



Impact Analysis of the Canadian Red Cross Expect the Unexpected Program

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The **Institute for Catastrophic Loss Reduction** (ICLR) is a research organization, established by Canada's property and casualty insurance industry specializing in disaster prevention research. ICLR is committed to conducting quality, multi-disciplinary research that looks to understand the triggers of natural disasters as well as identifying effective ways to reduce the impact of these events on our social, economic and cultural lives. To this end ICLR has strategically supported research activities at Universities across Canada, concentrating on four research priority areas:

- Reducing wind and earthquake damage to housing, buildings and infrastructure
- Understanding risk management and prevention
- Enhancing government science related to natural disasters
- Improving community actions for disaster prevention

The **Canadian Red Cross Society** is a non-profit, humanitarian organization dedicated to improving the situation of the most vulnerable in Canada and throughout the world. Since it was established more than 100 years ago, the Canadian Red Cross has become part of the nation's social fabric, providing disaster relief and preparedness, water safety programs, first aid training, community home care, violence and abuse prevention services, and international aid.

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Executive summary

Emergency preparedness can be considered a social phenomenon in which people alter their behaviour in attempts to prepare for an emergency in response to a perceived threat in their environment. Given that natural disasters have increased in frequency and intensity, the need for both present and future generations to actively undertake emergency preparedness activities has heightened in recent years. Responding to this need, the Canadian Red Cross designed the *Expect the Unexpected*, a curriculum based school-aged disaster education program aimed at educating public attitudes and encouraging the adoption of disaster preparedness behaviours.

The central focus of this study is to assess the effectiveness of the Canadian Red Cross' *Expect the Unexpected* Program. The program is divided into three separate age-oriented components: *It Can Happen, Be Ready* (7 to 8 years), *Facing the Unexpected, Be Prepared* (10 to 11 years), and *Be Ready, Be Safe* (12 to 13 year). Through structured self-administered questionnaires to teachers who delivered the material, the participating students and their respective households, information was obtained on the quality and utility of the curriculum and barriers to its implementation. Emphasis was placed on examining the relationship between exposure to the program and behavioural change in household emergency preparedness activities.

Of the 3,477 questionnaires that were mailed to students, 429 responses were received. Approximately 53% of them had not been exposed to the program, while nearly 47% had participated in one of the *Expect the Unexpected* courses. This division provides a balanced perspective between the participants and non participant comparison group. Results reflected that the combination of student satisfaction, teacher re-use of material and household emergency preparedness behaviour showed that the program had a positive impact on both the students and their households. Distilling which emergency preparedness behaviours were implemented in the homes indicated they now had a three-day supply of food & water and an evacuation plan.

Arising from the study's findings were three general recommendations:

- A need for the Canadian Red Cross to strengthen their relationship with local school boards, placing emphasis on working towards having the *Expect the Unexpected* put into school-boards resource centers
- Emphasize should be placed on developing an interactive activity that the students can complete together with their parent/guardian.
- A comprehensive program evaluation framework needs to be implemented and exercised on a regular basis, to ensure the long-term viability.

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Introduction to study

The central focus of this study is to assess the effectiveness of the Canadian Red Cross' *Expect the Unexpected* Program. The program is divided into three separate age-oriented components: *It Can Happen, Be Ready* (7 to 8 years), *Facing the Unexpected, Be Prepared* (10 to 11 years), and *Be Ready, Be Safe* (12 to 13 year). *Expect the Unexpected* is the only curriculum based school aged disaster education program in Canada, designed to inform public attitudes and encourage the adoption of disaster preparedness behaviours.

To determine the program's effectiveness two main benchmarks were used: (1) feedback from teachers, students and parents regarding the quality and utility of the curriculum and barriers to its implementation and (2) an examination of the relationship between exposure to the program and behavioural change in household emergency preparedness activities. The target audience of this research is the teachers who delivered the material to their class, the students who participated in the program and the households of these students.

In order to collect the necessary data from the three populations' two self-administered structured questionnaires were developed. The teacher survey was targeted at those teachers who originally delivered the curriculum, while the student/parent questionnaire was split into two parts, a section for the students who received the curriculum followed by a section for their parents or guardians.

The teacher questionnaire was designed to elicit information on the delivery method, language of instruction, preferred mode of communication, frequency of implementation, and desired teaching aids. Part A of the student/parent survey sought to assess student enjoyment, perception of their ability to cope with an emergency and which component of the program they received. Part B of the questionnaire was designed to gauge parent/guardian perception of disaster risk, their attitudes toward disaster preparedness, measure current household preparedness, explore barriers to preparedness activities and determine preferred methods for delivery of disaster safety information.

Literature review

Over the last few decades, the frequency and intensity of weather-related natural disasters have risen significantly. In addition to a more volatile natural environment, aging urban infrastructure and an increasingly complex and interdependent network of technological systems have created a multitude of hazards to which humans are vulnerable. Within this more hazardous environment, the impacts of disasters have also risen sharply, disrupting the lives of those affected and causing unprecedented property damage and loss (Kovacs and Kunreuther, 2001).

Since the mid-1980s, considerable research attention has been given to the psychosocial effects of disasters on children. In 1987, McFarlane observed the symptoms of a group of children in the U.S. after a major fire, noting that they exhibited several symptoms of posttraumatic stress disorder (PTSD). Moreover, he observed that the effects of the disaster on the children were long-term; some of the children continued to be affected by the event up to 26 months after it occurred (McFarlane 1987). A similar study conducted in 1988 examined the reactions of children to a flood one-year after the event, concluding that the effects of disasters on children can be long-term (Earls et al. 1988).

In 1991, Green et al. studied psychiatric reports of children aged 2 to 15 following a flood, finding that the severity of PTSD symptoms in children after a disaster varied depending on age. Because of a difference in cognitive abilities, younger children tended to exhibit fewer symptoms of PTSD than older children. The researchers posited that “the older child will be able to ‘understand’ what happened in a more cognitively sophisticated way, have some appreciation of present and future consequences, and experience more sophisticated reactions, which include attempts to fend off reminders and the meaning of the event (Green et al. 1991, p. 949).”

A 1994 assessment of children after Hurricane Hugo indicated that school performance decreased among children who had experienced the event, and that the magnitude of the decrease was linked to the severity of post-disaster symptoms (Shannon et al. 1994). In the sample that was assessed, the average decrease in school performance among children diagnosed positive for PTSD was more than three times that of children who did not display symptoms serious enough to be diagnosed with the disorder.

A 1996 study assessing the effects of Hurricane Andrew on 442 elementary school children in Florida, noted that the children suffered from specific symptoms including “intrusive thoughts or dreams of the disaster (i.e., re-experiencing symptoms), feelings of detachment or avoidance of disaster-related activities (i.e., psychic numbing or avoidance symptoms), and difficulty sleeping or concentrating (i.e., hyperarousal symptoms) (La Greca et al. 1996, p. 712).”

In light of the increased emphasis on terrorism within the emergency management community in the United States and Canada, it should also be noted that the mental health effects of disasters vary

by type. There is evidence to suggest that the mental health impact of technological disasters and terrorist attacks can be much greater than natural events (Hart 2002). While this emphasizes the importance of using an all-hazards approach, it is also vital to ensure that disaster education is not completely restricted to technological agents given the impact and frequency of natural events.

Given the significant impact that disasters can have on school-aged children, it is important to identify ways in which to prepare children before a disaster happens. One way to achieve this is through school-based disaster education. There are few disaster education programs available for children. Of the material that is available to parents and educators in Canada and the United States, most is reactive, structured to help children understand and cope with disasters after they have occurred. Education programs designed with preventive messages are much less common.

