The unforgettable June 2008 Cedar River flood

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Abstract
Natural disasters such as flooding cause emotional and financial strains. Among those directly affected are children. Communities are forever changed after suffering loses due to flooding. Informational text provides discussion and comprehension for children. An informational booklet about the devastating June 2008 Cedar River flood and the effects it has had on the Cedar Rapids community would benefit third graders in the Cedar Rapids Community School District. Due to the recency of this flood, no informational books about it have been published for children. The purpose of this research project was to create an informational booklet using a non-fiction expository text structure about the June, 2008, Cedar River flood to help third grade children understand what happened before, during, and after the flood. Yopp and Yopp's (2006) research showed that discussions and story comprehension often come from reading aloud informational text. This booklet will help third grade children in Cedar Rapids learn more about one particular flood that took place in their community and may be a discussion starter for those affected by the flood to share their story.
THE UNFORGETTABLE JUNE 2008 CEDAR RIVER FLOOD

A Graduate Research Project

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Of the Requirements for the Degree

Master of Arts

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by

Keri Annis

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has been approved as meeting the research requirement for the
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Natural disasters such as flooding cause emotional and financial strains. Among those directly affected are children. Communities are forever changed after suffering loses due to flooding. Informational text provides discussion and comprehension for children. An informational booklet about the devastating June 2008 Cedar River flood and the effects it has had on the Cedar Rapids community would benefit third graders in the Cedar Rapids Community School District. Due to the recency of this flood, no informational books about it have been published for children. The purpose of this research project was to create an informational booklet using a non-fiction expository text structure about the June, 2008, Cedar River flood to help third grade children understand what happened before, during, and after the flood. Yopp and Yopp’s (2006) research showed that discussions and story comprehension often come from reading aloud informational text. This booklet will help third grade children in Cedar Rapids learn more about one particular flood that took place in their community and may be a discussion starter for those affected by the flood to share their story.
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CHAPTER 1

INTRODUCTION

Imagine a knock on your door and a police officer telling you that you must evacuate your home within the hour due to potential flooding. What would you do? Would you wait it out to see if it really happens? Would you gather up your most prized possessions and get out? What would you be thinking, and how would you be feeling during all of this?

This research project led to an informational booklet for children. An aim of the booklet was to demonstrate that even though some precautions have been taken, natural disasters such as floods are extremely dangerous to people, homes, businesses, and communities in general. Besides monetary damages, people often suffer emotionally and psychologically from devastating floods. Students can gain valuable understanding by reading informational books about floods.

Justification

According to the United States Geological Survey (USGS, 2008), floods are caused by weather phenomena and events that deliver more precipitation to a drainage basin than can be readily absorbed or stored within the basin. With that combination, water can tear cities apart and easily drown thousands of people.

Floods are one type of many natural disasters that affect humans. Floods in the United States cause approximately 200 deaths a year and around $9 billion in property damage. In the United States, flood plains cover about 7% of the land. The way flood plains are used affects the protection of the environment, such as the quality of water and natural habitats (Holway & Burby, 2001).
According to Freudenburg, Gramling, Laska, and Erikson (2008), 100-year flood areas have an estimated 1% chance of a flood occurring in a year. “Unfortunately, such floods tend in practice to occur far more frequently, partly because levees tend to worsen the flooding” (p. 1022). Freudenburg et al. suggested that flood protection such as levees and floodwalls are often imperfect, as did White in his 1945 study when he found that the more money the United States spent on flood protection, the higher the dollar amount of damages occurred.

Humans are reminded that control over nature is limited when disasters occur. Communities that experience flooding caused by levees face environmental harm. Building a levee in lower lands to protect a flood plain sends the water somewhere else. This harm often causes suffering to humans and the economy (Freudenburg et al., 2008). Moving levees farther away from their riverbanks, letting rivers flow through natural paths, and allowing for water to spill into farmlands that can hold a certain amount of flooding may decrease environmental harm in developed areas (Schildgen, 1999).

The flood disaster policy mandated by Congress treats symptoms rather than causes, by giving out more money for disaster relief than for prevention (Schildgen, 1999). Often, federal programs encourage development by investors on flood plains with absorbing bottoms and wetlands to make money. Levee protection makes these areas more valuable, but this type of profit is not productive since “such expenditures create substantial costs for society as a whole” (Freudenburg et al., 2008, p. 1021).

Schildgen (1999) states “Wetland destruction clearly aggravates flooding, even on a local scale” (para. 26). Wetlands are important shock absorbers for floods and hurricane storm surges. Wetland loss occurs due to unnatural causes such as the building of dams
and levees and from oil explorations (Freudenburg et al., 2008). Other human actions that promote flooding are “agricultural tilling and drainage, suburban development, deforestation, and the decisions of hundreds of local, state, and federal agencies as well as thousands of private landowners” (Schildgen, 1999, para. 21).

Historically there were many advantages to living near rivers. The rich soil near the river helped farmers grow productive crops. Rivers provided transportation, as well as a supply of water for drinking, cooking, and bathing. The disadvantage to living next to a river was flooding. People throughout history have been faced with flooding.

Today, smaller levees are often created by community members of all ages who work together filling sandbags and passing them along human brigades to build levees around their homes and businesses days before the flood hits. The National Guard helps keep people safe before, during, and after floods. The American Red Cross, the Salvation Army, and various other groups and agencies help communities immediately after floods hit.

Natural disasters such as flooding cause emotional and financial strains. Among those directly affected are children. Many children have lost their homes, family members or neighbors due to death from a flood, and lost structure and routine in their daily lives. Often, they go without their basic needs being met for days, weeks, or even months. These children often witnessed terrible events and have possibly seen the anger and frustration of the adults around them. According to Myers-Walls (2008), children need to be protected from the physical and psychological dangers around them caused by flooding. Parents who cope well have children that cope better with disasters.
Baggerly and Exum (2008) list typical symptoms children experience after natural disasters such as fear, depression, self-blame, guilt, loss of interest in school and other activities, regressive behavior, sleep and appetite disturbance, night terrors, aggressiveness, poor concentration, and separation anxiety. These symptoms will vary based on a child’s developmental level, personal experiences, emotional or physical health, and the parental responses to the disaster.

Besides consoling their children, adult flood survivors need to understand the predictable emotional and physiological responses to life-threatening disasters. They need to be open about their experiences and talk freely amongst others in the community. The majority of these individuals can, with the help of friends, family, and trained professionals, recover with no significant after effects. Approximately 20% or more of survivors will need counseling from mental health professionals who deal with post-traumatic symptoms (Brende, 1998).

**Historical Floods**

Learning about history offers students the chance to understand how things were and why changes were made. During the 20th century, floods were the number-one natural disaster in the United States in terms of the number of lives lost and property damage (United States Geological Survey, 2008). Thirty-two of the most significant floods, based on number of lives lost and/or property damage have happened in the United States. Students should gain awareness of how dangerous powerful rivers can be and the devastation that they can leave behind if they rise too much.

Some of the more well know national floods are the Colorado Flash Flood of July 31, 1976, when heavy rainfall of 14 inches flooded Big Thompson Canyon; the
Midwestern Floods of 1993 that occurred after a very rainy spring and summer in nine states; the Texas Floods of 1994 happened after tropical storm Rosa dumped 20 inches on southeast Texas in 36 hours; the Georgia Floods of 1994 had high waters that exceeded all previous records and took residents by surprise (Brende, 1998); and the Cedar River Flood of 2008 that flooded more than nine square miles of downtown Cedar Rapids, Iowa causing an estimated 8 billion dollars in damage.

