategies for educational continuity if disaster strikes. Although COOP plans are currently recommended, they are not mandatory nor enforced. Even the SVVSD did not have a written COOP plan. However, they were fortunate to have an emergency manager who had years of experience writing and implementing COOP plans in her previous work and included those best practices in table top exercises and emergency trainings across the district. In addition, the preparedness exercises that were carried out just prior to the floods helped to build strong relationships with key leaders within and outside of the school district and ultimately resulted in the identification of an alternative site for educating students if they were to experience a school-wide displacement in Lyons. These efforts had a direct impact on the swift response and successful educational continuity process.

Therefore, I recommend that policy changes include a stronger emphasis on and regulation of emergency preparedness and recovery planning for schools. Financial resources, oversight, and proper training are necessary for school districts to be able to respond to disasters effectively. For federal and state guidelines to be implemented, disaster preparedness needs to

become a top national priority for schools. The Save the Children Disaster Report Card (2015) is one example of how agencies concerned with child safety and well-being can advocate for improved planning in schools and highlight the crumbling infrastructure and current deficiencies in some of our most vulnerable districts (Peek 2018).

School-Community Partnerships

In addition to robust planning, this dissertation revealed that pre-existing relationships, clearly defined leadership roles, distributed control and knowledge, and a positive organizational ethos led to a successful educational continuity process for Lyons students. These findings point to the need to strengthen relationships and collaborative efforts internally across districts and schools as well as externally with broader community networks. Robinson, Murphy, and Bies (2014:81) state that cross-sector collaborations are necessary because “no one organization—or even municipality or state—can deal with large-scale emergencies alone” and that it is “impossible, then, to effectively prepare for or respond to emergencies without extensive collaboration.” Comfort’s (1994) work on emergency management and complexity theory also points to stronger collaboration for better outcomes in disaster.

Schools serve as critical facilities that support communities in non-disaster times through the provision of education, mental and physical health care, transportation, extracurricular activities, and childcare for students. During disasters, school-community partnerships become even more important as, for instance, schools transition to evacuation shelters and disaster assistance centers, buses are used to transport community members out of dangerous locations, and the return to normal school functioning provides communities with childcare so parents can return to work and begin their own recovery.

Considering the important and varied roles that schools play during non-disaster and disaster times, I advocate that schools be more fully integrated into city, county, and state level

emergency management plans and response frameworks through increased collaboration and school-community partnerships. This will require an investment in district level emergency management personnel that can dedicate time to working with local and state level emergency managers. It will also require the education and training of local and state government officials to better understand and utilize the resources of a school district for community services during a disaster. This could include memorandums of understanding or other pre-established written agreements that designate schools as sites for and partners in transportation, sheltering, childcare, education, donation management, mental and physical health response, nutrition, and other social services. However, it is also important to consider the ways that immediate response services might interfere with or delay the reopening of schools.

Community Resilience

Recent engineering research focused on Oregon school safety recommends that communities elevate and prioritize safe schools as a goal for community resilience (Wang, Wolf, and Dougherty 2018). The authors explain,

Schools embody a social value disproportionate to the numbers of children and families that they serve. School leaders are entrusted with the safety of children, creating settings in which children of all backgrounds are given an opportunity to learn. FEMA notes that this is “one of the greatest responsibilities assigned to adults in our society.”

Advancing schools through the levels of community resilience... implies that schools have an opportunity, and perhaps an obligation, to serve all of the citizens asked to pay for basic safety through their taxes, not just those citizens with children enrolled in school. If schools step up to embrace roles in shelter, mass care, and as community service points after an earthquake or other natural disaster, they directly strengthen the community as a whole. (Wang, Wolf, and Dougherty 2018:9)

My dissertation findings support and augment this important conclusion from prior work. Lyons Elementary School served as an evacuation shelter and a temporary town hall for the duration of the displacement process. Given that the building was untouched by the floodwaters, it was a critical space for post-disaster operations. I concur with the above statement and

recommend that schools be formally brought into community resilience planning and be supported financially to make safety upgrades to withstand hazards and to carry out essential functions and services in times of crisis. This could be achieved through changes in policy that support the funding of planning guides, structural mitigation and retrofitting for existing buildings, higher code standards for new buildings, and integration into community emergency managements practices. For example, the NIST Community Resilience Planning Guide (NIST 2016) lists school buildings as critical infrastructure and highlights the many ways that schools and school districts are essential organizations for community resilience. Policy makers can draw from this evidence and advocate to implement better safety standards and guidance for prioritizing schools in community resilience planning and practice.