Post-disaster education materials are generally provided by mental health and psychiatry-based organizations, most of which are in the United States, such as the American Academy of Child and Adolescent Psychiatry, the National Association for the Education of Young Children and the National Mental Health and Education Center. With the majority of the material geared towards helping children cope with the effects of disasters, particularly those caused by human-induced activities.

Information available for teachers who are interested in designing a disaster education program takes two main forms. The first is *information* - information on specific hazards that can be used by educators to form their own lesson plans – and is generally readily available from a variety of sources. The second form is *curriculum* – ready-to-use lesson plans and support materials that can be taken and integrated with other subjects to teach children broad hazard awareness and risk management practices. This form of program is generally quite rare and is only available from a few sources.

Information

Hazard-specific information is more prominent than comprehensive education programs, probably because it is easier to organize and less expensive to disseminate. In both the United States and Canada, there is a wealth of information on natural hazards like earthquakes, hurricanes, tornadoes and floods that can be used by educators to develop lesson plans.

In Canada, one notable example is the National Earthquake Hazards Program of the Geological Survey of Canada, which has provided earthquake information for teachers from its website since 1998 (GSC 1998). Similarly, since 1997, the Canadian Hurricane Centre of Environment Canada contains a “Just For Kids” section on its website to provide information on the science of hurricanes and how children can protect themselves from them (Canadian Hurricane Centre 2002). Sécurité Publique Quebec provides an array of information for children and teachers on natural disasters and emergency preparedness (Sécurité Publique Quebec 2002). In examining these sites, it was surprising to find that only the last two offered information in both English and French. Some disaster information sources fall between the information and curriculum forms in that they incorporate ready-to-use lessons, but focus only on one hazard or group of hazards. For example, since 2000, the website of the United States Geological Survey (USGS) has been a valuable source of materials for teaching about earthquakes. At the site, teachers can find prepared lesson materials that incorporate scientific data, activities and games and are organized and grouped by grade level

(USGS 2002). One potential drawback of the site is that the information is only available in English.

Curriculum

Perhaps the most prominent sources of school-based disaster education curriculum are the Federal Emergency Management Agency (FEMA) and the American Red Cross. FEMA produces a wide variety of literature and support materials that can be used by educators in designing a disaster education program, distributed through its *FEMA For Kids* website, which was launched in 1997. Most of these resources are available in English only, with a few translated into Spanish. This program focuses on U.S. hazards, and the printed version of these materials is not available for shipment to Canada (FEMA 2002).

The American Red Cross has also developed a variety of materials, perhaps the most popular of which is “Masters of Disaster”, a collection of lesson plans and materials targeted to three age groups of elementary children, designed to fit within existing curriculum and meet National Education Standards (American Red Cross 2002). After a pilot test and extensive review process, the program was made available in 2000 in both English and Spanish. Since its deployment, feedback from educators has been very positive and an impact assessment of the program will begin in 2003 (Lopes 2002).

In Australia, the Disaster Education in Schools Program of Emergency Management Australia provides lessons plans and support materials for teachers to use in the classroom to educate students about natural and technological disasters. Lesson plans are targeted to specific age groups and focus on particular hazards, with information and activities to enhance children’s knowledge of natural hazards and what they can do to protect themselves (Emergency Management Australia 2002).

The Canadian Red Cross’ *Expect the Unexpected* program is the only curriculum-based school-aged disaster education programs in Canada. Released in its current form in 2001, the program is unique in that it offers packaged and ready-to-use materials that can be incorporated into existing classroom curriculum, targeted toward three distinct age groups (Canadian Red Cross 2002). The program is nationally applicable, as it is available in both official languages.

One other notable program that is available in Canada is *Risk Watch*, a set of materials produced in 1998 by the National Fire Protection Association (NFPA) that are designed to teach children to be aware of dangers in their environment, such as fire and poison, and to be safety-conscious in their day-to-day activities (NFPA 2002).

Assessing Effectiveness

Though it may seem logical that hazard education programs would help people prepare for and deal with disasters. Very few studies have been done to assess the effectiveness of disaster education programs, particularly those crafted for children. Moreover, of the few studies that exist, none have been conducted in a Canadian context.

Determining the effectiveness of a disaster education program is difficult, as there are many criteria by which they can be assessed. In the few studies that exist, the measurement of effectiveness is based on the hazard awareness of recipients before a disaster or the psychological response of recipients after a disaster.

In 1993, Faupel and Styles interviewed residents around Charleston, South Carolina to gauge how participation in disaster education programs, household preparedness and planning activities affected levels of stress following Hurricane Hugo. The study compared the stress reactions of residents who had participated in a university-sponsored public education program with those who had not. Contrary to their expectations, the researchers found that respondents who had participated in the pre-disaster education program exhibited "...significantly higher levels of both physiological and psychological symptoms of stress (p. 244)", but suggested that "...far from having a dysfunctional effect, the stress induced by participating in disaster education programs and household planning activities probably functions to lower injury to life and property." Though the study did not focus specifically on disaster education for children, it pointed out that "[a] major function of disaster education is to heighten cognitive awareness of the potential dangers of natural hazards and to foster awareness of what sorts of activities might mitigate such damages (p. 244)."

In 2001, Ronan et al surveyed 409 children, ranging in age from 5 to 13 years, in and around Auckland, New Zealand. The survey sought to measure the current level of awareness of natural hazards among the children, gauge their risk perceptions and assess the effectiveness of disaster education programs. After an in-depth analysis of the impacts of hazard education for children, the researchers made the following observations:

"...children who were involved in a hazards education programme clearly had an advantage over those who reported not being involved in a hazards education programme. Hazards-educated children had more stable risk perceptions, reduced hazard-related fears, and a much greater awareness of the most appropriate hazard-related protective behaviours compared to non-educated children. In addition, children who reported being involved in two or more education programmes were significantly more aware of essential protective behaviors compared not only to non-educated children but also to children who reported being involved in only one hazards education programme. The findings of this study are strongly supportive of the continuing value of hazard education for children. In fact, as some children from every school involved in this survey reported not being involved, a primary recommendation here is for schools to consistently implement education programmes on a regular basis: some education was clearly better than no education and findings are also suggestive that more education appears to be better than some (p. 23)."

Elaborating on their previous study, Ronan and Johnston (2001) further investigated specific elements of school-based hazard education programs, finding that overall effectiveness can be enhanced by:

- integrating specific emergency management-related knowledge, such as appropriate protective behaviours to employ in case of a disaster,
- incorporating knowledge of hazards and the appropriate response to them,
- involving an interactive component, such as encouraging the child to share knowledge with parents, and
- integrating a graduated hazard education program within core school curriculum to periodically expose children to new material and refreshing them on material previously-learned.

The researchers suggested that hazard education can serve two purposes: one, it can help children “understand what they can do relatively independently to be prepared physically and emotionally, and those areas in which sharing information with adults may be worthwhile”, and two, it can increase the potential that parents will become better educated through the information shared by the child (p. 1062).

Though the methodology employed in these studies varied, each incorporated an assessment of the effectiveness of disaster education. Based on the conclusions of the above studies, it appears that people who receive disaster education are more aware of hazards in their environment and are psychologically better prepared to deal with disasters.