Importance of Learning about Local Floods

Cedar Rapids started out in the 1840s with just a few settlers along the Cedar River; now Cedar Rapids is the second largest city in Iowa. It is important for students to understand how their community has been shaped over time and the effect the river had in this community. Cedar Rapids had major flooding in 1929, 1993, and 2008.

Of the 125,000 Cedar Rapids residents, 25,000 of them were evacuated on both sides of the Cedar River in June of 2008 when the river crested at 32 feet, which was 15 feet above flood stage (Hlas, 2008). This has had a devastating effect on people’s lives. Many important buildings were damaged or destroyed in the flood such as The National Czech and Slovak Museum, Quaker Oats, Paramount Theatre, Cedar Rapids Public Library, City Hall, Mercy Hospital, Central Fire Department, Linn County Jail, and hundreds of other businesses as well as homes. Due to flooded water plants, the community had to conserve water for several days following the flood.

Importance of Including Floods in the Cedar Rapids Community School District’s Curriculum

An informational booklet about the Cedar River flood supports four of the Cedar Rapids Community School District Standards (2007). Students can learn in Social Studies
Standard B: Time, Continuity, and Change about the cause and effects of the flood on their community. Seeing pictures of familiar damaged places and reading about the dollar amount of destruction can help students to understand the devastation that their community experienced (Cedar Rapids Community School District Standards, 2007).

Providing students with the opportunity to read about students their age affected by the flood addresses Standard D: Individual Development and Identity. That would help the students to make a personal connection to their community surroundings and understand first hand a sense of loss (Cedar Rapids Community School District Standards, 2007).

Keeping students informed on how the city government handled the days, weeks, and months following the flood meets Standard F: Power Authority and Government. Students can discuss the roles of city government and to see if they thought the decisions that were made were satisfactory and met the needs of the community before, during, and after the flood (Cedar Rapids Community School District Standards, 2007).

Lastly, Standard J: Civic Ideal and Practices expects students to analyze if the Cedar Rapidians' rights were met, and how they were responsible to prepare and clean up from the flood (Cedar Rapids Community School District Standards, 2007). This would be a great area to discuss the many volunteers that helped sandbag before the flood, as well as how far away volunteers came after the flood to help clean up.

Problem Statement

There is a lack of information available for elementary aged children about the devastating June 2008 Cedar River flood and the effects it has had on the Cedar Rapids
community. Due to the recency of this flood, no informational books about it have been published for children.

Purpose Statement

The purpose of this research project was to create an informational booklet for third grade students to help them gain knowledge and understanding of the severity of the June 2008 Cedar River flood and how it has changed their community.

Research Questions

1. What facts should be part of the booklet?
2. What pictures should be part of the booklet?
3. What is the most appropriate text structure for this content?

Definitions

Drainage basin – “A part of the surface of the Earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water. Land area drained by a stream or river” (United States Geological Survey, 2008, para. 4).

Flash flood – “A sudden and destructive flood occurring with little or no prior warning caused usually by excessive rainfall and/or rapid snow and ice melt” (Smith, 2001, p. 86).

Flood frequency – “Refers to a flood level that has a specified percent chance of being equaled or exceeded in any given year. For example, a 100-year flood occurs on average once every 100 years and thus has a 1-percent chance of occurring in a given year” (United States Geological Survey, 2008, para. 7).
Flood plain – “A strip of relatively flat-lying land that borders a stream and is underlain by sediment carried by the stream and dropped in the slack water beyond the influence of the swiftest current” (United States Geological Survey, 2008, para. 8).

Flood stage – “The stage at which overflow of the natural streambanks begins to cause damage in the reach in which the elevation is measured” (United States Geological Survey, 2008, para. 9).

Assumptions

An informational booklet of the June 2008 Cedar River flood would be an asset to the Cedar Rapids Community School District’s third grade social studies curriculum.

Limitations

This informational booklet will have photographs taken during the event that will be used with permission. It will include facts and ideas that would have the most significant effect or impact on third graders. Due to the flood happening only months ago, the fact sources may be limited to the local newspaper, The Cedar Rapids Gazette, and information from people directly affected by the flood.

Significance

According to Bowker’s Books In Print Professional website (2009), there are currently 95 nonfiction children’s books in print with Flood or Floods in the title, three books are forthcoming, and 46 books are out of print. There are nine books with a copyright of 2008 or 2009, but they are not specific to the Cedar River flood.

Currently, there is only a picture book and a DVD titled Epic Surge that was created and sold by The Cedar Rapids Gazette and was not found in Books In Print Professional database. Epic Surge was created to help people gain insight into the June
2008 Cedar River flood. It is essential for students to have current information and to be able to understand what has happened and why things have changed in their community. No informational books about it have been created for children at the local level describing one particular flood and all of its ramifications.
CHAPTER 2
REVIEW OF LITERATURE

“Disaster studies have made important progress in recognizing the unequally
distributed consequences of disasters, but there has been less progress in analyzing social
factors that help create ‘natural’ disasters” (Freudenburg et al., 2008, p. 1015). Some
adults and children that face natural disasters, such as floods, are vulnerable to emotional
and psychological problems and need to get professional help soon after the destruction.
Books are a great source of information for young children to learn about floods and see
how communities pull together in time of need. There currently are no children’s books
written about the June 2008 Cedar River flood in Cedar Rapids, Iowa. The purpose of
this research project is to create an informational booklet for third grade students to help
them gain knowledge and understanding of the severity of the June 2008 Cedar River
flood and how it has changed their community. Research related to this falls into three
categories: how children cope with natural disasters, what research says about children
who were impacted by floods, and how children can learn from informational text.

How Children Cope with Natural Disasters

Children cope as best they can when natural disasters strike. Often parents,
friends, and teachers are the ones who help children cope with these unforeseen
complications in life.

On August 24, 1992, Hurricane Andrew ruined the lives of thousands of people,
including children. Many children soon developed symptoms of posttraumatic stress
disorder (PTSD). The Children’s Coping Assistance Checklist (CCAC) was developed to
assess three types of coping assistance - Emotional Processing, Roles and Routines, and

Researchers wanted to find out how the three coping assistances and sources worked with children who were traumatized by the hurricane. “The term coping assistance refers to actions taken by significant others that help children cope with stressful events” (Prinstein et al., 1996, p. 463). They examined coping assistance by grade level and PTSD symptoms.

Seven months following the hurricane, 506 hurricane affected children in Dade County, in grades three through five, were administered checklists that were rated using a four-point scale. In two testing periods, checklist items were read aloud.

The paired t test results of this coping assistance study showed that children reported Roles and Routines the highest because they received more Roles and Routines coping assistance from their parents than their friends, but their friends gave them more Roles and Routines coping assistance than their teachers. Distraction coping assistance was second highest as students felt they received more Distraction coping assistance from parents than friends or teachers. The coping assistance of Emotional Processing came in last. Children did report that they received more Emotional Processing assistance from their friends than their teachers or parents (Prinstein et al., 1996).

The researchers examined differences in coping assistance as a function of grade, third, fourth, and fifth, and sex, male and female. Third graders showed more of a significant effect for Emotional Processing from their parents than the fourth or fifth graders. There were no grade differences observed for Emotional Processing assistance received from their teachers. Children with moderate to severe levels of PTSD symptoms
reported more Emotional Processing assistance from parents and friends compared to children with mild PTSD symptoms (Prinstein et al., 1996). Children’s parents and friends were their main form of social support.

Post-hoc analyses reported that children who had higher levels of Distraction coping assistance showed moderate to severe levels of PTSD symptoms from all sources. The only coping assistance from teachers that was significant was in the Roles and Routines assistance (Prinstein et al., 1996).