Future Research Directions

Future research should build on the findings in this dissertation to uncover more about how educational continuity unfolds in different contexts and provide additional evidence to support keeping students together during a displacement process. In this section, I recommend that 1) scholars incorporate additional methodological approaches to studying educational continuity; 2) future research focuses on student displacement across a variety of locations and contexts; and 3) studies include a closer examination and evaluation of the organizational capacity of school districts to respond to disaster for the purposes of developing best practices and planning guidelines.

Methodological Approaches

Case study methodology was appropriate for achieving the goals of the present study and to provide a rich description of the organizational procedures necessary to achieve educational continuity for Lyons students. Yet, additional research is necessary to fully capture this complex process. I recommend that future scholars employ quantitative methods to document trends and

patterns over time, which could elucidate valuable information such as student grade and test score trajectories as well as statistically measured social, behavioral, and mental health outcomes for students that have experienced displacement from their home schools and communities. Quantitative methods should also be used to compare student outcomes across a variety of educational continuity alternatives, including online education, combining schools, having students attend new schools, and home-schooling.

Additional qualitative studies are necessary to explore the differences in educational continuity planning, displacement procedures, and recovery trajectories for students from a variety of social, cultural, economic, and geographic locations. Further information is necessary to understand how school districts with limited financial resources carry out educational continuity. Longitudinal studies are needed to document the longer-term impacts of student displacement on the educational, social, emotional, behavioral, and physical health of students and to document the protective mechanisms of schools in reducing the negative consequences of disaster.

Finally, recommendation after recommendation on school recovery points to the need for more data that tracks displaced students, so we can better understand the negative, and sometimes positive (Koursky 2016), effects of post-disaster displacement on student populations (Cadag et al. 2017; Fothergill and Peek 2015; Mileti 1999; Picou and Marshall 2007). We still know very little about long-term educational trajectories, specific changes in social, emotional, and behavioral health, and rates of return to home communities following disaster related disruptions. In their research on school displacement following flooding in the Philippines, Cadag et al. (2017:79) commented,

While DepEd has collected data on the cost of damage due to large-scale events like Typhoon Haiyan, and the number of schools affected, data is not readily available on such metrics as: number of school days closed or made-up, impact on attendance, number of teacher-student contact hours lost, cost of damage to structures, equipment and

learning supplies, length of time for replacement of damaged facilities and supplies, nor impacts on achievement, drop-out, and exacerbation of inequities.

Although very few Lyons students were reported to have moved outside of the district, I could not find any consistent and verifiable information to support the low numbers reported by participants. It would have been very useful to better understand why some students did change schools and what barriers prevented them from following the educational continuity process experienced by their peers. Future research needs to include metrics for documenting and tracking student displacement.

Diverse Locations, Contexts, and Hazard Types

The community under investigation for this case study is not representative of broader U.S. demographics. As discussed in more detail in chapter three, Lyons is a small mountain town with a highly educated, mostly white, and upper income population. Similarly, the SVVSD is well-funded and employs a highly educated and experienced staff. Therefore, it is imperative that we learn more about how diverse communities respond to disaster displacement and the creative approaches they implement to continue educating students, even when resources might be sparse or non-existent. This should include studies that focus on educational community for students in both urban and rural communities, with diverse racial and socioeconomic compositions, across a variety of school types (i.e. public, private, faith-based, home-schools, etc.), and with a variation of exposure to hazard types.

Organizational Capacity

As disasters continue to devastate communities across the United States and around the globe, displacing students and disrupting education, schools are becoming increasingly central to the individual, collective, and community recovery process. They are no longer institutions focused solely on educating students (Valli, Stefanski, and Jacobsenn 2018). While it is critical that this remains the core mission of any school system, the organizational role expansion to

include social services for students and community members needs to be more closely investigated in order to improve school community partnerships before and after disaster, while still protecting the primary mission of education. School district and community emergency planners need to consider the complex organizational systems in which students are embedded to identify areas that might enhance or impede student, school, and community recovery and resilience.