Another way to assess the effectiveness of disaster education programs is to examine the links between disaster education and behavioural change; that is, whether or not the knowledge imparted leads to sharper risk perception and vulnerability-reducing behaviour, such as greater individual or household preparedness. According to Fitzpatrick and Mileti (1994), the link between disaster education and risk perception could not be clearly established, and the characteristics of the message conveyed in such a program are critical to its effectiveness. For example, the effectiveness of a program depends on a number of factors, including the credibility of the source, the accuracy of the data, and the consistency and frequency of the message (Fitzpatrick and Mileti 1994).

Research on disaster preparedness in the United States has found that preparing in advance for emergency situations can save lives, reduce injuries and limit property damage, enabling communities to recover more quickly (Quarantelli 1994). Though preparedness is one of the most important elements of emergency management, many people remain unprepared when a disaster strikes. In a survey of 744 households in Oregon, less than 30 percent of respondents had a household emergency plan, although the majority indicated that they would be willing to spend more time on preparedness (Government of Oregon 2002). In Canada, a survey of 576 households was conducted in Kingston, Ontario in 2001 to determine levels of emergency preparedness for extended winter power-outages, fires and medical emergencies (City of Kingston 2001). The study indicated a generally low level of preparedness among respondents and highlighted a number of areas where improvement was necessary, but it did not investigate factors that determine levels of household preparedness.

At the personal and household levels, ethnic and minority status, gender, language, socioeconomic status, social attachments and relationships, economic resources, age and physical capacity have all been identified as determinants of the propensity of people to take preparedness action (Mileti 1999). Larsson and Enander (1997) suggest that a lack of preparedness can stem from uncertainty (i.e. - not knowing what to prepare for or how to prepare), general unwillingness and apathy or a belief that it will be of no use. Paton and Johnston (2001) add to this list the belief that someone else will do it (e.g. government). A final deterrent to personal preparedness is a skewed perception of risk, or “unrealistic optimism”, which makes preparedness activities seem futile or unnecessary (Weinstein 1984). Further research has shown that citizens plan only for the immediate future, overestimate their ability to cope when disaster strikes and rely heavily on emergency relief (Tierney et al, 2001).

The general lack of household preparedness in the United States and Canada highlights the need for disaster education, which can increase awareness of environmental hazards, foster appropriate perceptions of risk and encourage vulnerability-reducing behaviour. Through this brief overview of the literature, it is evident that disasters have a significant impact on school-aged children and that hazard-specific information and comprehensive disaster education programs targeted at school-aged children have only begun to emerge over the last 10 years. An assessment of existing disaster education materials has revealed that most information is only available in the form of hazard-specific data, while there is a relative lack of comprehensive curriculum packages that teachers can incorporate into lesson plans.

This review has also shown that, despite the value of disaster education as a stimulus for vulnerability-reducing behaviour, there are surprisingly few studies, which evaluate disaster education programs, based on the link between the information imparted and behavioural change. This is clearly an area where further research is required, particularly within the Canadian context. As such, by incorporating concrete measures of behavioural change, one aim of the Canadian Red Cross Impact analysis of the *Expect the Unexpected* program is to contribute to the limited body of research in this area.

Research design and methodology

Research Proposal

The focus of this project is to assess the effectiveness of the *Expect the Unexpected* program. To determine the program's effectiveness two main benchmarks were used: (1) feedback from teachers, students and parents regarding the quality and utility of the curriculum and barriers to its implementation and (2) an examination of the relationship between exposure to the program and behavioural change in household emergency preparedness activities. The target audience of this research is the teachers who delivered the material to their class, the students who participated in the program and the households of these children. For purposes of this study, "household" is defined as a person or group of people who occupy the same dwelling as their primary residence.

Canadians are urged by government, non-governmental organizations and the private sector to undertake personal and household preparations for an emergency or disaster situation. Despite the vast knowledge and programs nested within the title emergency preparedness, differing opinions exist on what constitutes the nature of this issue. For purposes of this study the researcher has chosen to employ the definition used by both the Office of Critical Infrastructure Protection and Emergency Preparedness (OCIEPEP) and the Canadian Red Cross as follows: Emergency preparedness are those activities that prepare an individual or household to provide for their basic needs of security (health and safety), shelter, food, water and clothing for up to 72 hours following an emergency impacting their community (1998).

In order to assess the second benchmark of the study, indicators of what constitutes behavioural change in relation to emergency preparedness were selected. Unfortunately no universal definition of the actions a household should have in place to protect them from the impacts of an emergency or disaster situation exist in the disaster management community. Further research appears to have been done to prioritize the value of one emergency preparedness activity over another, thus leaving the selection of which emergency preparedness variables to use in the assessment to items regularly advertised by the disaster management community. Five items were selected that transcend the composition of disaster safety kits as advocated by the Institute for Catastrophic Loss Reduction, Office of Critical Infrastructure Protection and Emergency Preparedness and the Canadian Red Cross. The five emergency preparedness items are: a 3-day supply of canned food and water for each member of the household, a family evacuation plan, a portable battery-operated radio, a flashlight with functioning batteries, and home or apartment insurance.

Sample selection

From 1996 to 2002, the *Expect the Unexpected* program was delivered to 35,418 students across the country with the cooperation of 175 teachers and this group was to form the basis of the study population (CRC, 2002). Therefore, the initial research design determined that a sample of nearly

7000 cases was necessary in order to achieve the highest standards for acceptable ranges of error and ensure reliability for the testing of variable relationships. However, several intervening factors led to a revision in the scope of the sample drawn for this study.

From 1996-1999 the implementation of *Expect the Unexpected* had been geographically concentrated in Québec, particularly in Montérégie and Saguenay, resulting in these regions being over-represented in the study population, relative to the other regions. Compared to areas such as Newfoundland and Saskatchewan where the program was introduced in 2002, resulting in these regions having a limited number of people exposed to the program. As such, a disproportionate sample was created to obtain more representative results. As the study progressed, however, it became apparent that, in some of the regions, it would be difficult or impossible to track the students. The initial implementation of this program was not designed to support program evaluation, as it lacked standardized reporting, data collection measures and feedback mechanisms from participants. In particular, there was no formal structure for communication with schools, Red Cross branches and the administration of the material. These challenges were impossible to overcome for the schools in both the Saguenay and Montérégie regions. For these reasons the two regions had to be eliminated from the study completely. This reduced the population of the study to 8,035. As a result, a decision was made to remain with the disproportional sample calculation, recognizing that this would eliminate the possibility of analyzing regional differences, as the proportions would not match. 3477 student/parent questionnaires and 53 teacher surveys were distributed.

With the sample population spanning a five-year timeframe, the study needs to account for the time that had passed since the program was administered in the schools. Operationally this meant that the study needed to survey students who were potentially four grade levels higher than when the program was delivered. Accounting for this fact meant projecting the students forward into their 2003 grade level, recognizing that the significant lag time translated into not all students in the projected class having participated in the *Expect the Unexpected* program. The non-participants would therefore become a built-in comparison group of students who had not been exposed to the curriculum messages. This comparison group would then be used to test the effectiveness of the program in changing household disaster preparedness behaviours.

School selection

Once the sample numbers were determined for each region, a non-random method was used to select the schools that would be surveyed. This was done to ensure that participating schools were sufficiently representative of each region, program level and language of instruction. The distribution of the schools in each of the geographical areas is outlined in Table 1.