Another study following Hurricane Andrew examined children receiving massage therapy to help them alleviate their posttraumatic stress. Massage therapy is noted for reducing stress hormones and possibly reducing anxiety and depression (Field, Seligman, Scafidi, & Schanberg, 1996).

The researchers wanted to know if massage therapy would lower the anxiety and depression in children if they measured it with behavioral observations, the children’s drawings, and their cortisol levels. They also wanted to find out if watching a video would help the children to relax. It was important to find out if physical contact had any connection to helping children overcome their anxiety issues caused by the hurricane (Field et al., 1996).

Four weeks following the hurricane, 60 low to middle class students in grades one to five from Campbell Drive Elementary School participated in the study. The students were selected by their teachers for having classroom behavior problems following the hurricane. The students were randomly assigned to massage therapy or a video attention control group. At the beginning and end of the study, students completed 37 true false statements on the Children’s Manifest Anxiety Scale, ranked themselves using the Center
for Epidemiological Studies Depression (CESD) scale, and did a drawing of themselves. Before and after the massage or video session, students completed the 20-item State Anxiety Inventory of Children (STAIC), selected one of four happy faces to show how they were feeling at that moment, and they also gave a saliva cortisol sample from their gum line (Field et al., 1996).

During this experiment, back massages were given for 30 minutes twice a week for eight days over a one month period by a different volunteer therapist. There were 10 therapists for the 30 children. The students had to remain still and quiet with no conversation from the massage therapist. The video attention control group watched *Milo and Otis* or *Beauty and the Beast* with a psychology graduate student for the same amount of time that the others got their massages. “The graduate student maintained physical contact by sitting the child on her lap or putting her arm around the child” (Field et al., 1996, p. 43). Both people had to remain quiet (Field et al., 1996).

A multivariate analysis of variance (MANOVA) was used to measure the results. Field et al. (1996) discovered that the massage therapy children showed more positive effects than the video control group. They reported less anxiety after the massage session on the first and last day. They also showed a greater decrease on the STAIC and recorded more positive ratings on their happy face scales. There were also lower levels of saliva cortisol on day eight versus day one. The massage group also did better on the Children’s Manifest Anxiety Scale by showing lower anxiety scores on the last day, while the CESD depression scale showed a significant decrease over the whole study. Even the last day drawings showed lower problems.
“In both studies, anxiety and depression levels were decreased as were stress hormones including norepinephrine and cortisol. Tactile stimulation with pressure, as in massage therapy, is typically accompanied by these changes” (Field et al., 1996, p. 47). Researchers discovered that massage therapy is a cost effective way to help children heal from posttraumatic stress disorder and could easily be taught to parents and teachers that were allowed to give head/shoulder/back rubs (Field et al., 1996).

Hurricane Katrina left the New Orleans community devastated on August 29, 2005. This natural disaster was one of the most destructive in United States history. Not only were thousands of homes and buildings destroyed, but also many people, including children, soon showed signs of posttraumatic stress disorder (PTSD). The Children’s Bureau of New Orleans, Inc. agreed to provide mental health services by offering its Loss and Survival Team (LAST) program to elementary aged children as part of an experimental evaluation project to see if interventions would be effective (Salloum & Overstreet, 2008).

In January of 2006, 56 children from the New Orleans area, from 7 to 12 years of age, who reported moderate to severe level symptoms of posttraumatic stress by scoring a 25 or higher on the University of California at Los Angeles (UCLA) PTSD index, were randomly assigned to 10 group sessions or to 10 individual treatment sessions. Each session lasted about an hour. Those receiving group treatment each received one individual pull out session. Children in the individualized sessions did not receive an extra pull out session (Salloum & Overstreet, 2008).
Salloum and Overstreet (2008) discovered that based on this study alone, there were no definite conclusions on what treatment components might have been effective or whether this intervention was more effective than others.

The independent sample t test showed that there were no significant differences in the outcomes between children who participated in the group intervention and those who participated in the individual intervention. The group intervention average of posttraumatic stress was 42.32 out of 45 on the preassessment of open-ended questions given by a clinician and a 31.32 out of 45 on the postassessment. Whereas the individuals’ average of posttraumatic stress showed a 44.03 out of 45 on the preassessment and a 28.28 out of 45 on the postassessment. After each session the clinician completed an adherence checklist showing if the planned topic was covered. The results suggested that using either treatment would be effective to addressing posttraumatic stress relating to childhood grief and trauma (Salloum & Overstreet, 2008).

Finally, it was noted that these “interventions employed cognitive behavioral and narrative therapy strategies to effectively and significantly reduce symptoms of posttraumatic stress, depression, and traumatic grief in children in the months following exposure to a major natural disaster” (Salloum & Overstreet, 2008, p. 503).

These three studies demonstrated that children who have PTSD benefit from adult interventions. It is important for children to learn coping strategies, so they can process their emotions and feelings (Prinstein et al., 1996). Massage therapy helps in lowering anxiety and depression, which are symptoms of PTSD (Field et al., 1996). Both group and individual interventions for children are crucial in their reducing and overcoming PTSD symptoms. In order for the healing process to begin, adults need to get involved
with children that have been traumatized by natural disasters (Salloum & Overstreet, 2008).

**How Floods Affect Children**

Stressful events can lead to behavioral and emotional problems in children and adults. This was shown in a natural experiment study done in Bangladesh with children before and after a 1988 flood.

Durkin, Khan, Davidson, Zaman, and Stein (1993) wondered if aggression, extreme shyness, and enuresis in children would be significantly higher after a flood than before. They also wanted to see if “stressful events play a causal role in the development of behavioral disorders in children” (p. 1549).

Six months before the disaster 2,667 children, between two and nine years old, participated in an epidemiological study of disability. Sixty-four were noted to have a disability that could have been cognitive, motor, hearing, vision, or seizure. Five months after the flood, 162 of the children who were initially evaluated were selected for reevaluation including 49 with disabilities and 113 children without disabilities. During the post flood evaluation, the researchers asked the same two questions about aggression and shyness that were asked before the flood, as well as added a child behavior screening scale for the parents to complete about their child (Durkin et al., 1993).

The McNemar test was used to find the differences between the before and after responses to the questions. The results showed that there was an increase from 0% to 10% in aggressive behavior, one child remained shy, and 45 of the 134 children who had bladder control problems before the flood developed enuresis after the flood (Durkin et al., 1993). The increases in aggression occurred among boys and girls with and without
disabilities. Aggressive behavior increased at almost every age. It was also noted that there was no evidence between the severity of the flood experiences in each child and the development of his/her behavioral problem (Durkin et al., 1993).

Another study featured traumatized children who experienced subsequent flooding following Hurricane Floyd in September of 1999. In times of trauma, children’s cognitive capabilities are often influenced. A study by Cryder, Kilmer, Tedeschi, and Calhoun (2006) looked in depth at posttraumatic growth (PTG), to see how it related to children. “PTG refers to a growth process by which survivors are profoundly affected by trauma in a way that transforms. PTG refers to positive changes that go beyond effective coping and adjustment despite adversity” (Cryder et al., 2006, p. 65).

These researchers wondered if ruminative thinking, “the ability to cognitively process negative events to allow inclusion of positive appraisals” (Cryder et al., 2006, p. 66) would be an issue with children. They also looked at how children would rank themselves on their coping skills in times of adversity. They hypothesized that children who experienced devastation, but had social support, would be able to become positive in their coping.

