



Natural Hazards Research and Applications Information Center
Campus Box 482
University of Colorado
Boulder, Colorado 80309-0482

HAZARD HOUSE COPY

INTENTIONALITY AND ACTION: MEXICO CITY SCHOOLTEACHERS'
PERCEPTIONS AND EXPECTATIONS FOLLOWING THE 1985 EARTHQUAKE

Herbert Thier
Vivian Gratton
Fred Johnson

1986

Quick Response Research Report #20

This publication is part of the Natural Hazards
Research & Applications Information Center's ongoing
Quick Response Research Report Series.
<http://www.colorado.edu/hazards>

Intentionality and Action:
A Survey of Mexico City Schoolteachers' Perceptions and
Expectations Following the September 1985 Earthquake

Introduction

The Mexico City earthquake of September 19, 1985 caused extensive devastation, loss of life, and injury in a modern urban center. Even though the area has a significant seismic history, little or no earthquake awareness or preparedness activity had taken place in the schools or in the general community before the earthquake. Five months after the event the California Earthquake Education Project (CALEEP) visited the area to initiate a study of the knowledge, attitudes and expectations of teachers following the disaster. The intention of the study was to identify teachers perceptions of: what they thought they knew before the event, what they had done since the event, and their perceptions of what needed to be done, educationally, at the time of the survey. Funding for this work was provided by an N.S.F. Quick Response Grant from the Natural Hazards Research Council, University of Colorado, Boulder.

The original plan was to wait until the immediate emergency was over and then to survey a cross-section of teachers. Discussions with Mexican colleagues and their exploration of the possibility of such a study with the Ministry of Education led to the decision to carry out the study using primarily private school teachers in Mexico City. Private schools receive some support from the Ministry of Education, and have to follow certain regulations, including post-earthquake safety inspection by Ministry officials. They tend to be better equipped and usually

do not enroll children from families at the extreme lower end of the socio-economic spectrum. The teachers in the private schools we collected data from have similar or slightly greater professional preparation than teachers in the public schools.

Participation of schools was obtained by word of mouth and other informal means, and so it is very possible that the group surveyed is not typical of all private school teachers in Mexico City. Since the schools and teachers volunteered to participate they may as a group be somewhat more concerned about the issues and concerns of the study. Considering the limited funding available, the difficulties inherent in working in another country and the various problems caused by the disaster itself, the researchers are pleased to have been able to collect 284 completed surveys from teachers in 20 schools, four of which were public.

Survey Development:

The survey was designed to obtain retrospective information about: (1) what the teachers thought before the earthquake (questions 1-5), (2) what they wanted to know and what they did after the earthquake (questions 6-13), and (3) their current thinking about the need for earthquake education in their own schools (questions 14-17) and in Mexico City generally (questions 18-19). (See appendices A & B for English and Spanish versions of the survey.) In each category there were questions focusing both on knowledge of earthquake causes and questions on preparation for earthquakes. Responses to the first 19 questions were on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree." Questions were designed so as to differentiate between

the respondents' intent to act and their action in learning more about earthquakes. In addition, the construction of the survey permits analysis of differences in response relative to questions focusing on earthquake causes as compared to earthquake preparedness.

The survey was designed by the principal investigator and the CALEEP staff at Lawrence Hall of Science. Other staff members at this institution with expertise in learning psychology, survey construction and other fields offered helpful criticism and suggestions for early drafts of the instrument. When we were satisfied that the instrument met our desires and was not of a burdensome length, the entire instrument was translated into Spanish by a bilingual employee of the Lawrence Hall of Science. In the process of translation questions or concerns were discussed so that the translation reflected the substance as well as the syntax of the original. During the first visit of Dr. Thier to Mexico City, in November 1985, copies of both the English and Spanish version of the survey were distributed to cooperating school leaders. Eight schools took part in this first meeting coordinated and hosted by Ms. Marilyn Shaw, headmistress of the Instituto San Angel Inn. All of the school leaders attending were bilingual. They agreed to review the Spanish and English versions of the survey to make sure that the Spanish version reflected the intent of the English version. When Ms. Vivian Gratton visited Mexico City in regard to the project in early January 1986, she picked up the comments on the survey from Ms. Shaw and others at a second meeting at San Angel

Inn. The suggested changes were made and then translated back to English to make sure that meaning was not lost. Care was taken that English and Spanish versions were formatted alike so that the data entry person would not have to be bilingual. Finally, copies of the Spanish version of the survey were sent to Ms. Shaw for distribution, duplication, and the collection of responses.

