

COUNCIL ON PRACTICES AND STANDARDS

Serving the Specialist of the Safety, Health and Environmental (SH&E) Profession

ASSE's Council on Practices and Standards provides you with the following article.

If you would like to reprint this article in your Chapter Newsletter, please notify Rennie Heath at rheath@asse.org and credit the Council on Practices and Standards. In addition, please refer readers to the <http://www.asse.org/practicespecialties> website.

Enhancing the Health Component to SH&E Education: Imperative for the Future

By Jim Ramsay, Ph.D., MA, CSP

According to the Board of Certified Safety Professionals, "A safety professional is a person engaged in the prevention of accidents, incidents and events that harm people, property or the environment. They use qualitative and quantitative analysis of simple and complex products, systems, operations and activities to identify hazards. They evaluate the hazards to identify what events can occur and the likelihood of occurrence, severity of results, risk (a combination of probability and severity) and cost. They identify what controls are appropriate and their cost and effectiveness. Safety professionals make recommendations to managers, designers, employers, government agencies and others. Controls may involve administrative controls (such as plans, policies, procedures, training, etc.) and engineering controls (such as safety features and systems, fail-safe features, barriers and other forms of protection). Safety professionals may manage and implement controls."¹

From this definition, it is clear that one of the main aspirations of a worksite safety program is to produce health endpoints that save the organization money.

Why This Issue is Important

Optimizing employee health remains the largest potential cost savings of SH&E programs. Yet, surprising numbers of both academic and worksite safety programs do not include or measure health endpoints as their main focus. Neither safety academics nor safety students adequately understand how to measure the impacts of safety programs on employee health or how to translate improved health status to economic gains to the organization due to the safety and health program. Given the aging U.S. workforce and the persistent need to demonstrate the business case for safety programs at the worksite, it seems imperative to stress adult health education as a core component within safety education.

Since 2004, NIOSH and CDC have produced two national symposia focusing on the connections between health and safety at the worksite. The first was named "STEPS to a Healthier U.S. Workforce" held in October 2004 and the second was named "The Worklife 2007 Symposium," which was also held in Washington, DC in September 2007. Both symposia

¹ BCSP <http://www.bccsp.org/bccsp/index.php?option=content&task=section&id=8&Itemid=34>, retrieved 9-18-07.

explored the logic, tools and methods necessary to demonstrate the synergies available when worksite safety and health programs work together. Increasing research demonstrates that the economic value added to an organization is optimized when worksite health promotion activities work in concert with safety programs. Clearly, the federal government is beginning to show an almost unprecedented interest in the connections between safety and health at the worksite and methods that optimize both to enhance employee health and thereby save money.

A Possible Solution

It is not a tenable solution to pile on several courses (at least two more semesters if not more) to an already packed safety curriculum. Instead, it might be more efficient to consider a fundamental shift in the interpretation and application of traditional learning outcomes that comprise many safety curricula. The notion of “cross-training” students in safety and health is presented below. Note that such training implies that the curriculum may not be as complete as a pure safety program or as complete as a pure health promotion undergraduate program. However, by taking essential elements from each and combining them into a synthesized curriculum that focuses on producing health endpoints (improvements in the health status of the employee population), it is possible to create a uniquely qualified individual—one who can anticipate, recognize, evaluate and control safety and health hazards.

Cross-training in safety and health is logical considering that both safety and health:

- Share a common clientele
- Have similar professional training and pursue a similar mission
- Yet, safety and health professionals often compete for organizational resources (time and access to employees)

Traditional health promotion curricula emphasize adult education and behavior change, lifestyle risk reduction, epidemiology, alcohol and other drug abuse, human factors (i.e., occupational stress), marketing, nutrition, health psychology and economic analysis. Even though each of these issues is tied to many current safety challenges at the worksite, conventional wisdom indicates that few to none would be expected to be found in the structure of safety curricula nationwide. Given that no accreditation criteria or bodies exist for worksite health promotion programs and given that the majority of undergraduate safety programs are not ABET-accredited, we can still look to the ABET criteria for safety programs as the most credible source of what a pure safety program should look like. What follows are the recently revised safety program criteria by the ASSE Education Standards Committee (ESC), which are the new learning outcomes for ABET-accredited safety programs.²

1. Anticipate, recognize, evaluate and develop control strategies for hazardous conditions and work practices.
2. Demonstrate the application of business and risk management concepts.
3. Demonstrate an understanding of the fundamental aspects of safety, industrial hygiene, environmental science, fire science, hazardous materials, emergency management, ergonomics and/or human factors.
4. Design and evaluate safety, health and/or environmental programs.
5. Apply adult learning theory to safety training methodology.

² It is important to note that although the ABET ASAC advisory committee has proofed these criteria, as of September 20, 2007, the criteria have not yet been formally adopted by ABET.

6. Identify and apply applicable standards, regulations and codes.
7. Conduct accident investigations and analyses.
8. Apply principles of safety and health in a non-academic setting through an intern, cooperative or supervised experience.

Although many of the traditional elements of a worksite health promotion curriculum are not represented in the above criteria, it is worthy to note that the new criteria are possibly flexible enough to incorporate at least a few health concepts. Consider criteria 2, 4, 5 and 8. Criterion 2 states that there is new emphasis on business and risk management principles. This could be interpreted to include health management, economic analysis and marketing. Criterion 4 clearly states that safety students should be able to design health programs. As such, this criterion would enable the teaching of traditional health promotion programs such as weight management, stress management, diet and exercise programs, etc. Criterion 5 states that the application of adult learning theory and safety training methodology are core outcomes. This could be interpreted to include teaching adult behavior change strategies and the identification, quantification and reduction of health risks due to lifestyle. Criterion 8 states that a core outcome would be an internship. Internships are central to a safety student's academic preparation. Logically, internships apply equally as well to the preparation of health promotion students.

Conclusion

Empirical research into the best way to combine traditional safety and health promotion curricula promises to be an efficient method to determine how best to educate tomorrow's safety and health practitioner. The Academics Practice Specialty (APS) is ideally situated to work with ESC to produce a white paper (or series of white papers) that explores how safety educational criteria might best be modified to include the traditional components and principles of traditional health promotion programs. APS can use the peer-reviewed *Journal of Safety, Health and Environmental Research* as well as its annual Forum to further disseminate and motivate research.

Dr. Jim Ramsay is Homeland Security Program Coordinator at Embry-Riddle Aeronautical University in Daytona Beach, FL. He is also Editor-in-Chief of the *Journal of Safety Health and Environmental Research*, a blind peer-reviewed, online publication of the Academics Practice Specialty.