Valuable research has been conducted on how complex school systems are managed during non-disaster times. Tyler and Blader (2000:24) found that, “Organizational citizenship behavior has been empirically shown to improve organizational performance.” Therefore, it is logical to assume that school district performance could be empirically evaluated and the capacity to respond to a disaster could be measured. If districts demonstrate high levels of citizenship behavior, procedural justice, and distributed control in non-disaster times, it could be hypothesized that they would be more effective at responding to extreme events than those with lower measured organizational capacity. Although it is outside the scope of this dissertation to measure district organizational success, much can be gleaned from organizational literature for how we can use evidence-based research to support the development of robust school networks to be more resistant and resilient to disruptions. To achieve these goals, it would be useful for researchers from public health, psychology, sociology, demography, planning, and education to work together to develop research approaches, instruments, and study designs that can answer these and a variety of other important questions linking organizational capacity and educational continuity.

Concluding Remarks

As stated in chapter one, this dissertation is based on the premise that “students can reach their full educational potential only when they are happy, healthy and safe and where a positive

school culture exists to engage and support them in their learning” (Parliament of Victoria 2010:43). Anderson (2005:162) suggests that there are three areas that need more attention from the sociological study of disaster to inform our understanding of children’s experiences: 1) What, specifically, do disasters do to children and youth?; 2) What is done on behalf of children to make them less vulnerable?; and 3) What do children do for themselves and others to reduce the impacts of disaster? This research begins to answer the second question and serves as an example of what adults can and should do to prepare for and respond to the needs of children and youth following a disaster.

Despite the real inequities that exist in every society—and are then transferred to schools and students—my hope is that this dissertation can advance sociological work on schools and disasters and can catalyze investments in school systems, so they can provide the response and longer-term recovery resources that disaster affected students so desperately deserve. The recommendations from this dissertation can and should be transferred to locations lacking the robust material, political, and social support experienced in Lyons. It is clear what the solutions are, it will just take the political will and material resources to formally require all districts to plan for and ultimately achieve a better recovery.

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APPENDIX A: INTERVIEW GUIDES

Interview Guide Community Leaders

[Note: give interviewee your business card when you first meet]

Thank you for meeting with me today. My name is Jennifer Tobin-Gurley and I am a PhD Candidate in the Department of Sociology at Colorado State University. I am speaking with you today to collect data for my dissertation research which is exploring the decisions that were made for Lyons Elementary and Middle/Senior High Schools before, during, and after the 2013 Colorado Floods.

This project is focused on learning about the displacement and disaster recovery processes for schools. I will include this information as part of a case study that can be used to help schools better prepare for, respond to, and recover from future disasters.

I have a series of questions that I would like to ask you. The interview should take about 1-1.5 hours to complete, depending on how much information you would like to share.

Do you have any questions about the interview or the project before we begin?

Interview Questions:	Probes:
1. Personal and Professional Information First, will you please say your name, title, and the name of your organization OR name and the city you live in?	<ul style="list-style-type: none">* How long have you been in this position?* What are your responsibilities in this role?* What was your role in the 2013 Colorado Floods?
2. Planning Can you tell me about your organization's disaster plans that were in place prior to the 2013 Colorado Floods?	<ul style="list-style-type: none">* What information/sources did you use to inform your disaster plans?* How often were the plans updated?* Who was in charge of the disaster plans?* How often did you/our organization conduct exercises to practice your disaster plans?* Did these plans include guidance for schools in Lyons?
3. Implementing Plans (Evacuation, Displacement) Can you tell me a little about the timeline of events that occurred as the floods began to impact Lyons?	<ul style="list-style-type: none">* Were you involved in the decision making process for Lyons Elementary and Middle/Senior High Schools specifically. If so, how?* When did you realize students would need to be displaced for an extended period of time?* How much communication did you have with the school district at this time?* What resources were needed to implement the school displacement plan?* How were parents and students involved and/or communicated with during the floods?
4. Recovery Can you tell me about the recovery process for	<ul style="list-style-type: none">* Who was involved in helping students return to their home schools?* What resources were necessary to make this

