

Addressing Student Trauma in the Wake of the California Wildfires

Valerie Ooka Pang, Marcelina Madueño, Miriam Atlas, Tamiko Stratton, Jennifer Olinger, and Cindy Page

Presidents George W. Bush and Bill Clinton declared natural disasters somewhere in the United States on average of about one per week between 1998 and 2005.¹ Despite this frequency, most citizens are unprepared when a natural disaster occurs in their city or neighborhood. In particular, teachers and students can become paralyzed by the overwhelming destruction and emotional trauma brought on by these disasters. The purpose of this article is to assist teachers in addressing the multiple levels and forms of student trauma that may result from natural disasters such as Hurricane Katrina in Louisiana or tornadoes in Kansas; in particular, our discussion focuses on the effects of the wildfires in California during the fall of 2007.

In October of 2007, fires burned out of control from the Santa Barbara area, south to Los Angeles, and into Mexico, as a result of the specific combination of strong Santa Ana winds (hot winds from the desert, blowing towards the ocean) and years of drought in Southern California, a region that had not fully recovered from the devastating wildfires of 2003. The winds were so severe that for the first 24 hours, fire-fighting helicopters could not fly and firefighters were virtually helpless in fighting the multiple fires raging throughout the counties. This desperate situation prompted Governor Arnold Schwarzenegger to proclaim a national disaster in seven counties on October 21: Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura. California's Department of Forestry and Fire Protection reported that the following 2007 wildfires in Southern California were some of the

most destructive in the history of the state:²

Witch Fire, San Diego County, 197,990 acres burned, 1,650 structures destroyed

Harris Fire, San Diego County, 90,440 acres burned, 548 structures destroyed

Slide Fire, San Bernardino County, 12,759 acres burned, 272 structures destroyed

Rice Fire, San Diego County, 9,472 acres burned, 248 structures destroyed.

As a result of these fires, during both October and November more than half a million acres of land were burned.³ In San Diego County alone, more than half a million people were evacuated. Many students and their families were evacu-

ated from their homes in the middle of the night and saw fires surrounding them as they drove out of their neighborhoods. Some students stayed in community shelters supported by the Red Cross and the City of San Diego. All 43 school districts in San Diego County were closed from Tuesday through Friday, with several remaining closed well into the following week. Never had all school districts closed at the same time for a natural disaster. Smoke encircled many communities, and residents of the county saw gray ash descend on their homes. Some homes had ash inches deep that had to be cleaned like snow in Minnesota and New York.

The Role of Schools

Schools have traditionally been considered centers of neighborhoods. They are not only buildings where students learn, but also include teachers and administrators who are trusted leaders in the community.⁴ School personnel are respected and relied upon by parents to care for their children. In many areas touched by wildfires, high schools became evacuation centers and shelters. Throughout the wildfires, many students and their families found themselves evacuated to high schools as community refugees. These evacuation centers not only housed displaced families, but also took in their



Three firefighters brace themselves from explosive heat coming from a burning home in Rancho Bernardo, California, October 22, 2007. (AP Photo/Lenny Ignelzi)

cats, dogs, and even livestock, in some situations. During this time, calls went out through the media for educators to work with children at evacuation centers. Teachers demonstrated a strong sense of community and generosity volunteered at evacuation centers; they engaged students in various lessons providing a sense of normalcy and care. When the evacuation was lifted and families returned home, children returned to school anxious to speak with their classmates and teachers.⁵ After the wildfires, we, educators in the area, realized how important schools were in rebuilding the mental and physical health of our students. Schools proved to be one of the essential elements of a resilient community during a natural disaster.

Dealing with Student Trauma in the Classroom

When students and teachers returned to school in the aftermath of the San Diego wildfires, many were still suffering from the effects of the devastation they had witnessed or experienced firsthand. Most of the students saw the fires from their homes, were evacuated, or watched news programs showing the pictures of burning homes and landscape all too familiar to them. Many students and teachers returned to school feeling helpless. Several of these young people and their families lost their homes and all their possessions. Some students also lost the pets they loved. Others may have seen their friends and family members depressed and saddened by effects of the wildfires.