Project Relationships with Respondents

Even though only one of the schools suffered significant damage (Colegio Madrid), each teacher was involved in the disaster, and was under greater stress because of a variety of factors that came about because of the earthquake. These factors included: loss of family members and friends, loss or damage to home and possessions, participation in rescue and relief efforts, disruption of normal routine, and experience of the earthquake itself. We did not want to put additional pressure on teachers by asking them to take time to respond to our survey without providing some aid in coping with the additional stress generated by the earthquake. Therefore a set of activities on earthquake preparedness, translated and adapted from CALEEP materials, was offered to all participating teachers. Each participating teacher and school received a guide introducing CALEEP, the research study and the educational materials provided. The guide also included reproducible masters of student worksheets and information for the teacher on how to effectively use each of the five activities. In this way CALEEP and the Quick Response Project provided something valuable to those individuals and

schools participating in the survey. Participating schools and teachers were also informed that a leadership training workshop would be held on February 11 at the Instituto San Angel Inn during which time interested individuals could ask questions, clarify misunderstandings, and discuss the research work with Dr. Thier. This cooperative approach created considerable good will and contributed to the successful recovery of the 284 surveys from teachers who were under extra stress after the earthquake.

Outcomes of the Survey

Results of the survey were first analyzed to determine frequency distribution by choices, and mean scores for each of the first 19 questions. Means were determined by assigning a value of (1) to "strongly disagree" and a value of (5) to "strongly agree." Therefore a mean score of (3) indicates a neutral response to the question.

Table One shows the mean scores for all the questions related to individuals and their intentions and actions before and after the earthquake. Questions have been separated into three categories: those relating to causes of earthquakes, those relating to preparedness for earthquakes, and those relating to perception of capability to take leadership in an emergency. The left hand column gives an identifying phrase and the resulting means are given in the three right hand columns. The question number is given in parenthesis next to its associated mean.

TABLE ONE: PERSONAL RESPONSE

Question Description	Cause of EQs	Preparedness for EQs	Leadership Potential
Perception of knowledge before the earthquake	3.03 (1)	2.77 (2)	
Prepared to take charge before			2.85 (4)
Desire to know after the earthquake	4.52 (6)	4.58 (7)	
Information available after the earthquake	3.24 (12)	2.96 (11)	
Effort to inform self after the earthquake	3.91 (9)	3.08 (10)	
Effort to prepare self as leader after eq			3.08 (10)
Adequacy of current knowledge about eqs	3.48 (12)	3.14 (13)	
In my school eq information should be taught	4.38 (14)	4.61 (15)	

Table Two shows the mean of individuals' responses to the questions related to the capacities and needs of their school, and for Mexico City schools generally, before and after the earthquake. The organization is essentially the same as Table One with the headings for the three right hand columns changed to reflect planning, response, and need for education by the schools.

TABLE TWO: SCHOOL RESPONSE

Question Description	Planning	Response	Need for Education
Adequacy of school's ability before	2.37 (3)	2.50 (5)	
Currently our school should practice drills...		4.59 (16)	4.59 (16)
Should institute program for parents			4.37 (17)
Currently all Mexico City schools should have programs for		4.62 (19)	4.45 (18)

The next to last question asked teachers to report the number of questions they received from students and parents regarding earthquakes. Of the 250 teachers who responded to the question about students, over 63% reported receiving 11 or more questions from students during the first week after the earthquake. Adding teachers reporting 6 or more questions from students to this total includes close to 80% of the sample reporting. 209 teachers reported the number of questions received from parents during the first week. Approximately 33% reported receiving only one or two questions from parents while a like percentage reported receiving 11 or more questions from parents. Close to 25% reported 3 to 5 questions and about 10% reported 6 to 10 questions.

