

Preliminary Concepts for Developing Childhood

Education in Emergency Preparedness

by

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A Thesis Presented in Partial Fulfillment
of the Requirement for the Degree
Master of Science in Technology

Approved June 2011 by the
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ARIZONA STATE UNIVERSITY

August 2011

ABSTRACT

Being properly prepared is one of the keys to surviving an emergency or a disaster. In order to be prepared, people need appropriate education in preparedness, which includes elements of prevention, and planning. There is a definite need to better prepare our nation's citizens in order for them to safely respond in times of a disaster. It also seems likely that the earlier concepts and skills are learned, the easier those concepts and skills would be to remember and the more proficient one would become in implementing them. Therefore, it seems appropriate to teach emergency preparedness concepts and skills early on in the educational process. This means that significant efforts need to be directed toward learning, what impediments currently exist, what is helpful, and how preparedness concepts and skills can be taught to our children.

A survey was distributed to third, fourth, and fifth grade teachers, asking them questions about emergency preparedness lessons in the classroom. Results indicated that the majority of teachers would be willing to teach emergency preparedness if the curriculum met current academic standards and they were given adequate resources to teach this subject. This study provides ideas, concepts and motivation for teachers to use in a cross-curricular approach to teaching emergency preparedness in the classroom. This is accomplished by presenting examples of newly developed curriculum/lesson plans that meet state academic standards, based on the current Community Emergency Response Team program and on children's fiction literature for the appropriate age group. A list of literature that could be used in this development is also provided in this study.

DEDICATION

To my mother, Carla Christensen, who taught me the value of a good education,
my sister Emma, my brothers, Charlie and Matt and my wife, Laura, and sons,
Bradley and Ethan, for their unwavering support, love, and confidence in
everything that I do.

ACKNOWLEDGEMENTS

Thanks to Dr. Edwards for his patience, support and guidance, and to my Committee members, Dr. Olson and Dr. Peterson, for their input and encouragement.

I would also like to thank the Tucson Unified School District and the Marana Unified School District especially, Dr. Brett Kramer, for his ideas and cooperation.

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ACRONYMS

ADE	Arizona Department of Education
AHA	American Heart Association
AIMS	Arizona's Instrument to Measure Standards
ARC	American Red Cross
CERT	Community Emergency Response Team
DHS	Department of Homeland Security
EMI	Emergency Management Institute
FEMA	Federal Emergency Management Agency
IEP	Individualized Education Plan
LAFD	Los Angeles Fire Department
MOD	Master of Disasters
MUSD	Marana Unified School District
NCSS	National Council for the Social Studies
NFA	National Fire Academy
NFPA	National Fire Protection Association
PTSD	Post-Traumatic Stress Disorder
SOG	Standard Operating Guidelines
WCDR	World Conference on Disaster Reduction

CHAPTER 1

INTRODUCTION

Being properly prepared is one of the keys to surviving an emergency or a disaster. In order to be prepared, people need appropriate education in preparedness, which includes elements of prevention and planning. According to Russell L. Honore, retired United States Army General who took command of the recovery efforts during Hurricane Katrina, we in this country need “to create a culture of preparedness, we need to focus left of the disaster...focus on preparations and responses before the disaster” (Honore, 2008). Elena Sidall, speaking at the American Military University’s Homeland Security Symposium in 2007, reiterated the need for personal preparedness by stating, “The prepared individual is an asset to the community; conversely, the unprepared citizen is a burden on the already strained Emergency Management System’s human, material and financial resources. The unprepared citizen is the weakest link in the chain, thus compromising the whole system” (Sidall, 2007). One might think that events such as Hurricane Katrina would have increased the activities of citizens to become more prepared. However, “numerous post-Katrina studies indicate no increase in the level of citizen preparedness” (Sidall, 2007). One critical suggestion is that “our schools, from kindergarten to post-graduate institutions, need to develop a curriculum that will teach us how to prepare for and better respond to crisis as communities and as individuals” (Honore, 2008). To date, this has not generally been done.

There is a definite need to better prepare our nation's citizens in order for them to safely respond in times of a disaster. It also seems likely that the earlier concepts and skills are learned, the easier they would be to remember and the more proficient one would become in implementing them. Therefore, it seems appropriate to teach emergency preparedness concepts and skills early on in the educational process. This may suggest that significant efforts need to be directed toward learning what impediments currently exist, what is helpful, and how preparedness concepts and skills can be taught to our children. Doing this should create several benefits including the following: (i) supplying children with the ability to better care for themselves, their families and others during an emergency, (ii) developing children's' confidence in a crisis situation, and (iii) aiding them in preparing to become more useful assets to their communities as they mature into adulthood.

Sidall (2007) stated that the most effective method to teach preparedness to children is in a group setting, generally in the classroom. Classroom teachers are likely the best means to get a preparedness message across to students. Teachers are relatively highly educated, they are "subject matter experts" for the grade level that they teach, they often can relate well to their students, and they have a full understanding of basic and advanced teaching techniques.

However, in Arizona, and in many other states across the country, teachers are inundated with multiple requirements and time constraints, particularly curriculum and standardized test obligations. As a result, they are typically unable to provide their students adequate education in a number of other

important topics such as emergency preparedness.

This is not to say that no emergency preparedness programs for children currently exist. They do. There are several programs available from different organizations that can be adopted and adapted to develop the type of curriculum that Gen. Honore has encouraged. These include the Federal Emergency Management Agency's "FEMA for Kids" website, the Ready Kids website from Ready.gov and the U.S. Department of Homeland Security, and the all inclusive curriculum package "Master of Disasters" from the American Red Cross. In Arizona, the state includes resources for children on their homeland security website and their Arizona 2-1-1 online site, which includes information and activities for "students, parents and educators to advocate preparedness planning and emergency awareness." Additionally, The University of Illinois Extension provides resources and guides for teachers for instructing children about emergency preparedness at their website,

<http://web.extension.uiuc.edu/disaster/teacher/csndactx.html>.

Another well known program might also be modified and used to help prepare children. This program is Community Emergency Response Team (CERT) training. The Los Angeles City Fire Department (LAFD) in the wake of the Whittier Narrows earthquake created this program in 1987. After the earthquake, LAFD initiated this program with the purpose of training citizens, including employees from the private and public sectors (Citizen Corps, n.d.). The intent was that citizens could be trained so that they could render immediate help

to victims of a disaster as a cohesive team until professional rescue services arrived on scene.

CERT evolved over the years and now includes the Teen CERT program, created by Eastern Michigan University. This program is geared toward training teens and young adults in the same fashion as the adult program. If this program can be adapted for teens, why could it not be adopted for use by younger children? The CERT program will be discussed further later in this study.

Yet another method that might be used and which will also be discussed further in this study is the utilization of children's fiction literature or storytelling to educate youngsters about emergency preparedness. Children learn in different ways based upon the four dominant different learning styles: visual learning, auditory learning, kinesthetic learning, and tactile learning. The goal of an idealized curriculum is to develop a program that incorporates all four of these learning styles. Using fiction literature and storytelling can help achieve this goal. Storytelling is a collaborative effort between the student and the teacher, and it enhances one's ability to learn by bringing together the four different learning styles. Effective storytelling embraces multiple learning styles. According to Dr. Robin Mello of the University of Wisconsin-Whitewater (2001), storytelling by children can assist them in theory building and cognitive and psychosocial development. It enhances the child's writing ability, it contributes to language building, and it is an important teaching methodology for teachers (Mello, 2001).

Statement of the Problem

Children are a vulnerable group. Studies have shown that near the end of the twentieth century, approximately 66.5 million children were affected by disasters annually and that this number is expected to nearly triple during the twenty-first century, bringing the number to a staggering 175 million (Peek, 2008).

Unfortunately, history has shown that the needs of children have usually gone largely unmet during disasters. This may be due to common misconceptions that young people usually are not seriously affected by disasters and that impacts on children are transitory (Peek, 2008). Furthermore, it has been asserted that the needs of children are often excluded from attention during disaster-preparedness and planning phases due to children's general lack of power to voice their concerns and also due to the fact that a majority of disaster professionals do not possess specific child health or child development expertise (Peek, 2008). This thesis suggests ways to involve our children better in disaster preparedness and response training.

This is where classroom teachers need to appear on the stage. Unlike disaster professionals, teachers have training and experience in child health, development, and education. They can potentially teach children how to prepare and respond to emergency situations and thus can provide children with the power to voice their concerns and the ability to better survive disasters.

Thesis Statement

Before this happens, many questions need to be answered. Among these are the following: Is this education already occurring within the classroom? If not, then what needs to be done to make it happen? What materials exist that may aid classroom teachers to teach children about disaster preparedness and response? How can modification of current adult preparedness programs help teachers fulfill this objective?

This study attempts to answer these and other related questions. It will also try to provide several examples of ways that an age-appropriate preparedness and response curriculum can be included in classroom instruction, one that will benefit both student and teacher.

Scope of work

This research project focuses primarily on two areas of study: (1) obtaining data about teachers' capacity to teach emergency preparedness, and (2) the development and implementation of a potential emergency preparedness curriculum for an elementary school classroom. A survey/questionnaire was developed to gauge classroom teachers' understanding and use of existing emergency preparedness programs, and the willingness of these teachers to utilize a cross-curricular preparedness approach. Example lesson plans for teachers were developed with a focus on meeting current state curriculum standards for a third, fourth, and fifth-grade classrooms, while also providing children with emergency preparedness awareness and skills, and other forms of education at the same time.

The proposed curriculum is based on lesson plans and ideas developed from known works of children's fiction and the current Community Emergency Response Team program

Objectives

The objectives of this study include:

- Taking a survey of classroom teachers in regard to their understanding and their use, or lack thereof, of preparedness related curriculum.
- Providing examples of newly developed emergency preparedness curriculum/lesson plans based on children's fiction literature for the appropriate age group. This will include a list of literature that can be used.
- Providing examples of newly developed emergency preparedness curriculum/lesson plans based on the Community Emergency Response Team curriculum that meets state standards.

Limitations

This study was limited only to "mainstream" elementary schoolchildren at the third, fourth and fifth-grade levels. This research did not include students participating in special education programs that require self-contained placements through their Individualized Education Plans (IEP). The study was also limited to

a small geographical area, with an economic and social setting associated with that area.

Assumptions

This research assumed that classroom teachers would have access to the resources (books and the Internet) mentioned throughout this study, including possessing a “working” email account and the ability to utilize such an account. Another assumption is that teachers would be interested in and capable of developing curriculum and lesson plans about emergency preparedness necessary for their grade level, and that the teachers would respond openly and honestly to questions asked in the survey.

CHAPTER 2

LITERATURE REVIEW

This chapter covers a brief overview of the literature dealing with how children develop and respond when faced with a traumatic event such as may be encountered during an emergency and what others are doing in regard to teaching emergency preparedness to children. Moreover, this chapter reviews current state academic standards and discusses what others have done with storytelling as potential guides to meet those standards while promoting emergency preparedness and training as a vehicle for teaching in the classroom. Finally, this chapter covers a brief overview of the structure and science behind developing a survey. Information for this chapter was gathered largely from current textbooks, journal articles, and briefing papers.

Children and Disasters

Throughout history children have in general been erroneously viewed as helpless individuals when faced with an emergency or a traumatic event. Those who hold this outlook may equate fear with helplessness, since children tend to express their fear more openly than adults. However, it is generally not the case that children are helpless. Terr (1990) states that children possess four main fears:

- Fear of helplessness
- Fear of another more fearful event
- Fear of separation
- Fear of death

However, children are amazingly capable of concentrating on real needs in the aftermath of a traumatic event (Terr, 1990). Additionally, when faced with a traumatic event, children also are capable of developing long range planning and impulse control to master their situations (Terr, 1990).

According to Zubenko & Capozzoli (2002), the following is a list of common reactions and feelings that victims (including children) express in response to a traumatic event:

- Basic survival concerns
- Grief over loss of loved ones or prized possessions
- Separation anxiety
- Regressive behaviors (such as thumb sucking and bedwetting in children)
- Relocation/isolation fears
- A need to express thoughts and feelings about having experienced the traumatic event
- A need to feel that the child is a part of the community and its rebuilding efforts
- Unselfishness and the desire to help others cope and rebuild their homes and their lives

Although not a helpless group, children are considered one of the most vulnerable population groups susceptible to the negative effects of trauma. According to the American Academy of Pediatrics Work Group on Disasters, disasters often cause behavioral changes and regression in children (2002). While these reactions

include the previously listed, they may also include long-term effects such as post-traumatic stress disorder (PTSD) (NIMH, 2001). Researchers have shown that children who have previously experienced a disaster may be more susceptible to the effects of a new traumatic event, especially those who lack a family support system (Morrison, 2000). Zubenko & Capozzoli (2002) mention that children during and after a disaster are particularly prone to separation anxiety, school related problems and loss of previously acquired developmental skills (2002).

Children are not only emotionally vulnerable, but they are also physically vulnerable in times of disaster. They are more at risk for illness, injury and death than adults (Peek, 2008). According to data from past disasters, more than 18,000 children died in the 2005 Pakistan earthquake, and approximately 60,000 children died in a tsunami in 2004 (Peek, 2008). Peek also provides some examples of environmental and social factors that contribute to high injury and illness rates among children. These include residing in hazard-prone regions, living in and going to school in below-standard structures, and losing a parent or becoming separated from family members (Peek, 2008). Although some studies have indicated that there is no specific age more vulnerable than the others, researchers have discovered that in the United States children in certain age groups are more susceptible than other groups to injury or death due to a variety of causes (Zahran, Peek, and Brody, 2008).

Experts have provided many ideas and solutions to try to combat and possibly prevent the effects of a traumatic event on children. According to Peek, depending on their age and developmental stage, children may require different

forms of physical, social, mental, and emotional support (2008). A consensus among researchers is that an effective means of helping to protect children is to create a way of life built upon preparedness education and risk reduction. This is currently occurring in countries like Jamaica, where the national government has developed a program educating schoolchildren about the risks that they may face and how to reduce them, and in Andhra, India, where children are taught during mock typhoon disaster drills how to bandage wounds and how to rescue their peers (Peek, 2008).

What Others Are Doing

When it comes to developing a program for educating children in emergency preparedness, it is helpful to understand what other countries and organizations have done to prepare children in the event of a disaster. At the World Conference on Disaster Reduction (WCDR) in 2005, the “Hyogo Framework” report was adopted by 168 delegates. The report established an outline for a worldwide disaster risk reduction program. Published as *The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters*, the report highlights the fact that disaster risk reduction is an important part of society, and not “a side issue of limited, technical interest or concern” (Wisner, 2006). The framework set forth five priorities of action, and among those priorities is the use of knowledge, innovation, and education to build a culture of safety and resilience at all levels (Campbell and Yates, 2006). Some countries have already taken this priority and developed programs that place

emphasis on the education of their citizens, including children, and have even allowed the children to be involved in all phases of the emergency management process, from preparation to recovery.

A recommendation from the WCDR conference was for countries to integrate a preparedness education program into their national curriculum. There are several examples of countries adopting this recommendation across the globe. Cuba, a country susceptible to hurricanes, has cultivated a program in which it has used its education system to help reduce impact from disasters (Wisner, 2006). During the month of May (the start of their hurricane season), the national government through the Cuban Red Cross teaches children how to prepare for and respond to hurricanes. This education is reinforced through hands-on exercises and drills in which entire families participate. In both China and Japan, governments provide textbooks to the primary and middle school systems describing natural disasters and risk reduction. These are used in the classroom curriculum today (Wisner, 2006)

The government of Jamaica also provides disaster education to school children. It has developed an all-hazards approach to this type of education that has at its core teaching children about fire safety and performing earthquake drills. During the months of January and June, children also participate in National Disaster and Preparedness days, including a culinary competition where children prepare dishes from ingredients that would only be found after a disaster (Morris & Edwards, 2008). According to Wisner, Jamaica also introduces preparedness education directly into the curricula of primary, secondary, and

tertiary schools that includes, among many other topics, mass communications and resource management (2006).