Table 1. Schools Selection and Age Distribution

Region	Number of schools	Ages 7-8	Ages 10-11	Ages 12-13	Total
Sudbury, Ontario	7	284	237	244	765
Red Deer, Alberta	9	355	377	151	883
Laval, Quebec	9	279	259	228	766
Brandon, Manitoba	11	0	545	0	545
Newfoundland	4	0	166	305	471
Saskatchewan	1	0	47	0	47
TOTAL	41	918	1631	928	3477

Questionnaire design and pilot testing

In order to collect the necessary data to evaluate the *Expect the Unexpected* program, a structured mail-out questionnaire was developed.¹ This format was chosen for a number of reasons. First because the study was completed within an academic year, an expedient and efficient method was required. Additionally, structured mailed questionnaires maximize financial and human resources needed to tackle the significant size and geographical distribution of the population.

Two questionnaires were designed for the study. The first was targeted at the teachers who originally delivered the curriculum and the second was split into two parts, a section for the students who received the curriculum followed by a section for their parents or guardians (Appendix A). Because the questionnaire was self-administered, it was designed as simply as possible, and was accompanied by specific instructions for completion.

The questionnaires were structured primarily with closed-ended questions to ensure consistency in the data collected and to facilitate useful comparisons among responses. Questions were designed to measure a number of variables, including hazard awareness, behavioural change as a result of program involvement, extent of knowledge transfer, perceived value of the materials and student enjoyment. Since the questionnaires were to be delivered in both English and French, questions were worded such that translation would be easy and accurate.

The teacher questionnaire was designed to elicit information on the delivery method, language of instruction, preferred mode of communication, frequency of implementation, and desired teaching aids. Part A of the student/parent questionnaire sought to assess student enjoyment, the language they received the program in, perception of their ability to cope with an emergency and which section of the *Expect the Unexpected* program they participated in. Part B of the questionnaire was designed to evaluate the parent/guardian's disaster safety awareness. First, it sought to gauge parent/guardian perception of risk and their previous disaster experience. Following this the survey looked to assess their attitude's towards emergency preparedness, measure current household preparedness, explore barriers to preparedness and determine preferred methods for delivery of disaster safety information.

¹ The initial research design envisioned the development and use of a Canadian Red Cross database containing information on users of *Expect the Unexpected* since the program's inception in 1996. However, because no data-keeping system was established at the launch of *Expect the Unexpected*, the database had to be pieced together from many sources and a great deal of information was missing.

An informal pre-test of the questionnaire was carried out with a small number of subjects. Careful attention was given to matching the ages, language and gender expected in the study population. The feedback received suggested various changes to the format, which were subsequently incorporated into the questionnaire.

When the questionnaire was nearing completion, the Canadian Red Cross was given an opportunity to provide feedback prior to its finalization. In addition, Dr. Fred Evers, Professor of Sociology at the University of Guelph as well as Director of the Center for Educational Research and Assessment, offered helpful comments to improve the survey's effectiveness.

Data collection

Once schools were selected for the study, the student/parent questionnaires were packaged and shipped to the appropriate teachers, with a letter explaining the study and a request for their students to complete and return the questionnaires within 4 weeks. To aid the questionnaire receipt and implementation, two weeks prior to the questionnaires being sent out to the schools, a notice was sent to the principals of the corresponding schools, informing them that the study was underway and a survey would follow requiring their assistance for its completion and return.

A separate mailing was carried out to obtain the necessary information from the teachers, who originally delivered the program. Mirroring the timeframe used for the student/parent survey distribution, questionnaires were sent directly to the teachers identified asking them to complete and return the survey within a 4-week period. It is important to note that due to the significant lag time of the study being conducted and the program being administered that a fair number of the teachers were no longer present at the original school, thus reducing the number of potential participants in this section of the study.

The questionnaires were conducted during a six-week period from April 1, 2003 to May 12, 2003. The response rate was expected to be a challenge² because the research study was designed to use structured impersonal mailed surveys and required the cooperation of others for their administration. A number of steps were employed to increase the number of responses collected. First, self-addressed UPS envelopes were provided to each teacher in order to facilitate the return of the questionnaires without imposing a cost to the school. Second, an incentive system was created to encourage quick returns and reward early completion. The incentive system was outlined in the packages mailed to teachers. They were informed that the first class in their region to return the completed questionnaires would be treated to a Disaster Safety Pizza Party (which would combine fun with a session on disaster safety activities). The class would also be awarded a first aid kit and safety whistles for each student. Third, two weeks after the packages were mailed; the schools were contacted individually by phone to ensure they had received the questionnaires and to encourage teachers to participate in the study by completing and returning the surveys.

² Impersonal mail-out questionnaires commonly result in response rates of between 10 to 40 percent. See Palys, Ted. 1997. *Research Decisions: Quantitative and Qualitative Perspectives*. Harcourt Brace & Company: Canada.

Findings

Of the 3,477 questionnaires that were mailed to students, 429 were completed and returned, giving an overall return rate of 12.3 percent thus falling within the low range return rate.² (See Table 2). Though return rates in most regions were elevated in relation to their sample proportion, responses from Red Deer were disappointingly low (5.4 percent). Upon further investigation of Red Deer's low return rate, the primary reason seemed to be a job action campaign. The study relied heavily on the cooperation of teachers to administer the questionnaires to students. During the period in which questionnaires were mailed, teachers in several of the Red Deer school divisions were engaged in job action against the provincial government, which included a suspension of non-essential duties. As a result, many teachers were unwilling to participate in extracurricular activity including assisting with the study. Additionally in the Red Deer, Laval and Brandon regions, most teachers attributed the lack of board consent as an obstacle to partake in the study. Notices were sent to the relevant school boards in each region informing them that the survey was underway, some school board representatives expressed surprise that the *Expect the Unexpected* program had been taught at schools in their jurisdiction without board approval. And as such, indicated that they were uncomfortable supporting the study.

Table 2: Student/Parent Survey Population and Response Rate

Region	Population of Students	Percentage of Population	Number of Questionnaires Mailed	Percentage of Total Mailings	Surveyed Returned	Response Rate	Percentage of Response
Sudbury, Ontario	2223	27.7%	765	22.0%	105	13.7%	24.5%
Red Deer, Alberta	3486	43.4%	883	25.4%	23	2.6 %	5.4%
Laval, Quebec	1263	15.7%	766	22.0%	157	20.5%	36.6%
Brandon, Manitoba	545	6.8%	545	15.7%	60	11.0%	14.0%
Newfoundland	471	5.9%	471	13.6%	64	13.6%	14.9%
Saskatchewan	47	0.6%	47	1.4%	20	46.0%	4.7%
Total	8035	100%	3477	100%	429	100%	100%

Statistically, the sample can only be confidently extrapolated to the survey population (8,035 students), even with pure randomization in the selection of cases surveyed and the responses collected. For this study, the cases were randomly selected from among those schools that were determined to be representative of the student populations that received the program. Another key consideration when applying the findings of the survey is whether the percentage of responses closely corresponds to the regional proportions identified in the population. As Table 2 indicates, the sample is proportionally matched in the Sudbury, Brandon, and Newfoundland regions. Accordingly, it is important that only the aggregate results be reported given the absence of data

from the critical regions of Saguenay and Monteregie in Quebec and the lack of conformity in the regional proportions. It would not be appropriate to report differences between communities, given the return information available.

Teachers who delivered the program to their classrooms were the third target group that the study examined. Of the 53 questionnaires that were mailed, 14 were completed and returned, giving a return rate of 26 percent. Investigation of the low response rate found a high turn over rate in elementary school teachers, resulting in a reduction in the potential number of teachers available to respond. Therefore, the findings of the teacher’s questionnaire cannot be extrapolated beyond the respondents.