Question 21 asked the respondents to indicate by approximate grade level the number of hours of earthquake education they would recommend in three different categories. The mean results for the question are presented in Table Three.

TABLE THREE: MEAN DESIRED HOURS OF INSTRUCTION BY GRADE LEVEL

Topic	Grade Level			
	1-3	4-6	7-9	10-12
The causes of earthquakes	5.6	5.6	4.8	5.4
How to prepare for earthquakes	6.5	6.2	4.7	5.2
Earthquake drills and exercises	8.9	6.9	5.4	6.3

Significance of Data

There are a number of ways the data collected for this study could be analyzed. Because we wished to compare the average, or mean, response of the items, the simplest and most appropriate statistical procedure, is the t test. This procedure allows us to infer whether the difference between the mean response on two items is due to sampling variations or represents a real difference.

The t test provides two kinds of results. One is a "t ratio," which tells us the statistical significance of the difference between the means, that is, the likelihood that the mean difference is due to sampling fluctuation or is real. The other is a measure of association, "eta squared," which tells us the proportion of the variation in the responses that is due to the difference in the means. One drawback to the t test is its sensitivity to sample size. Very small differences between means can be statistically significant if the sample size is large. The advantage of eta squared criterion is that it is not influenced by sample size and, because it can be expressed as a

percentage, it provides a usable standard of "practical importance" that is readily understood. In discussing these results, the emphasis will be on eta squared, the index of practical importance.

The meaning of eta squared is illustrated in the results for the 11 comparisons of intentions and actions in Table Four. For example the first comparison (items 1 and 12) is statistically significant (the t ratio of 4.474 exceeds the Dunn critical value of 3.33 for 11 comparisons at alpha .01), but the corresponding eta of 0.03 is negligably small. This is in contrast with the very large eta of 0.45 for the comparison of items 2 and 7 which also has a correspondingly larger t ratio.

In addition to the eta criterion, a confidence interval for the difference between the means may also be computed. the confidence interval is a function of the critical value and the standard error used in calculating the t ratio. For the set of 11 comparisons of intentions and actions, a critical value of 0.01 was used. The Dunn procedure of distributing the error rate among the set of comparisons was used to maintain the type 1 error rate at .01 for all 11 comparisons. This accorded $.01/11 = 0.0009$ alpha to each comparison, controlling the overall error rate at .01.

A confidence interval is computed by adding and subtracting the product of the critical value (CV) and the standard error (SE) from the difference between the means, or $M2 - M1 \pm (CV)(SE)$. For the first comparison, this formula yields a confidence interval of $M2 - M1 \pm (CV)(SE) = 0.45 + (3.31)(.1000573)$

= .45 +/- .3329 = .12 to .78. This value also appears in Table Four. Note that the larger the t ratio and value of eta, the farther the confidence interval is from zero. Confidence intervals that include zero represent non-significant comparisons and are not shown in the table. A 99% confidence interval means that of 100 such intervals, 99 of them will include the actual mean difference. The best point estimate for the mean difference is, of course, the sample mean difference, e.g., 0.45 for the first comparison.

One possible drawback to these data is the uneven, nonrandom sampling of questionnaires from the 20 schools. Eight of the schools provided large numbers of questionnaires to the sample (10 or more) while 12 of the schools provided small numbers of questionnaires (9 or fewer). It is important to know whether this uneven sampling biased the results.

Potential sampling bias was tested for by comparing the mean responses to the items by two groups of schools, those providing greater than 10 of the responses (except Colegio Madrid), and those providing less than 10 responses.