There were 28 girls and 18 boys aged 6 to 15 years old from Pitt County, North Carolina who participated in this survey study about a year after the flooding. The children were given a variety of forms, with a four-point scale, to fill out about their thoughts, emotions, feelings, and problems that they have experienced. They also rated themselves on their coping strategies in the past and present using a four-point scale (Cryder et al., 2006).
Cryder et al. (2006) used *t* tests to compare the results that showed that "ruminative thinking correlated significantly with competency beliefs but not with social support or PTG. Social support significantly correlated with competency beliefs, and no significant correlations were found with ruminative thinking or PTG" (Cryder et al., 2006, p. 67). Children ranked themselves from 37 to 84 on a scale with a minimum possible of 21 and a maximum possible of 84; this was an average of 65.11, for their PTG. This analysis showed that the damage devastation amounts from the flooding and the results showed no significant correlation with the total PTG (Cryder et al., 2006).

As predicted, the researchers found that a social environment helped children be positive in their beliefs. The way traumatized children think is a significant indicator of their PTG (Cryder et al., 2006). This study also suggested, "As a result of struggling with difficult and traumatic circumstances, some children may experience, perhaps concomitantly with distress, significant growth" (Cryder et al., 2006, p. 68).

Some children witnessed first hand the devastation of floods, while others received their information from media use. Technology played an important part in their daily lives with many hours devoted to it. Comer, Furr, Beides, Babyar, and Kendall (2008) studied the amount of media use and the relationship it shows in children’s perceptions of societal threat and personal vulnerability.

These researchers wondered what percentage of parents regulated media use for their children. They also wanted to know how threat perceptions relating to earthquakes, hurricanes, and floods were perceived by children. It was important for them to find out if childhood anxiety was connected with what children viewed (Comer et al., 2008).
Ninety community children from Philadelphia between the ages of 7 to 13 and their mothers participated in the survey study. The mothers gave child and family demographic information as well as any restrictions that they placed on television or Internet use for their children. The children also reported how many hours a week they watched television and spent online. To measure anxiety levels, the children completed a 20-item A-Trait form using a one, two, or three rating. They used a 7-point Likert scale to complete the likelihood of threats section of the survey (Comer et al., 2008).

Comer et al. (2008) stated that 27% of the mothers reported having a rule for the quantity of television that their child watched, while 26% had Internet rules and 12.2% had rules for both. Children reported more television use than Internet use, especially the older children.

“Children reported significantly greater societal threat perception than personal threat perception. Differences among personal threat such as floods were not significant” (Comer et al., 2008, p. 625). Children expressed more of a concern for a crime threat than a flood, earthquake, or hurricane threat (Comer et al., 2008).

It was shown that the greater the amount of television that children watched, the greater their anxiety levels of personal threat perceptions. The Internet did not add a significant anxiety level. “Children’s television use was associated with elevated perceptions of personal (but not societal) vulnerability to world threats (i.e. crime, earthquakes, hurricanes, and floods), and this finding was particularly strong in youth with high anxiety” (Comer et al., 2008, p. 627).

In addition, Comer et al. (2008) showed that televised news coverage of traumatic events may be a problem for children and can result for some in posttraumatic stress
disorder. They found this occurrence as children were still developing a stable sense of security about their world around them, and they had no control over the media (Comer et al., 2008).

These three studies showed that children who experience a variety of flood situations could be traumatized by their experience. Some children show an increase in their aggression or show more signs of shyness due to a flood (Durkin et al., 1993). Some flood affected children who have more positive thinking can cope more quickly to the devastation (Cryder et al., 2006). Even children that witness floods on television or the Internet can have a higher anxiety level and feel personally vulnerable from what they have seen (Comer et al., 2008).

**How Children Learn from Informational Text**

For children to enjoy what they read, they need to have a choice in what they select for books. They often need to read informational text for learning at school. Being able to locate information in a book is an important skill that students need to be taught.

Reynolds and Symons (2001) studied the effects of choice and response format with children searching informational text. Teachers reported better comprehension from students when they were motivated and interested in what they were reading. Some motivational factors were the use of real world experiences, self-direction, interesting texts that matched topic interests, and learning opportunities for students (Reynolds & Symons, 2001).

This experimental study wondered if the self-selection of a topic influenced children’s performance on locating answers to questions in informational text. It also
examined if having an appealing response format would help children complete the text search (Reynolds & Symons, 2001).

Eighty-four third grade students with an average age of eight years and four months were randomly assigned to one of four conditions. The four groups were approximately equal in number. One group had the choice of three books from which to pick from and a worksheet for their answers. Another group had no choice in their book selection and was assigned a book and a worksheet to complete. The third group was also assigned a book but had to display their answers on a theme board. The last group was given a choice in their book selection and had to display their answers on a theme board. Students used markers, cut out drawings, and adhesive putty to show their answers on their theme boards. Three third grade level reading books from the *I Wonder Why* series were used that contained 32 pages of text and graphics, a table of contents, and an index (Reynolds & Symons, 2001).

Each student individually participated in one 30-minute session. First they completed an 18-item interest inventory and then rated their interest on a four-point Likert scale. Next, children in the choice groups were given three books and given two minutes to preview and select their topics. Children in the no choice group also got to preview the three books but they were randomly assigned a book to search. Each child was given a brief orientation to his or her book and then asked to complete four questions. The researcher recorded student answers, as well as the frequency of searching the index and table of contents, scanning text pages, and looking through the book (Reynolds & Symons, 2001).
"The data was analyzed with a 2 X 2 (Choice X Format) between subject analysis of covariance (ANCOVA) for each dependent variable" (Reynolds & Symons, 2001, p. 18). The results showed that topic interest was related to choice and "children in the choice conditions had given higher interest ratings to their search topics than had children in the no choice group" (Reynolds & Symons, 2001, p. 18). Topic interest was not related to task format, and there was no significant interaction of choice and format on topic interest. Only 10 children did not give an answer to all four questions in the time allowed. That included three children in the choice worksheet group, one child in the no choice theme board group, and six children in the no choice worksheet group (Reynolds & Symons, 2001).

Reynolds and Symons (2001) also reported there were significant effects of choice and format on the average number of actions taken to complete the search questions. "Children in the choice condition used fewer actions than did those in the no-choice condition, and children using the theme board format used fewer actions than did those using the work sheet format" (Reynolds & Symons, 2001, p. 19). There was no effect of topic on average searching time (Reynolds & Symons, 2001).

Overall, children who were given a choice of books to search were faster at locating information and used more efficient search strategies than did children who were not given a choice of books. Children who pasted their answers on the theme boards used fewer actions to locate answers and were more efficient in searching than those who recorded their answers on worksheets. It was also noted that children with prior knowledge were more accurate and used less time to locate an answer (Reynolds & Symons, 2001).
Also in 2001 Reynolds and Symons joined MacLatchy-Gaudet and Stone to conduct three more experimental studies about strategy instruction for elementary students searching informational text. The studies were aimed at seeing if students could become more strategic in their approach to seeking information so they could improve their text search skills (Symons, MacLatchy-Gaudet, Stone, & Reynolds, 2001).

The researchers had different questions for each case in this study. In study one they wanted to understand the effects of teaching strategy for locating information (SLI), SLI plus monitoring (M), and student practice (SLI and SLI +M) using the same book. In study two they researched the effects of SLI + M, textbook organization, as compared to a control group. The authors’ research in study three was how the four strategy groups differed from the no instruction control group (Symons et al., 2001).

All three of the studies involved Canadian students. Study number one had 180 students who were attending public schools in rural Canada in grades three, four, and five. The average ages were respectively 8 years 5 months, 9 years 10 months, and 10 years 10 months. In study two, there were 57 children from a rural elementary school in Canada and the average age was 9 years 5 months. Study three had 92 students that were attending public school in Canada. Forty-one of the students were at the end of 3rd grade while 51 students were at the beginning of 4th grade. The average age of students in study three was 8 years 9.6 months (Symons et al., 2001).