Description of subjects

Of the 429 student responses approximately 53 percent of them had not been exposed to the program, while nearly 47 percent had participated in one of the *Expect the Unexpected* courses. This division provides a balanced perspective between the participants and non-participant comparison group. For the distribution among the courses see Table 3. Most of the respondents received the program in English, 79 percent, while 17 percent received it in French and 4 percent received it in both languages.

Table 3: Program Distribution

Type of Program	Number of Respondents	Percentage of Respondents
It Can Happen, Be Ready	80	18.6 %
Facing the Unexpected	102	23.8 %
Be Ready, Be Safe	20	4.7 %
Did not participate in the Expect the Unexpected	227	52.9 %
Total	429	100 %

Among the parent/guardian population, 80 percent of respondents were female and the majority (79 percent) lived in a single-family dwelling. The educational attainment of this cohort was slightly higher than that of the wider Canadian population: 21percent had completed high school (versus 14 percent nationally) and 18 percent had completed a university degree (versus 16 percent nationally) (Statistics Canada, 2001). Many of the subjects in the sample perceived household income as private information; however, of the respondents that provided this data, 35 percent had an annual household income below \$40,000, 40 percent were between \$40,000 and \$80,000 a year, and 25 percent had incomes exceeding \$80,000.

Of the teacher respondents, the *Facing the Unexpected, Be Prepared* program was the section most often implemented at 57 percent, while 36 percent of teachers had administered *It Can Happen, Be Ready* and 7 percent delivered *Be Ready, Be Safe* to their classrooms. Within the group of teachers surveyed, the gender mix was skewed in favour of females at 75 percent, compared to 21 percent of male respondents. The professional experience of the teachers surveyed ranged from 29 percent having 3 to 5 years of experience, 21 percent holding 6 to 10 years, 14 percent with 11 to 15 years and 36 percent possessing 15 or more years in the field.

Effects of child's participation on household disaster preparedness

One of the study's primary objectives was to examine the relationship between participation of the student in the program and its influence on household emergency preparedness behaviours. To accomplish these goals two questions were included on the questionnaire, specifically addressing whether or not program information was passed from child to parent/guardian, and if this had any impact on their preparedness activities.

The findings showed that 84 percent of the students enrolled in the program did not share the disaster safety information with their parent/guardian. When parent/guardians were asked directly if their child's participation affected their household emergency preparedness actions, 49 percent reported that their child's involvement had no influence their preparedness activities.

However it is important to highlight that 16 percent of the students participating in the *Expect the Unexpected* did relay the safety information to their households. Of the households that received the information 51 percent indicated that their child's participation did prompt them to engage in emergency preparedness. Clarification on which specific actions were undertaken as a result of this information sharing showed a statistical association with two of the preparedness indicators. Nearly 75 percent of households whose child had shared the program material had an evacuation plan in place, compared to 53 percent of homes whose child did not share the program material. Similarly, 50 percent of the homes whose child relayed the information claimed to have a 3-day supply of food and water, versus 26 percent of households that did not receive the messages. The remaining measures of household preparedness did not reveal any noteworthy relationships.

A conclusive relationship between student participation in the *Expect the Unexpected* program and changes in household emergency preparedness activities can not be confirmed from the data collected. Although a statistical association was present, controlling for the numerous intervening variables that potentially influence household preparedness exceeded the parameters of this study.

Household emergency preparedness

Experience has shown us that household emergency preparedness is one of the most effective means of mitigating the personal effects of a disaster. By preparing emergency provisions, members of a household can turn what could be a life-threatening situation into a manageable problem. Once the disaster strikes, the time needed to purchase or gather supplies will likely not be available. However if these activities are done in advance then individuals can endure an evacuation or home confinement more successfully.

The questionnaire reflected five indicators selected to assess household emergency preparedness which included having a flashlight with functioning batteries, portable battery-operated radio, evacuation plan, 3-day supply of canned food and water, and home or apartment insurance (Figure 1). Questions designed to gauge specific elements revealed that household preparedness among respondents was mixed (see Table 4):

Table 4: Household Emergency Preparedness Variables

Preparedness Variable	Percentage among all respondents	Percentage of respondents who participated & shared information of the program
Flashlight with functioning batteries	91%	97%
Home or apartment insurance	86%	89%
Portable, battery-operated radio	70%	73%
Household Evacuation plan	57%	74%
3 day supply of canned food and water	38%	50%

The figures contained in Table 4 highlight the distribution of the preparedness indicators among the respondents and show a relationship between the preparedness variables and those respondents who were enrolled in and shared *Expect the Unexpected* information with household members. While this relationship exists it is important to examine the preparedness variables individually and account for any external factors that may have influenced this result. For example the flashlight with functioning batteries and portable battery-operated radio are two common household items, the questionnaire did not control for why respondents had these items or if they were gathered together in a disaster safety kit, simply that they were present in the home. Furthermore, respondents did not accurately count if their home was equipped with a 3-day supply of food and water for each member of the household rather their answers were based on an educated guess.

Noting that 79 percent of the respondents lived in single family dwellings, which are more likely to have insurance, as it is a prerequisite for obtaining a mortgage, can explain the high percentages of people with insurance. Insurance is an important tool for the management of hazard risk working to reduce the potential financial consequences of disasters. There is a body of research that shows a high degree of correlation between the purchase of insurance and other emergency preparedness actions (Kunreuther & Roth, 1998). Cross-tabulations were run comparing education and income against the various measures of emergency preparedness. These tests showed a positive statistically significant correlation between both education level and annual household income, with the likelihood of the respondent having home or apartment insurance.

Despite the varied levels of household preparedness among respondents, 78 percent suggested that there are no barriers preventing them from participating in emergency preparedness activities. The remaining 22 percent indicated that their disaster preparedness efforts are hampered by time pressures (33 percent), lack of information (29 percent) and lack of financial resources (26 percent).

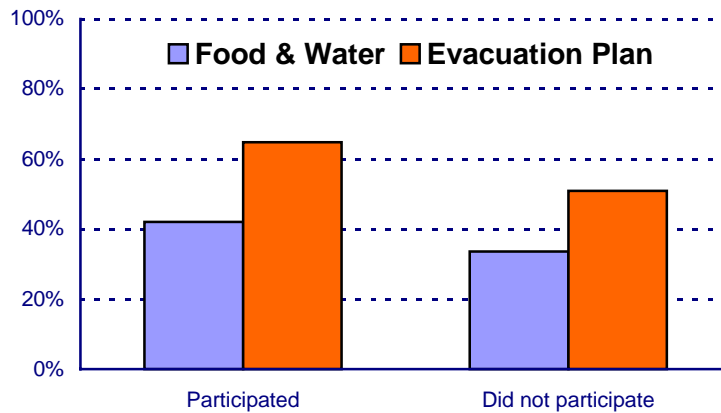
As noted in the literature review, perception of risk and citizens overestimating their ability to cope with disasters are among the identified determinants of the propensity of people to take preparedness action. When parents and/or guardians were asked whether or not they considered their households to be prepared for a disaster, 33 percent believed their home was prepared for an emergency, 25 percent said no and 42 percent were unsure. Questions targeted at who the respondents felt should be responsibly for household emergency preparedness produced the following results:

Table 5: Responsibility of Household Emergency Preparedness

Responsibility for Emergency Preparedness	Percentage of respondent
Municipal Government	25 %
Federal Government	15 %
Provincial Government	14 %
Personal Responsibility	27 %
Canadian Red Cross	17 %
Other	2 %
Total	100 %

It is important to note that 53 percent indicated that household emergency preparedness should be a government responsibility while only 27 percent indicated that it should be a personal responsibility. With Canadian legislation based on the premise that individuals are responsible for being self-sufficient in providing for their basic needs for a minimum of 72 hours following an emergency or disaster situation, this finding is disturbing. Interestingly, another 17 percent of respondents designated this responsibility to the Canadian Red Cross. However, the variations in household preparedness do not stem from differing views of who should be responsible for preparing homes for disasters.

