



# INNOVATION ABSTRACTS

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## “HEROES” INCREASE THE GENESIS OF STEM SCHOLARS

One day after a lecture/discussion on the cardiovascular system, the class took a quiz on the topic. Although all of the students did very well on the quiz, only one received a perfect score. When we started reviewing the results, we focused on the reasons why so many students came close but missed out on that perfect score.

After congratulating the student who had made the perfect score, the rest of the class asked the student to explain how she did it. Without further delay, the student began to present her secrets of success. She explained the importance of paying undivided attention to the lecture, turning off cell phones, putting away all electronic devices, taking notes, drawing a flow chart of concepts presented on the board (which enabled her to connect the concepts), and recording clinical examples and anecdotal real-life stories. The entire class was spellbound by her dedication and commitment to learning the information. The student even stated that she worked full-time and then came to class in the evening two nights a week.

A few students in the class posited, “You must not have kids, so you have no worries and can focus in the class.” Her response was, “I actually do have serious responsibilities to take care of at home. It’s all about priority and not leaving it for another day.” Momentarily, the class acknowledged that working full time, having family and other responsibilities, and traffic delays are not an excuse. The student became a “Hero” for many in the class.

This incident made us realize that students who attend and participate in lab dissections and class discussions, turn in lab reports on time and with integrity, post messages on the message board on selected topics, attend guest lectures, maintain a high GPA, and

participate in the class during the lecture provide a great opportunity to recognize them as “Heroes” among the non-traditional learners. With the consent of these students, they can be recommended to work as tutors at the Student Success Center.

Instructors who go the extra mile to stay in touch with students, monitor their class attendance and academic progress, and provide one-on-one guidance promote student success and motivation. For students interested in STEM, instructors can help get them involved in STEM-related activities, such as career fairs, college success skill(s) seminars, hands-on activities related to science projects, scheduled field trips to local hospitals and universities, and presentations by reputed scientists from universities, research institutions, teaching hospitals, and NASA. These types of activities help first-generation college students, who represent the majority of non-traditional students, overcome the fear of failure, a lack of self-confidence, cultural constraints regarding literacy, a lack of role models, as well as any economic constraints.

In this regard, the activities of the STEM center/students success center(s) at each campus of SWTJC have helped with this by taking students to math and physics conventions, leadership conferences with the Hispanic Association of Colleges and Universities (HACU), and helping them participate in virtual presentations conducted by NASA as part of collaboration efforts with Sul Ross State University. These activities have generated a positive response from students, which has led to a strong STEM community.

This success in STEM-related activities has enabled SWTJC to obtain student recognition as the “All Texas Academic Team 2013.” These students provide a great example of our STEM success as they continue on to pursue academic degrees in aerospace and electrical engineering, pharmacy, and medical-related disciplines.

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Contrary to the misconception that southwest rural America is mostly comprised of dusty roads, parched ranch lands, and a bleak economic reality due in part by the impact of a cycle of endless poverty, it is still a prolific, ingenious land filled with a new generation of youth with high hopes and dreams, aspiring to succeed in science, technology, engineering, and mathematics. With the unyielding efforts and resolve of today's teaching community and non-traditional students, we now see it is possible to foster a vigorous community of STEM scholars.

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