Using the eta criterion and controlling for the increased error rate resulting from the large number of comparisons, no important differences were found. Each of the four schools, with the exception of Colegio Madrid, which contributed more than 10% of the sample was also compared with each other, and to the sample without them; the only significance was found with San Angel Inn. San Angel Inn, with 29 responses (10.2% of total) gave significantly higher choices for (16) "earthquake drills should be practiced in our school" (means of 4.97 to 4.54), and

(18 & 19) "Mexico City schools should have an extensive earthquake education program" (4.97 to 4.39) and an "extensive earthquake emergency response plan" (5.0 to 4.58). These stronger responses may be due to the coincidence of the survey with measures to increase school safety, such as the encasement of electrical wiring, resulting in increased awareness of existing hazards at the school. Anomolously low responses were received by San Angel Inn on the number of hours to be spent on earthquake causes, preparedness and drills for grades 7-9 and 10-12 (approximately 1/4 of the mean). This can be explained by the fact that San Angel Inn does not have junior high or high school students. These responses had the effect of slightly lowering the mean hours suggested for upper grades education and preparation.

Only one of the schools contributing data to the survey suffered significant damage during the earthquake. This school, Colegio Madrid, contributed 43 of the 284 responses, or about 15% of those received, and a comparison of these responses to the other 241 indicates significant differences in regard to four questions on the survey. Colegio Madrid responses are significantly higher for both questions on availability of information --(8) causes of earthquakes (4.02 to 3.09), and (11) how to prepare for earthquakes (3.93 to 2.78). Colegio Madrid respondents also were more confident that their knowledge of how to prepare for earthquakes (13) was adequate (4.02 to 2.98), and they thought more strongly that (18) all schools in Mexico City should have an extensive earthquake education program (4.86 to 4.37). This is not surprising considering the extensive educa-

tion efforts made at Colegio Madrid since the earthquake by the school safety commission and others. See the related report on CALEEP's study of Colegio Madrid's recovery for more information on this topic. (Gratton, et al, 1986)

Intentionality and Action

The first two comparisons in Table Four look at individuals' perception of the adequacy of their knowledge, before and after the earthquake, of what causes earthquakes and how to prepare for them. This is essentially a measure of what respondents think they have learned since the earthquake. Though the t ratio is significant, the value of eta is quite small, the mean difference is also quite small, and the lower bound of the confidence interval is close to zero. This contrasts with comparisons 4 and 5, which compare individuals' perceptions of the same issues before the event with their desire for knowledge about earthquake causation and preparation after the event. This is essentially a measure of their desire to learn since the earthquake. Note that the eta squared values are quite large, and the lower bound of the confidence interval is distant from zero. Since one has to do something to learn something (items 1 & 2), these four comparisons clearly indicate the difference between intentionality (comparison 4 & 5) and action (comparisons 1 & 2) regarding knowledge of preparation for earthquakes. Comparisons 3 and 9 which investigate individuals' perception of their capacity to be a leader afterwards compared with their perception of their knowledge of preparation or ability to act as a leader beforehand, are the only two comparisons with non-significant t's.

Further analysis of the data was carried out using the same approach described earlier of testing for significance and computing eta, the index of practical importance, to determine the proportion of the variance associated with the differences between pairs of means. This provided more information regarding the differences between intentionality and action on the part of those leaders who experienced the Mexico City earthquake of September 19, 1985. This information is summarized in Table Four.

TABLE FOUR: COMPARISON OF SELECTED MEANS

Comparison	M1	M2	t	eta ²	M2-M1	99% C.I
1. Adequacy of knowledge of cause of eq before/after	3.03 (1)	3.48 (12)	4.47*	3%	0.45	0.12-0.7
2. Adequacy of preparation for eq before/after	2.77 (2)	3.14 (13)	3.70*	2%	0.37	0.04-0.7
3. Adequacy to act as a leader before/after	2.85 (4)	3.08 (10)	2.16	1%	0.23	-----
4. Adequacy of knowledge of cause before/desire to after	3.03 (1)	4.52 (6)	16.5*	33%	1.49	1.19-1.7
5. Adequacy of knowledge of preparation before/desire to prepare after	2.77 (2)	4.58 (7)	21.1*	45%	1.81	1.52-2.0
6. Desire after to know more /perception of information availability	4.52 (6)	3.24 (8)	14.8*	28%	-1.28	-1.57-(-.
7. Desire after to know how to prepare/perception of information availability	4.58 (7)	2.96 (11)	18.2*	38%	-1.62	-1.91-(-1
8. Knowledge before/action after	3.03 (1)	3.91 (9)	9.25*	13%	0.88	0.56-1.2
9. Knowledge of preparation before/action after	2.77 (2)	3.08 (10)	2.98	1.6%	0.31	-----
10. Desire to know more after /actions to inform	4.52 (6)	3.91 (9)	8.75*	12%	-0.61	-0.84-(-0
11. Desire to know how to prepare after/actions to	4.58 (7)	3.08 (4)	17.19	34%	-1.50	-1.79-(-1