Study one randomly assigned 20 students from each grade level to participate in each of three groups. Each student was instructed and tested individually during one 30-minute session. The SLI group first observed an instructor who modeled aloud the strategy. Students were then given a list of words to locate in the index of the book with
the instructor modeling key words. This group focused on using key words found in questions. They used an index to look those words up and then located the page of targeted text. Another 60 students from three grade levels participated in the SLI and SLI + M group in study one. They practiced locating answers to three questions using a worksheet as a prompt, and the instructor gave verbal guidance. The last group involved was the control group who was not given any instructions on how to locate information in their book (Symons et al., 2001).

After the practice phase, the students were given three questions to answer within five minutes that involved using an index. Their sequence and number of choices were coded on a zero to five scale by an instructor as they worked (Symons et al., 2001).

“Accuracy, search time, and search sequence scores were analyzed using a 3 (grade) X 3 (strategy condition) multivariate analysis of variance (MANOVA)” (Symons et al., 2001, p. 11). Symons et al. (2001) reported that the results for study one showed a significant difference on strategies. The SLI + M students found more correct answers to questions than students in the SLI condition group. Grade five students were more successful at finding information than grade four and grade three students. Third graders in both strategy groups found more correct answers than the control group. The SLI + M students found more correct answers than control students, but SLI was not different from the control group or from SLI + M (Symons et al., 2001).

Other results from study one showed that grade three students spent more time searching the text than did fourth or fifth grade students. The SL + M and SLI students had higher sequence scores than students in the control group. Sequence scores of SLI + M and SLI students did not differ. Students in the SLI + M and SLI searched fewer pages
of text than students in the control group and made fewer choices in their work. The SLI and SLI + M group had 119 of the 120 students use the index for each question but the control group had 16 of the 60 students that used the index (Symons et al., 2001).

The first case study showed two important ideas. It “provides evidence that elementary students’ independent information-seeking skills improve as a result of instruction in a strategic approach using the same book. Strategy instruction increased students’ use of the index and led to search of few text pages” (Symons et al., 2001, p. 16).

In case two, Symons et al. (2001) assigned 19 students to one of three groups – SLI + M, textbook organization, or control. Two different informational books were used and students completed the same practice questions as in the first study. Each student worked approximately 30 minutes with an instructor and was shown the tasks the same way as in study one (Symons et al., 2001).

The SLI + M group had the instruction delivered the same way as in the first study. The textbook organization group had emphasis put on the distinction between a table of contents and an index, while the control group was given two minutes to scan the book prior to completing the practice questions unassisted. All students completed the three test questions without any help from the instructor (Symons et al., 2001).

The scoring system was the same as in study one. Study two’s results showed that the accuracy of children in the SLI + M group was significantly higher than that of the children in the control group. Grade four children showed more correct answers than grade three children. “Providing students with a brief overview of the structure of informational books did not result in improved search success” (Symons et al., 2001, p.
20). Students in the SLI + M group spent less time searching for the information than the control group students. Grade three students spent as much time searching the text as did grade four students, but they provided fewer correct answers. The search sequence process was greater for the SLI group than for the control group (Symons et al., 2001).

The last study of Symons et al. (2001) examined whether there were separate effects of category selection, information extraction, and monitoring. Students were randomly assigned to a no instruction control group or to one of four strategy groups that focused on category selection only (C), category selection and extraction (CE), category selection and monitoring (CM), or category selection, extraction, and monitoring (CEM). The same informational book from the first study was used along with the practice search questions and two of the test questions (Symons et al., 2001).

The procedures of this study were done in the same manner as study one. The control group students did an independent review of the textbook for two minutes. Category selection consisted of instruction in index use and identifying key words in the each questions like the other study. The CEM and CE students moved to the second level of instruction where they got information by paying attention to the titles, the underlined or highlighted text. The CEM and CE also were taught to check the accuracy of their answers after recording it (Symons et al., 2001).

A one-way ANOVA was used for the accuracy scores on the three-item test. Symons et al. (2001) reported that the students in the CEM group were more accurate than students in the C group and the control group. The CE group did not differ from any other group but the CM group performed better than the control group. The instructional strategies helped students improve their search success, but it was necessary to teach the
students about more than index use. “Instructing students to monitor the accuracy of their answers appeared to play a key role in this process, as instruction in category selection and monitoring led to better performance than that of the control group” (Symons et al., 2001, p. 23).

The Kruskal-Wallis ANOVA showed that students did not complete this task the same way. Students in the control group searched an average of 106 pages while students in the instructed groups searched between six and seven pages. Non-instructed students used the table of contents more to help them find the answers to the search questions while the instructed students all used the index to help them. Even the search sequence ratings were higher among the four instructional groups, which means using a planned approach improves information seeking. This study showed that the differences among the four instruction groups occurred during the direct explanation phase, when the instructor modeled a text search task (Symons et al., 2001).

When looking at all three studies of Symons et al. (2001), it is clear that when students were taught to identify indexed terms, to skim text carefully, and to monitor how well they extract information, they were successful in locating information efficiently. The performance of students not instructed in strategies suggested that children in elementary grades did not spontaneously use an efficient approach to locate information (Symons et al., 2001).

Research has shown that reading informational text to young children is important as it builds background knowledge and exposes them to a wide range of vocabulary words. Discussions and comprehension often come from reading aloud informational text (Yopp & Yopp, 2006). Yopp and Yopp surveyed preschool and early elementary
teachers, as well as parents, to see if these types of books were being read at school and home.

Yopp and Yopp (2006) completed two survey studies about informational text as read alouds. They wanted to find out what types of literature teachers were reading aloud to their students in preschool through third grade. They were also curious about what was being read to students at home by parents of a particular kindergarten class, and if boys or girls were getting read to at home more often (Yopp & Yopp, 2006).

In the first study 1,144 southwestern teachers attending a workshop by Yopp and Yopp (2006) filled out an index card stating the grade level they taught, if they read aloud to their students the day before the workshop, and the title or titles of what was read aloud on the previous day. The cards were collected and saved for later analysis.

Yopp and Yopp (2006) used Duke and Bennett-Armistead’s (2003) genre framework to identify if titles were narrative, informational, mixed, or other. Duke and Bennett-Armistead (2003) said that informational texts are nonfiction texts that serve the purpose of giving information about the natural or social world. They did not include biographies or nonfiction narrative in this category. Yopp and Yopp (2006) listed the titles under categories in a database, calculated the percentages of each type, and sorted them by grade level. About 19% of the titles were labeled unknown as they could not be located for their genre type (Yopp & Yopp, 2006).

The results showed that teachers read 1,487 books that were identifiable. When looking at all grade levels combined, narrative text were read aloud the most with 77%, followed by 14% of other which was mainly poetry, 8% was informational text, and 1% was considered mixed. All grade levels showed narrative text as the most frequent type of
text read aloud. Informational text ranged from 5% to 9% for each grade level. The Kruskal-Wallis H tests showed “no statistically significant differences among grade levels in terms of either numbers or percentages” (Yopp & Yopp, 2006, p. 42) or “no significant differences in genres among teachers who read one, two, or three or more books” (Yopp & Yopp, 2006, p. 42).

Yopp and Yopp’s (2006) second study involved 20 parents of kindergarten students who were from a middle class neighborhood in southern California. They wrote down all of the titles that they read to their child from November to May. Eleven children were male and 9 were female. The classroom teacher kept all of the logs until the end of the school year. The titles were then analyzed the same way as in study one (Yopp & Yopp, 2006).