In the United States, there are many preparedness resources available to educate children. These range from websites like FEMA's kid friendly site, "FEMA for Kids" and the Department of Homeland Security's website "Ready Kids." FEMA developed the FEMA for Kids website and brought it online in 1997. The goal for their site was to allow for a safe and fun environment for children to learn about disasters and what to do before, during, and after an event (Federal Emergency Management Agency, 2010). According to site information, the site was created in response to a presidential directive under President Clinton, who was striving at the time to provide every child in the United States access to educational technology (FEMA, 2010).

The website's focus mirrors the focus of FEMA, an all-hazards approach to emergency preparedness. The website uses a cartoon character, a sand crab named Herman, as the official "spokescrab" of the site (FEMA, 2010). According to Herman, children can learn what causes disasters, play games, read stories, become a Disaster Action Kid, find out how to build a disaster supply kit, learn about FEMA, and follow Herman on a search for his "disaster proof shell" (FEMA, 2010). In "The Disaster Area" portion of the website, children can click on links sites with information about hazards and disasters which includes floods, hurricanes, tornadoes, tsunamis, national security emergencies, and several more.

When a child clicks on a link on the homepage, that link takes the child to another disaster specific page that provides the child with a bonanza of

information regarding the specific hazard or disaster that the child picked. For example, clicking on the hurricane link opens a separate page that contains a brief overview of what causes hurricanes to form and other hazards associated with this type of disaster. Furthermore, children have the ability to access other areas of this page by clicking on additional links associated with hurricanes. These links include the history of hurricanes, hurricane classifications, hurricane names, hurricane disaster math, and others (FEMA, 2010). This section and other sections also have quizzes that allow children to test their knowledge on a particular disaster type.

There is also a link within the main webpage that is connected to another website titled FEMA Ready Kids. This website provides information for children, parents, and teachers regarding preparedness techniques and how to develop a preparedness plan and disaster supply kit (FEMA, 2010). This site also uses a cartoon character, a mountain lion, to teach the children. Children can take a quiz after going through the lessons and able to print out a certificate from “Readiness U” stating that they helped their family prepare for the unexpected (FEMA, 2010)

The FEMA for Kids program also contains a section geared towards parent and educators. This section provides teachers and parents information regarding curriculum and activities, website links regarding school safety and disaster resources, and fire safety factsheets that can be downloaded for personal use (FEMA, 2010).

Additionally, there are other educational programs that are already in use in some schools. These include a video based instructional program produced by

Sesame Street geared toward preschoolers, “Friends to the Rescue” and the American Red Cross program titled “Masters of Disaster.” The Masters of Disaster (MOD) course is meant for kindergarten to eighth grade students, and it allows for classroom teachers to incorporate disaster preparedness education into their current mandated curriculums, including science, technology, mathematics, and language arts (Wachtendorf, Brown and Nickle, 2008). The curriculum does not follow a particular order, thus, allowing for more flexibility for use by teachers. According to the American Red Cross (ARC,) the education that students receive from the program will carry them through life (The American National Red Cross, 2010). Other benefits of the program include enjoyable and interactive lessons, the possibility of reducing children’s anxiety about unknown facets of disasters, and confidence gained to deal with life’s unexpected turns (The American National Red Cross, 2010).

The curriculum of the MOD is organized in 11 different subjects. These subjects include the following:

- Be Disaster Safe
- Facing fear
- In the Aftermath
- Hurricanes
- Home Safety
- Lightning
- Fire Prevention and Safety
- Tornadoes

- Wildland Fires
- Earthquakes
- Floods

Each section contains information on what to do before, during, and after a disaster or tragic event. Depending on the lesson, information is included on what to do while in the community, in school, or at home (The American National Red Cross, 2007).

Each individual topic contains lesson plans that can be tailored for the individual classroom by using the behavioral objectives that match classroom objectives within each lesson plan (The American National Red Cross, 2007). Also according to the Quick Start Guide (2007), the lesson plans can be utilized in a cross-curricular manner by integrating topics for use as reinforcement, enrichment, or stand-alone assignments.

The American Red Cross developed two versions of the MOD program: the Educator's Kit and the Family kit. Each version is available to order through their online store. The Family Kit is sold for \$24.00, whereas the Educator's Kit costs \$30.80 (The American National Red Cross, 2010). Both of the kits include all the lesson plans on a compact disc, activity sheets, stickers, a poster, and a CD about disasters and emergencies. Additionally, both educators and parents can access an online version of the program from the internet. The educator online version of the program allows teachers to access lesson plans and activity ideas that coincide with the full educator's kit; whereas, the online version for families

provides more in the way of activities and lessons that can be utilized within the home (The American National Red Cross, 2010).

Children can also be involved in the response phase of a disaster. Research has shown that children play a very important role as informants through communicating with others about disasters (Mitchell, Haynes, Hall, Choong, & Oven, 2008). An example this occurred prior to the tsunami that hit Thailand in 2004. A 10 year old girl by the name of Tilly Smith had recently learned about tsunamis in her geography class and was able to persuade friends and family to relocate to higher ground before the tsunami hit the area (Peek, 2008). She is credited with saving many lives because of what she had learned. In a research study performed in El Salvador, it was discovered that children are capable of understanding risks and communicating about those risks to others, and understanding that they have the power to influence friends and families through their actions (Mitchell, et al, 2008). This is, however, dependent on the ages of the children and also on the ability of local governments to allow children to play more active roles in responding to disasters.

Not only can children communicate risk, they can also possess the ability to directly respond to a disaster or an emergency and assist with recovery. In Bangladesh, a group of children called the Child Brigade was involved in evacuating and sheltering other children who were escaping a massive fire in the neighborhood. They stayed with the affected individuals and rendered medical aid, helped locate lost family members, provided food, and even conducted need assessments for the children and other individuals traumatized by the fire.

Additionally, they acted as liaisons with governmental and non-governmental agencies to ensure that families were provided the care and resources they needed (Peek, 2008). Members of this group then went on to communicate to families the location of the shelters, and stayed with the children, playing games and singing songs, until the children were picked up by their parents (Peek, 2008).

This occurred in another form here in the United States. Some children helped in the evacuation of frail family members during Hurricane Katrina by placing the family members on mattresses and assisting them to safety (Kirshke and van Vliet, 2005). The children who were affected by the El Salvadorian earthquake in 2001 were heavily involved in the reconstruction process. They prepared clean-up campaigns, removed loose walls, helped rebuild buildings and schools, organized group activities with other children while their parents went to work, and participated in the design of new houses and schools to ensure that they were safe to occupy (Peek, 2008).

Wisner (2006) mentions that children who are uninformed in regard to hazards, risks, and protective measures become more vulnerable and are at a higher risk for death and injury in times of disaster. It is therefore necessary to take proactive steps to prevent our children from becoming victims and to allow them to be true participants in preparedness efforts. Peek (2008) says it best by saying that “by focusing on developing children’s resilience, we are also increasing the resilience of families and entire communities...disaster researchers and practitioners [need] to develop new ways to learn from and work with

children to make their lives safer and their communities more resilient to disasters”.

State of Arizona Curriculum Standards

This section provides a brief overview of state teaching standards, and it attempts to show that while it may not be possible to add additional subjects to the curriculum, it may be more feasible to incorporate new topics in already existing approaches to meeting standards. The academic standards for Arizona, for example, are set by the Arizona Department of Education. According to the Arizona Department of Education (ADE) 2008-2010 strategic plan, the mission of the Department is to increase the quality of public education in the State of Arizona by raising expectations and providing support, resources, and assurances that enable schools and students to excel (Horne, 2009). To achieve this mission, curriculum standards have been developed for all classrooms from kindergarten to 12th grade. The teachers are required to teach to these standards on an annual basis.

The curriculum standards for the third grade level, disseminated to classroom teachers in a 168-page document, are required to be utilized by the teachers on an annual basis. These standards are based upon national standards and Federal legislation, and according to the ADE (2009), the standards are split up into eleven individual subjects which include the following:

- The Arts
- Comprehensive Health Education/Physical Activity

- Foreign and Native Language
- Reading
- Writing
- Language Arts
- Mathematics
- Science
- Social Studies
- Technology
- Workplace Skills

Additionally, each of these topics is split up into subject strands, which are then broken down into concepts and foundations. The concepts are then finalized as performance objectives that the students are supposed to meet. Classroom teachers are required to develop lesson plans based upon this information for each subject.

For example, the science standard is divided into six individual strands: (i) Inquiry process, (ii) History and Nature of Science, (iii) Science in Personal and Social Perspectives, (iv) Life Science, (v) Physical Science, and (vi) Earth and Space Science. Strand 1 is split up further into four concepts: (i) Observations, Questions, and Hypotheses, (ii) Scientific Testing, (iii) Analysis and Conclusions, and (iv) Communication. Each of these concepts contains certain performance objectives that need to be met. There are a total of fifteen performance objectives within Strand 1 that are required to be met by the student. In all, there are forty performance objectives within Strand 1 of the Science standard.

This was an example of just one strand within one standard. The entire academic standard for the third grade is organized in similar fashion, resulting in a bar set high for teachers to reach.

Community Emergency Response Team (CERT) Program

Another potential approach is to use an adult program that could potentially be modified for use with young children. The Community Emergency Response Team is an excellent example. The Los Angeles City Fire Department (LAFD), in the wake of the Whittier Narrows earthquake, created the Community Emergency Response Team (CERT) program in 1987 (Federal Emergency Management Agency, 2003). LAFD initiated this program with the purpose of training citizens from the private and public sectors (Citizen Corps). LAFD then trained individuals so that as a cohesive team they could render immediate help to victims of a disaster until professional rescue services arrived on scene. FEMA, the Emergency Management Institute (EMI), and the National Fire Academy (NFA) have since taken the initial program started by the Los Angeles Fire Department and expanded the curriculum to better focus on an all hazards approach to community preparedness and response (Citizen Corps).

The current CERT curriculum encompasses several topics dealing with emergency preparedness and response. These topics are arranged into modules that instruct participants on a particular subject and provide participants with an understanding of their roles and responsibilities in the wake of a disaster. Additionally, specific skills are taught and practiced. The program empowers

participants to better safely respond and help themselves, their family members and friends, and their communities (Bonno, 2007). The modules for a CERT training program include (Citizen Corps):

- Disaster Preparedness
- Disaster Fire Suppression
- Disaster Medical Operations Part I & II
- Light Search and Rescue Operations
- Team Organization
- Disaster Psychology
- Terrorism
- Course Review and Disaster Simulation

These modules are designed to be addressed through “hands-on” delivery over several days or weeks, consisting of twenty total class hours. Each module consists of didactic material as well as material meant to test the psychomotor skills of the participant. The class concludes by having the students participate in a disaster simulation that brings together concepts from all the modules into one culminating exercise.

According to the Citizens Corps website (Citizen Corps) there are currently over 3,300 CERT teams existing in all fifty states and five U.S. territories. This includes fifty-three registered teams in the state of Arizona. Every team undergoes initial training of its members, and most teams receive continued education. One nationally recognized team in Arizona takes this even one step further. The Chandler Fire Department CERT provides the initial twenty-hour

training to interested members, but before these members are allowed to respond to emergencies or disasters, they must undergo additional training (Chandler Fire Department, 2004). Chandler separates its team members into several tiered levels. For example, Tier One members are those who have gone through the initial training but either are younger than eighteen years old, or are not interested in being part of an operational team. This level is considered an “awareness level,” and these individuals are not required to undergo any further training, but they are not registered volunteers with the city and are thus limited in their response ability to serving themselves and family members. Tier Two members are over eighteen years old and are actual members of a CERT. According to the Chandler Fire Department Standard Operating Guidelines (SOG), these members are considered neighborhood responders and can respond at their discretion to aid their neighbors in time of emergencies (Chandler Fire Department, 2004). Those individuals who fall into the Third Tier level are at the “Community Response Level” and are able to respond to incidents at the community level. They have been given additional, advanced training and have also been involved in continued education programs. Other tiers involve increasingly rigorous training and offer expanded responsibilities.

The CERT program has evolved over the years to include members from other organizations or populations. Eastern Michigan University developed the Teen CERT program in 2006 and to date has educated over 10,000 young adults across the country (Eastern Michigan University). This program takes the curriculum of the adult CERT course and “massages” it for use with teenagers. It

uses the same core topics as the adult program and, according to The Eastern Michigan University website, it is meant to complement existing initiatives by increasing knowledge in skill sets related to: cognitive information, recognizing hazards, planning skills, consequential thinking and risk taking, team-building and communication skills, decision making, and individual responsibilities within the community. Current statistics show that there are over 900 individuals that have gone through the train-the-trainer program and are capable of teaching this program to teenagers throughout the United States (Eastern Michigan University).

The concept of bringing CERT training to schools has also brought about the implementation of the Campus CERT program, which is targeted for colleges and universities across the country. The program is meant for all schools of higher learning which include but are not limited to community colleges and four year colleges and universities (Michigan State University). Michigan State University is credited with starting this program when they were awarded a grant from DHS/FEMA in 2005 to develop and provide a train-the-trainer program for the country's universities. Studies have shown that universities have not been free from disasters or emergencies and that they should be considered a "city within a city" (Michigan State University) According to the Campus CERT website, incidents may include major fires, natural disasters, hazardous materials incidents, and domestic terrorist attacks, such as those by environmental or animal rights extremist groups (Michigan State University). The campus CERT program builds upon the original CERT program utilizing the current instructional modules. Additionally, the train-the-trainer portion of the program is presented in a three-

day format where the first day is spent on lectures and the remaining two days are meant for train-the-trainer issues, demonstrations, and teach-back sessions to better prepare the “trainers” to present the information to their respective campus communities (Michigan State University). The train-the-trainer program is geared toward campus police, emergency management personnel, risk management and facilities, or any other campus personnel that may be responsible for training and responding with a CERT team (Michigan State University). Furthermore, this program is useful for faculty and other instructors who may want to include portions of the CERT program into their classroom curriculum.

Building on the success of the original CERT program and its derivatives, there are proposals and recommendations that the CERT program be brought to the corporate world (Bono, 2007). This makes perfect sense with the advent of *NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity Plans*. This standard sets forth a plan for businesses to either establish or assess current programs in regard to their emergency management and business continuity plans. An important portion of this standard recommends that businesses develop several plans which include a strategic plan, an emergency operations/response plan, a prevention plan, a mitigation plan, a recovery plan, and a continuity plan (National Fire Protection Association, 2007). According to Bonno (2007), these plans are absolutely necessary in the event of a large scale incident. By using statistics from the Citizen Corps website, Bonno (2007) stated that there will likely be a strain on available emergency response resources in the event of a large scale incident and that it will be bystanders or victims who will be

first “on scene” to render assistance. It is for this reason that Bonno (2007) recommends that businesses develop a Corporate CERT program. A program of this nature would be organized in the same fashion as the conventional adult CERT program and would actively engage employees in the business continuity plan. This would allow employees to be part of the response plan and give them the necessary skills to render aid during critical times. Bono (2007) cited many advantages to having this in place. Among them are these: employees will be ready to assist a business in the recovery phase, thus reducing overall costs; individuals will develop a positive attitude toward themselves and fellow employees; businesses may be able to receive incentives in the form of reduced insurance costs if they have trained personnel ready to respond; this is an opportunity to show support to the outside community and a chance to integrate the corporate team with the community CERT.