Teachers and principals offered safe environments; students arrived at school bubbling with energy and the need to talk about their fears. In numerous classrooms, teachers provided students with the opportunity first to write about their apprehensions and experiences. Students wrote about what they took in their haste to evacuate and what they forgot or did not have time to pack. Some wrote about staying up all night. Others wrote about how horrible it was for an aunt to return home to see only a blackened pile of smoldering rubble. Following their writing, class discussions allowed students to sort through and arrive at their own viewpoints about the events. In most cases, students needed the opportunity to talk with an adult who was a compassionate and active listener. The act of listening gave the messages that the teacher trusted students and respected their opinions. During these discussions, teachers guided students away from over dramatization of events because that style of communication can increase student anxiety and fears, rather than calm them. In many cases, children had watched the events of the fires repeatedly on television, and this overexposure led some students to develop heightened stress and sleeplessness.

During the discussions, many teachers realized the value and importance of students actually learning about natural disasters. Teachers gave students the opportunity to ask questions about the natural disaster and to delve into why it occurred and why it took so long to contain the eight initial fires in San Diego County. Students needed both the opportunity to talk about their fears and also a chance to gather information about the wildfires. It was important for students to understand information about the local weather and physical geography of the area. They began to realize that the natural disaster was not only fanned by environmental conditions, but also had man-made origins, such as downed power lines and the build up of regional brush. In addition, high school students brought up issues that were not easily answered. For example, older students

Randa Najjar, right, hugs her daughter Shareen, 14, as they watch a wildfire approaching their Santiago Canyon States home on October 23, 2007, in Silverado, California.

(AP Photo/Damian Dovarganes)



questioned why housing developments were allowed to be built in areas that had a history of wildfires.

Teachers used writing assignments, guided class discussions, and paired conversations to bring students back to their educational routines. Returning to a structure that children knew gave the students a sense of what to expect. Students, then, could rebuild their confidence and sense of control. The reestablishment of the routine helped move students beyond the trauma and feelings of helplessness towards a productive, positive direction, engaged once again in their academic work. Some children needed additional time to finish their work because it was more difficult for them to concentrate after returning from the break.⁶

One of the positive outcomes of this experience was the opportunity for teachers to point out human resilience and the strength of the human spirit.⁷ Teachers pointed out how students and their families were able to confidently deal with the disturbing conditions. When students reflect on their gratitude for a safe family

and the love of family members, as well as the support of teachers and school personnel, their feelings of resiliency are enhanced.⁸

The table on the opposite page is a summary of suggested strategies for teachers when dealing with student trauma after a natural disaster:

Integrating Information about Wildfires into the School Curriculum

Providing Information for Primary Students and English Learners

The role of a teacher is multifaceted; teachers not only dispense information and develop student skills, but they also create safe and caring environments that support learning.¹⁰ Since younger students had difficulty understanding the complexities of the wildfires and their effects on the region, they were largely influenced by the panic and unsettled feelings of their parents,

extended family members, friends and the images they saw on the television. Returning to school, teachers used the natural disaster as an opportunity to discuss issues dealing with personal safety, physical geography, and cause and effect. Discussions on this natural disaster fit well into the NCSS standard **III PEOPLE, PLACES, AND ENVIRONMENTS.**¹¹

For example, some teachers used large physical maps that showed the land surface to explain the movement of the fires in the county. Political maps were also helpful so teachers could point out various counties and cities within the state of California. Students benefited from having a visual representation of where they lived in relation to the fires. Teachers showed videos and photographs from digital resources explaining how the community mobilized many resources to protect neighborhoods and to provide shelter for evacuees. Many teachers created interdisciplinary units that engaged students in reading newspaper articles about the fires, writing expository essays, identifying historical

information about past wildfires, developing highly visual posters about elements of the wildfires, and role playing effective evacuation strategies.

Additionally, since more than a quarter of the students in California are English learners, teachers need to provide a basic knowledge base about wildfires for these students who, like primary grade students, may not have fully understood why people were evacuated. Teachers found that in the case of this natural disaster, English learners were confused about the information they saw on television because they lacked essential geographical background knowledge about the area. Moreover, many students did not have access to the same level of information throughout the crisis as their native English-speaking peers. As a result, they were misinformed or confused with respect to the actual location of the wildfires and the level of risk that they experienced during the disaster.

Numerous students were new to San Diego and were unaware of California history; they knew little about Santa Ana winds, the California drought, or the recent wildfires of 2003. While English learners have the same complex questions and thoughts as all students, they often have not developed sufficient academic language or the higher order abstract vocabulary in English they need to fully understand the complexity of events they are learning about. Because of this, it was helpful when the teacher, an aide, or a resource teacher, was able to speak with these students in their native language. Time spent clarifying misconceptions and allowing students to process what they experienced in their native language, increased the trust that these students were building in their new school, new home, and new nation.