Figure 1. Percentage of Participants and Non-Participants in the Expect the Unexpected Program with a Household Evacuation Plan and a three-day supply of food and water.



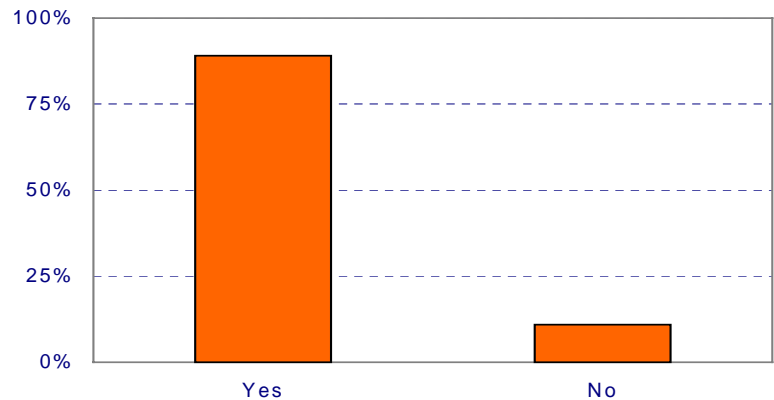
There were little difference between respondents based on whether they thought preparing households against a disaster was a federal, provincial, municipal, Canadian Red Cross, personal or other responsibility.

Satisfaction

One key factor influencing the effectiveness of a program is the target audience's enjoyment of the material. When the students were asked to evaluate whether or not they enjoyed the program, an overwhelming majority (89 percent) found it to be enjoyable (Figure 2). Having the student's take pleasure in participating in the program lends favorably to them retaining the key messages.

Of the participants who were enrolled in *Expect the Unexpected*, 95 percent felt that the program taught them about how to react when an emergency situation arises. These findings reinforce the design and age appropriateness of the material and suggest that the primary objective had been achieved. Based on these responses, one could conclude that the program was successful in gaining the interest of those that participated and successfully communicated the critical pieces of information.

Figure 2. Did you enjoy taking the Red Cross Expect the Unexpected course?



Program Delivery Method and teacher re-use

With the implementation of the *Expect the Unexpected* program utilizing three delivery methods, the study sought to determine if the delivery method influenced the reuse of the material. The different delivery methods included: having a Red Cross volunteer facilitator present the entire program; having the material arrive by mail followed by the teacher implementing the content directly; or the teacher had a Red Cross facilitator deliver an hour-long overview of the program in their classroom followed by the teacher providing the instruction. Of the three possible methods for program delivery, Table 6 clearly demonstrates that the schoolteacher's preference is to have Red Cross volunteer involvement when implementing the *Expect the Unexpected* program.

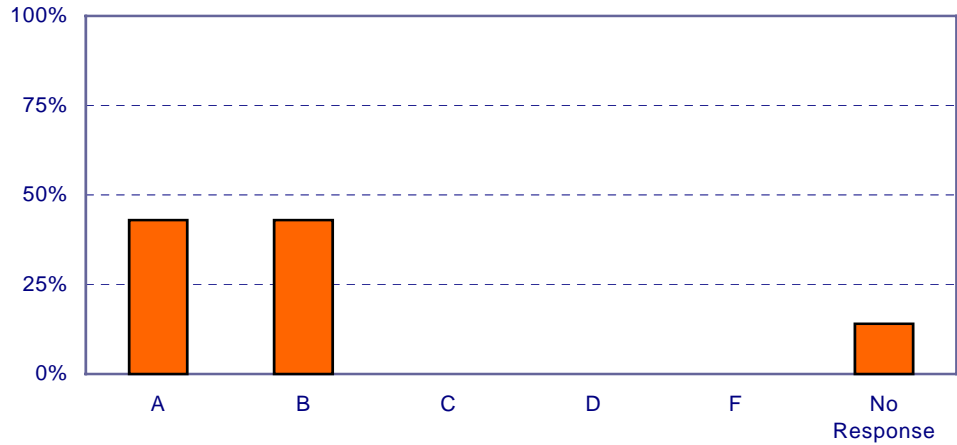
Table 6: Implementation of Program by Delivery Method

Delivery Method	Percentage
Teacher as instructor	14%
Red Cross facilitator	50%
In-service followed by teacher as instructor	36%
Total	100%

When the teachers were asked if they had re-used the program since the initial delivery, 14 percent of respondents reported that they had. Of the teachers that had re-used the material, 50 percent selected a delivery method of a Red Cross facilitator presenting the entire program. This preference extended into the method teachers would like the Canadian Red Cross to make the material available, with 57 percent stating that they would like to have a Red Cross facilitator visit their classroom. The remainder chose to have a hard copy mailed to them (29 percent) and 14 percent desired to have the material available on the Internet.

Regular implementation of a program extends beyond the delivery method, including such factors as quality of material, supportive teaching aids, identification of barriers and student enjoyment. The survey sought to assess all of these variables.

Figure 3. Teacher ratings of the Red Cross' Expect the Unexpected program



With respect to teaching aids, the majority of respondents (64 percent) wanted to have a disaster safety video and nearly a third (29 percent) chose a brochure. However only 36 percent thought those additional teaching aids would assist with the delivery of the program in classrooms. When asked if there were barriers to implementing the *Expect the Unexpected* 36 percent cited time constraints as the primary barrier affecting re-use. In addition to barriers, program design influenced teacher's ability to present the material. 57 percent felt that the program would be best designed for use once per year while 36 percent believed it would work best as part of an existing curriculum subject and 7 percent of teachers felt that the program would be best delivered *after* a disaster had occurred.

Recognizing that the quality of the material could affect the teacher's willingness to implement the program, the questionnaire asked the teachers to award a grade to the content and presentation of the material. Equal percentages of teachers (43 percent) gave a grade of either 'A' or 'B' while 14 percent of teachers did not provide a response. Teacher ratings of student reactions to *Expect the Unexpected* revealed successful results with almost 93 percent of teachers responding that the program was received 'positively' or 'very positively' by their students (Figure 3).

Disaster experience and perception of risk

Highlighted in Section 2 of this report, are a number of factors that have been identified as influencing an individual's willingness to engage in emergency preparedness actions. One of the emerging linkages being examined is whether an individual's experience of natural disasters affects their emergency preparedness activities. The Canadian Red Cross implementation of the *Expect the Unexpected* program included communities that had recently experienced a natural disaster as well as those that had not encountered an event in the last five years. Delivery in this manner suggested the possibility of analyzing this relationship; however the absence of data from the critical regions of Saguenay and Monteregie translates into only aggregate results being reported.

Questions in the parent/guardian section of the survey gauged perception of a natural disaster striking their community. While some parents (14 percent) felt that the possibility of a disaster in their community was unlikely, most suggested that there was a small likelihood (70 percent) or strong likelihood (15 percent) of one occurring. Upon assessing the household perception of an event, an investigation into if the experience of a disaster acts as an impetus to engaging in emergency preparedness actions was undertaken. Of the population, 73 percent indicated that they had never experienced a natural disaster, versus 27 percent that had. Cross-tabulations showed that the hazard perception of respondents is likely shaped by their experience with natural disasters. Eighteen percent of respondents who had not experienced a disaster believed that it was not likely that a disaster could strike their community. Yet only 4 percent of those who had felt the effects a disaster felt the same way. At the other end of the scale those who had experienced a disaster were more likely to believe that there was a strong likelihood of a disaster occurring in their community (26 percent versus 11 percent).