A total of 1,473 titles were identified and categorized in this study. The totals showed that 77% were narrative, 12% were categorized as other, 7% were informational, and 3% were mixed. An average of 5.5 books read aloud per child were informational, but nearly half of the 20 students had been read two or fewer informational text during the time period. There was no main effect for gender, but there was a trend showing that boys were read to more than girls. In fact, boys were read more than twice as many informational texts as girls (Yopp & Yopp, 2006).

Overall, the Kruskal-Wallis H tests showed that there was no significant difference between teachers and parents for numbers or percentages of genres that were read aloud. “School and home do not appear to counterbalance one another in terms of genres read aloud. Rather, they both contribute to children’s underexposure to informational text” (Yopp & Yopp, 2006, p. 47). It was also noted that some teachers and
parents may not consider informational text as an enjoyable read aloud, or they don’t
know about the number of high quality informational trade books that are written for a
younger audience (Yopp & Yopp, 2006).

These studies showed that informational text is an important genre of literature for young students. Children can locate information more easily if they are interested in their topic and have an appealing way to share their answers (Reynolds & Symons, 2001). Teaching students how to locate information inside a book, like using an index, greatly reduces their searching time and improves their accuracy skills (Symons et al., 2001). Young children who listen to informational text read out loud can participate in a discussion so they can comprehend what was read (Yopp & Yopp, 2006).

The research on how children cope with natural disasters, how floods affect children, and how children learn from informational text are all important for the well being of a child. These studies contribute to the formation of this research project, an informational booklet for third grade students about the Cedar River flood of June 2008.

Some Cedar Rapids third graders were directly involved with the flood. This informational booklet may help them overcome some of their anxieties that they may still have, show them how far they have come emotionally since the flood, and/or give them a chance to talk openly with their classmates about their first hand experience with the flood. The pictures and text in the flood booklet are descriptive and accurate. The flood booklet can benefit all Cedar Rapids third graders’ knowledge about the devastating flood.
CHAPTER 3

PROCEDURES

Due to the recency of the June 2008 Cedar River flood, no informational books about it have been created for children. This project was the production of an informational booklet about the June 2008 Cedar River flood.

Yopp and Yopp (2006) claimed that children are not exposed to enough quality informational text that interests them. This booklet is of interest for children living in the Cedar Rapids area, as well as supports the Cedar Rapids Community School District’s social studies curriculum about the history of Cedar Rapids. Reynolds and Symons (2001) stated that children could find information more quickly when they were interested in a certain topic and given a choice in their book selection. This informational booklet has children’s places of interest in Cedar Rapids that were flooded. Symons et al. (2001) stated that children benefit from direct explanation and guided practice of locating information such as using an index. Teachers can explain to students how to find specific information about the flood or locate a place that was flooded by using the informational flood booklet index. The informational flood booklet and its index are valuable tools for third graders.

Moss (2004) stated that authors of expository text structures in information trade books “are experienced in making the most complex concepts comprehensible, and children have the opportunity to explore the real world through texts that are inviting, accurate, and accessible” (p. 710). This informational flood booklet informs, describes, and reports to third grade students about the Cedar River flood of June 2008 in an inviting and accurate way. By making this current text available to students at a third
grade reading level, they are able to understand and comprehend what devastation their community went through. This booklet may help some students cope with their fear of floods, as well as inform them about preventing floods.

**Audience**

The informational flood booklet was written for Cedar Rapids third graders as part of their social studies curriculum about the history of Cedar Rapids. The pictures and information in the booklet are interesting and educational for all Cedar Rapids elementary students.

**Parameters**

Saul and Dieckman (2005) used researchers Kletzien and Dreher’s (2004) definition for informational text. They said informational text is narrative, expository, or a combination of the two. “These researchers used the term expository-informational text to refer to titles that are report-like and use expository text structures” (p. 504). They added “Informational text is often used interchangeably with expository text, which includes text written to inform, explain, describe, and present information or to persuade. Some informational texts for children, however, include both narrative and expository writing” (p. 504). The Cedar River Flood of June 2008 informational flood booklet is an expository-informational.

This informational booklet was formatted in portrait mode and contains approximately 30 pages. Only the Cedar River flood of June 2008 is featured and discussed. Each page has colored photos provided by *The Cedar Rapids Gazette* and facts about the flood. The flooded areas that are mentioned in the booklet and on the map are places in Cedar Rapids familiar to most children. The facts include estimated dollar
amounts in damages, numbers of businesses and homes that were damaged or destroyed, as well as prevention and clean up strategies. An index is also provided.

According to Moss (2004), students need to make connections between their own lives and the informational text that they are reading so they can retell the facts to others. The chronological timeline in the booklet shows the development and aftermath of the flood. Several Cedar Rapids third graders know someone personally that was affected by the June 2008 flood, and this would help to engage them in the reading and improve their reading comprehension.

Storyboard

The pages in the informational flood booklet have the photographs arranged as shown below, to create a variety and to put emphasis on certain photographs. Text was placed above and/or below the photograph(s). It was bound on the left side with a plastic spiral.

Each page contains photograph(s) and informational text unless otherwise stated.

The pages featuring only photographs have a caption about the photograph. The photographs and facts that are included on each page of the informational flood booklet are as follows.

Table of contents (no photographs)    page 1
Introduction                           page 2
The creation of this informational flood booklet proceeded through the following steps:

1. Paul Jensen, the photography director of *The Cedar Rapids Gazette*, was contacted about using the newspaper’s flood photos for this project, written permission to use the photos was secured.

2. The photographs were selected by the researcher from http://gallery.pictopia.com/gazette/gallery/78855/.

3. The pages were formatted in Microsoft Word with either one or two photographs on each page.

4. Kyle McGlofin, a reporter from *The Cedar Rapids Gazette*, was contacted to share text from flood related newspaper articles.

5. Informational text was entered in Comic Sans MS size 12 font.

6. A numbered map of downtown Cedar Rapids that shows some of the damaged buildings was created using http://www.communitywalk.com/.

7. An index was created for the completed flood booklet project.

8. A title page was created.

9. A cover was created.

10. The booklet was bound with a plastic spiral.
CHAPTER 4

PROJECT

The research project accompanies this paper. It is a children’s informational booklet, *The Unforgettable June 2008 Cedar River Flood.*
CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Summary

Communities are forever changed after suffering losses due to flooding. Flooding has many causes. Besides excessive rainfall in a short amount of time, water overflowing its banks, and levees breaking, Schildgen (1999) notes human actions that promote flooding: "agricultural tilling and drainage, suburban development, deforestation, and the decisions of hundreds of local, state, and federal agencies as well as thousands of private landowners" (para. 21). Too often wetlands that are important shock absorbers for floods are destroyed.

Natural disasters such as flooding cause emotional and financial strains. Some Cedar Rapids third graders were directly involved with the June, 2008, Cedar River flood. Having access to factual, expository information may help the students overcome some of their anxieties that they may still have, show them how far they have come emotionally since the flood, and give them a chance to talk openly with their classmates and teachers about their first hand experience with the flood. Flood victim children who suffer posttraumatic stress disorder need to have adult interventions to help them recover from their anxieties and possible depression (Salloum & Overstreet, 2008).

The purpose of this research project was to create an informational booklet using a non-fiction expository text structure about the June, 2008, Cedar River flood to help third grade children understand what happened before, during, and after the flood. Yopp and Yopp's (2006) research showed that discussions and story comprehension often come from reading aloud informational text. This booklet will help third grade children in
Cedar Rapids learn more about one particular flood that took place in their community and may be a discussion starter for those affected by the flood to share their story. Students may be surprised at the numbers in the flood booklet that include information on the river’s flood stage, the number of city blocks that were flooded, the number of lost jobs, the number of displaced Cedar Rapids students, and some of the monetary donations that assisted the city in rebuilding. As was discovered during an analysis reported earlier in this paper, no children’s books about the Cedar River flood of 2008 are currently available in publication.