Despite the success of expanding the CERT program to reach college-age and teen-age participants, little research appears to have been done to date on applications for elementary school children. This is a potential approach worthy of serious consideration.

Storytelling and the Use of Literature in the Classroom

There are many techniques that teachers can use in the classroom in order to instruct their students. One such technique that has the potential to be effective in teaching/training elementary school children emergency preparedness is storytelling. Storytelling by definition is the use of language, vocalization, and/or

physical movement to express different feelings and thoughts, and convey the parts and images of a story to a specific audience. Teaching emergency preparedness involves many complex topics, and studies have shown that storytelling can be an effective method for teaching subjects that are intricate in nature.

Stories have been used since the beginning of time. They have been used to communicate history, record events, celebrate the feats of society's heroes, and illustrate patterns in human behavior (Koki, 1998). Since telling stories relies on the use of language, it is also beneficial in developing and expanding language skills. Additionally, using stories enhances critical thinking skills (Koki, 1998).

Research has shown that the use of storytelling in the classroom can be an effective method for teaching content to students. Studies conducted by Dr. Robin Mello (2007) of the University of Wisconsin – Whitewater highlight this finding. She performed several studies over the course of four years involving classrooms across the country. Her first study involved a group of special education students in the same reading group. Their reading teacher was a veteran teacher with over twenty years of teaching experience. The teacher provided many opportunities for her students to interact with the literature in different formats but until this study was done the teacher had never told a story to her students (Mello, 2001). Mello (2001) discovered in this study that the students had a positive reaction to storytelling due to the fact that they found this technique active, inclusive, and fun. Students expressed that the experience was powerful and creative. Additional studies by Mello resulted in similar results. She reported that students from an

intermediate school in New England responded positively to storytelling and stated to her that it made learning interesting and active (2001).

Mello not only researched the effect storytelling had on the students, but she also studied how teachers responded to this technique as well. Mello taught courses over a seven year period about storytelling geared toward classroom teachers. In her courses she allowed the participants to write an essay about their experiences with storytelling. These essays were then analyzed and grouped together based upon recurring themes and statements. In her research, Mello discovered that majority of her students over the study period had positive encounters with storytelling. She reported that 70% of the teachers stated that storytelling aided them in developing their individual concept of their profession and 49% remarked that it helped them implement their curriculum in new, creative, and exciting ways (Mello, 2001). Furthermore, Mello's study suggests that storytelling is a learning process that allows the student and the teacher to interact on a more personal level allowing for a more enriching educational experience.

A relatively novel tool that teachers can utilize is the use of digital storytelling. This is relevant due to the fact that many states' academic standards now include requirements regarding the understanding and the use of technology. Digital storytelling involves the use of multimedia technologies to share a story, with tools provided for the students to put their work together (Michalski, Hodges, & Banister, 2005). By incorporating these technologies students have been able to increase their reading and writing skills (Bagui, 1998).

In one particular study, a classroom consisting of special education students were afforded the opportunity to develop stories using multimedia technologies. The students were considered cognitively delayed with sub-par IQ scores. Prior to the study, the students were frequently unable to create complete sentences. Their writing was characterized by unorganized structure and thought. Throughout the storytelling activities, the students appeared interested, excited, and engaged. This was a considerable change in the students' behavior. Additionally, the writing skills of the students dramatically improved. The researchers also discovered that while working on audio recordings for their digital stories, the students who had difficulty speaking were able to improve their level of spoken communication (Michalski, Hodges, & Banister, 2005). Overall, the students improved their academic progress through the use of this instructional method.

In addition to utilizing storytelling in the classroom, teachers can also use literature, in particular children's fiction literature, to educate children. Using literature can be used to introduce or reinforce many topics ranging from reading, writing, and language arts to social studies, math, and science. Current research suggests that fiction literature is an effective means of instruction across different curricula. In Korea, integration of literature and science in early childhood education is becoming a common practice in the classrooms (Cho & Joon, 1998). Cho & Joon (1998) also state that this approach is not only effective in language development but also is helpful in creating an interaction between the reader's experiential background and knowledge. Furthermore, it is suggested that by

pairing science and literature together in the classroom, children will receive benefits, which include (Cho & Joon, 1998):

- Learning scientific concepts and skills
- Obtaining a meaningful context for learning science
- Gaining familiarity with scientific language and communication
- Finding out how to solve, reason, and think about scientific problems
- Acquiring a richer view of the nature of science
- Gaining improved attitudes toward science
- Integrating science and literature by learning literary and scientific elements at the same time

Fiction literature can also be integrated with a mathematics curriculum.

Haury (2001) states that the concepts and procedures involved in math are constructions of our minds and products of our attempts to understand our world, either real or imaginary. Additionally, all ideas associated with mathematics take shape through communication and therefore these ideas found their way into our literature (Haury, 2001). Research has shown that children do benefit by using literature to learn mathematics. One study used fourth graders and examined the way the students used story books, metaphor, and language to develop mathematical thinking skills and strategies (Whitin & Whitin, 2004). In Hong's (1996) study he demonstrated that kindergarten students who were exposed to story-related math performed better and showed a deeper interest in the subject

than those who were not exposed. Experts agree that mathematics appears as an innate element within stories and that the goal in using literature to teach mathematics is to “provide vicarious mathematical experiences based on real problems or situations of interest to teachers and students” (Haury, 2001).

Another example of using fiction literature in the classroom is use of it to teach social studies. In their book for the National Council for the Social Studies, Aheren and Sandmann (2002) state that the use of this technique is not a new concept but has been present in the classroom as early as 1962. In fact, the California State Department of Education has provided classroom teachers with annotated bibliographies of children’s books to teach social studies since 1991. This book also provides examples of literature use for teachers based on the ten National Council for the Social Studies (NCSS) curriculum standards. An example of this is the use of *Sleds on the Boston Common: A Story from the American Revolution* by Louise Borden to meet the curriculum standard of Time, Continuity, and Change. This is a fiction book centered on a young American boy who asks General Gage of the British Army if his soldiers would be able to clear a “sledding path” through the Boston Commons, and General Gage grants the young boy’s request (Aheren & Sandmann, 2002). Examples of activities associated with this book that teachers may have students perform are given by the authors and include (Aheren & Sandmann, 2002):

- Write a letter in the persona of General Gage, recounting to your children the young boy’s request and why you fulfilled it.

- Find out more, and then share with the class, through a newscast, about how the British soldiers behaved on Boston Commons and what significant events occurred there.

Survey Science

The purpose of a survey can be described as a method of gathering information from a certain sample population in order to learn something about the larger group from which the sample was taken (Ferber, 1980). Others have said that a survey is a group of questions in written form intended to gather information from people that allows for numerical tabulation and data analysis be it for research, marketing purposes, government agencies, etc. (Marshall, M.G., 1993). These two definitions illustrate that a survey can be a tool to gather information for a variety of reasons. Although a survey/questionnaire can be developed for many reasons, research has shown that certain steps and a proper methodology should be followed in order to create an effective survey.

In his paper, Ferber (1980) suggests that surveys come in many different forms and possess a variety of purposes, but regardless of its form and purpose, a good survey has a scientifically chosen sample population. By choosing the population to be surveyed in a scientific manner, Ferber (1980) states that this allows for each individual in the group to have an equal chance of selection, in turn, creating results that can be reliably projected to the larger public. Additionally, it is a common and acceptable practice to protect the privacy of the

individuals being surveyed. There are recommended steps to safeguard personal information in regard to survey methods (Ferber, 1980), including:

- Using a code for the identity of the participant and keeping that code separate from that of the questionnaire.
- Refusing to give names or any other identifying information to anybody outside of the survey organization.
- Presenting statistical data in broad enough categories so that individual respondents cannot be singled out.

Designing an effective survey requires many steps. The first step in constructing a survey is to determine what kinds of results are needed for a particular study and to know how the information is going to be utilized (Marshall, 1993). According to Marshall (1993), information for a questionnaire can be separated into different information types with the goal of collecting information about what people do, what they have, and what they think, know, feel, or want.

After it is determined what information is needed for the survey, it is necessary to create the questions that are going to be presented to the sample population. Marshall (1993) suggests that three things should be considered when wording the questions. These considerations are:

- The particular people for whom the questionnaire is being designed.
- The particular purpose of the questionnaire.

- How questions will be placed in relation to each other in the survey.

In addition to the previous list, Marshall (1993) also provides many other suggestions. Some of these include that the wording for the questions be simple, that questions be specific, that using abbreviations and jargon be avoided, do not utilize questions that are too demanding and time consuming, and steer clear of making assumptions.

The questions in a survey fall into two categories: close-ended and open-ended questions. Closed-ended questions have the answer options provided to the respondent. The respondent must select one answer or multiple answers from those that are listed (Marshall, 1993). The answers for closed-ended questions must include all possible answers and should not be ambiguous, meaning that they should be mutually exclusive in providing a single response (Marshall, 1993). According to Marshall (1993), these types of questions possess greater uniformity in responses, but requires that the developer of the survey know all of the possible answers for the question.

A form of the closed-ended question is one that involves a rating scale, also known as the Likert scale. In this type of question the respondent is asked to answer the question based on their feelings according to the number of points on a scale. This scale can be four-point, five-point, six-point, or how many points are desired for the question (Markusic, 2011). According to Markusic (2011), an even-numbered scale forces the participant to choose while a negative-numbered scale allows for the respondent to be indecisive or neutral. Additionally, the

greater the number spread (four-point vs. eight-point, for example) allows for greater accuracy in statistical analysis (Marshall, 1993).

Open-ended questions are also known as free-response, fill-in-the-blank, or essay type questions. These questions allow the respondents to provide their own answers to the question being asked. Open-ended questions allow the participants to express their own feelings and comments, but can be more demanding/time-consuming for the respondent and the survey developer (Marshall, 1993).

Finally, in her research, Marshall (1993) provides several suggestions on how to format a survey or questionnaire. Among these are the following:

- Begin with an introduction which includes the purpose, who is conducting the survey, to what use the information will go, and confidentiality.
- Make the first questions non- provoking and interesting.
- Put the more important questions at the beginning.
- Arrange the order of questions to achieve continuity and natural flow.
- Try to use the same type of question/responses throughout a particular train of thought.
- Place demographic questions at the end of the survey.

CHAPTER 3

METHODOLOGY

A review of existing literature was performed for this study. This involved perusal of many different sources. These included textbooks, training manuals, journal articles, and other sources of information about how children respond or could learn to respond to disasters or emergencies. Additionally, information was collected regarding current emergency preparedness programs, the current state academic standards for the given grade level of this study, what other countries or groups are doing to provide emergency preparedness education to children of this age group, and the benefits of using storytelling.

The next phase of this study involved developing and distributing a questionnaire or survey to assess classroom teachers' understanding of and use or willingness to use a cross-curricular emergency preparedness program. Questions were created with the help of college staff and were sent to the Human Subjects Institutional Review Board (IRB) of Arizona State University for approval. Formal cover and informational letters were disseminated to selected teachers and email addresses were solicited to garner adequate and timely responses. The survey consisted of 15 questions prepared using Survey Monkey, an online survey application. The benefit of using Survey Monkey was that the questionnaire could be completed at the convenience of each participant as long as there was access to the World Wide Web (which a majority of classroom teachers had). The responses to the survey were collected after a certain time period, and the data was quantified and analyzed for inclusion, summary and evaluation in this thesis.

The final portion of this research included the development of example cross-curricular lesson plans for classroom use. These lesson plans are based upon the Community Emergency Response Team (CERT) program and various works of children's fiction literature. The plans appear to meet the current state curriculum education standards. Within these parameters, a list of suggested works of fiction was provided.

Literature Review

A literature review for this project involved gathering information from textbooks, journal articles, conference papers and presentations, and training manuals. Initially a basic internet search was performed, with the search criteria that included, but were not limited to, keywords and key phrases such as "emergency preparedness education for school children", "children and disasters", and "child psychology." After receiving results from the initial search, a more refined search was conducted to locate sources and other literature that dealt specifically with the targeted group of third grade children. Sources that fit these criteria were collected and utilized for this portion of the project.

In addition to the searches mentioned above, additional searches were performed as part of the literature review. First, a list of fiction books that discuss emergency preparedness concepts appropriate for the targeted age group was compiled. This was done with the help of a librarian with the Tucson Unified School District in Tucson, AZ. Secondly, research involving the current adult CERT program was completed. This primarily involved an internet search of the

program and all the associated “off-shoots” (Teen CERT, Campus CERT, and Corporate CERT) of this program. A study of the trainer curriculum was achieved in part by enrolling in and successfully completing the FEMA sponsored course, IS-317 Introduction to Community Emergency Response Teams. State academic curriculum standards were researched by searching the Internet and speaking with classroom teachers. Finally, effective survey development was researched for this study.

Survey Development & Distribution

A questionnaire was developed to gauge classroom teachers’ possible use of and/or knowledge of emergency preparedness education. Questions for the survey were developed in conjunction with ASU educators and Marana Unified School District (MUSD) personnel. The questionnaire was then sent to the Human Subjects Institutional Review Board (IRB) to ensure that it met all requirements. It was deemed to be exempt from full review.

A recruitment letter (see Appendix A) was sent first to third grade teachers employed with MUSD via electronic mail. A list of teachers to contact was developed with the help of the Department of Research within the school district. Since the list of potential respondents was obtained from the school district, it was assumed that the email addresses used were in proper working order.

A fifteen question survey was developed online using the Web based program called Survey Monkey. The questions were sent to the director of research at MUSD to ensure accuracy. The questionnaire was hyperlinked within

the email sent to potential participants. The start of the school year is always a stressful and busy time for teachers, and at times overwhelming for some. Therefore, it was determined that in order to garner good and accurate responses, the survey would be sent to the teachers approximately 3-4 weeks after the start of the school year. A copy of the actual survey is included in Appendix B – Survey Monkey Questionnaire.

The survey was distributed to 35 third grade teachers, and they were given approximately ten (10) days to complete it. However, the response to the survey was below expectations, so the completion date was extended and an incentive (a chance to win a gift card) was added in hopes of garnering more responses. Also, two (2) follow-up emails were sent to the potential respondents to remind them to take the survey and to again indicate the importance of their participation. This resulted in more responses; however, the number of responses was still below what was expected. Accordingly, it was decided that the scope of the study was to be expanded to include fourth and fifth grade levels.

After this expansion of the scope of the study was approved by both the IRB and MUSD, the questionnaire and the recruitment letter were then distributed via email to 71 fourth and fifth grade teachers employed by the school district. Also included within this email was a chance for the respondents to win a gift card if they completed the survey within a certain timeframe. They were given ten (days) to complete the survey.

The questions for the survey were developed in order to collect as much viable and relevant information pertinent to the research objectives as possible.

Questions were also created to allow the respondents to answer in various ways (e.g. multiple choice, essay/open-ended type, and Likert scale). It was the goal to create questions that gauged the respondent's knowledge and/or use of emergency preparedness programs in their classrooms and also that met the objectives of this study. The questions were organized to allow the participants to answer questions regarding emergency preparedness programs (Q2, Q8, Q11), curriculum implementation (Q3A, Q3B, Q5, Q6, Q7, Q9), the use of fiction literature (Q10A). Five open-ended questions were also asked (Q4, Q10B, Q12A, Q12B, Q13). Questions 3, 10, and 12 were two-part questions, thus, the letters A & B were used to differentiate between the two parts for the purpose of this study.