Future disaster preparedness

Conducting research is an opportunity to investigate an issue as well as provide educational messages to the target population. Effectively communicating the message of household emergency preparedness is a component of the *Expect the Unexpected*; the questionnaire solicited information on the preferred mode of communication for parents/guardians. The majority of respondents would turn to radio, television, newspaper and the Internet to find disaster safety information. Among the households 73 percent indicated that they would like to be more active in taking steps to protect their household from a disaster. This data presents an opening for communicating disaster preparedness information to the public through use of the identified means to the communities surveyed.

Administration of the questionnaire was accompanied with an educational seminar for the first classroom in each region that completed and returned the surveys. The disaster safety pizza party provided an opportunity for the program's messages to be reinforced and heighten the safety level of the students by handing out safety whistles to each participant and a classroom first aid kit. This activity was carried out in every region except Red Deer because of the length of time needed to obtain the responses.

Recommendations

The past forty years has seen an increase in the occurrence of both natural and human-induced disasters as well as the gravity of their impacts on people. The greatest tragedy, and greatest opportunity, is that most disaster fatalities, injuries and damages are preventable. Recognizing this, the Canadian Red Cross designed the *Expected the Unexpected*, a school-aged disaster safety education program aimed at educating students on emergency preparedness behaviours through lessons and indirect messages to their parents/guardians.

Through structured self-administered questionnaires to teachers who delivered the material, the participating students and their respective households, information was obtained on the quality and utility of the curriculum and barriers to its implementation. Particularly emphasis was placed on examining the relationship between student participation in the *Expect the Unexpected* program and behavioural change in household emergency preparedness activities.

This section contains some general recommendations based on the results of this study.

1. In order for the program to have an impact it must first get to the students. More than 8,000 students participated in the pilot stages of the *Expect the Unexpected*, but this excellent program should become available for all students in Canada. Moreover, the survey administered to the teachers found that the preferred instructional method was having a Red Cross facilitator delivery the program in its entirety to their class. When the respondents were asked if they had re-used the program since the initial delivery, 14 percent stated that they had. Investigation into the low reoccurrence found that time constraints were the primary reason cited at 36 percent. These findings highlight a need for the Canadian Red Cross to strengthen their relationship with local school boards, placing emphasis on working towards having the *Expect the Unexpected* put into school-boards resource centers. Additionally energy should be invested into having the program material incorporated into existing curriculum units, like Geography.
2. There were positive improvements in household disaster safety behaviours in many homes where the students brought the *Expect the Unexpected* messages home. Accordingly greater emphasize needs to be placed on developing an interactive activity that the students can complete together with their parent/guardian. The activity should integrate the concrete disaster safety indicators used in the study (3-day supply of food and water; household evacuation plan, flashlight equipped with functioning batteries, home or tenant insurance, and a battery-operated radio) into a game format that encourages household membership participation. Having the activity as a component of the course will increase the likelihood that parents/guardians and student will tackle this project together. This tool will serve

several purposes including enforcing the programs material as well increasing the probability that the safety information will reach the households.

3. To ensure the long term viability of *Expect the Unexpected*, a comprehensive program evaluation framework needs to be implemented and exercised on a regular basis. The framework should include data collection mechanisms that ensure standardization of reporting statistics, tracking systems between the Red Cross branches, the school where the program is being given and the Red Cross National Office. This would allow for a central repository of information to be created, heightening the Canadian Red Cross's ability to conduct regular evaluations of the program material, usage and effectiveness. Another key component to the framework is annually updating the content and scientific knowledge being taught. To accomplish this, an external advisory board should be established, including membership from the academic community in both the natural and social sciences.

The general lack of household preparedness in the United States and Canada highlights the need for disaster safety education, which can increase awareness of environmental hazards, foster appropriate perception of risk and encourage vulnerability-reducing behaviours. Through this study, it is evident that disasters have a significant impact on school-aged students and that participation in the *Expect the Unexpected* program equips students with the knowledge of how to react if an emergency situation arises and positively influences household emergency preparedness activities, specifically implementing an evacuation plan and storing a 3-day supply of food and water.

Despite the value of disaster safety education as a stimulus for vulnerability-reducing behaviours, there are relatively few studies that evaluate the effectiveness of these programs, clearly an area where future research is required. The findings of this study need to be combined with more extensive analysis of the linkages between school-aged student's participation in disaster safety education programs and changes in household preparedness activities.

Conclusion

Disasters can occur at anytime and in any place. Recent events such as the wildfires in British Columbia, flash floods in Quebec and power outage and SARS in Ontario have reinforced the need for both present and future generations to actively undertake emergency preparedness activities. The Canadian Red Cross *Expect the Unexpected* program is a tool currently aimed at educating school-aged students on emergency preparedness activities. This disaster safety education program is designed to inform public attitudes and encourage the adoption of emergency safety behaviours through lessons to children and indirect messages to their parents/guardians.

The primary objective of this study was to determine the impact the *Expect the Unexpected* had on teachers, students and parent's ability to prepare for and cope with emergency situations. Feedback from the three groups regarding the quality and utility of the curriculum and barriers to its implementation was solicited through a structured self-administered questionnaire. Emphasis was placed on examining the relationship between exposure to the program and behavioural change in household emergency preparedness activities.

A key factor influencing the effectiveness of the program is the target audience's enjoyment of the material. When the students were asked to evaluate whether or not they enjoyed the program, an overwhelming majority (89 percent) found it to be enjoyable (Figure 2). Having the students take pleasure in participating in the program lends favorably to them retaining the key messages. This proved to be true for the students enrolled in *Expect the Unexpected* where 95 percent felt that the program taught them about how to react when an emergency situation arises. These findings reinforce the design and age appropriateness of the material and suggest that the primary objective had been achieved. Based on these responses, one could conclude that the program was successful in gaining the interest of those that participated and successfully communicated the critical pieces of information

Having the students enjoy the material affects the teachers ease in integrating the program into the current curriculum. The questionnaire examined teachers re-use of the program since the initial delivery and found that 14 percent of respondents reported that they had. Of the teachers that had re-used the material 50 percent selected a delivery method of a Red Cross facilitator presenting the entire program as their preferred instructional method.

Linking student participation in the program and its influence on household emergency preparedness behaviours showed that only 16 percent of students enrolled in the program relayed the information to their household. If the program is to achieve its full potential modifications are required to significantly increase the numbers of students who bring this safety knowledge home. From the dwellings that received this information 51 percent indicated that their child's participation did prompt them to undertake emergency preparedness actions.

Clarification on which activities were implemented following the information sharing showed a statistical association with two preparedness variables. Nearly 75 percent of households whose child had shared the program material had an evacuation plan in place while only 53 percent of

homes whose child did not share the program material. Similarly, 50 percent of the homes whose child relayed the information claimed to have a 3-day supply of food and water versus 26 percent of households that did not receive the messages.

The combination of student satisfaction, teacher re-use of material and household emergency preparedness behaviour results show that the Canadian Red Cross *Expect the Unexpected* program had a positive impact on the both the students and their households.