Lyons Elementary and Middle/Senior High Schools?	<p>happen?</p> <ul style="list-style-type: none"> * Were any special accommodations made for students who were greatly impacted by the floods? * Did any one person stand out as being particularly helpful in contributing to a successful recovery for students and schools? * What was the role of the school in terms of community recovery?
<p>5. Teachers/Staff</p> <p>What was the role of teachers and staff at Lyons Elementary and Middle/Senior High Schools during the displacement and recovery process?</p>	<ul style="list-style-type: none"> * Was there any training or resources provided for teachers to care for students who were impacted by the floods? * What do you think was the greatest challenge for the principals/teachers/staff of the Lyons Schools? * What do you think was their greatest success?
<p>7. Lessons Learned</p> <p>What were some of the main lessons learned from the 2013 floods?</p>	<ul style="list-style-type: none"> * What were the greatest challenges associated with student displacement? * What do you think were the greatest benefits of keeping students together? * How do you think the plans could be improved for a future disaster event? * Is there anything that you or your organization would do differently next time?

Is there anything else you think I should know about the 2013 Colorado Floods or about school displacement following a disaster?

Is there anyone else you think I should interview that can speak to this topic?

This has been exceptionally helpful, and I am so grateful for your time.

Ask interviewee to complete demographic form for demographic reporting purposes and future follow-up interviews.

Interviewee Completes Demographic Form [turn off recorder]

Interview Guide
Lyons Elementary and Middle/Senior High Schools
 [Note: give interviewee your business card when you first meet]

Thank you for meeting with me today. My name is Jennifer Tobin-Gurley and I am a PhD Candidate in the Department of Sociology at Colorado State University. I am speaking with you today to collect data for my dissertation research which is exploring the decisions that were made for Lyons Elementary and Middle/Senior High Schools before, during, and after the 2013 Colorado Floods.

This project is focused on learning about the displacement and disaster recovery processes for schools. I will include this information as part of a case study that can be used to help schools better prepare for, respond to, and recover from future disasters.

I have a series of questions that I would like to ask you. The interview should take about 1-1.5 hours to complete, depending on how much information you would like to share.

Do you have any questions about the interview or the project before we begin?

Interview Questions:	Probes:
1. Personal and Professional Information First, will you please say your name, title, and the name of your organization OR name and the city you live in?	<ul style="list-style-type: none"> * How long have you been in this position? * What are your responsibilities in the school district? * What was your role in the 2013 Colorado Floods?
2. Planning Can you tell me about you / your organization's disaster plans that were in place prior to the 2013 Colorado Floods?	<ul style="list-style-type: none"> * Did these vary by school or are they district wide? * What information/sources did you use to inform your disaster plans? * How often were the plans updated? * Who was in charge of the disaster plans? * How often did you/our organization conduct exercises to practice your disaster plans? * Are the school buildings in your district insured?
3. Implementing Plans (Evacuation, Displacement) Can you tell me a little about the timeline of events that occurred as the floods began to impact communities throughout the St. Vrain Valley School District?	<ul style="list-style-type: none"> * Who was involved in the decision making process for Lyons Elementary and Middle/Senior High Schools specifically? * When did you realize students would need to be displaced for an extended period of time? * How did you and the district/schools reach the decision to move the students to the Old Longmont High School? * What resources were needed to implement the plan? * How were parents and students involved and/or communicated with during the floods?
4. Recovery	<ul style="list-style-type: none"> * Who was involved in helping students

Can you tell me about the recovery process for Lyons Elementary and Middle/Senior High Schools?	<p>return to their home schools?</p> <ul style="list-style-type: none"> * What resources were necessary to make this happen? * Were any special accommodations made for students who were greatly impacted by the floods? * Were there any students who did not attend school during the displacement process and/or were permanently displaced? * Did any one person stand out as being particularly helpful in contributing to a successful recovery for students? * What was the role of the school in terms of community recovery?
5. Teachers/Staff What was the role of teachers and staff at Lyons Elementary and Middle/Senior High Schools during the displacement and recovery process?	<ul style="list-style-type: none"> * Was there any training or resources provided for teachers to care for students who were impacted by the floods? * What do you think was the greatest challenge for the principals/teachers/staff of the Lyons Schools? * What do you think was their greatest success?
6. Student Impacts How do you think the students handled the displacement and recovery process?	<ul style="list-style-type: none"> * What were the greatest needs of students and families? * Were any positive or negative changes in educational/emotional/behavioral issues with students? * Did test scores decline or improve as a result of the flood? * Did you notice any positive or negative changes in students impacted by the floods?
7. Lessons Learned What were some of the main lessons learned for your district from the 2013 floods?	<ul style="list-style-type: none"> * What were the greatest challenges associated with keeping students together? * What do you think were the greatest benefits of keeping students together? * How do you think the plans could be improved for a future disaster event? * Is there anything that you would do differently next time?