The survey could be completed anytime or at any place as long as the participant had access to the Internet. There was no time limit for completion, and respondents were allowed to skip questions if they did not feel comfortable answering a particular question. However, the survey was closed after approximately ten (10) days and potential participants were given two notifications via email prior to that time to complete the questionnaire.

The questions were written to determine how classroom teachers felt about emergency preparedness programs and their willingness to utilize them in the classroom. These questions dealt with (Q2) the importance of having this type of program to help their children learn preparedness skills, (Q8) the teachers' interest in utilizing a cross-curricular preparedness program, and (Q11) how interested the teachers think that the children in the classroom would be in a preparedness program.

Six curriculum implementation questions were developed to determine the use (if any) of preparedness programs and any possible limitations that teachers might face in applying new curricula in the classroom. The six questions dealt with (Q3A) do teachers use any emergency preparedness curricula in their classroom, (Q3B) reasons why they may not be using a program, (Q5) how are curriculum decisions made, (Q6) familiarity with current emergency preparedness programs, (Q7) how many hours per month would the teacher be willing to spend on a disaster preparedness program, and (Q9) do standardized tests inhibit the inclusion of new curriculum material.

One fiction literature question was created to gauge the teachers' use of fiction literature that discusses emergency preparedness concepts: (Q10A) has the teacher used fiction literature to teach these concepts in the classroom.

Open-ended questions allowed the respondents respond freely to certain questions. These types of questions asked the following: (Q13) why they felt that it was important to have children learn emergency preparedness skills, (Q4) what emergency preparedness programs (if any) were teachers using, (Q12A) what resources are needed to implement an emergency preparedness program in the classroom, (Q10B) what books dealing with preparedness/disasters teachers were using or had been using in the classroom, and (Q12B) what kinds of things kept the teachers from implementing emergency preparedness in the classroom. A summary of the open-ended responses are included within the results.

Lesson Plans

Information from the literature review allowed for the creation of sample lesson plans that could possibly be used in an elementary school classroom (See Appendices F-H – Sample Lesson Plans). Lesson plans can be divided into two categories: informal and formal. Informal lesson plans are ones that provide a basic outline of what needs to be taught and accomplished during the instructional period. Formal lesson plans are written to provide the instructor more detailed information. These types of plans include all of the required curriculum standards that are being taught and their related performance objectives. Additionally, a formal lesson plan includes a step-by-step process on how to achieve the performance objectives. For this project, formal lesson plans only were developed.

The lesson plans were created using the current adult CERT program and from selected passages from works of children fiction. The CERT train-the-trainer curriculum (instructor manual), and outlines and resources from the fiction literature was utilized to develop age appropriate lesson plans for possible use in elementary school classrooms. While the materials presented in Appendices F through H are meant to be illustrative, they are not intended to be used verbatim. Each teacher can modify CERT materials as appropriate for the students the teacher is teaching.

CHAPTER 4

RESULTS

Data Analysis

The questionnaire was disseminated to 106 respondents and was completed by 42 people. This number equates to an approximate 40 percent response rate. Some questions were skipped by several respondents. However, the remaining participants answered all the questions. It appeared that most of the skipped questions corresponded to open-ended questions that were associated with previous questions that may or may not have applied to the respondent's particular answer. For a breakdown of the numbers of responses for each of the questions, see the below sections. Additionally, see Appendix D – Graphical Results for Survey.

All results from the survey are presented in this study anonymously. Due to this, it is impossible to determine the grade level of the teachers who responded or compare the results between the grade levels.

The survey contained five open-ended questions. All these questions were associated with another question in hopes of gathering additional information. Depending on the participant's response to one question the open-ended questions were either answered or skipped. A review of the responses can be found in *Open-Ended Responses* of this study.

As previously mentioned in this study, the survey questions were developed with different sections in mind: emergency preparedness programs, curriculum implementation, use of preparedness-oriented fiction literature in the

classroom, and open-ended questions. These sections were also utilized for evaluation within this chapter.

Emergency Preparedness Programs

Question 2 asked “On a scale of 1 to 10 (with 1 being ‘Not Important,’ 10 being ‘Extremely Important’), how important is it to you to have a curriculum to help children learn skills to enable them to protect themselves and perhaps help save others in an emergency?” A total of 42 people responded to this question.

The table below summarizes the responses to this question.

Table 1: *Question 2 Responses*

Response	Response count	Response percent
1	1	2.4%
2	1	2.4%
3	1	2.4%
4	1	2.4 %
5	6	14.3%
6	5	11.9%
7	1	2.4%
8	8	19.0%
9	6	14.3%
10	12	28.6%

} 76.2%

Over 76% of respondents provided an answer in the 6-10 range. This shows that a majority of the participants felt that it was somewhat important to teach children emergency preparedness skills in the classroom using a curriculum.

Question 8 asked “How interested would you be in using cross-curricular (one that satisfies two or more academic standards at the same time) preparedness program?” A total of 41 people answered this question with one respondent skipping the question. One person (2.4%) indicated that they would not at all be interested, 20 (48.8%) of the respondents indicated that they would be interested in such a curriculum if time permitted, and 20 (48.8% of the respondents) indicated that they would definitely be interested. This demonstrates that almost 98% of the respondents would potentially be interested in a cross-curricular preparedness program.

Question 11 asked “On a scale of 1 to 10 (with 1 being ‘Not at all,’ 10 being ‘Very much’) how much do you think that children in your class would be interested in learning about ways to protect themselves in an emergency?” Forty-one people answered the question while one person skipped the question. The table below is a summary of the responses from this question.

Table 2: *Question 11 Responses*

Response	Response count	Response percent
1	0	0.0%
2	0	0.0%
3	1	2.4%
4	0	0.0%
5	2	4.9%
6	6	14.6%
7	6	14.6%
8	8	19.5%
9	5	12.2%
10	13	31.7%

About 93% provided an answer in the 6-10 range. Nearly 32% answered this question with the highest score possible. This data demonstrates that most of the respondents believed that children in their classroom would be interested in learning skills that could possibly help themselves and others during an emergency.

Curriculum Implementation

Question 3A asked, “Are you currently using any emergency preparedness curriculum in your classroom?” Forty-one people responded to this question while one person skipped answering it. Four (9.8%) answered yes while 37 (90.2%) of the respondents answered no. The results from this question show that a large

majority of teachers responding to this survey were not teaching emergency preparedness to their children. Those respondents who answered yes were afforded the opportunity to state what programs they were using by answering question 4. See the section *Open-Ended Response Summary* for a discussion in regard to this question.

Question 3B asked the respondents “If you are not using any emergency preparedness curriculum, why not?” A total of 36 teachers answered this question and six teachers skipped it. Two (5.6%) of the respondents indicated that it was cost prohibitive. Sixteen teachers (44.4%) of the respondents stated that they did not have the time to use this curriculum. Twelve (33.3%) answered that they did not know what materials were good. Six (16.7%) indicated that there was no support for an emergency preparedness curriculum. These responses indicate that a majority, almost 78%, of the teachers surveyed do not have the time or do not know what materials/resources are available in order to teach an emergency preparedness curriculum in the classroom.

Question 5 asked the respondents “How are curriculum decisions made?” A total of 41 teachers answered this question and one teacher skipped it. Five participants (12.2%) stated that curriculum standards are determined by a committee for an individual grade level. Four people (9.8%) indicated that an individual teacher makes these decisions. Thirty-two teachers (78%) indicated that the school district is the one that decides on the curriculum for the classroom. These diverse responses all came from teachers in the same school district. There appears to be some variability in understanding how curriculum decisions are

made in the district. Nevertheless, it seems that over 90% of teachers surveyed believed that curricular decisions were made by someone or some group other than themselves.

Question 6 asked, “On a scale of 1 to 10 (with 1 being ‘Not familiar,’ 10 being ‘Extremely familiar’), how familiar are you with the following programs and/or websites?” The programs listed were four of the most common preparedness programs available. Forty-one people answered this with one participant skipping the question. Below is a table that represents the responses for this question. The table is organized with the type of program/website in the left hand column and the scale (1 to 10) arranged on the top row. Each cell contains the percentage of total responses for each particular program/website with the number of respondents shown in parenthesis.

Table 3: *Question 6 Responses*

	Not Familiar					Extremely Familiar				
	1	2	3	4	5	6	7	8	9	10
Ready.gov	87.8% (36)	0.0% (0)	7.3% (3)	0.0% (0)	2.4% (1)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	2.4% (1)
FEMA for Kids	65.9% (27)	2.4% (1)	7.3% (3)	0.0% (0)	4.9% (2)	2.4% (1)	4.9% (2)	0.0% (0)	0.0% (0)	12.2% (5)
American Red Cross, “Masters of Disasters”	73.2% (30)	7.3% (3)	4.9% (2)	0.0% (0)	4.9% (2)	0.0% (0)	0.0% (0)	2.4% (1)	0.0% (0)	7.3% (3)
CERT program	92.7% (38)	0.0% (0)	2.4% (1)	0.0% (0)	0.0% (0)	0.0% (0)	2.4% (0)	0.0% (0)	0.0% (0)	2.4% (0)

This data suggests although a small percentage of respondents were extremely familiar with some or all of these programs, a large majority of the teachers who

answered this question were not at all familiar with four of the most common preparedness education resources potentially suitable for children and others in the community.

Question 7 asked, “If you had a good curriculum, how many hours per month would you be willing to devote to a disaster preparedness program?” Forty-one out of 42 people answered this question. Six people (14.6%) indicated that they would not be willing to spend any time on a preparedness program; 65.9% (27 respondents) indicated that they would be willing to spend 1-2 hours; six (14.6%) stated that they would be willing to spend 3-4 hours; and two (4.9%) indicated that spending five or more hours would be okay with them. This data suggests that a little over 85% of all surveyed would be willing to spend at least one to two hours per month in the classroom contributing to a disaster preparedness program if a good curriculum was available.

The ninth question asked the participants, “On a scale of 1 to 10 (with 1 being ‘Not likely,’ 10 being ‘Very likely’), how likely is it that pressure to prepare for standardized tests inhibits your inclusion of new curriculum material?” Forty people answered the question, with two choosing not to answer. Below is a table that summarizes the results.

Table 4: *Question 9 Responses*

Response	Response count	Response percent
1 (Not Likely)	1	2.5%
2	0	0.0%
3	1	2.5%
4	3	7.5%
5	4	10.0%
6	0	0.0%
7	1	2.5%
8	8	20.0%
9	9	22.5%
10 (Very Likely)	13	32.5%

The results from this question may suggest that about 80% of the respondents feel that the pressure to prepare for standardized tests, such as AIMS, hinders teachers' inclusion of new curriculum material in the classroom.

A current program that can be used to develop curriculum for classroom use is the adult CERT program. The current CERT curriculum encompasses several topics dealing with emergency preparedness and response. These topics are arranged into modules that instruct participants on a particular subject and provide participants with an understanding of their roles and responsibilities in the wake of a disaster. Additionally, specific skills are taught and practiced. As previously mentioned in this study, the modules are:

- Disaster Preparedness
- Disaster Fire Suppression
- Disaster Medical Operations Part I & II
- Light Search and Rescue Operations
- Team Organization
- Disaster Psychology
- Terrorism
- Course Review and Disaster Simulation

Most of these topics can be manipulated to meet the needs of elementary school teachers. Consideration does need to be made on the ability of children to understand certain topics of this program. Depending on the development of the child, the child may understand concrete ideas or conceptual ideas. A child may understand how to manage a wound and stop bleeding, a tangible idea, but may not grasp the concept of terrorism. An elementary school teacher may not be able to teach children about search and rescue operations and cribbing techniques, but may be able to take concepts from that portion of the CERT curriculum and teach the children about safe and unsafe structures and sheltering during an emergency. When it comes to this difference, the teacher is the expert in determining what children in the teacher's class are able to understand.

It is a fairly simple process to develop a lesson plan from the CERT topics. The first step is to determine the content areas that are to be covered. For example, Appendix F is a potential formal lesson plan developed for a third grade classroom from the Disaster Medical Operations section of the CERT curriculum.

The content area to be covered in this lesson is comprehensive health education, science, and language arts. Then the standard concepts and performance objectives to be met in this lesson are outlined based upon the current required academic standards based upon the specific grade level. A step-by-step procedure is then created which should meet the objectives outlined at the beginning of the lesson plan. Finally, the plan should conclude with a strategy to evaluate the effectiveness of the instruction. For example, this lesson has the students demonstrate to the rest of the class their ability to cleanse and dress a wound based upon what they had just learned.

Use of Fiction Literature

Question 10A asked the participants, “Have you included any children’s books that deal with emergencies such as ‘Hatchet,’ ‘The Island Series,’ ‘The Earth Dragon Awakes,’ or ‘Kenuske’s Kingdom?’ Twenty people (48.8%) answered yes and 21 (51.2%) of respondents indicated no. The results from this question were slightly surprising. It was expected that the percentage of “no” answers would have been higher considering the percentage of “no” answers from Question 2. These types of books could possibly be considered for use in an emergency preparedness program. On the other hand, emergencies are a common theme in children’s literature, and it is not only the fact that a book deals with emergencies that is important, but also the quality of information given about emergency preparedness and response.

Appendix E contains a list of suggested works of fiction for third to fifth grade students that can be used to help teach emergency preparedness concepts. On that list is the award winning book *Hatchet* written by Gary Paulsen. The plot of the book centers on a young boy who must learn to survive in the Canadian outback after the plane in which he was flying crashed. The book attempts to teach readers about survival through the actions of the main character. Many books listed in Appendix E and those that were listed in responses to the survey are excellent resources for teachers. Teachers can create lesson plans, activities, worksheets, etc. using these books.

As an example, *Hatchet* can be used in several different ways. Teachers can highlight portions of the book and use those parts to teach children preparedness concepts based upon current expert recommendations (i.e., FEMA, American Red Cross, American Heart Association, etc.). An attempt will be made to share several examples of this using *Hatchet*.

Chapter 1 of the book has the main character, a 13 year old boy named Brian Robeson, traveling via a small, single-engine airplane to the northern portion of Canada. He has nothing with him but his luggage for the trip and a small hatchet that his mother gave him. The pilot offers Brian a chance to “fly” the plane and teaches Brian that flying requires many skills including patience and observation. The pilot also briefly mentions that there is a survival kit on board. While traveling, the pilot complains about shoulder pain and feeling ill. After a while, Brian notices a foul odor coming from the pilot and assumes that he has a stomachache. Suddenly, the pilot jerks and thrashes in his seat and stops moving.

Brian notices that the pilot is not moving and sees the whites of the pilot's eyes. He comes to the realization that the pilot has died, most likely suffering a heart attack. This portion can help teachers teach children to learn to recognize the signs and symptoms of a heart attack, and to learn how to perform CPR based upon current recommendations from FEMA and the American Heart Association (AHA).

The next two chapters have Brian in the middle of an emergency – how to fly and eventually land the plane? He is in a state of shock after the pilot has died and he realizes that he has to land the airplane by himself. He attempts to use the radio to call for help but with no success and realizes that he has had no time to prepare for this emergency. Brian is scared, but remembers what the pilot said about being patient and tries to remain calm during this ordeal. The plane begins to descend and it eventually crashes into a lake. Brian survives the crash and passes out after he ascends to the surface of the lake. Teachers may be able to use this as a way to educate their students about medical emergencies and what to do when someone they know may be in shock (who do they call? can they provide medical care?) based upon Red Cross recommendations. Additionally, the fact that main character felt that he was not prepared for the emergency on the plane would be a good way to point out FEMA's recommendation to prepare and plan for all types of emergencies, which may in turn reduce anxiety and fear when an actual emergency does occur.

