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CHET DALSKI

SAVING LIVES THROUGH EDUCATION

I have been interested in teaching First Aid and Cardiopulmonary Resuscitation (CPR) since my early Scouting days as an adolescent. When I first saw the simple way a person trained in First Aid and CPR could save the life of another, I was impressed with the importance of learning. Through a combination of understanding simple cardiopulmonary processes and developing skill sets to mimic them, I was convinced that learning CPR and First Aid was vital. It became my passion. It wasn't until much later that I understood more deeply my role of teaching in this process. I learned the lesson that I could save lives, with the help of God, through educational efforts of promoting learning. Here was something taught to me that I could teach to others. I saw the life-giving power of learning and the life-giving role of teaching.

Shortly after I entered my professional Emergency Medical Services (EMS) teaching career, I was hired by Henry Ford Community College in Dearborn, Michigan. I was hired initially to teach Advanced First Aid and CPR. Later, I began teaching Basic Emergency Medical Technician (EMT). While teaching Basic EMT in the fall semester of a two-semester program, I began teaching a CPR unit prior to Thanksgiving. We took a short Thanksgiving break and resumed class to give the Final CPR written and practical exams. While preparing to give the Final Practical exam, several of the students remarked, "Brian already took his Practical Exam over the break." After some strong encouragement from his classmates, Brian told me his story.

During the first few days of deer season, Brian, his father, and a friend had gone hunting deep in the woods in Lapeer County, about 60 miles northwest of Detroit. They had walked about a mile into the woods that morning, staking out different places to hunt. About mid-morning,

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Brian's father began to experience chest pain. As soon as his father clenched his chest, Brian knew from his training in my classroom what might be happening. He immediately began assisting his father back towards the pick-up truck in the clearing, but before long his father collapsed. This being before the age of cell phones, Brian quickly fired three shots into the air to get the attention of his friend, who was hunting nearby, and then properly assessed his father and began CPR, complete with compressions and respirations, in the middle of the woods.

Brian's friend responded to the shots and together they got his father into the back of their pickup truck where Brian continued CPR. His friend drove them on what Brian described as a "ride from hell." On arrival at the emergency room, his father was slightly hypothermic and still in full arrest. The medical staff took Brian's father away at this point. After the longest 20 minutes of Brian's life, a nurse finally came out to the waiting room and told him that his father had been resuscitated. He was transferred by ambulance to a larger hospital where he received further definitive care.

Brian's actions were part of the larger healthcare team that ultimately saved his father's life. Had he not performed these crucial actions, it's unlikely that his father would have survived. Without CPR, brain death begins 4-6 minutes following cardiac arrest. Brian bought time for his father by doing CPR; in short, he had saved his first life, even though he had not yet completed his program. In my book, he graduated with honors, regardless of any other grade in the course.

A close friend of mine who had been helping in this course witnessed this. "Chet," he said, "you helped save Brian's father." While sipping a drink at Chi-Chi's, I "got" for the first time that my teaching actions can help save a life through my students. When Brian finished the course about five months later, he did so with an "A." He was committed to this course and knew how important it was to finish. His father was also very much alive at that time. I never saw Brian again after he graduated from my program, but I will always remember the lesson he taught me about the life-giving truth that learning matters.

Since Brian's "save" of his father, I have heard countless tales of how my students are using their EMS education to help others. These "war stories" are important for me as a teacher; they help me to understand what my students are learning and the impact it has had on those around them. They also serve as examples to others in modeling their behavior.

I eventually moved to Kellogg Community College (KCC) to start a

new Emergency Medical Services (EMS) program. I wrote the motto of the KCC EMS program, “Saving lives through education,” when I founded the program. Since that time, it has been on our stationery, logo, and flyers. I had a special reason for choosing it; one you now know. I also know I’m not alone in this motto. I now have staff, faculty, and adjuncts, all of whom share my vision for this program. My understanding of the importance of this mission allowed me to identify this motto, and my leadership in this program has helped to fulfill that vision. I have mentored many students, faculty, adjuncts, and staff—but the mission remains the same.

The job of leadership often puts the leader in some very tough places in their lives. At times, the stress and aggravation of the job can seem overwhelming, making it seem as if surrender is the best avenue, rather

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than continuing the journey. My love of EMS and those around me, along with God’s full support, have allowed me to continue when I felt overwhelmed. I draw energy and sustenance from this mission, knowing I have made a difference and helped change a small part of the world around me. If you’ve read the poem “Footprints in the Sand,” you probably understand why it is framed in my living room and also can be found in my office. There have been times in my life when I have lived this poem—times when God has carried me through dealing with life, death, and difficult issues. I believe every leader who commits to difficult tasks comes to the realization that they can’t do their job without God’s help.