Conclusions

The author felt that the recent flood would be a topic of interest that Cedar Rapids third grade students would want to read. Reynolds’ and Symons’ (2001) research showed that when children were given a choice about their literature they often chose what was meaningful to them and more willingly participated in the activity. “Choice of book was influenced by the amount of interest and knowledge children possessed about the topic” (p. 21). The author submitted a draft of the book to four third grade teachers and two research paper advisors. These reviewers’ input informed the author’s choices and revisions to the draft.

Research question 1 asked what facts should be part of the flood booklet. A decision the author faced when creating the informational flood booklet was how to make it interesting without having the information be too difficult for third graders to understand. Another goal was for the booklet to be clear and brief enough to hold students’ interest. The flood facts used in the book came from The Cedar Rapids Gazette’s newspaper clippings following the flood, The Cedar Rapids Gazette’s book
Epic Surge, and from the author watching the local news before, during, and after the flood. Most third graders should be able to comprehend the facts presented in the informational booklet.

The author chose appropriate child friendly wording when explaining the flood information in the booklet. Reviewers suggested a glossary of terms that would help students understand the information better. The terms that were selected were bolded in the text for emphasis. The Interesting Flood Fact section started as a list of facts, but it was advised to the author to break it into smaller sections with titles and to add clip art. The following sections were created: flood facts, facts measured in feet, facts with large numbers, and dollar amounts for flood damages. A Millions of Dollars in Donations section was added with logos of the donating corporations. The author added a bibliography.

The author reflected on the overall writing process for the booklet and concluded that the chosen facts would appeal to children and that children would be curious to learn more about the Cedar River Flood based on these facts. Other flood facts could have been used in the booklet, but the author based her content decisions on age appropriate material. The author considered adding a pronunciation key for the glossary words but decided against it since the words seemed pronounceable. After reflecting on the list of facts page, the author agreed with reviewers to categorize and break the facts into smaller sections. Now the page doesn’t have too much information and is more eye appealing.

Research question 2 was what pictures should be part of the flood booklet. To keep the pictures similar in nature, the author sought only one photo source. The author looked through hundreds of colored pictures that were taken by The Cedar Rapids
Gazette photographers and then selected her pictures based on places in Cedar Rapids that most children would recognize. Selecting the best pictures was important to the author because she wanted them to help tell the story, and for students to see first hand how the community worked together during this disaster.

The author discovered that not all of the pictures matched the information that was presented on the page, so corrections were made. For example, the fact about Linn County being declared a federal disaster area was with a picture that was taken five days after the announcement. The author chose to delete the Mercy Hospital sandbagging efforts picture because she was unable to get accurate information about why they were still sandbagging if the building was already flooded. To give more factual information, a page that had two pictures on it was separated, so one picture was on a page. Instead of putting two pages that had only pictures and captions towards the back of the booklet, they were moved sequentially in the booklet to when they were taken. Now all the pictures align with the flood facts in the order they occurred.

The author reflected on the pictures used in the finished booklet and was pleased with the variety of pictures that were used, the order they were displayed in, having used only one or two pictures on a page for emphasis, and the overall powerful impact that they will have on students’ flood awareness. The number of pictures used effectively tells the story of the flooded community.

Research question 3 was what is the most appropriate text structure for this content. The author chose to write the informational flood booklet in expository text to help inform, describe, and report the Cedar River flood of June 2008. According to Moss (2004) “teachers must choose books that don’t overwhelm children with difficult
technical vocabulary and numerous complex concepts” (p. 712). It is also important that books be well organized with page layouts, headings, and a table of contents to help students comprehend (Moss, 2004). The author of the informational flood booklet took those ideas into consideration and used them when creating this booklet.

First, the page layouts, headings, and table of contents for the booklet were created. It features informational text with one or two colored pictures per page. The author created a table of contents by listing every page in the booklet, but was advised to create headings or titles and not to have as many listings in the table of contents. Once the author reflected on the organizational change, it seemed obvious to create the following headings – Introduction, Before the Flood, During the Flood, After the Flood, and Interesting Flood facts. Those headings were then placed in the table of contents and the page numbers were adjusted. The author gained perspective on how to organize the facts.

Reviewers suggested including a page of student questions for further flood research, which were taken from the Question Mark website by Jamie McKenzie and from the Social Studies section of the Iowa Core Curriculum. These questions were placed after the Interesting Flood facts. Following the questions, a map of downtown Cedar Rapids with numbered flooded buildings and listed addresses were also added to the booklet. The booklet concludes with a glossary, bibliography, and index which the author feels are valuable tools for student use.

Second, to enhance the layout of the booklet, a daily timeline was added to show occurrences from June 9, 2008 through June 19, 2008. The information is written in sequential order so students can follow how things progressed with the flood. According to Moss (2004), students need to make connections between their own lives and the
informational text that they are reading so they can retell the facts to others. The booklet may serve as an introduction or a review of the flood, or it could be a starting point for those students affected by the flood to share their stories.

Lastly, Moss (2004) stated that children learn about their surroundings from inviting texts. The author chose a simple and attractive font style, Comic Sans MS, which makes it easy for children to read. The author created a cover page and dedication page. The printed booklet was bound together with a plastic spiral.

The author shared the finished informational flood booklet with four third grade teachers in the Cedar Rapids Community School District. Each teacher expressed interest in getting a copy for her classroom. The Cedar Rapids Gazette will be contacted to see if that is possible since their pictures were used with permission in the booklet. The teachers liked the size and color of the pictures, the sequential presentation of events, the child friendly language, and the index. One teacher asked if there were any lesson plans or written activities to go with the booklet.

Recommendations for Further Study

With the local Cedar River flood occurring so recently, there is not enough information for children on what happened and why. The author’s project was created for third grade students but could be used with all elementary aged children. Teachers who share this booklet with a class have opportunities for generating discussions and stimulating ideas about flooding among the students.

The author recommends four things. First, a follow up booklet could be created that would show improvements to the community over a period of time following the flood. A title suggestion could be – Flooded Cedar Rapids, One Year Later. The booklet
could feature before and after pictures of the same area and give the dollar amount of rebuilding that area. Another idea could be a more scientific approach to the reasons why the Cedar River flooded in June 2008. Third, the booklet using the same pictures, could be rewritten for upper elementary and possibly middle school students. And lastly, lesson plans and activities could be developed to assist teachers when using the flood booklet.
REFERENCES


The Unforgettable
June 2008 Cedar River Flood

By Keri Annis
Dedication and Acknowledgements

This booklet is dedicated to my husband Brian, and my sons Tyler and Nate. It was with their encouragement and positive attitudes that I completed this booklet as part of my Masters requirement.

K. A. A

Picture credits: All of the pictures used in this booklet were taken in Cedar Rapids by Cedar Rapids Gazette newspaper photographers before, during, and after the June 2008 Cedar River flood. The pictures were used with permission by Paul Jensen of the Cedar Rapids Gazette.

The map on page 17 was created using the website Community Walk http://www.communitywalk.com/

The further research questions on page 25 were taken from The Question Mark website and the Social Studies section of the Iowa Core Curriculum.

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June 2008 will be remembered by many people because of the devastating flood that the Cedar Rapids community endured. Of the 125,000 Cedar Rapids residents, the flood directly affected approximately 29,000 people. Luckily, no one died from the flood.
Before the flood

On June 9, 2008, the Cedar River was predicted to crest at 20 feet in Cedar Rapids. The next day city officials told residents and businesses in the 100-year flood plain to prepare for a flood similar to the flood of 1993.