In part of chapter six of *Hatchet*, Brian is alone in the wilderness and is remembering a time with one of his friends when they were pretending to be lost

in the wild and at the time they had built a lean-to shelter. This recollection causes Brian to search for a location for a shelter and to begin building a shelter for protection from the elements. This portion of the chapter could be used to illustrate the need for shelters during a disaster or an emergency. In educating the public, FEMA recommends taking appropriate shelter during times of disasters. This sheltering may occur in the home, at school, in the workplace, or any other location. Teachers can present to their students the different types of shelters that are available and what type of shelter is appropriate for specific disasters. For example, according to FEMA, during a tornado an effective shelter would be in a basement or interior room of a building, or in the lowest part of a building away from windows, doors, other openings, and exterior walls.

In chapters eight and nine Brian dreams about his time with his friends and family. He dreams about a time when he was barbequing at a park with his father and his best friend. His father and friend attempt to talk to him in his dream but he is unable to understand them. He awakes from the dream and is confused but as he looks over, he sees the sun reflect off his hatchet. To Brian, the reflection looks like a fire. He imagines that his father and friend were trying to tell him in his dream how to start a fire. Brian strikes a rock against his hatchet which creates sparks and at that point he is determined to utilize his hatchet to start a fire. After several attempts and thinking back to his science class about oxygen and fire, Brian is able to start a fire which comforts and brings him confidence to persevere through this ordeal. This may be used to illustrate the need for tools and equipment during an emergency. Both FEMA and the ARC

advocate the need to construct an emergency preparedness/disaster kit containing many tools and necessities to be used before, during, and after a disaster or an emergency. Even smaller children can own and carry a small disaster kit.

In the final chapters of *Hatchet*, Brian continues to survive and live in the wild. He is faced with many obstacles and he comes to the realization that he may not be rescued especially after a plane that he saw flew overhead and did not come to his aid. This depresses him and he questions his will to survive. One night as he is sleeping he hears a loud roaring noise when suddenly a tornado slams into his camp. The tornado throws him around and destroys his shelter and puts out his fire. Brian ends up falling asleep out in the open and awakens the next morning. Surveying the damage, Brian's will to survive gains strength, and he is determined to rebuild his shelter with nothing more than his hatchet. Additionally, Brian notices the tail of the plane in the lake, and, remembering what the pilot said about the survival kit contained within the plane, goes to retrieve it from the wreckage. Brian is surprised to discover that the kit contains food, water, a sleeping bag, a mess kit, matches, first aid kit, an emergency beacon, and even a survival rifle.

This last part of *Hatchet* can be used by teachers to illustrate a few preparedness concepts. Weather/environmental safety can be taught to students. FEMA offers resources in regard to overall weather hazards along with specific regional threats, and what steps should be taken before, during, and after inclement weather strikes. Again, with Brian's discovery of the survival kit, a lesson can be taught regarding the construction and use of an emergency/disaster

preparedness kit. Finally, a teacher may be able to teach their students about the emotional effects a disaster may have on children. The ARC and FEMA both recommend that the psychological ramifications on children affected by a disaster be understood. Although it may be difficult to teach children this, it would be beneficial for teachers in a way that would allow them to create lesson plans and to be prepared for possible questions from students about this issue.

Summary of Open-Ended Responses

Questions 4, 10B, 12A, 12B, and 13 offered the participants a chance to answer with their own comments. This section is meant to summarize the responses to these questions. Appendix C provides a complete set of responses associated with each open-ended question.

Question 4 asked “If you are using emergency preparedness curricula, what programs are you using?” This question was associated with a previous question which asked the respondent if they were currently using such a program and allowed them to list what programs they were utilizing. Eight people responded; however, two people commented using “N/A” (not applicable). Of the six remaining comments, it appeared that either the teachers brought in outside resources to teach the children about preparedness or they developed their own curriculum. A couple of comments stated that they created their own instruction as part of an already existing teaching unit, such as health, science, or social studies, or “things I’ve found on the internet.” Additionally, some teachers mentioned that the only preparedness program that was conducted was “...when

the fire-fighter came in to teach. No programs offered to us this year.” These comments shed light on the fact that even teachers who responded “yes” to this question may not have full-fledged curriculum/programs in regard to emergency preparedness.

Question 10B was associated with a previous question. If the respondents answered yes to Question 10A, they were given the opportunity to comment on what types of books that deal with emergencies they were using in the classroom. Of the 20 participants who answered yes for Question 10A, all of them left comments for Question 10B. There were many different books listed; however, it appears that a little over 50% of the respondents have used or are currently using *Hatchet* in the classroom. In fact, one comment indicated that the teacher was going to start using *Hatchet* for use in a future reading group. Other books listed were *Island Series*, *The Cay*, *Island of the Blue Dolphins*, *Call it Courage*, *Night of the Twister*, *Sign of the Beaver*, and *Danger in the Desert*. Of particular note is that some teachers commented that they are utilizing stories that are actually included within their reading textbooks. These include comments, such as using “stories within our reading textbook – a total of 4 short stories that cover volcanoes, fires, tornadoes, earthquakes” and “our Houghton Mifflin reading program has several short stories on natural disasters.” The results from this question were encouraging due to that fact that some teachers have utilized these types of books to teach about preparedness, which shows creativity and resourcefulness. This approach has been proven an effective method of instruction.

Question 12A afforded the respondents an opportunity to comment about what resources they need in order to employ an emergency preparedness program in their classroom. Thirty-four out of 42 participants answered this question. Comments ranged from “whatever was available” and “web resources” to “materials such as videos, books, etc” and “copies – copy budgets are tight and having something pre-packaged would be a great help. Interactive and engaging for the students.”

A common theme found in these comments was that teachers would need time, materials, actual curriculum, and support. One participant indicated that “time, time, time, training” would be needed, whereas another indicated that cross-curricular standards would aid in this implementation. Many respondents mentioned that they would require support both from their school’s administration as well as from the students’ parents. These comments are significant in that they, in combination with responses to other questions, suggest that teachers were willing to implement an emergency preparedness program as long as they were given adequate resources, a curriculum that meets standards, lesson ideas, and support.

Question 12B was similar to Question 12A, but it asked the participants what kinds of things keep them from implementing an emergency preparedness program in their classroom. Thirty-four out of 42 people answered this question. Comparing the answers to Question 12A with the answers to this question illustrates that the things that were needed to apply a program in the classroom are similar to things that currently are lacking and thus prevent them from starting

such a program. Most comments centered on the lack of resources, time, and curriculum. Two comments that are of particular significance included, “Don’t have a laid out guide and time is limited in trying to teach core curriculum as the state enforces, especially with AIMS!” and “We have so many standards to teach and not enough time to teach them. We also face constant pressure about standardized test scores and that drives us to focus on curriculum that is being assessed.” These two comments illustrate the need for a type of program, like a cross-curricular type of program, which would not increase their workload, but would allow them to teach valuable topics and skills that could possibly help their students in other ways as well as teach them the standards.

Other significant comments include, “I don’t like to scare my kids. While I believe it is crucial to be prepared for emergencies, it is not necessary to instill fear in kids [or adults for that matter]” and “Time, time, time, and my own lack of expertise. People who have been trained need to teach it. They should go through a child training program.”

It is important to note here that a properly developed emergency preparedness program would not instill fear in kids. It would instead strengthen their ability to respond in an emergency, thus increasing their confidence and decreasing their own fear. Additionally, a program such as the one being proposed in this study, would possibly have the added benefit of giving the teachers the expertise needed to teach such a program, since it is based on age appropriate lesson plans. There would be no need to train additional people to teach children since elementary school teachers are already experts in training children.

The final open-ended question (Question 13) attempted to tie the entire survey together. It asked the respondents to comment on why they felt it was important to teach kids how to protect themselves in an emergency. This question was directly associated to Question 2. Thirty-five out of 42 people answered the question. This number is approximately the same as the number of respondents who ranked the importance of teaching kids these skills at a 5 or higher. It appears that a majority of responses affirmed the need for this type of instruction based upon several issues. One response was, “we are a more mobile society, with more threats and children are often thrust into adult roles, such as protecting themselves, etc...They need to know how to do this.” Another respondent stated that “Many children go home to empty houses after school. It is important that children know how to protect themselves in the event that no adult is available to help.” Both of these comments suggest that at least some elementary school teachers view children as important participants in an emergency and feel a need for them to be properly prepared and trained in order to respond.

Another significant comment from a respondent stated that “They need to know, don’t think parents have taught them – the kids may be the ones teaching parents.” In fact, there were a couple of other comments in regard to lack of parent participation in this type of education. One stated that “Many of my students have very busy parents who do not spend enough time with their children talking about these critical issues.” An emergency preparedness program within a classroom curriculum would allow these critical skills to be taught to children in lieu of teaching by the parents. That being said, eliminating the parents from the

equation may not be advisable. A combination of classroom instruction and parent involvement could possibly enrich the overall learning process.

Although most of the comments stated that it was necessary to teach children critical preparedness skills, there were some who felt that it was not necessarily a school issue. One respondent stated that they saw this as more of a home issue than a school issue. Although it was important, one participant questioned, “should this be an after school class? How about a family class?” One respondent stated that “School is about teachable moments. Some of the best lessons don’t come from a textbook. As the world continues to change, so do the needs of our students.”

In regard to an after school program, this would be a great way to reinforce the material learned in the classroom. An after school program, in conjunction with classroom work, would allow students to interact more and participate in more activities, which would in turn enrich their overall learning experience.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The conclusions and recommendations produced from this study can be seen from several different angles. For instance, the results from the survey indicated a lack of time is a concern for many teachers when it comes to including an emergency preparedness program in their curriculum. These teachers do not have time to add additional programs to their already busy schedule. However, implementing a program such as the one introduced in this study would most likely not increase their workload. A cross-curricular program that includes emergency preparedness as its focus would have the possible benefit of decreasing the workload of the teacher.

An example of this would be a teacher was required to teach three topics for a given day (let's say health education, science and language arts for the purpose of this example), he/she would have to develop two or three different lesson plans that meet state standards for these topics. However, if a cross-curricular program were in place then these three topics would only require the development of one lesson plan. This would in turn decrease preparation time.

There are many emergency preparedness resources available to teachers. The CERT program is readily available on the World Wide Web and can provide vital information for teachers. The instructor manual is available as a download and can be used in developing lesson plans for the classroom. Appendix F is an example of this type of lesson plan. It is a formal lesson plan that was created

from the Disaster Medical Operations section of the CERT curriculum. A lesson plan of this nature can be altered to meet different curriculum standards as well as to meet the needs of children in different grade levels. Additionally, lesson plans and curriculum ideas can come from common websites and web-based resources such as FEMA for Kids (www.fema.gov/kids) and www.ready.gov.

Current Arizona curriculum standards for the classroom include reading, writing, and language arts. One method to meet these standards is the practice of reading books or listening to what is read and participating in relevant activities. Including literature that deals appropriately with emergency preparedness and disasters would meet the current standards but also would teach children skills that could possibly help them in an emergency. It is a “win-win” situation for everyone involved. A list of recommended books that might help accomplish this is included in Appendix E.

What was revealed in this study was that teachers want their students to be prepared and ready to respond to an emergency or disaster and most would be willing to teach an emergency preparedness curriculum. However, they were unaware of many resources that were available to them. This study has provided basic information and tools for teachers to help them to develop an emergency preparedness program on their own that they can then take to their classrooms. A program like the one proposed in this study is a proactive approach to emergency preparedness. Furthermore, if elementary school teachers become better prepared to teach this type of curriculum, then they would be better prepared to respond to their students’ questions, concerns, and fears about major events or disasters.

Recommendations for Further Study

First and foremost, a future area to study would be the actual implementation of such a program that was proposed in this study. How much time is actually needed to prepare the lesson plans and supporting material? Is it an effective use of time? Would it require additional resources that may prohibit the development of such a program? Can the program be enriched through other activities, such as an after school program? Research could track one or two classroom teachers while they work on programs throughout the school year. Additionally, the research could be expanded to include the tracking of individual students throughout the years as they progress through the different grade levels. This could be accomplished by utilizing a differentiated instruction approach – assessing the student in all the learning modalities.

Another area to explore could be the analysis of one or two more different school districts. This research could attempt to determine if the results discovered in this study are indicative of results in other school districts. Would the results be different based upon size of the district or geographical region? Can the demographics of a region have an effect on the development of an elementary school emergency preparedness program? What effect does a school district's budget have on implementing such a program in the classroom? What effect does a school district's geographical location in regard to disaster threat have on implementing an emergency preparedness program?

Another possible future study could be the training teachers in this subject matter. Although I believe that it is not necessary for teachers to undergo

specialized training to teach emergency preparedness, it was indicated by some responses to the survey that the teachers may not be confident to teach this subject matter – that they would rather rely on outside resources to teach their students. If a teacher was given some basic knowledge about preparedness, would they be more confident in disseminating that information to their student? In what form would this training be? Is the basic online course, *IS-317- Introduction to Community Emergency Response Teams*, adequate training for elementary school teachers? Could an additional online course be developed for elementary school teachers to meet this need? Could this training be incorporated into new teacher orientation or through professional development training programs?

One more area of interest might be the inclusion of a family program within this type of curriculum. Many schools now offer after school and night classes that are intended for the entire family to attend. These are more like workshops that allow teachers, students, and parents to interact with each other. At times these classes might offer a chance for students to teach the parents what they have learned in a certain area of study. What would be the process to add this to a classroom curriculum? Would it require additional training for the teachers? Could this program be adapted into a CERT type of training similar to the Teen CERT program?

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APPENDIX A

COVER LETTER FOR QUESTIONNAIRE

Preliminary Concepts for Developing

Childhood Education in Emergency Preparedness

Date:

Dear Participant:

I am a graduate student working under the guidance of Assistant Professor Dr. David Edwards in the Department of Technology Management within the College of Technology and Innovation at Arizona State University.

I am conducting a research project to evaluate the presence of or the need for an emergency preparedness curriculum within the classroom. I am asking for your participation because you are a current educator involved in teaching the target age group of my research study. Your participation will involve completing a survey which consists of fifteen (15) questions. The survey will be sent to your email address. It should only take approximately 10-20 minutes to complete.

Of course, your participation in this research study is voluntary. Responses to the questionnaire will be used to identify curriculum ideas and methodologies that teachers like your self can use in the classroom to teach their students about emergency preparedness. There are no foreseeable risks or discomforts associated with your participation.

Your responses will be kept confidential. The results of this study will be used in reports and/or presentations but any personal information, including your name, will not be used.

If you have any questions concerning this study, please contact either Dr. David Edwards at (480) 727-1493 or Christian Christensen at (520) 390-5283. If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Research Compliance office, at 480-965-6788.

Return of the questionnaire will be considered your consent to participate.

Sincerely,

Christian Christensen
Graduate Student

APPENDIX B
SURVEY MONKEY QUESTIONNAIRE

A screenshot of the actual Survey Monkey Questionnaire:

Emergency Preparedness Education Questionnaire

1.

Thank you for taking time to fill out this questionnaire. Your efforts are appreciated. The results collected will be used to evaluate the current status of and/or the possible need for an emergency preparedness program to be included in the classroom curriculum. This survey will take approximately 5-10 minutes to complete.

As an added bonus, you will be eligible to win a \$20 Starbucks gift card for completing the survey IF you respond within two (2) days of receiving the survey. If you would like your name placed in the pool for the drawing, just email me stating that you would like to be considered for the prize drawing.