Shortly before I started my journey at Andrews University, I made the decision for the KCC EMS program to embrace a new technology in medical education called high-fidelity medical simulation. This form of learning substitutes fairly realistic manikins for actual patients with life-threatening medical conditions requiring care. These manikins are capable of producing a pulse, breathing, generating an electrocardiograph, talking, delivering a baby, and more. They come in both sexes and all sizes. Using these manikins, we can replicate ambulance calls so that students can experience leadership and critical decision making while treating patients with problems they will encounter in their professional practice. The manikins allow learners to perform lifesaving treat-

ments that would be harmful to live humans who do not require them. In essence, we use Kolb's learning cycle and the work of Schön to learn by experience and perform reflective practice (Kolb, 1983; Kolb, Boyatzis, & Mainemelis, 2001; Schön, 1983, 1987). The best part is that no one is harmed if the students make a critical mistake, but they will learn not to repeat it. The cost of human lives lost in their education will be less likely to occur. These experiences, similar to the "war stories," help students build a repertoire of experiences they can draw upon when confronted with a real call.

One of the life-threatening types of cases is when medical practitioners encounter situations with the potential for sentinel events. A sentinel event, as defined by the Joint Commission, is an "unexpected occurrence or variation involving death or serious physical or psychological injury or the risk thereof" (Kohn, Corrigan, & Donaldson, 2000, p. 93). The actions of the practitioner in these events can literally mean the difference between life and death or serious injury to patients. However, by their very nature, sentinel events are infrequent. They produce "war stories," but not fast enough for learning to be comprehensive, thorough, and ready in time for the students to graduate. Expecting them to occur during a student's limited clinical experiences, much less for every student participating in those experiences, is nearly impossible to accomplish. However, through high-fidelity medical simulation, students can not only encounter these sentinel events but also be responsible for mitigating them in a setting that does not endanger human life.

While building the simulation program at KCC, I joined a simulation research project at the Western Michigan School of Aviation. At that time, the medical simulation field was just starting to grow, with small pockets of medical educators using it. Many of the technologies taken for granted today had not yet been developed. As both a medical consultant and "technoid," I used innovation, ingenuity, and adaptation to help create what we needed. We faced many challenges, including funding, human resources, training space, methodology, and more. Despite these challenges, we continue to use this new technology because it increases the opportunity for students to learn and therefore increases the chance for lives to be saved. I performed simulations for several years with the American College of Cardiology, performing in situ simulation within EMS and hospital settings as part of simulation team. There, we tested hospital and EMS systems to determine how to improve their response to a type of heart attack called an ST Elevation

Myocardial Infarction (STEMI). A heart attack is caused by a blockage of one of the blood vessels that supplies the heart with oxygen-rich blood. A STEMI means that this heart attack has just occurred. If the patient is taken to a Percutaneous Coronary Intervention (PCI) lab within three hours of a STEMI, the blockage can be removed and no permanent damage is likely for the patient. Unfortunately, we learned that the best-designed systems have hidden flaws that increase the time beyond the window for some patients. By identifying and fixing these flaws, as identified in simulations, they can improve the outcome for those patients. Lost time literally equals potential for permanently lost heart muscle. As a result of our efforts across the country, we learned that the times to PCI in the systems we visited were significantly reduced (averaging 50% reduction) within six months of our visit. While I'll never directly know those individuals our efforts helped save, I rest well knowing we made a difference.

I want to share one last “war story.” I became aware of the results of a simulation we performed at a hospital with a simulated obstetrics patient. As part of the in situ simulation team I was part of, we visited this hospital to test their abilities to handle sentinel events. The simulation involved a pregnant patient in her eighth month who was the restrained driver of a vehicle that struck a telephone pole at 30 miles per hour. In our simulation, EMS brought the patient to the hospital and she was quickly taken to the obstetrics unit. There hospital providers placed her on a fetal heart tone monitor that indicated her child was being starved of oxygen. This called for an emergency caesarian section in which the baby was quickly surgically removed from the uterus. What the team didn't know was that the woman's uterus was ruptured and that the baby would require emergency care as well due to the lack of oxygen.

In the operating room, the hospital obstetrics team called for emergency blood, only to find that it didn't come in a timely manner. Likewise, the resuscitation of the baby didn't go well because the equipment wasn't properly tested for access in a critical situation like this. It was likely that both the mother and newborn would have died or been permanently injured—had they been real patients. The simulation showed inadequacies in the systems the hospital was relying on; fortunately, no one died to learn this lesson, thanks to the use of high-fidelity medical simulation.

Several months later, I learned that the hospital had a nearly identical event to the one we had simulated for them. In this real-life case, the

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outcome was much different because after the simulations, the hospital staff had fixed the problems and designed new systems to allow for better treatment. The result? A healthy baby and mother both sent home healthy after a brief stay. One of the first rules of medicine is to *do no further harm to the patient*. I believe that simulation allows us to teach medicine without the high price of losing lives to learn a lesson.

Over time, I have grown to understand that my leadership saves lives through education. This is part of the vision of who I am. It is what I do—perhaps the reason God has placed me here. My movement of the KCC EMS Program into medical simulation as a regular *required* teaching pedagogy in the program has resulted in better comprehension and I believe will result in more lives ultimately saved. We are the only EMS program in Michigan going to this extent at present. However, because of our efforts, other programs have begun to change as well. This is servant leadership—taking a risk when others have not, breaking new barriers for all to benefit. In short, it fulfills the mission of “Saving Lives through Education.”

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