Police knocked on doors and announcements were made on the television and radio. Little did they know that the June 2008 flood would pass the 1993 flood by 20 feet and affect people living in the 500-year flood plain.
Thousands of Cedar Rapids residents helped sandbag homes and businesses days before the river flooded. Despite their sandbagging efforts, this powerful flood couldn't have been stopped. The heavy rains continued to fall.

2008

<table>
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<tr>
<th>Monday, June 9</th>
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<th>Wednesday, June 11</th>
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<td>Saturday, June 14</td>
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During the flood

The flood caused 45 of the city's 46 water wells to stop working. When residents heard that their city may be without water, they showed up by the thousands, in the rain, to sandbag and save the last water well.
Some people didn't believe the water would rise, and others didn't want to leave their pets behind, so they stayed in their homes and later had to be rescued by boat. There were 423 boat rescues by area firefighters.
To try to save the 105-year-old CRANDIC railroad bridge, railroad officials put train cars full of rock on the bridge hoping that would save it. Lots of debris, including boat houses from the Ellis boat harbor clung to it. Unfortunately, the water was too powerful and it eventually collapsed. It cost nearly 7 million dollars to repair the bridge in the summer of 2009.
Photos from June 13

Downtown Dairy Queen

National Czech and Slovak Museum
Travel was difficult throughout Cedar Rapids with the downtown bridges flooded. The water never reached Interstate 380, but parts of the interstate were closed from June 13 to June 17 making travel a problem between Cedar Rapids and Iowa City.

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For 7 days, to help save water, people were asked to only drink the water, not to do laundry, take showers, clean the dishes, or use water in any other way. Some businesses gave away free bottled water to help save the little water that was left. Residents were allowed to use water normally on June 20.
The Red Cross set up shelters in school gymnasiums around Cedar Rapids for people that left their flooded homes and had no place to go. People were allowed to stay at the shelters and get free meals through July.

2008

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The downtown area of Cedar Rapids was greatly affected by the flood. The flood covered almost 10 square miles of the city - about 1,300 city blocks. There were about 940 businesses and about 5,400 homes that were damaged by the flood. On June 14 Linn County was declared a federal disaster area.
Homes were marked based on the damage that was done. The marks also determined how soon and if residents could get back into their homes. Seventy one homes were destroyed by the flood and had to be demolished. These homeowners were never allowed back in their homes because the homes had moved off their foundations.
When the water started going down, city officials had checkpoints where residents were told when they could get back into their homes. Some people were upset by not being able to get into their homes when they wanted. City officials made it clear that safety was important.
When people were allowed back into their homes, they had a huge mess to clean up. Things that were touched by the dirty flood water were placed on the curb, next to the road, to be hauled away to the landfill. An estimate of 81,000 tons was taken to area landfills.
On Thursday, June 19, the water was completely back into its banks leaving nothing but a muddy, stinky mess behind.
Photos from June 19

Grant Wood stained glass window inside Veterans Memorial Building

Paramount Theater
On June 19 President George W. Bush meet with Cedar Rapids Mayor Kay Halloran and Iowa's Governor Chet Culver to discuss the flood and what would happen next for the community.
Interesting flood facts

Flood facts
- On June 12 the National Guard arrived to help, and on June 13 the United States Coast Guard arrived to help.
- Based on financial public assistance estimates, this flood ranks Iowa fifth in the largest state disasters in the United States.

Facts measured in feet
- The river’s highest point was 31.1 feet on June 13 - that was about 20 feet above flood stage.
- On June 21 the Cedar River dropped below the 12-foot flood stage for the first time since June 2.

Facts with large numbers
- About 1,360 people lost their jobs because their places of employment were flooded.
- The flood displaced about 1,800 Cedar Rapids Community School District students.
- The Cedar Rapids Public Library lost over 160,000 items in the flood, which included the entire adult collection.

Dollar amounts for flood damages
- The Cedar Rapids Community School District had approximately 33.5 million dollars in damages.
- Estimates show that the flood caused about 6 billion dollars in damages to the community.
Millions of dollars in donations for clean up and rebuilding

• The United Way raised 1.3 million dollars.

• The Flood 2008 Fund collected more than 5 million dollars, which included talk show host Jay Leno's $160,000.

• The American Red Cross received more than 2 million dollars. $100,000 of that was from singer Taylor Swift.

• The Embrace Iowa group sent $3,475,000 for small business recovery funds.

• The Vision Iowa Board awarded 1.5 million dollars to help renovate and expand the historic Paramount Theater.

• FEMA (Federal Emergency Management Assistance) gave more than 1.1 million dollars to the city of Cedar Rapids for removal of tons of debris following the flood.
The City Council’s Future Flood Protection Plan

- The City Council endorsed a plan on November 12, 2008, that featured adding earthen levees along the river, building floodwalls to protect industries near the downtown, and making removable floodwalls to protect the heart of downtown Cedar Rapids.

- The City Council would also like to buy out some homes near the river and create a river front "greenway" area as part of the neighborhood planning process (see map below*).

- The City Council plans to have these flood control projects completed in eight to fifteen years at a price of 1 billion dollars.

Source:
Student questions for further flood research from the Question Mark website by Jamie McKenzie* and from the Social Studies section of the Iowa Core Curriculum**

Note: any river may be substituted for the Mississippi River.

*How can we build levees capable of standing up to the biggest of floods?

*What steps can be taken to manage the Mississippi River system to make terrible floods less likely?

*What regulations will minimize risk and environmental damage?

*How can we prevent greed and business interests from increasing the flood hazards?

**Describe the social and economic effects of environmental changes that arise from floods.

**Give examples of human alterations of the physical environment that have produced positive and negative consequences.

**Analyze how changes in weather affect people.

**How do physical processes and human actions modify the environment and tell how the environment affects humans.
Use the following numbers or addresses of flood damaged buildings to locate them on the map found on page 25.

#1 Cedar Rapids Community Schools Educational Services Building
   346 2nd Avenue SW

#2 Cedar Rapids Public Library
   500 1st Street SE

#3 Central Fire Station
   1010 1st Street NW

#4 Downtown Dairy Queen (see photo page 8)
   208 1st Avenue NW

#5 Federal Court House
   411 3rd Street SE

#6 Mercy Hospital
   701 10th Street SE
#7 National Czech and Slovak Museum (see photo page 8)
30 16th Avenue SW

#8 Paramount Theater (see photo page 17)
123 3rd Avenue SE

#9 Quaker Oats
418 2nd Street NE

#10 Taylor Elementary School
720 7th Avenue SW

#11 Veterans Memorial Building featuring Grant Wood's stained glass window (see photo page 17)
50 2nd Avenue SW

#12 YMCA
207 7th Avenue SE
Map of flooded downtown Cedar Rapids created on Community Walk website
http://www.communitywalk.com/
100-year flood plain - an area of land that has a chance of a flood occurring once in a 100 year time period.

500-year flood plain - an area of land that has a chance of a flood occurring once in a 500 year time period.

checkpoints - where traffic is stopped, as for inspection by authorities.

crest - The highest or culminating point, the peak.

federal disaster area - An area that officially qualifies for emergency governmental aid as a result of a catastrophe, such as an earthquake or flood.

foundations - The lowest and supporting part that includes the base of a house.

landfill - a low area of land that is filled in with layers of garbage and soil.

residents - people who reside in a particular place.

sandbag - bag filled with sand and used to form protective walls.

shelters - temporary housing for homeless or displaced people.
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