Questions about this survey can be directed to Christian Christensen by email at clchristensen@comcast.net

2.

On a scale of 1 to 10 (with 1 being "Not important," 10 being "Extremely important"), how important is it to you to have a curriculum to help children learn skills to enable them to protect themselves and perhaps help save others in an emergency?

1 2 3 4 5 6 7 8 9 10

3.

Are you currently using any emergency preparedness curriculum in your classroom?

Yes
 No

If you are not using any emergency preparedness curriculum, why not? (please choose one best answer)

It is cost prohibitive
 Do not have time
 Do not know what materials are good
 No support

4.

If you are using emergency preparedness curricula, what programs are you using?

5.

Emergency Preparedness Education Questionnaire

How are curriculum decisions made?

- The school district makes them
- The principal makes them
- They are determined by committee for an individual grade level
- The individual teacher makes them

6.

On a scale of 1 to 10 (with 1 being "Not familiar," 10 being "Extremely familiar"), how familiar are you with the following programs and/or websites?

	1	2	3	4	5	6	7	8	9	10
www.ready.gov	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FEMA for Kids	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
American Red Cross "Masters of Disasters"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CERT program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.

If you had a good curriculum, how many hours per month would you be willing to devote to a disaster preparedness program?

- None
- 1-2
- 3-4
- 5+

8.

How interested would you be in using cross-curricular (one that satisfies two or more academic standards at the same time) preparedness program?

- Definitely
- Maybe, if time permits
- Not at all

9.

Emergency Preparedness Education Questionnaire

On a scale of 1 to 10 (with 1 being "Not likely," 10 being "Very likely"), how likely is it that pressure to prepare for standardized tests inhibits your inclusion of new curriculum material?

- 1 2 3 4 5 6 7 8 9 10

10.

Have you included any children's books that deal with emergencies such as "Hatchet," "The Island Series," "The Earth Dragon Awakes," or "Kensuke's Kingdom?"

- Yes
 No

If so, which ones have you used?

11.

On a scale of 1 to 10 (with 1 being "Not at all," 10 being "Very much"), how much do you think that children in your class would be interested in learning about ways to protect themselves in an emergency?

- 1 2 3 4 5 6 7 8 9 10

12.

What types of resources would you need to implement an emergency preparedness program for your class?

What kinds of things keep you from implementing such a program?

13.

Why do you feel that it is important to teach kids how to protect themselves in an emergency?

APPENDIX C
OPEN-ENDED SURVEY QUESTION RESPONSES

n = x. where x equals the number of repeated responses

Question 3B

Number of Responses: 8

Question 3B: If you are using emergency preparedness curricula, what programs are you using?

- N/A (n = 2)
- Water safety, fire, electric, home alone preparedness and first aid (sic). These are taught in health (sic), social studies and science.
- We talk about it when we do a story in our reading book, but I follow no official curriculum.
- I have created my own as part of a health unit.
- Just when the fire-fighter came in to teach it. No programs offered to us this year.
- Resources that I have developed on my own.
- Things I've found on the internet; discussions; age-appropriate curricula

Question 10B

Number of Responses: 20

Question 10B: If so, which ones have you used?

- Hatchet (n = 4)
- Sign of the Beaver
- Basal reader has a story about wildfires.
- Hatchet, Danger in the Desert, On a Wing and a prayer
- Earthquake Terror, but not in years
- Stories within our Reading textbook – a total of 4 short stories that cover volcanoes, fires, tornadoes, earthquakes, etc.
- Hatchet, My side of the mountain and others
- Will use Hatchet for a reading group

- Hatchet, Island of the Blue Dolphins, Nature's Fury unit in HM
- Island Series by Gordan Korman??, and I can't think of any others right now
- Hatchet, My Side of the Mountain
- Our Houghton Mifflin reading program has several short stories on Natural Disasters
- The Cay, Fever 1796
- Sign of the Beaver and Hatchet. We also read and discuss Danger in the Desest (sic) and comlete (sic) a mock survival game
- The Cay, Island of the Blue Dolphins, Call it Courage
- Hatchet; City of Ember
- Hatchet, Earthquake, Night of the Twister

Question 12A

Number of Responses: 34

Question 12A: What types of resources would you need to implement and emergency preparedness program for your class?

- Picture books. Video
- Teachers guide! Work sheets or books for the students!
- A resource that is appropriate for early education K-1 students
- Lesson plan ideas, materials for the kids
- Standards based resources
- Curriculum
- Curriculum, time, materials (n = 2)
- Books, sample lessons
- Booklets kids can keep, videos
- Materials such as videos, books, etc.

- Whatever was available
- School support
- Videos, hands-on material, resources in kid-friendly language, web-based games
- Lesson ideas, supplies and materials, professional development
- Web resources
- Websites, lesson plans
- Lessons, supplies, but since I have never taught one I'm not sure that would be all
- Information, materials
- Time. Copies – copy budgets are tight and having something pre-packaged would be a great help. Interactive and engaging for the students.
- Training
- A curriculum and supplies. Cross-curricular standards it ties to. Aide/volunteer support.
- Materials (n = 2)
- Videos, curriculum
- Specific curriculum and student appropriate videos with example/visuals
- Not sure
- Guided materials
- Curriculum, materials, person to teach it
- A teacher-friendly curriculum that does not take much time to prepare for.
- Time, time, time, training
- Teaching materials, student materials
- An actual program that involves and integrated approach

- Administration support/parent support. Workbooks.
- Reading material with comprehension questions, closes (sic), hands on activities, videos, actual emergency responders teach it.

Question 12B

Number of Responses: 34

Question 12B: What kinds of things keep you from implementing such a program?

- Time (n = 5)
- Lack of resources (n = 3)
- Don't have a laid out guide and time is limited in trying to teach core curriculum as the state enforces, especially with AIMS!
- Standards dictate instruction, time constraints
- If not standards driven – no time
- Curriculum (n = 2)
- Time, not a standard
- Lack of resources/support
- Time and lack of materials/knowledge of program
- Not aware of what is available, time
- Speakers, people to do demos, books/worksheets, videos
- Time and money (n = 2)
- Lesson ideas, supplies and materials, professional development
- Lack of time in the school day
- Time, Most important priority in relation to testing preparedness

- Time – we have so much to cover already and not enough time to adequately get through it all!!
- Do not have the above
- Materials
- Time and resources
- No materials or curriculum
- Don't have any kind and it's not required at this time
- Don't have a lot of experience, not time, more than enough to cover now
- Lack of time. We have so many standards to teach and not enough time to teach them. We also face constant pressure about standardized test scores and that drives us to focus on curriculum that is being assessed.
- No materials, more emphasis on standards and not enough time to include other programs
- I don't like to scare my kids. While I believe it is crucial to be prepared for emergencies. It is not necessary to instill fear in kids [or adults for that matter].
- Time, time, time, and my own lack of expertise. People who have been trained need to teach it. They should go through a child training program.

Question 13

Number of Responses: 35

Question 13: Why do you feel it is important to teach kids how to protect themselves in an emergency?

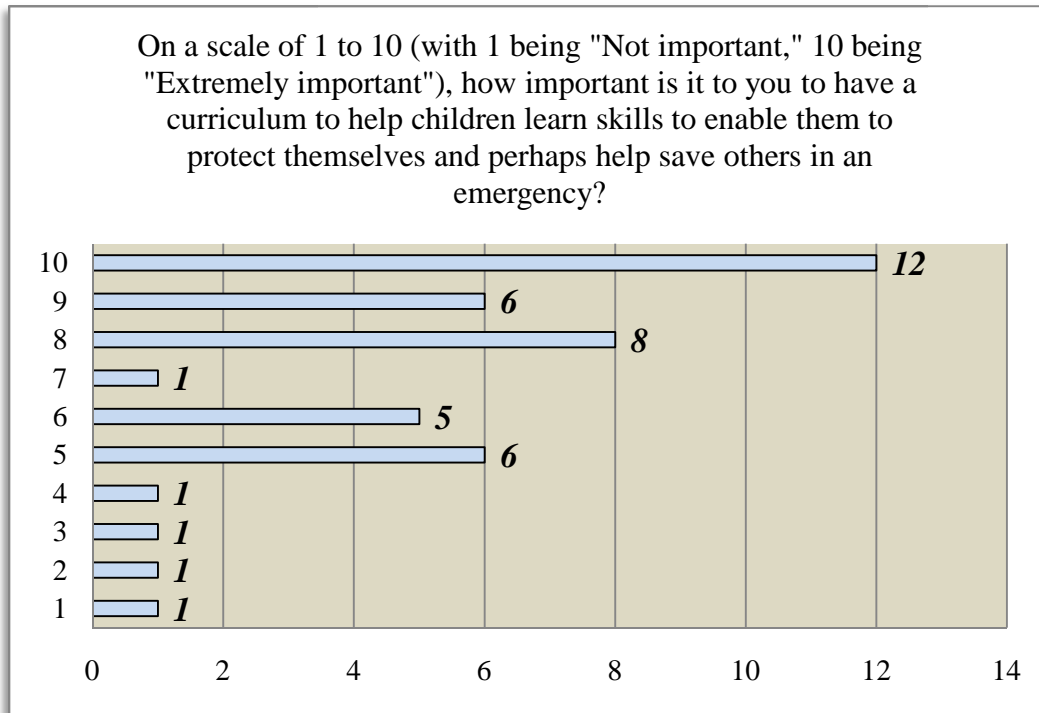
- It is a scary world and kids need to be able to recognize bad situations and protect themselves.
- To lesson (sic) anxiety in the event something does happen. Kids do need to know common sense and to better help themselves especially when a lot them only know a computer screen or a key pad with buttons as their defense!
- Extremely

- Sadly, I hadn't thought much about it. It does however seem to be a worthwhile set of skills to develop.
- Everyone wants to feel safe.
- I don't.
- Safety and awareness
- The world we live in, should this be an after school class, how about a family class.
- They need to know, don't think parents have taught them – the kids may be the ones teaching parents.
- Would train kids not to be impulsive during an emergency
- School is about teachable moments. Some of the best lessons don't come from a textbook. As the world continues to change, so do the needs of our students.
- Yes
- When students know what the expectations are they will rise to meet them. It is also important for students to know, because adults are not always there, or can be hurt and need help from the students.
- So they don't panic in an emergency and can help themselves and others. One concern I would have is if students help another person and that person doesn't do well, the guilt involved for that child to live with.
- You never know what could happen.
- Life saving skills can be taught to fifth graders. I have taught the Heimlich maneuver to my students. These skills can help them react in an emergency.
- Children need to be able to make good choices in the event of an emergency. Often adults are not prepared, and it would be wonderful if children could be of assistance in times of trauma.
- Our children today have no ideas for the most part, how to take care of themselves in a minor situation, let alone an emergency.
- Kids need to feel in power, be aware of what to do when trouble happens, especially older kids that are given more freedom and responsibility.

- We are more a more mobile society, with more threats and children are often thrust into adult roles, such as protecting themselves, etc...They need to know how to do this.
- So that they will be prepared to respond if one arises.
- These skills are no longer taught by the family or parents
- They need to know how to respond to situations that they feel are beyond them, so they can remain safe.
- I have been in several emergencies – especially when I was a child.
- Although we don't see many natural emergencies here in AZ I want my students to feel confident that they can face anything on this world – and know how to respond.
- Many children go home to empty houses after school. It is important that children know how to protect themselves in the event that no adult is available to help.
- It's important for everyone to have some sort of plan for an emergency.
- I see that as a home issue not a school issue.
- It is something that can happen at any time and could happen to save a life if one knows what to do and how to react.
- Many of my students have very busy parents who do not spend enough time with their children talking about these critical issues.
- It is something that they will need in real life, something that is essential to survive.
- They are not necessarily receiving that information at home.
- It is empowering to be able to protect oneself. However, I don't want anyone to feel that an inability to protect oneself is ever the fault of the child.
- Knowledge is power and even kids can be powerful to help themselves and others, but as a parent I want a professional emergency person who is good with kids teaching them how to protect themselves. Teachers are spread way, way, way too thin!!!!