Critical Thinking and Community Service Activities for Secondary Students

Students can become stronger critical thinkers when they become engaged in issues that they have experienced. Throughout the wildfires, students were continually engrossed in the unfolding of

Strategy	Discussion
Carefully Guided Discussions	Children often need the opportunity to talk about what they saw, experienced, and felt. Provide a calm, open, and respectful environment. Children may not want advice or guidance, but rather need a chance to get out their feelings. Adults should be active listeners. ⁹
Do Not Allow for Over Dramatization of Events	Students should be encouraged to discuss facts and evidence rather than over dramatization of events.
Encourage Questions	Students may be trying to sort through their own feelings and what happened. They may have the need to have a person they trust to answer questions about the trauma or their own emotions.
Reestablish a Routine	Students often respond to a routine. This helps to calm their fears because they know what to expect.
Return to Their Academic Work	Students will think less of the trauma and turn their attention to their academic work.
Addressing Feelings of Loss	Some students may not have been evacuated, but they may still associate the time with a previous trauma of abandonment or feelings of fear.
Explain Human Resiliency	Students may not understand how resilient the human spirit can be. Though everyone feels sad or unhappy at times, a person can bounce back. A discussion about inner strength can be supportive and beneficial.
Encourage Spending Time with Friends and Family	Students can feel supported and safer when they are members of a compassionate community.

this disaster by accessing television and Internet sources. By using photographs and other images available of current or past disasters, teachers helped their students gain a better understanding of wildfires.¹² Many teachers of secondary students developed inquiry-based curriculum that used the wildfires to expand students' understanding of how all humans are affected by changes in their environment.

One unit that has been particularly effective for upper elementary through high school students in dealing with current issues is the creation of Public Service Announcements (PSAs). Through this learning opportunity, students are able to construct common understandings about key curricular concepts, discuss

different viewpoints, and identify possible solutions to social problems. For the topic of wildfires, students could research geographical and historical content as well as identify which angle to take on the particular situation.¹³ The students might develop a PSA as part of a drive to provide backpacks, textbooks, and other supplies for students and their family members who have lost everything. Another PSA could advise people on how to prepare for a disaster by having a predetermined meeting place for all family members, and keeping important documents, such as passports, insurance papers, diplomas, and photos in a place where they can be easily gathered. PSAs could also publicize the need for young people to help their parents, grandpar-

ents, or neighbors remove all brush and dry grass approximately 50 to 100 feet from their homes, so that their homes are better protected against the spread of fire.

This activity allows students to take an active role in learning about which aspects of the wildfires were most intriguing, troublesome, or pertinent to their lives. When creating PSAs, students should consider the following crucial components: distinguish the issue or topic, identify target audience, describe the key message, and list persuasive techniques used. After learning about persuasive techniques and researching their particular angle, student groups create storyboards and write dialogue for filming the PSA. After filming and editing, students find the appropriate medium for showing their PSA, such as their school's closed circuit system during the advisory period. In the past, students have received extensive positive feedback from other students, teachers, and administrators who found the public service announcements not only informative, but entertaining as well. Many young people who have participated in the creation of PSAs expressed a high level of understanding of issues and expressed feelings of support from their peers. Creating PSAs provides an excellent opportunity for the integration of English and social studies content and skills, especially in the aftermath of a natural disaster on the scale of the 2007 California wildfires.

Teacher and Student Preparation for Natural Disasters

It is important that teachers deal with the trauma and insecurity brought on by the wildfires, but they can also prepare students for natural disasters at many different levels. When students are involved in designing their classroom's disaster plan, this can give participants a sense of empowerment.¹⁴ As part of being prepared for a crisis, it is the job of the teacher to ensure that students take seriously all drills. For example, in order to make the drills more realistic, the

Teacher Preparation for Natural Disasters

1. Students can contribute to a disaster plan; legally, the plan must be in collaboration with district, state, and school mandates.
2. Role-play what students should do in case of a fire, earthquake, or flood, such as "Stop, Drop, Roll."
3. Depending on the type of disaster, have a predetermined place for students to assemble. This would be a part of every school's disaster plan.
4. Gather a list of all students with their emergency numbers and place a copy in the emergency classroom kit. The list is considered confidential by most districts so contact your district for specific instructions.
5. Create a list of important telephone numbers and websites for gas, water, and electric companies, as well as available transportation resources (buses, taxis, light rail systems, and utility companies).

teacher could explain that students might want to breathe through their t-shirts if there is much smoke, and then practice doing so throughout the drill.