Is there anything else you think I should know about the 2013 Colorado Floods or about school displacement following a disaster?

Is there anyone else you think I should interview that can speak to this topic?

This has been exceptionally helpful, and I am so grateful for your time.

Ask interviewee to complete demographic form for demographic reporting purposes and future follow-up interviews.

Interviewee Completes Demographic Form [turn off recorder]

Interview Guide Children and Youth

Thank you for meeting with me today. My name is Jennifer Tobin-Gurley and I am a college student at Colorado State University. I want to talk with you today about your experiences moving to a new school after the flood.

The reason I want to talk to you is to learn from what you went through so that we can help schools be better prepared for disasters in the future.

I have some questions that I would like to ask you. This should take about 30 minutes, depending on how much you would like to share. Do you have any questions about the interview or the project before we begin?

Interview Questions:	Probes:
1. Personal and Professional Information What is your name and how old are you?	<ul style="list-style-type: none"> * What grade are you in now? * What is your favorite subject in school?
2. Floods What do you remember about the floods?	<ul style="list-style-type: none"> * Were you in Lyons? * Was your house okay? * Did you have to move somewhere new?
3. School What did you think about moving to the new school in Longmont?	<ul style="list-style-type: none"> * Was it hard to concentrate on school work? * Did you like seeing your friends there? * What games and activities did you do at the new school? * How did you feel about having the elementary students and the middle and high school students all together in one building? * What did you like most about the temporary school? * What did you like least about the temporary school? * How did you feel about returning to your school in Lyons?
4. Teachers/Staff How were your teachers during this time?	<ul style="list-style-type: none"> * Did your teachers do anything special to make the students feel more comfortable? * What did you like most about your teachers when you were at the Main Street school?
5. Family How did your family feel about the new school?	<ul style="list-style-type: none"> * Was it hard for your family to get you to the new school? * Was it easy to do your homework at night? * Did you have other family members that helped you besides your mom or dad? * How did your sisters or brothers feel about the floods and the new school? * How have things changed since the floods?

APPENDIX B: CONSENT AND ASSENT FORMS

Consent to Participate in a Research Study Colorado State University

Title of study:

Educational Continuity Following the 2013 Colorado Floods:
A Case Study of Lyons Elementary and Middle/Senior High Schools

Principal Investigators:

This project is led by PhD Candidate, Jennifer Tobin-Gurley, and Associate Professor, Dr. Lori Peek, both from the Department of Sociology at Colorado State University. Ms. Tobin-Gurley can be reached at 719-332-1089 or via email at Jennifer.Tobin-Gurley@colostate.edu and Dr. Peek can be reached at 970-491-6777 or via email at Lori.Peek@colostate.edu.

Who is doing the study?

This dissertation research project is being conducted as part of the requirements for completion of the PhD program in the Department of Sociology at Colorado State University. Therefore, all interviews will be conducted by Jennifer Tobin-Gurley.

What is the purpose of this research and why am I being invited to take part in this study?

You have been chosen to be part of this research study because of your experience with the 2013 Colorado Floods. I would like to speak with you about the planning and decision-making processes that resulted in all of the Lyons Elementary and Middle Senior High School students being able to stay together at one location for the duration of the displacement period following the disaster. Up to 90 people from Lyons will be invited to be interviewed for this study.

What will I be asked to do and how long will it take?

You will be asked to answer questions about what happened before, during, and after the 2013 Colorado Floods that led to educational continuity for Lyons students. I am really interested in your experiences with the preparedness, planning, evacuation, displacement, reunification, and recovery of the Lyons schools. The interview (or focus group) will be held in a mutually agreeable, private location. With your permission, each interview will be audiotaped and will take about 1-1.5 hours of your time, depending on how much information you are comfortable sharing.

What will it cost me to participate?

