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Doctoral Program in Occupational Safety
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The field of occupational safety is in danger of disappearing or at least losing its identity as the top programs around the country increasingly continue to rely upon educators from allied or even tangential fields to our profession. Key educators of our students often have terminal degrees in areas related to safety, but certainly not in safety. The related fields may be strong and have the potential to offer our students educational perspectives from a wide spectrum. The problem at most universities is that there is not one faculty member who has studied, practiced, researched, and written about any part of the safety profession or management of it. In some cases no faculty member has even obtained his or her Certified Safety Professional (CSP) designation. A review of faculty credentials at nearly any university offering a degree with “safety” in its title will verify this. Out of 481 educational or professional credentials listed on the websites of schools designated as Educational Resource Centers (ERCs) by the National Institute of Occupational Safety and Health, less than one percent, or only four, were Certified Safety Professionals (CSPs). An even more difficult challenge is finding a faculty member with “safety” anywhere in the title of his or her terminal degree. This is not only true in ERCs but in nearly any university.

Although valuable from an engineering or health standpoint, the perspectives our “safety” students are receiving will continue to move our field to the point where we no longer have ownership of it. We may not even recognize the “safety” educations some students are receiving. Students often don’t understand key concepts in safety, cannot apply these concepts, and certainly will likely never be able to pass them along to future generations. There may not be one faculty member on a staff who really understands and communicates core concepts of the safety profession. Slowly the profession is disappearing and the voids are being encroached by nurses, engineers, production managers, environmentalists, industrial hygienists, psychologists and others who see opportunity and seize it. Safety imposters are being hired at our universities and are traveling and presenting seminars as if they have studied and understand the field of safety. Surely many of them have done so to some degree, but the casual approach to research, thought, and publication evident in the literature adds to the argument that they’ve failed to take a systematic approach to a study of the field. The United States is in need of a wide-reaching doctoral program that permits and encourages students to research and study the field of occupational safety.

Students should be given the opportunity to explore and research current philosophies of safety and how those philosophies apply to our field. They should consider key figures in the history of safety as well as those tangential to it and compare ideas, approaches and philosophies. By bringing in the best from other fields and comparing it to our own thinking, we can refine and evolve the philosophies of occupational safety.

The doctoral program should attempt to align itself with a school or group of schools with the ability to confer a doctoral designation. The doctoral program should be made

available completely online. The population for such a program is diverse and the top candidates will be found across the United States. To limit the program to a single geographic location would eliminate many, if not all, of the top people qualified and interested in applying. Most on-campus programs require a minimum residency of at least one full semester. Many otherwise qualified candidates are unable or unwilling to attempt to meet such a residency requirement. They are working full-time and have financial obligations preventing them from living on campus for six months to two years. If they were able to do so, there are many excellent Ph.D. programs in other professional areas that would likely attract them.

The program should be housed in a public or low-tuition rate university; otherwise, students will be forced to rely on financial assistance from public agencies that frequently require them to attend full-time. A public institution with liberal, low-cost courses for out-of-state, online students is ideal. Current employers will often provide the cost of tuition if it is reasonable. For example, at least one public university offers out-of-state tuition for online, three-hour graduate courses of approximately \$600. Similar course work at private institutions can cost five to ten times that amount.

The university where the Ph.D. program is housed should be willing and able to utilize outside faculty resources. There are top-notch, well-qualified faculty who could make strong contributions around the United States and even overseas. Faculty at such diverse locations as Auburn University, Oregon State University, University of Houston, Murray State University, University of Wisconsin-Whitewater, Indiana State University, Indiana University of Pennsylvania, and the University of Glasgow, Scotland, could all be valuable, contributing members of such a consortium of faculty. Each university could pay each faculty member as a part-time professor to teach the course or to mentor a student as he works his or her way through the research. An online program would permit faculty from the top safety and health colleges and universities to participate.

The Ph.D. program should ideally be built from scratch. A 2002 study done by William Deleo, entitled *Safety Educators and Practitioners Identify Competencies for a Doctoral Degree in Occupational Safety: an Application of the Delphi Technique*, designed to determine competencies required in a Ph.D. program should be analyzed and utilized to every extent possible. The study utilized both academic and practicing experts as recommended by what was then known as the Professional and Educational Standards Committee of the American Society of Safety Engineers. DeLeo suggested the following competencies should be addressed:

- Ability to effectively utilize safety sciences literature
- Ability to critically evaluate existing research literature in OS&H and identify gaps in that literature
- Safety and health programs: development, implementation, management, and evaluation
- Evaluation of safety and health program performance and design of performance measures

- Ability to develop hazard control methods, procedures, and programs to include integration of safety performance into the goals, operations, and productivity of organizations and their management
- Cost modeling: Ability to estimate the economic impact of safety issues and practices on a firm's economic performance
- Demonstrated in-depth knowledge of safety, health, and environmental issues
- Ability to stay current with the changing safety challenges in the workplace
- Ability to review, compile, analyze and interpret data from accident and loss event reports and other sources regarding injuries, illnesses, property damage, environmental effects, or public impacts in order to identify causes, trends and relationships
- Occupational health and safety management systems including an ability to understand and articulate what is an appropriate safety and health system for an organization in an industry with a specific culture at a certain point on the life cycle of a business
- Demonstrated having adhered to high ethical and moral standards
- Ability to design a meaningful occupational safety research project. This would include the identification of relevant research hypotheses, study factors and their levels, variables one should attempt to control for, and appropriate outcome measures
- Ability to conduct a meaningful occupational safety research project once the project has been designed. This would include identifying appropriate sources of data, a protocol for collecting the data and the compilation of the study data into an appropriate database for analysis
- An in-depth understanding of all aspects of risk assessment, communications and management
- Philosophy of safety: a comprehension of major differing approaches to the safety profession including an understanding of how safety fits into appropriate institutional frameworks such as education, industry, government, and the military.

The above competencies assume the student has graduated from a safety program accredited by the Accreditation Board for Engineering and Technologies (ABET) and therefore already had the technical competencies necessary to function within the profession.

Students should be required to align themselves with qualified research faculty near their respective geographic locations to assure a quality education as they finish their programs. Although an individual professor may not be well schooled in safety, he may have an area of expertise in research, statistics, or a related field that would enable him or her to guide the student through the final stages of the doctoral process. This would permit students not necessarily located near a particular campus to have a residency experience closer to their home.

Response:

No school has yet come forward to offer the appropriate leadership to bring about a distance-learning doctoral program. Many well-established institutions object to the concept on principle. A common perception is that students lacking a long-term on-campus experience will not fully benefit from a doctoral experience. The opposing side argues that the technology of today permits the classroom and the research experience to reside at any business or residence well equipped with communications devices. Another major hurdle is funding and budgets. It may take a commitment from a major funding source over a number of years to bring about the inauguration of a successful program. On the other hand, a subcommittee of the Educational Standards Committee of the American Society of Safety Engineers (ASSE) is now exploring the problem and looking for feasible ways to bring an appropriate level of education to potential doctoral students.

References

DeLeo, William. *Safety Educators and Practitioners Identify Competencies for a Doctoral Degree in Occupational Safety: an Application of the Delphi Technique.* Doctoral Dissertation, NC State University, 2002.