

## **Coping with Tragedy - Another View**

By Jerry W. Samples

The tragedy of September 11, 2001 shocked the nation and my students. As we watched the horrors of the crashing airplanes and the falling buildings and heard the recordings of family members leaving good-byes on answering machines, there was a sense of helplessness. How do we in engineering technology cope with this? How do we help others cope with this tragedy? Should we discuss the sociological, political or moral aspects? How about the military aspects and retaliation? No, these were not within our area of training, although there was a lot of experience in these areas. There must be something that could be learned from all this, something that we could contribute.

A staff member and parent of one of my students called to tell me that her daughter just did not understand any of this and asked if I could help. The faculty of engineering technology had discussed various aspects of the crash, the ability of the building to withstand the impact, the fire, and the collapse mechanism. It was the fire that caused us the most problems. So, the day after the attack we decided to discuss the engineering aspects of the tragedy: the smart aspects of the building designs, as well as those factors that might have contributed to the death of so many.

With several classroom discussions going on simultaneously, we told the students that the opinions of the professors were much the same as you might receive when contacting a professional engineer about a project, each approaching it from a slightly different direction. In my class we began with the crash and the fact that the design of the building was excellent since it withstood the crash, as predicted. We analyzed the forces of concern, especially the heavy loads above the crash site and the fact that the building could stand if the strength of its supporting members was maintained. I asked students to recount the exact things they saw at the time of the collapse. Their detailed descriptions of the collapse were excellent, allowing me to draw a series of pictures that resembled the collapse sequence. We began to analyze why the collapse happened, and we focused on the fire. Simply put, the fire weakened the structure, and the immense weight above the fire eventually could not be held.

The discussions helped. Students understood the nature of the failure and the need to design for such events. They expressed a belief in their discipline and the skills of the architects and engineers who built the towers. Finally, they were able to talk of the tragedy on their terms: filled with data and equations. There were emotions, there were concerns, and there were tears, but there was resolve that they would be prepared for the future.

The student's mother called a few days later and said that those discussions were very helpful. As a group, faculty, staff and students we all grew that day, and we will never forget what we saw.