There is no cost to you for being part of this study and you will not be paid for your time.

What are the possible risks, discomforts, and benefits?

It is not possible to identify all potential risks during a research project, but I have taken reasonable safeguards to minimize any known and potential risks. The potential risks associated with this study are difficult emotions such as anger and sadness. There is no known benefit in participating. I hope, however, this will provide a space for reflection

and an opportunity to make a difference for others by sharing your knowledge and experiences.

Support Services

If you would like to talk with someone about what you are going through or have questions about someone close to you, please contact the following organization. They provide comprehensive mental health services and have worked with flood survivors to provide mental health counseling. Mental Health Partners:

<http://www.mhpcolorado.org/Home.aspx> 24-hour crisis hotline: 303-447-1665.

Do I have to take part in the study?

Your participation in this project is completely voluntary. You may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled. You have the right to refuse to answer any question(s) for any reason.

Who will see the information that I give?

I will keep private all research records that identify you, to the extent allowed by law. Anything that you share during our interview will be kept confidential and will only be shared between myself and members of my research team that have signed a confidentiality agreement. In addition, your privacy will be maintained in all written and published documents resulting from this study. However, if any abuse or illegal activity is discussed, I will have to report that information to the authorities.

Any reports created from this study will use fake names in place of real names of people. However, I intend to use the real names of the organizations, schools, and school districts involved in this project as the usefulness of my case study is dependent on a detailed description of the location and context of the disaster event. Given that Lyons is a small town, there may be ways to link specific participants to the roles they occupy in each organization. However, I will make every effort to reduce this association.

Other identifying features may be altered as well to protect your confidentiality. Audio files will be stored in a secure location. They will be marked with an interview number separate from your name. At the end of the study, all audio files will be erased and all other materials will be permanently stored in a secure location at Colorado State University. Once you have completed your involvement with the study, I will permanently delete any identifiable information. I may be asked to share the research files for audit purposes with the CSU Institutional Review Board.

If you have questions about this study, you should ask the researcher before you sign this consent form. If you have questions regarding your rights as a participant, any concerns regarding this project, or any dissatisfaction with any aspect of this study, you may contact the Colorado State University Institutional Review Board at: RICRO_IRB@mail.colostate.edu; or 970-491-1381.

A signed copy of this two-page consent form will be provided to you at the time of the interview.

Participant's Initials _____ Date _____

I agree to be audio recorded for this study (please initial):

Yes ☐

No ☐

If you are willing, I have asked for your address below so that I may contact you again if I have any follow-up questions as my research progresses. I am willing to be contacted again for follow-up questions or to participate in similar studies related to educational continuity and/or disaster recovery (please initial):

Yes ☐

No ☐

I have read this paper about the study or it was read to me. I know the possible risks and benefits. I know that being in this study is voluntary. I choose to be in this study. I know that I can withdraw at any time. I know that it is my choice to be audio taped. I know that any contact information I provide is optional and will only be used to follow up on the educational continuity and recovery process following the 2013 Colorado Floods. I have received, on the date signed, a copy of this document containing two pages.

Signed: _____ Date: _____

Name: _____ Phone (Optional): _____

Address (Optional): _____

Email (Optional): _____

Signature of Research Staff

Date

Please direct follow-up questions to:

Jennifer Tobin-Gurley, Department of Sociology, Clark Building Room A-009, Colorado State University, Fort Collins, CO 80523-1784, 719-332-1089.

Lori Peek, Ph.D., Department of Sociology, Clark Building Room B-237, Colorado State University, Fort Collins, CO 80523-1784, 719-332-1089.

Consent to Participate in a Research Study Colorado State University

Title of study:

Educational Continuity Following the 2013 Colorado Floods:
A Case Study of Lyons Elementary and Middle/Senior High Schools

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Why am I being invited to take part in this research? I am inviting you to be a part of this project because of your experience moving from Lyons to the Main Street School after the 2013 Colorado Floods. I am interested in talking to you because I think it is important to learn from what you went through, to help other schools better prepare for disasters in the future.

Who is doing the study?

I am a college student at Colorado State University in Fort Collins and I am doing this research project as part of my degree to get a doctorate in Sociology. I am doing all of the interviews for this project.

What is the purpose of this study?