*Significant at .01, $t_{p=0.01}^{DUM}$

Analysis of the Outcomes

All three questions regarding the individual's knowledge about or ability to act as a leader at the time of an earthquake provided mean scores at or somewhat below the neutral level. The mean perceptions of the adequacy of school planning and its capability to respond before the earthquake was quite low (2.32 and 2.50), indicating a strong perception of the need for improvement. All of these retrospective opinions about themselves and their school indicate that these respondents thought the situation regarding earthquake planning, preparedness, and education in general was less than ideal. This retrospective evaluation of the pre-event situation is reinforced by the high desire of respondents afterwards (4.5 or greater) to know more about earthquakes. They also agree strongly (4.3 or greater) that their school and other schools in Mexico City should have more extensive earthquake education programs and should practice earthquake response behavior. The results clearly show the intentionality of this group of Mexican teachers to improve their knowledge, skills, and ability to respond during and after earthquakes.

Good intentions, however, are not enough; action is required to bring about real change. Unfortunately this group, despite its experience of the earthquake, has not taken the action to completely accomplish their intentions. This is very evident when one compares the respondents' own perceptions of their efforts to prepare themselves (Question 9 & 10) and their perceptions of the adequacy of their current knowledge (Questions

12 & 13). With the exception of Question 9 on efforts to inform themselves about the causes of earthquakes (3.91) the responses to all of these "action" questions were under 3.5, approximately one full point below the "intentionality" means.

A partial explanation of the results may be that these respondents perceived a lack of satisfaction with the amount of information available to them after the earthquake. The means were close to neutral (3.24 for causes and 2.96 for preparedness) indicating a lack of strong agreement that sufficient information was provided. However, availability of information is closely related to the effort one makes to obtain it, particularly in major urban areas. Hence, we can assume that the intentionality of these respondents exceeded their efforts. Note that any bias resulting from sampling technique would be in opposition to this result. Teachers who came to meetings and participated in the survey would be expected to have more initiative than those who did not. These findings regarding the discrepancy between intent and action reinforce the information on these same issues obtained during the early survey research efforts related to CALEEP. In this research, 75% of over 600 representative Bay Area residents indicated that they expected a large earthquake would strike in their lifetime, that they would be affected by it, and that they did not anticipate receiving emergency services quickly. Nevertheless, less than a quarter of respondents had done anything to prepare for the event of an earthquake. (Thier and Schnur, 1983)

A very large percentage of the respondents indicated agreement to strong agreement (mean scores of 4.5 or higher) that they

wanted their school, and other schools in Mexico City, to teach more about earthquakes. This indicates a strong desire for earthquake education in the schools on the part of these teachers. Needed is a carefully planned and executed program to provide these teachers with the information and materials they need to do an effective job of earthquake education. Colegio Madrid, the one school that sustained major damage, has satisfied this need to a great extent, as reflected in the significantly higher means in responses to question 8 and 11. This higher level of satisfaction with available information is undoubtedly largely due to the work of the parent-organized safety commission, which has worked closely with school administration to improve awareness and understanding. It is important to note that the teachers at Colegio Madrid evaluated the steps that they had taken to prepare themselves to be leaders at only a little above neutral (mean of 3.44). This is somewhat higher than the overall mean of 3.08, but still considerably lower than the intentionality measures. Even the direct experience of the earthquake and the daily reminder that it provides at this school has not yet motivated leadership to the desired level.