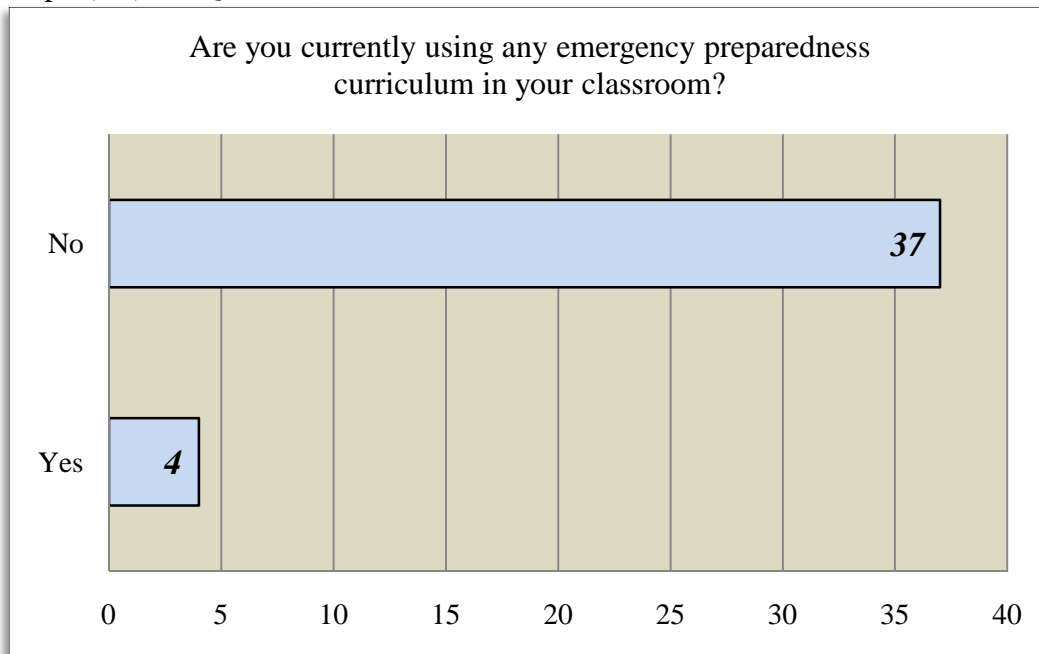
APPENDIX D
SURVEY GRAPHICAL RESULTS BY QUESTION

Graph (G1) for Question 2

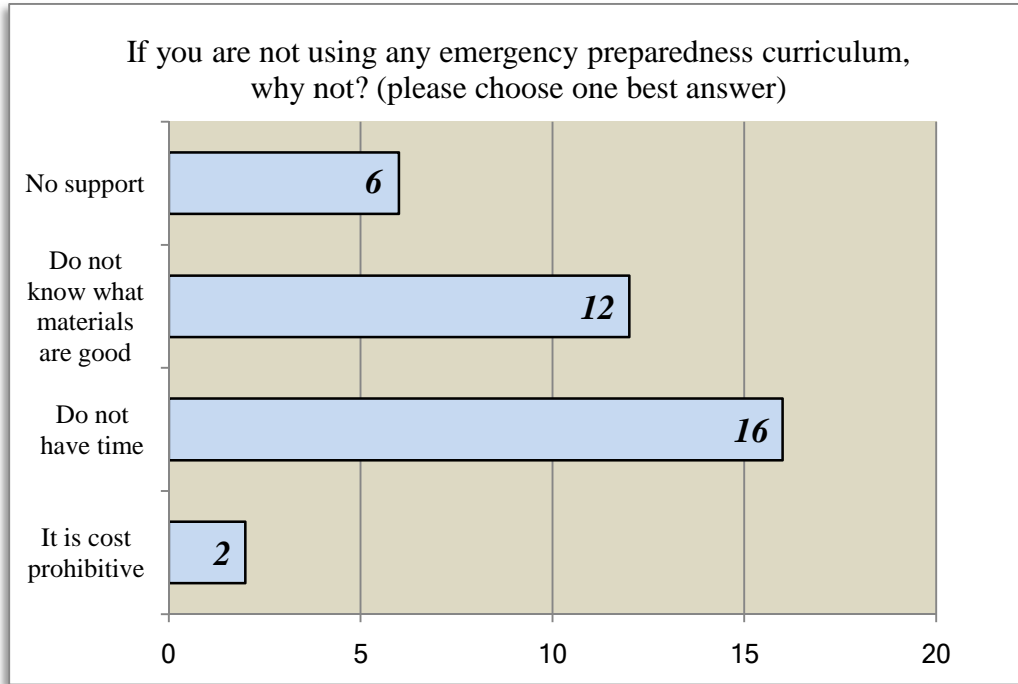


x = number of respondents, y = type of response

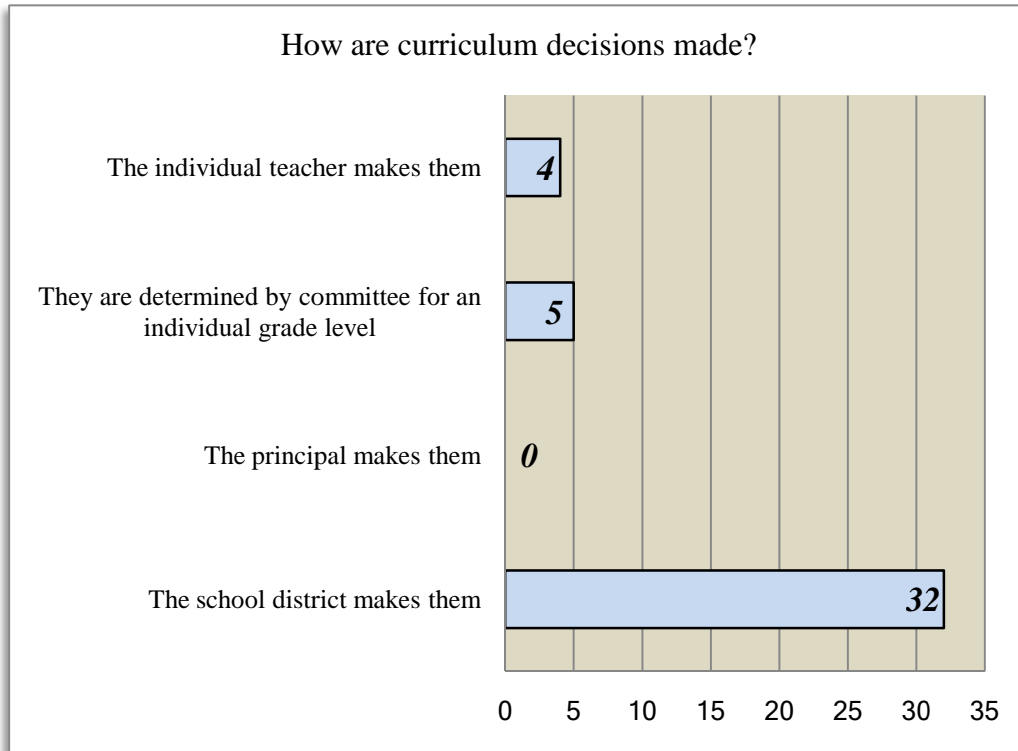
Graph (G2) for Question 3A



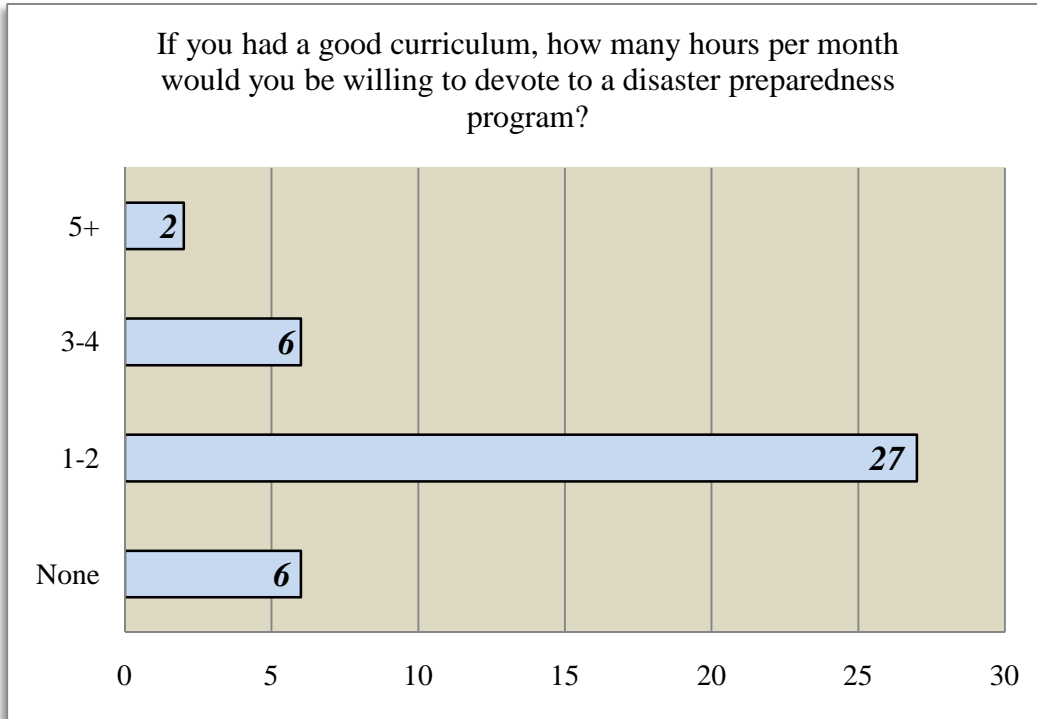
Graph 3 (G3) for Question 3B



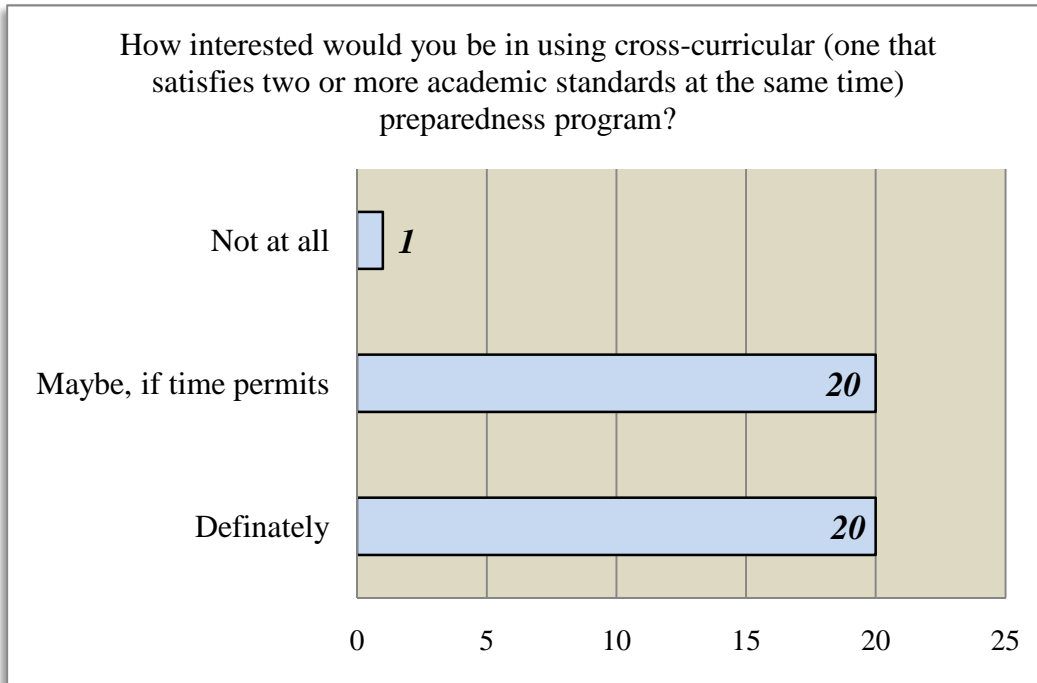
Graph 5 (G5) for Question 5



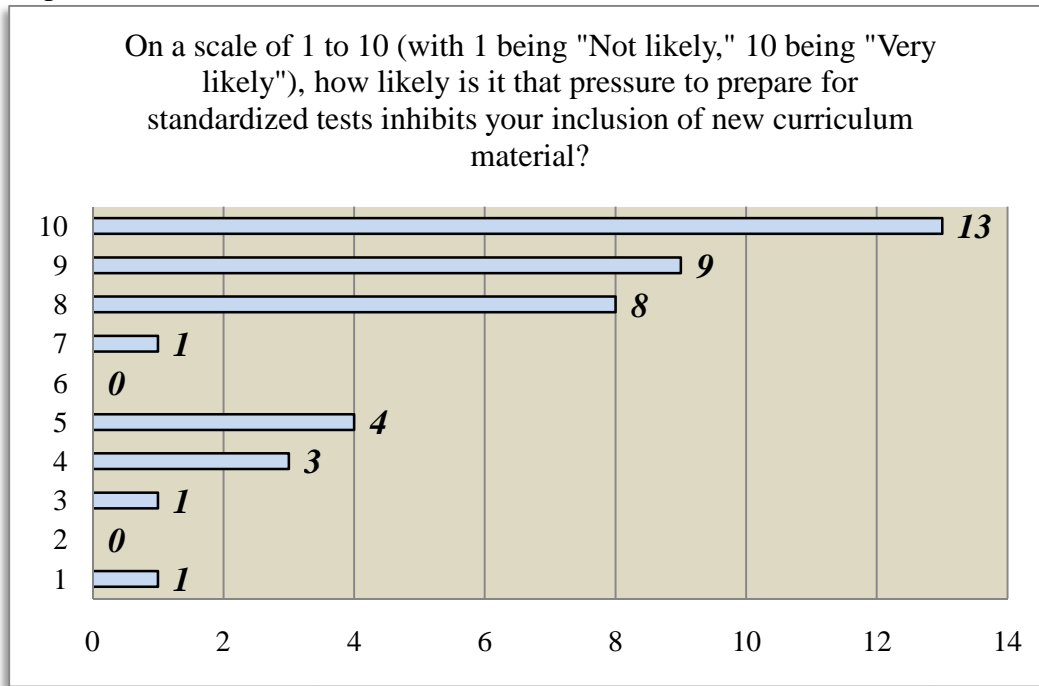
Graph 7 (G7) for Question 7



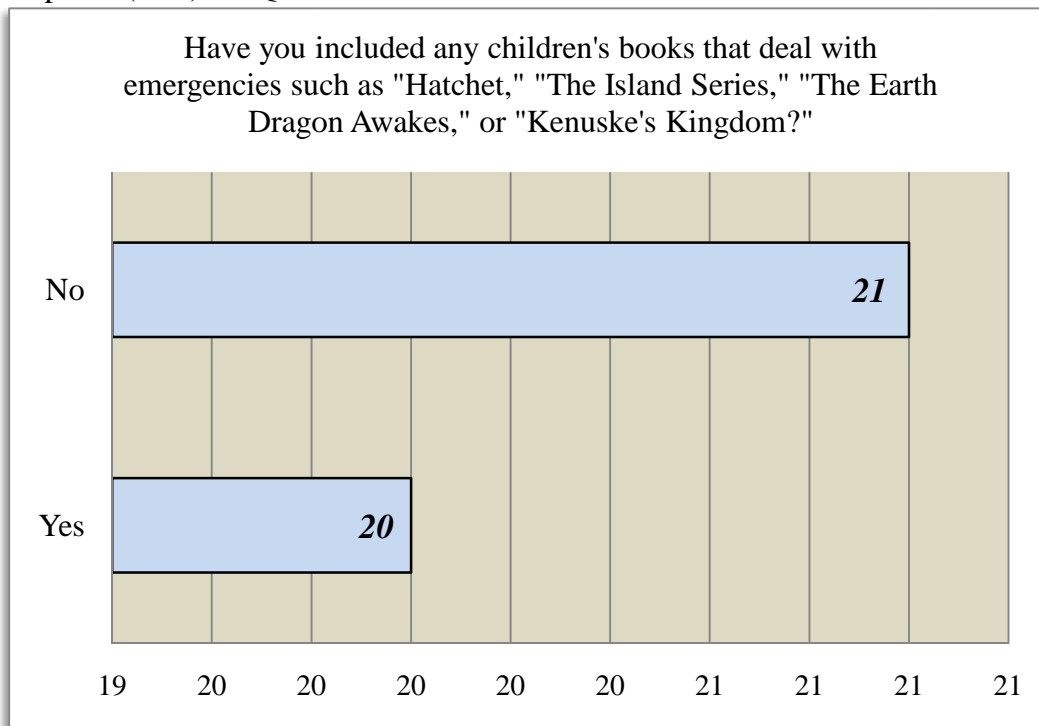
Graph 8 (G8) for Question 8



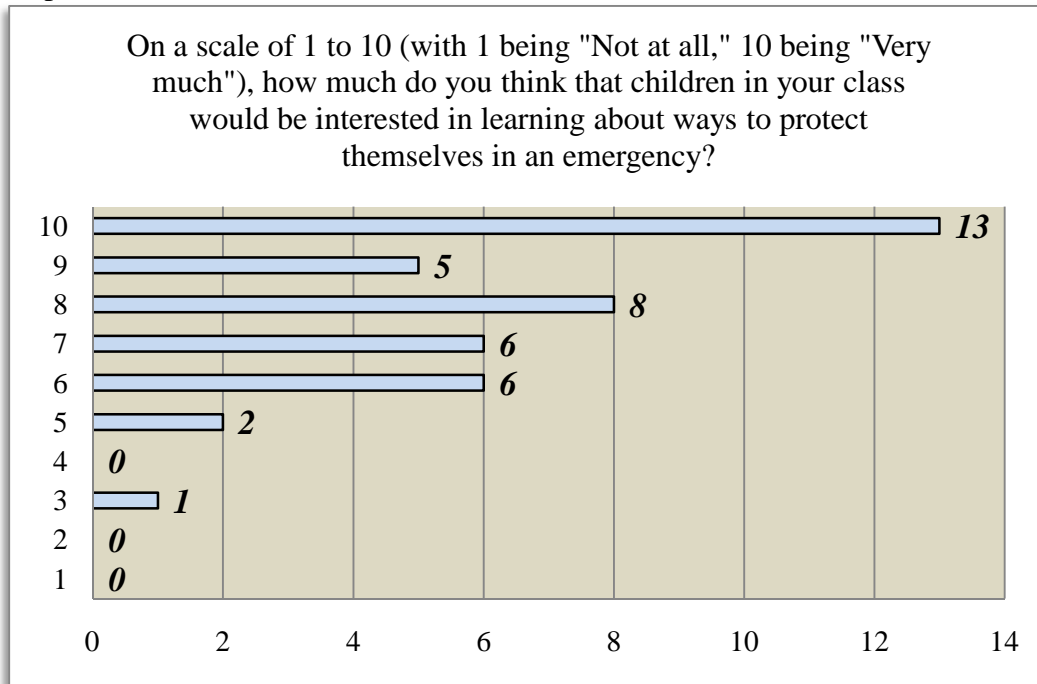
Graph 9 (G9) for Question 9



Graph 10 (G10) for Question 10A



Graph 11 (G11) for Question 11



APPENDIX E

FICTIONAL BOOKS ON EMERGENCY PREPAREDNESS AND SURVIVAL

- Beale, F. & Sangie, M. (2006). *Walking Lightly*. Vancouver: Simply Read Books.
- Crisp, M. (2004). *White Star: A Dog on the Titanic*. New York: Scholastic Books.
- Fleischman, P. (2000). *Lost! A Story in String*. Ontario: H. Holt.
- Gutman, D. (2007). *Getting Air*. New York: Simon & Schuster Books for Young Readers.
- Korman, G. (2001). *Island: Shipwreck (Book One)*. New York: Scholastic.
- Korman, G. (2001). *Island: Survival (Book Two)*. New York: Scholastic.
- Korman, G. (2001). *Island: Escape (Book Three)*. New York: Scholastic.
- McFadden, D. (2006). *Robinson Crusoe*. New York: Sterling Publishers.
- Morpurgo, M. (2003). *Kensuke's Kingdom*. New York: Scholastic.
- Paulsen, G. (1987). *Hatchet*. New York: Atheneum Books for Young Readers.
- Salisbury, G. (2007). *Night of the Howling Dogs*. New York: Wendy Lamb Books.
- Shaw, J. B. (2002). *Kaya's Escape! A Survival Story*.
- Yep, L. (2006). *The Earth Dragon Awakes: The San Francisco Earthquake of 1906*. New York: Harper Collins.