In summarizing these results the reader must keep in mind the relatively low return rate and the regional proportionality of the sample. Therefore caution should be exercised before extrapolating these findings to a larger population. Although these results contribute to emergency preparedness literature, school-aged disaster education and emergency preparedness activities remain a phenomenon that few have sought to empirically explore. The Canadian Red Cross should continue its research in this area and incorporate this study's recommendations into their *Expect the Unexpected* program.

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Appendix

Evaluation of the Canadian Red Cross “Expect the Unexpected” Program

During the past four years the Canadian Red Cross has offered a disaster safety program entitled “Expect the Unexpected” in your school. We ask you to complete this questionnaire so that Red Cross can continue to improve this program.

This information will be kept *strictly* confidential, only summarized results will be released. For the purposes of this survey a disaster is “an event that overwhelms the local community’s resources to cope.”

We ask that throughout the survey you **CHECK THE APPROPRIATE BOX** with the best response.

1. Which Red Cross “Expect the Unexpected” program was implemented in your class?

- It can happen, be ready* (children aged 7-8)
 Facing the unexpected, be prepared (children 10-11)
 Be ready, be safe (children aged 12-13)

2. Which of the three possible instruction methods were used to deliver the material to your class?

- A Red Cross Facilitator visited your class for an hour to provide an overview of the program that was followed by YOU delivering the material
 A Red Cross Volunteer came to your class and delivered the material. This visit would have been approximately 3 hours in length
 The material was sent to your class and you provided the instruction

3. What language was the program delivered in?

- French English Both

4. Was the “Expect the Unexpected” program delivered to your class following a disaster?

- Yes No

5. How did the students in your class react to this disaster safety program?

- very positively positively poorly very poorly don’t recall

6. Since the initial delivery of the Red Cross “Expect the Unexpected” program, have you re-used this resource?

- Yes No – if not, please proceed to question 9

7. Approximately how long was it before you re-used the “Expect the Unexpected” program?

- Less than 1-year 1 year 2 – 3 years Over 3 years

8. How many times have you implemented this program in your class?

- 1 2 3
 4 5 6 or more

9. Are there barriers to you delivering the Red Cross “Expect the Unexpected” program?

Yes No – if no please go to question 11

10. What is the nature of these barriers?

Lack of financial resources *Time pressure*

My knowledge of the subject matter *Not part of the current curriculum*

Other, please specify _____

11. Would additional information on natural hazards aid the implementation of this material?

Yes No

12. Please check the best method for Red Cross to make this resource available to you?

- Internet – material available to be downloaded
- Mailing a hard copy
- Having a Red Cross Facilitator present the material
- Other, please specify _____

13. You may recall that the Red Cross “Expect the Unexpected” program provided several teaching aids, including posters, stickers and certificates of participation. Please *circle* the grade you would give the quality of these teaching aids?

A B C D F

14. Which additional teaching aids would assist you in the delivery of this resource? You may select more than one.

Information brochures *A disaster safety video*

List of disaster education websites *Student Quizzes*

Other, please specify _____

15. As a teacher, when would this program be best implemented into the classroom?

Once a year as a special unit

After a local disaster strikes

Following a disaster outside of your community

Implemented as part of an existing curriculum subject

16. Which category best reflects the number of years you have been teaching?

under 3 years 3 -5 years 6 - 10 years 11 - 15 years 15 years +

17. What is your sex?

Female Male

18. Please feel free to provide additional comments on the “Expect the Unexpected” program.

Thank you for your time.

Evaluation of the Canadian Red Cross “Expect the Unexpected” Program

During the past four years the Canadian Red Cross has delivered a disaster safety program entitled “Expect the Unexpected” in your school. By taking the time to fill out this survey, you will provide us with valuable information, which will be used to improve this program. Whether you have participated in this program or not, please complete the following questionnaire.

Students are asked to complete PART A of the questionnaire and parents/guardians are asked to complete PART B. We ask that throughout the survey you **CHECK THE APPROPRIATE BOX** with the best response.

For purposes of this survey a disaster is “an event that overwhelms the local community’s resources to cope”. Please note that this information will be kept *strictly* confidential, only summarized results will be released.

Part A. For Students:

1. Please check the Red Cross “Expect the Unexpected” program that you received?
 - It can happen, be ready* (children aged 7-8)
 - Facing the unexpected, be prepared* (children aged 10-11)
 - Be ready, be safe* (children aged 12-13)
 - I did not participate in these programs – Please bring this home to your parent or guardian to finish. Thanks for your help.
2. What language was the program delivered in?
French English Both
3. Did you enjoy taking the Red Cross “Expect the Unexpected” course?
Yes No
4. As a result of taking this training, do you feel better prepared to handle a disaster situation?
Yes No Don’t know
5. I learned from the “Expect the Unexpected” proper safety behaviours to adopt during a disaster?
True False

Thanks for your help. Please bring this home to your parent or guardian to finish.

Part B: Parents / Guardians Section

Please complete this section together with your child. We ask that throughout the survey you **CHECK THE APPROPRIATE BOX** with the best response.

1. How likely is it that a natural disaster could strike your community?

Not likely Small likelihood Strong likelihood Very strong likelihood

2. Have you ever experienced a natural disaster?

Yes No – please proceed to question 4

3. What was the nature of the disaster and in approximately what year did the event take place?

Type Year
a.) _____
b.) _____

4. Did your child share the disaster safety information with you that he/she learned in the Red Cross “Expect the Unexpected” course?

Yes No Sorry, I can’t remember N/A

5. Did having your child take this program cause you to take steps to protect your family from a disaster?

Yes No N/A

6. Are there barriers that prevent you from participating in disaster preparedness activities?

Yes No –if no please go to question # 8

7. What is the nature of the barriers that prevents you from participating in disaster preparedness activities?

Lack of financial resources
I need more information on household preparedness before I can begin
Time pressure
Does not seem important
Other, please specify _____

8. Do you consider your household to be prepared for a disaster situation?

Yes No Unsure

9. Do you have a family evacuation plan that can be used in case of an emergency?

Yes No

10. Do you have a 3-day supply of canned food and water (one gallon per person per day) for each member of your household?

Yes No Don’t know

11. Does your residence have a portable battery-operated radio?

Yes No Don’t know

12. Have you purchased insurance for your home or apartment?

Yes No

13. Do you have a flashlight with functioning batteries?

Yes No

14. Would you like to be more active in taking steps to protect your family and home from the effects of a disaster?

Yes No

15. Please check the *two* best methods to deliver disaster safety advice to you?

Radio Television Newspaper
Internet Educational Seminar Posted Notice
Friends/Family Word of mouth Other (please specify) _____

16. Within your community, who do you think should be responsible for preparing households against a disaster?

Federal government Provincial government
Municipal government Canadian Red Cross
Yourself Other, please specify _____

17. How long have you lived in this community?

Less than 1-year 1-3yrs 4-6yrs 7-9yrs 10-12yrs 13+

18. What is your sex?

Female Male

19. What is the highest level of education you have you have completed?

Some High School High School Graduate Vocational/Technical
Some College Completed College Some University
Completed University Some Graduate school Completed Graduate school

20. What is the type of residence that you live in?

Apartment in apartment building Apartment in a house
Single dwelling home Condo
Other, please specify _____

21. Please check the income range that represents your annual household income?

Under \$20,000 \$ 20,000 - \$39,999 \$40,000 - \$59,999
\$60,000 - \$79,999 \$80,000 - \$ 99,999 \$100,000 and over

Please feel free to provide comments on any aspect on the “Expect the Unexpected” program.

Thank you for you time.
Please return this questionnaire to your child’s classroom teacher.