Perhaps the neutral responses on the leadership question can be attributed to respondents' lack of recognition of their leadership capability. For example, a teacher at Colegio Madrid expressed great fear of responsibility in her assigned role of helping with evacuation. However, when an aftershock struck, she was quick to respond by thoroughly searching the building for remaining students and for possible safety hazards. Nevertheless, one's perception of leadership capability largely deter-

mines the preparation one takes to assume that role, and the action one takes to prepare others. Therefore it is essential that preparation in the schools does not stop at the provision of materials and information, but goes further in providing effective methods to encourage teachers to recognize their responsibility and capability in facilitating this preparation. It is only in this way that teachers, and in turn their students, may move from intentionality to action.

Implications for the United States

Many have argued that the reason for lack of preparedness is the infrequency of major earthquakes in urban areas. The results obtained from this study in a modern urban area after a major earthquake clearly indicate that even the experience of the earthquake is not enough to get individuals and groups to act. Therefore in the earthquake-prone regions of the United States we need effective earthquake education programs and materials. More important, we need to focus on the development and implementation of highly effective means of motivating teachers and other school leaders to take action regarding earthquake education. This is not a small challenge since further research is needed on how you motivate individuals from intentionality to action. The only possibility for carrying out such research is the sponsorship of "action oriented" earthquake education programs in the earthquake prone regions of the United States.

Bibliography

Gratton, Vivian G., Herbert D. Thier, Elia Arjonilla and Rosa Melgar, "The Recovery of Schools from Earthquake Effects: Lessons from Mexico City," California Earthquake Education Project, Lawrence Hall of Science, University of California, Berkeley, CA, 1983.

Thier, Herbert D., and Alan E. Schnur, "People -- CALEEP and Earthquakes, A Project and Study in Progress," California Earthquake Education Project, Lawrence Hall of Science, University of California, Berkeley, CA, 1983.

APPENDIX A

NAME _____ SCHOOL NAME _____
 (Optional)
 POSITION _____ GRADES SERVED _____ NO. OF STUDENTS _____
 YOUR SEX _____ YOUR AGE _____
 (Optional)

Please respond to the following statements as follows: Strongly disagree - SD; Disagree - D; Neutral - N; Agree - A; Strongly Disagree - SD (circle one)

Before the September 19th earthquake...

1. I thought my knowledge of what caused earthquakes was adequate. SD D N A SA
2. I thought my knowledge of how to prepare for earthquakes was adequate. SD D N A SA
3. I thought our school had planned adequately for earthquakes. SD D N A SA

If the earthquake had occurred during school hours...

4. I would have been prepared to be in charge of the group. SD D N A SA
5. Our school's ability to respond would have been adequate. SD D N A SA

After the earthquake...

6. My desire to know more about what causes earthquakes is greater. SD D N A SA
7. My desire to know more about how to prepare for an earthquake is greater. SD D N A SA
8. I have been satisfied with the amount of information that has been available to me about the causes of earthquakes. SD D N A SA
9. Since the earthquake I have taken steps to inform myself about the causes of earthquakes. SD D N A SA
10. Since the earthquake, I have taken steps to prepare myself to be a leader in the event of another earthquake. SD D N A SA
11. I have been satisfied with the amount of information that has been available to me about how to prepare for earthquakes. SD D N A SA

Currently, I think that...

12. My knowledge of what causes earthquakes is adequate. SD D N A S

13. My knowledge of how to prepare for earthquakes is adequate. SD D N A S

Considering recent events and where I live, I think that in our school...

14. Information about the causes of earthquakes should be taught. SD D N A S

15. Information about how to prepare for earthquakes should be taught. SD D N A S

16. Earthquake drills and emergency evacuation exercises should be practiced. SD D N A S

17. Should institute an earthquake education program for the parents of our students. SD D N A S

Considering recent events and where I live, I think that all schools in Mexico City...