APPENDIX F

SAMPLE LESSON PLAN, THIRD GRADE

Basic First Aid Treatment for Wounds

Content Area:

Comprehensive Health Education

Science

Language Arts

Standard Concept:

Comprehensive Health Education

STANDARD 1: Students comprehend concepts related to health promotion and disease prevention.

1CH-F7. Identify the characteristics, causes, prevention and treatment of common childhood injuries and illnesses

STANDARD 3: Students demonstrate the ability to practice health-enhancing behaviors and reduce health risks.

3CH-F5. Demonstrate first aid procedures and appropriate responses to common emergencies in the home, school and community

Science

Concept 2: Science and Technology in Society

Understand the impact of technology.

Language Arts

Concept 2: Expository

Expository writing includes non-fiction writing that describes, explains, or summarizes ideas and content.

The writing supports a **thesis** based on research, observation, and/or experience.

Performance Objective:

Comprehensive Health Education

PO 2. List common childhood injuries, their causes, prevention and treatment

PO 3. Illustrate ways to keep germs from spreading

PO 1. Describe a minimum of three first aid procedures

PO 2. Determine correct response in case of accident or sudden illness

Science

PO 1. Identify ways that people use tools and techniques to solve problems.

PO 3. Design and construct a technological solution to a common problem or need using common materials.

Language Arts

PO 1. Record information (e.g., observations, notes, lists, charts, map labels and legends) related to the topic.

PO 2. Write an expository paragraph that contains:

- a. a topic sentence
- b. supporting details
- c. relevant information

PO 3. Write in a variety of expository forms (e.g., summary, newspaper article, reflective paper, log, journal).

Procedure:

Introduction:

In this lesson, students will learn how to recognize and treat basic first aid emergencies for wounds such as cuts and abrasions.

Steps:

1. Define wound. A wound is an injury from an accident. We are going to talk about how to take care of wounds like cuts and scrapes.
2. What are some ways we can get hurt? Create a list on the board.
3. Let's look at a couple of the ways we can get hurt and talk about we can make the injuries better.
4. If someone falls and cuts their leg do you know what to do if there is not an adult around to help you?
5. There are two things we want to make sure and do if someone gets hurt. We want to stop the bleeding and we want to make sure that the cut does not get an infection.
6. Define infection. An infection is when a cut gets bacteria in it and does not get better. Sometimes if a cut gets infected we need to take more medicine to make it better.
7. The first step is to stop any bleeding. Does anyone know how to stop a cut from bleeding?
8. To stop bleeding you first need to find a cloth to place over the cut and then you put pressure on the cut. (Demonstrate how to apply pressure.)
9. Now we are going to practice putting pressure on cuts. Everyone needs a partner. (Assign partners based on seating to speed up the process as well as assign victim and rescuer roles. Explain that the person who is hurt has a cut on their leg. Pass out bandages to the rescuers. If there are an odd number of students, use the extra as your model to help demonstrate. If there is an even number, either enlist the teacher as your model, or bring a pair of students to the front of the room to use as the model group.) Let's begin by practicing pressure on ourselves. Everyone place their hand on their arm and gently squeeze. You should squeeze hard enough to feel the push of your hand, but not so hard that it hurts.
10. Whoever is the person who has the cut needs to lie down on the floor on their back. The person who is going to help them

needs to take their bandage and place it on the cut on the leg. Gently, and without hurting the person, lean over the person's leg and push down just like we practiced. You need to hold this until the bleeding stops.

11. Once the bleeding stops, we need to wrap the cut with another bandage to make sure it does not start bleeding again. Take the roll of gauze and wrap the person's leg. The gauze should be tight enough that it does not fall off when the person stands up. Tape the gauze after you finish rolling it.
12. Let's talk about another type of cut. This time, the person who is cut is not bleeding, but they still need a bandage put on their cut.
13. The first thing we want to do is clean out the cut. If you are near a bathtub or sink and the person with the cut can reach the faucet, you can wash it with that. If you are not near a faucet, you can use something like a water bottle.
14. After you wash the cut with water, you need to clean it with soap and water and then wash it again. Let's practice. (Pass out supplies to each pair.)
15. We are going to switch places. This time the person who was cut last time will be the person who gets to take care of the other person. The person who is cut needs to sit down. We are going to pretend that the cut is on your arm. Hold your arm out and rest it on your table.
16. The other person needs to take the water bottle and pour some water over the arm. (The water bottles should be empty and this part is just for practice.)
17. After you pour some water over the arm, pretend to add some soap to your bottle and mix it up. Then pour the rest of this over the cut.
18. Now take your other water bottle and clean the cut one more time.
19. The last step is to take the bandage and wrap the cut. Make sure you do the same thing as you did on the leg cut. Wrap it snug so that the bandage won't fall off when the person puts their arm down.
20. Great job today! Are there any questions? Now I want you to take out your journals that we have been working on throughout this program. Take the next ten minutes and write about what you have learned today.

Guided Practice:

Have the students follow the steps form above and monitor their work to make sure they are doing it correctly.

Check for Understanding:

Have a pair of students come up to the front to demonstrate how to control bleeding. Then have another pair come up to the front to demonstrate washing out a cut.

Reteaching:

Let's review what we learned today. Review vocabulary words: wound, pressure, and infection. When do we apply pressure to a wound? When there is bleeding. When do we wash a cut and then bandage it? When there is no bleeding.

Summary:

Today we learned how to stop bleeding, wash a cut and bandage a wound.

Resources & Materials:

Materials needed:

- *Gauze pads*
- *Rolled gauze*
- *Tape*
- *Empty water bottles*
- *Empty soap bottle*

APPENDIX G

SAMPLE LESSON PLAN, FOURTH GRADE

Disaster Preparedness in the Home

Content Area:

Math

Language Arts

Standard Concept:

Math

Concept 1: Geometric Properties

Analyze the attributes and properties of 2- and 3- dimensional figures and develop mathematical arguments about their relationships.

Language Arts

Writing

Concept 1: Prewriting

Prewriting includes using strategies to generate, plan, and organize ideas for specific purposes.

Concept 2: Expository

Expository writing includes nonfiction writing that describes, explains, informs, or summarizes ideas and content. The writing supports a **thesis** based on research, observation, and/or experience.

Reading

Strand 3: Comprehending Informational Text

Comprehending Informational Text delineates specific and unique skills that are required to understand the wide array of informational text that is a part of our day-to-day experiences. **Concept 1: Expository Text**

Identify, analyze, and apply knowledge of the purpose, structures, and elements of expository text.

Performance Objective:

Math

PO 1. Draw and describe the relationships between points, lines, line segments, rays, and angles including parallelism and perpendicularity.

PO 6. Draw right, acute, obtuse, and straight angles and identify these angles in other geometric figures.

Language Arts

Writing

*PO 1. Generate ideas through a variety of activities (e.g., brainstorming, **graphic organizers**, drawing, writer's notebook, group discussion, printed material).*

PO 2. Determine the purpose (e.g., to entertain, to inform, to communicate, to persuade) of a writing piece.

PO 1. Record information (e.g., observations, notes, lists, charts, map labels and legends) related to the topic.

PO 2. Write an expository paragraph that contains:

a. a topic sentence

b. supporting details

c. relevant information

PO 3. Write in a variety of expository forms (e.g., essay, summary, newspaper article, reflective paper, log, journal).

Reading

PO 6. Interpret information from graphic features (e.g., charts, maps, diagrams, illustrations, tables, timelines) in expository text. (Connected to Research Strand in Writing)

PO 7. Distinguish cause and effect.

PO 8. Draw valid conclusions based on information gathered from expository text.

Procedure:

Introduction:

In this lesson, students will learn how to develop a home disaster plan.

Steps:

21. Brainstorm possible disasters that can happen at home. Create a list on the board.
22. Discuss disaster plans and talk about safe ways to leave your house if there is a problem.
23. Discuss what a disaster plan is. Give students ideas.
24. Have students sketch a floor plan of their house. Draw an example on the board using the school to help them.
25. Talk about how to safely leave your house if there was an emergency. Have students identify up to three ways to leave their house.
26. Discuss where you should go once you leave your house. Create a second list on the board.
27. Have students identify up three safe places they can go to where they can meet with their family.
28. Have students mark the locations on their home maps.
29. Have students explain their escape plans to another classmate.
30. Brainstorm disasters that can happen and cause us to have to stay in our homes. Create a list on the board.
31. Have students discuss rooms in their houses that can be used as a safe place. Create a list on the board.
32. Have students identify those rooms on their floor plans.
33. With a partner, have students discuss why they picked the rooms they did.
34. End the lesson with the students writing 2-3 paragraphs about how they can safely leave or stay in their houses to be safe during an emergency.

Guided Practice:

Have the students follow the steps form above and monitor their work to make sure they are doing it correctly.

Check for Understanding:

Have a pair of students come up to the front to explain the other person's escape plan.

Reteaching:

Let's review what we learned today. Review vocabulary words: disaster, escape and floor plan. What type of emergencies mean we have to leave our house? What type of emergencies cause us to have to stay in our houses?

Summary:

Today we learned how to identify emergencies and safely leave our house or stay in our house depending on the emergency.

Resources & Materials:

Materials needed:

- *Paper*
- *Pencils*
- *Rulers*
- *Floor plan examples*
- *Pictures of various types of disasters*

APPENDIX H

SAMPLE LESSON PLAN, FIFTH GRADE

Assembling a Disaster Supply Kit

Content Area:

Social Studies
Language Arts

Standard Concept:

Social Studies

Strand 4: Geography

The goal of the geography strand is to provide an understanding of the human and physical characteristics of the Earth's places and regions and how people of different cultural backgrounds interact with their environment. Geographic reasoning is a way of studying human and natural features within a spatial perspective. Through the study of geography, students will be able to understand local, national, regional, and global issues. Students will interpret the arrangement and interactions of human and physical systems on the surface of the Earth. As these patterns have changed over time and are important to governments and economies, geographic reasoning will enhance students' understanding of history, civics, and economics.

Language Arts

Strand 2: Writing Elements

Concept 1: Ideas and Content

Writing is clear and focused, holding the reader's attention throughout. Main ideas stand out and are developed by strong support and rich details. Purpose is accomplished.

Concept 6: Research

Research writing is a process in which the writer identifies a topic or question to be answered. The writer locates and evaluates information about the topic or question, and then organizes, summarizes, and synthesizes the information into a finished product.

Performance Objective:

Social Studies

Concept 1: The World in Spatial Terms

The spatial perspective and associated geographic tools are used to organize and interpret information about people, places and environments.

Concept 2: Places and Regions

Places and regions have distinct physical and cultural characteristics.

Concept 3: Physical Systems

Physical processes shape the Earth and interact with plant and animal life to create, sustain, and modify ecosystems. These processes affect the distribution of resources and economic development. Science Strands are summarized as they apply to Social Studies content in Grades K-8. In High School, the Performance Objectives are a summary of skills and content for grades 9 -12. These concepts are reinforced in Social Studies classes, but assessed through Science.

Concept 4: Human Systems

Human cultures, their nature, and distribution affect societies and the Earth.

Concept 5: Environment and Society

Human and environmental interactions are interdependent upon one another. Humans interact with the environment- they depend upon it, they modify it; and they adapt to it. The health and well-being of all humans depends upon an understanding of the interconnections and interdependence of human and physical systems.

Language Arts

PO 1. Express ideas that are clear and directly related to the topic.

PO 2. Provide content and selected details that are well-suited to audience and purpose.

PO 3. Use relevant details to provide adequate support for the ideas

PO 1. Paraphrase information from a variety of sources (e.g., Internet, reference materials).

(See R05-S3C1-04, -05, -06)

PO 2. Organize notes in a meaningful sequence.

(See R05-S3C1-04, -05, -06)

*PO 3. Write an informational report that includes **main ideas** and relevant details.*

(See R05-S3C1-04, -05, -06)

Procedure:

Introduction:

This lesson is intended to be used after reading the book “Hatchet” by Gary Paulsen. If that is not done, simply omit exercises related to the book.

Steps:

35. Discuss what helped Brian in “Hatchet” survive his time after the plane crash. Have students write 1-2 paragraphs explaining what they thought were the most important skills and supplies he used.
36. Discuss what people need to have in their house in case there is a power outage or strong storm. Make sure the students understand the emergency could last several days.
37. Explain the need to have 3 days of food and water per person in the household and have this stored in an emergency kit in their houses.
38. Put students in groups of 3-4.
39. Instruct students to create six categories:
 - a. Food
 - b. Kitchen items
 - c. First aid kit
 - d. Tools and supplies

- e. Clothing and bedding
 - f. Household documents and contact numbers
 - g. Special items, e.g. baby needs, prescription medications
40. Have students brainstorm 5-6 items for each category, list on board.
 41. Assign one category for each group. Have them expand on the initial list and write each item on post-it notes.
 42. When students are done, put up pre-labeled posters around the room, one for each category. The posters should have the title of the category and three columns, YES, NO, NOT SURE.
 43. Students are to move to the poster for their assigned category and place their post it notes in the YES column.
 44. Then instruct students they will be moving from poster to poster round robin style. Each group will have 2 minutes at each poster to determine if the post its notes are in the correct column. This is done until each group has visited each poster and has returned to their original poster.
 45. Students are to take the posters back to their tables and discuss how the items ended up.
 46. The teacher should then pass out a copy of the recommended items for each category and students need to write down how accurate and successful they were in their determinations.
 47. Students can then take home the copies of the recommended lists to discuss with their families.

Guided Practice:

This will happen throughout the lesson as instructions are given and students move about the room.

Check for Understanding:

This is determined by the final summary students turn in for each group.

Reteaching:

Students will go home to discuss and educate their own families about what they learned.

Summary:

Today we learned what supplies we need to have access to in case of an emergency.

Resources & Materials:

Materials needed:

- Paper
- Pencils
- Post it notes

- *Butcher paper*
- *Copies of disaster supply kit recommendations from FEMA website*