Students can become more involved in the process and take it more seriously by reflecting on their drills.¹⁵ They can identify what went smoothly as well as make suggestions that could help the class become better prepared in the event of a real disaster. Although, ultimately, teachers are responsible for accounting for all of their students during an emergency, role-playing is an opportunity to discuss pairing or "buddying up" with someone. Teachers could also ask students to reflect on questions such as: Who is going to help the teacher keep order? How can a buddy system help during a natural disaster?

Older students can take on even further responsibilities when preparing for a natural disaster. For example, they can learn about contacting major utility companies if they detect gas leaks or exposed electrical lines. Students should also be informed about dangerous conditions, such as the danger of stepping on downed power lines and the importance of alerting an adult if they smell gas seepage. The resource list in a high school classroom may also include phone numbers for transportation alternatives such as met-

ropolitan bus numbers, light rail system, and taxis.

Conclusions

Natural disasters are unfortunately more common than most individuals understand. In particular, the recent wildfires in California caused severe grief, depression, anxiety, and confusion in many students, their family members, and the community at large. Since teachers and principals are trusted members of communities, who are responsible for the physical safety of students, school personnel must be prepared to handle events of a natural disaster such as the wildfires.¹⁶ They must also be able to address student trauma after a natural disaster has occurred. In addition, if teachers have prepared students to respond to a natural disaster, young people can act prudently and with confidence.

One of the unanticipated outcomes of the wildfires is that recent immigrants and refugees who lived in low-income neighborhoods showed strong connections to people who were evacuated. They had intense feelings of empathy for California fire evacuees since many new immigrants have also escaped from crisis situations where they left family members, friends, and homes behind. One high school teacher explained:

Although, ultimately, teachers are responsible for accounting for all of their students during an emergency, role-playing is an opportunity to discuss pairing or “buddying up” with someone. Teachers could also ask students to reflect on questions such as:

Who is going to help the teacher keep order? How can a buddy system help during a natural disaster?

“Many of my students are refugees, born in refugee camps or raised on stories from parents who lived in these camps before immigrating to the United States. My students live in the poorest zip code in San Diego County, yet when faced with this disaster, the only thing they could think to do was to volunteer in some way.” Connections with others in the community were strengthened. As citizens of a culturally diverse, democratic community, this teacher’s students believed it was important to contribute to society; they found their place in the greater population. They identified themselves as community builders rather than being known simply as students from a poor high school.

Wildfires will persist. However, we as teachers and mentors of students can prepare them for natural disasters and guide them through these experiences so they can return to school and continue to move forward as compassionate, contributing members of society. 🌲

Notes

1. “Tierney Attacked Clinton for ‘Record Number’ of Disaster Declarations, Failed to Mention Bush’s Record-setting Pace,” Media Matters for America (September 20, 2005), mediamatters.org/items/200509200006.
2. California Department of Forestry and Fire Protection, *20 Largest California Wildland Fires* (By Structures Destroyed), (2007), www.fire.ca.gov/about_content/downloads/20LSTRUCTURES.pdf.
3. California Department of Forestry and Fire Protection, *Large Fires 2007: 300 Acres and Greater*, (2007), cdfdata.fire.ca.gov/admin/cdf/images/incidentstatsevents_167.pdf.
4. Valerie Ooka Pang, *Multicultural Education: A Caring-Centered, Reflective Approach*, 2nd ed. (Boston, Mass.: McGraw-Hill, 2005).
5. Because school fills much of a student’s daily life, it is only natural for them to look to teachers for support, guidance, nurturing, and to provide a sense of normalcy after a natural disaster such as the wild fires in