18. Should have an extensive earthquake education program. SD D N A S

19. Should have an extensive earthquake emergency response program. SD D N A S

20. During the first week after the earthquake, how many questions about earthquakes did you get... (circle one)

From students? 1 or 2 3-5 6-10 11 or more

From parents? 1 or 2 3-5 6-10 11 or more

21. During the school year, how many hours of instruction should be spent on the following earthquake related topics?

Topics	Approximate Grade Level			
	1-3	4-6	7-9	10-12
The causes of earthquakes				
How to prepare for earthquakes				
Earthquake drills and response exercises				

Actualmente, yo pienso que...

12. Mi conocimiento sobre las causas que producen los terremotos es adecuado. CA A T N D

13. Mi conocimiento de como prepararme para un terremoto es adecuado. CA A T N D

Considerando eventos recientes y el lugar en donde vivo, yo pienso que nuestra escuela...

14. Debe dar información sobre las causas que producen los terremotos. CA A T N D

15. Debe dar información sobre como prepararse en caso de terremoto. CA A T N D

16. Debe llevar a cabo de evacuación en casos de terremotos deberían de ser enseñados. CA A T N D

17. Debe establecer un curso de educación sobre terremotos para los padres de nuestros familias. CA A T N D

** Considerando eventos recientes y el lugar en donde vivo, yo pienso que todos los colegios en la Ciudad de Mexico..

18. Deberían tener un programa extensivo de educacion sobre terremotos. CA A T N D

19. Deberían tener un programa extensivo de acción de emergencia en caso de terremotos. CA A T N D

20. Cuantas preguntas sobre terremotos recibió Usted durante la primera semana despues del terremoto...

De estudiantes? 1 o 2 3-5 6-10 11 o mas

De padres? 1 o 2 3-5 6-10 11 o mas

21. Cuantas horas de instrucción deberían darse sobre tópicos relacionados con terremotos durante el año escolar?

Topicos

Nivel Aproximado Año Escolar

	1-3	4-6	Sec.	Prep.
Las Causas de los Terremotos				
Como prepararse para un terremoto				
Ejercicios para prepararse y afrontar terremotos				

APPENDIX B

Nombre _____ Nombre del Colegio _____
 (Opcional)
 Titulo _____ Numero de Estudiantes _____
 Sexo _____ Edad (Opcional) _____

Por favor responda a lo siguiente usando abreviaturas, por ejemplo:
 Completamente de Acuerdo (CA); De Acuerdo (A); Neutral (T); No de
 Acuerdo (N); Total desacuerdo (D)

Antes del terremoto de Septiembre 19...

- | | |
|---|------------|
| 1. Pensaba que estaba bien informado sobre la causa del terremoto. | CA A T N D |
| 2. Pensaba que mi conocimiento de como prepararme para un terremoto era adecuado. | CA A T N D |
| 3. Pensaba que nuestro colegio habia hecho planes adecuados en caso de terremoto. | CA A T N D |

Si el terremoto hubiera ocurrido durante horas de colegio...

- | | |
|--|------------|
| 4. Yo hubiera estado preparado para estar a cargo del grupo. | CA A T N D |
| 5. Nuestro colegio estaba bien preparado para afrontar el terremoto. | CA A T N D |

Despues del terremoto...

- | | |
|---|------------|
| 6. Mi deseo de conocer mas acerca de las causas de los terremotos ha aumentado. | CA A T N D |
| 7. Mi deseo de saber mas como prepararme para un terremoto ha aumentado. | CA A T N D |
| 8. He estado conforme con la cantidad de informacion sobre terremotos que se me ha proporcionado. | CA A T N D |
| 9. Desde que ocurrió el terremoto he tomado medidas para informarme sobre las causas que producen los terremotos. | CA A T N D |
| 10. Desde que ocurrió el terremoto he tomado medidas para prepararme para ser guía en el evento que ocurra otro terremoto. | CA A T N D |
| 11. Yo he estado satisfecho con la cantidad de informacion que se me ha dado para prepararme en caso que ocurra otro terremoto. | CA A T N D |