The purpose of this study is to learn about what it meant for you as a student to move to a new school at the beginning of the school year because of the floods. I would like to know what you thought about the move and what it meant for you to be kept together as one school during this time, rather than having to go to a brand new school instead. I would also like to learn about the people who helped make you through this process and how you thought it affected your friends, parents, and teachers.

Where is the study going to take place and how long will it last? I will be interviewing you at a place that you and your parent(s) decide will be most comfortable for you. This should only take about 30 minutes, depending on how much you want to share with me.

What will I be asked to do? You will be asked to answer a few questions about your experiences after the floods. This should just be like a regular conversation and you do not have to answer any questions you don't want to. You can also tell me things that I do not ask about if you want to share or think they are important.

Are there reasons why I should not take part in this study? You should not participate in this study if you were not a student at Lyons Elementary or Middle/Senior High School at the time of the 2013 Colorado Floods.

What are the possible risks and discomforts?

- The only risk that might come from speaking to me is that it might make you sad or emotional to talk about what happened after the floods. This is completely normal and I hope that instead of making you sad this will allow you to reflect on what happened and an opportunity to make a difference for others by sharing your knowledge and experiences.
- It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.

Are there any benefits from taking part in this study? There is no known benefit in participating.

Do I have to take part in the study? You do not have to speak with me if you do not want to. You also can stop the interview at any time or choose not to answer a question I ask if it makes you uncomfortable. It is completely up to you. Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

Who will see the information that I give? We will keep private all research records that identify you, to the extent allowed by law. For this study, we will assign a code to your data, such as Youth001, so that the only place your name will appear in our records is on the consent and in our data spreadsheet which links you to your code. Only the research team will have access to the link between you, your code, and your data. The only exceptions to this are if we are asked to share the research files for audit purposes with the CSU Institutional Review Board ethics committee, if necessary. When we write about the study to share with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.

You should know, however, that there are some circumstances in which we may have to show your information to other people. For example, the law may require us to show your information to a court.

Will I receive any compensation for taking part in this study? No, you will not receive anything for being a part of this study.

What if I have any questions?

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, Jennifer Tobin-Gurley at 719-332-1089 or Jennifer.Tobin-Gurley@colostate.edu. If you have any questions about your rights as a volunteer in this research, contact the CSU IRB at RICRO_IRB@mail.colostate.edu; or 970-491-1553. I will give you a copy of this consent form to take with you.

Your signature acknowledges that you have read the information stated and willingly sign this consent form. Your signature also acknowledges that you have received, on the date signed, a copy of this document containing 3 pages.

Signature of person agreeing to take part in the study Date

Printed name of person agreeing to take part in the study

Name of person providing information to participant Date

Signature of Research Staff

Parent Signature if Participant is under 18

As parent or guardian I authorize _____ (print name) to become a participant for the described research. The nature and general purpose of the project have been satisfactorily explained to me by _____ and I am satisfied that proper precautions will be observed.

Minor's date of birth

Parent/Guardian name (printed)

Parent/Guardian signature Date

**Colorado State University Application for Human Research Review:
Assent for Children**

Hi!

I'm a college student at Colorado State University. I study disasters and how they affect schools. This is called research. My research is about what would help kids if they have to move to a new school because of a disaster. I am asking you if it is OK that I talk to you about your school and what happened after the flood.

If you say it is OK, I'll ask you to answer some questions. I will ask you things like what do you remember about the floods, what did you like and dislike about your new school, and how your friends, parents, and teachers felt about being at a new school. There isn't a right or wrong answer --- it is just about what you think. It will take 20-30 minutes. Your name will not be used in anything I write, so no one will know how you answered or what you said.

Agreeing to be in this project cannot hurt you. It won't help you, either. You won't get any gift for doing it. You don't have to do it. If you say "yes" now but later change your mind, you can stop being in the research any time by just telling me.

I will ask your parents if it is OK that you do this, too. If you want to be in this research, sign your name and write today's date on the line below.

_____	_____
Student	Date
_____	_____
Researcher	Date

Colorado State University Application for Human Research Review:
Assent for Children < 7-years-old

Hi!

I'm a student at Colorado State University. I study parents and kids like you. If you say it is okay, we will ask you to play with some toys with your Mom/Dad, and answer some questions about school. It won't hurt you. Is it okay if we do these things with you today?