- California. An excellent guide for teachers, “Helping Children after a Natural Disaster,” can be found at www.nasponline.org/resources/crisis_safety/naturaldisaster_ho.aspx.
6. U.S. Department of Education, *Tips for Students Recovering from Traumatic Events*, (2005), www.ed.gov/parents/academic/help/recovering/recovering.pdf.
 7. George A. Bonanno, “Loss, Trauma, and Human Resiliency,” *American Psychologist* 59, no. 1 (2004): 20-28.
 8. Deborah O’Donnell, Mary E. Schwab-Stone, and Adaline Mueyed, “Multidimensional Resilience in Urban Children Exposed to Community Violence,” *Child Development* 73, no. 4 (2002): 1265-1282.
 9. If a student seems to be having more difficulty returning to the daily routine than others and her or his emotional state is a concern to the teacher, it is important to contact the school counseling department. This student may need additional counseling services.
 10. Pang.
 11. National Council for the Social Studies, *Expectations of Excellence: Curriculum Standards for Social Studies* (Silver Spring, Md.: NCSS, 1994): 23, 35-36, 54-56, 85-87, 118-120.
 12. Two websites have strong photographs: Navy Compass. Photos of Wildfires in California, www.navycompass.com/photo/photoview.asp?p=3992 (Information about different aspects of fighting fires with photos; can be used without charge if citation is provided.); Photo Gallery. National Public Radio. www.npr.org/templates/story/story.php?storyId=15864703.
 13. Though this article did not lend itself to the discussion of fire control, we would like to include an example of historical information about the practices of indigenous people in this area. This knowledge can enhance the understanding of students about the issue of wildfires. See M. Kat Anderson’s *Tending the Wild: Native American Knowledge and the Management of California’s Natural Resources* (Berkeley, Calif.: University of California Press, 2005). She explained that Native American nations were aware of the danger of allowing brush to accumulate. Some native groups such as the Hupa, Tolowa, and Yurok would engage in deliberate burning. Since the technique was practiced annually in the fall, if a fire did break out, there would not be enough fuel for the crowns of the trees to catch fire. In addition to clearing dead or overgrown plants, Native Americans understood that regular burning had many other benefits. For example, Native Americans saw that some insects were harmful to their crops. Since acorns were a main food source, many Native Americans would burn the areas around oak trees. This practice cleared away dead leaves that harbored worms that destroyed the growth of acorns. Deliberate burning also encouraged new plant growth; deergrass, a plant used by various tribes for making coiled baskets, grew more rapidly following this practice. Tribes, such as the Cahuilla, Kumeyaay, and Luiseño, would burn areas where deergrass grew to clear away dead plants and increase flower stalk production. Rather than “managing” natural resources, which Anderson argues is a

- “Western term implying control,” the Native Americans viewed deliberate burning as “caring about” the plants and animals in their environment.
14. Teachers may discuss, and are required to practice, drill and rehearse all district evacuation and disaster plans in many states. Legally, however, a disaster plan is designed and implemented by school districts in cooperation with police, fire departments, and local law enforcement agencies. Disaster plans are designed to meet the layout of the school, its proximity to area resources, law enforcement, and other conditions in the community. It is important that student suggestions meet all legal requirements. Including students is a great way for them to become familiar with legal issues and liability relating to disaster, evacuation and crisis plans. It provides an awareness of public policy, the importance of meeting legal requirements, and simply gets them involved. They will learn that disaster plans are actually public documents, and “before being adopted must actually be approved by members of the community.” [California Education Code 35294.8]
 15. Stephen Brock, Philip J. Lazarus, and Shane Jimerson, eds., *Best Practices in School Crisis Prevention and Intervention* (Bethesda, Md.: National Association of School Psychologists, 2002).
 16. The California Department of Forestry and Fire Protection has made available an excellent document on dealing with wildfires, “Before, During, and After a Wildfire,” (2007), www.fire.ca.gov/education_content/downloads/BeforeDuringAfter.pdf.

VALERIE OOKA PANG is a professor in teacher education at San Diego State University, where her research interests include social studies education, multicultural education, and urban education. She is the author of *Multicultural Education: A Caring-Centered, Reflective Approach*. MARCELINA MADUEÑO is a math teacher at Oceanside High School in the Oceanside Unified School District of California. She has also taught law-related high school courses. MIRIAM ATLAS is an English-learner resource teacher for Baker Elementary in the San Diego Unified School District, who has experience in working with the newest immigrant students. TAMIKO STRATTON is a resource teacher for the Striving Readers Program at Clairemont High School in San Diego, and mentors teachers in building content area literacy. JENNIFER OLIGER is a fourth-grade teacher at Edison Elementary in the San Diego Unified School District, where she currently teaches a bilingual Spanish GATE class. CINDY PAGE teaches American literature, English, and Advancement Via Individual Determination (AVID) at Crawford Educational Complex in the San Diego Unified School District.

We are thankful for the suggestions of Mike Yell, Cynthia D. Park, Dana Riggs, and Francesca Shuruk.