APPENDIX C: RECRUITMENT FLYER

Educational Continuity Following the 2013 Colorado Floods: A Case Study of Lyons Elementary and Middle/Senior High Schools

Hello! I am a PhD Candidate at Colorado State University in Fort Collins, Colorado. I am conducting a research project to better understand how schools and school districts make decisions regarding education and displacement from natural disasters. Specifically, I am interested in studying how the students of Lyons Elementary and Middle/Senior High Schools were able to continue their education together at a temporary location following the 2013 Colorado Floods. The Principal Investigator on this research is my advisor, Lori Peek, Ph.D., Associate Professor, Sociology Department.

I would like to interview Lyons community leaders, emergency managers and planners, St. Vrain Valley School District employees, and administrators, teachers, and parents at Lyons Elementary and Middle/Senior High Schools about the decisions made before, during, and after the 2013 Colorado Floods and how those decisions impacted students in Lyons. I will be conducting research in Lyons from April-July 2016.

I would like to interview:

- Community leaders
- Emergency Managers
- City Planners
- St. Vrain Valley School District Employees
- Lyons Elementary and Middle/Senior High Schools
 - Principals
 - Administrators
 - Counselors

And I would like to hold focus groups with:

- Lyons Elementary and Middle/Senior High Schools
 - Teachers
 - Parents

If you are willing to meet for approximately 1-1.5 hours between April and July 2016, please contact me at:

Jennifer Tobin-Gurley, Ph.D. Candidate
Co-Principal Investigator
719-332-1089
Jennifer.Tobin-Gurley@colostate.edu

I would be happy to tell you more about my project, answer any questions you may have, and explore ways of including you in the study.

APPENDIX D: TRANSCRIPTION CONFIDENTIALITY AGREEMENT



Educational Continuity Following the 2013 Colorado Floods: A Case Study of Lyons Elementary and Middle/Senior High Schools Confidentiality Agreement

Principal Investigators:

Jennifer Tobin-Gurley, Jennifer.Tobin-Gurley@colostate.edu

Lori Peek, Lori.Peek@colostate.edu

As an Investigator, Research Assistant, or Transcriber affiliated with the project titled, “Educational Continuity Following the 2013 Colorado Floods: A Case Study of Lyons Elementary and Middle/Senior High Schools,” through Colorado State University, I understand my responsibilities concerning the confidentiality of any research data collected by the project. This may also include information related to the research data such as confidential discussions among the research team members.

Excepting occasions indicated below, I will maintain the confidentiality of those who participate in the research even when it seems awkward or insignificant. I will hold all information that participants disclose—either as a response to direct questions or as volunteered additional information—in complete confidentiality. For example, I will not indicate who has, or has not, participated in the research during any stage of the project. Unless speaking with someone noted in the exceptions below, I will not announce “I’m going to interview (person) this afternoon”; or, I will not say, “(Person or position) refused to be interviewed for the project”; or “When (person or position) in (community) talked about this, s/he said...”; or “I was transcribing something that the (position) in (community) said about a disaster there”; or “When I read the transcript by the (position) in (community) I wondered if...”

It is acceptable to discuss my work, including general information, concerns, or incidents, with the Principal Investigators (Jennifer Tobin-Gurley; Dr. Lori Peek) or any other member of the research team in the context of our collaborative work, team meetings, or planning sessions.

If I meet a research participant, I will NOT refer to their participation unless they do. Even then, I will be very discreet in what I say. If I am asked to discuss general or specific research findings with an individual or a group, I should refer the request to the Principal Investigators. Also, I will NOT talk generally about responses to the research even if I think I am maintaining the anonymity of the individuals concerned.

Upon completion of my work, or at the request of the Principal Investigators, I will return all confidential information received in written or digital form within 10 days. This includes audio files, and cleaned and uncleaned transcripts. At their request, I may destroy or delete all confidential materials rather than returning them. While these confidential materials are in my possession, I will store them in a safe location that cannot be accessed by others (e.g., on a password protected computer).

I, _____ (print name), have read and agree to abide by the Confidentiality Agreement for the “Educational Continuity Following the 2013 Colorado Floods: A Case Study of Lyons Elementary and Middle/Senior High Schools” project.

Signature

Date