Teaching Notes for "Critical Infrastructure Higher Education Initiative"

QUESTIONS AND ANSWERS

1. What is the overall problem in this case?

There is a lack of comprehensive critical infrastructure education programs throughout institutions of higher learning across the United States. The recognition of infrastructure protection as a national policy focus and essential element of homeland security makes the need for education initiatives in this area a priority.

2. What is the difference between training and education? Why is education needed in the critical infrastructure protection arena?

Training teaches the "how" of certain tasks and skills, while education seeks to understand the "why" behind them. Because critical infrastructure protection is constantly evolving, its workforce must be able to adapt to new threats and emerging technologies to respond to various incidents. This requires critical thinking and analytic abilities developed through the educational process.

3. Why are case studies effective pedagogical tools for critical infrastructure higher education?

Case studies utilize analysis of a real-world critical infrastructure incident to foster discussion around complex problems. They facilitate collaboration and develop the critical thinking skills necessary for success as an infrastructure protection professional.

4. How does critical infrastructure protection's interdisciplinary nature affect curriculum development?

Critical infrastructure protection's interdisciplinary nature presents both a challenge and benefit to course development. Building curricular consensus between varying subject matter experts can be difficult. However, input from different disciplines ultimately ensures that course content is comprehensive and applicable to the needs and backgrounds of any learner.

5. What are the institutional challenges to deploying the materials developed through this initiative?

Institutions are generally slow to incorporate change due to administrative requirements and multiple decision-making bodies. New courses and programs require student demand and faculty support. Career paths in critical infrastructure protection have yet to be defined. Additionally, faculty may lack the requisite expertise to teach courses that are interdisciplinary.

EPILOGUE AND LESSONS LEARNED

Epilogue

The Critical Infrastructure Higher Education Initiative has succeeded in developing a comprehensive core curriculum in critical infrastructure protection higher education. The long-term effects of this initiative will depend on the success of deployment efforts. The project team is optimistic that the adoption of program materials by key faculty members will make great strides and begin the process of standardizing a critical infrastructure protection higher education curriculum.

Lessons Learned

1. Comprehensive education is essential for the development of a workforce capable of protecting the nation's critical infrastructure. Education enables learners to think critically about various issues and analyze problems from different perspectives. These skills are necessary in a field that is constantly evolving and responding to change.
2. The use of best practices in higher education is necessary to effectively communicate course content and develop core competencies. Clear course objectives, learner-centered principles that facilitate higher-ordered thinking, authentic/

real-world assessments such as case studies and table top exercises, and the use of technology and different teaching modalities each assist in establishing links to critical infrastructure protection professional core competencies.

3. Garnering institutional support for adoption of new courses and programs in critical infrastructure protection is challenging. Obstacles include administrative hurdles, lack of faculty expertise to teach courses, and a lack of clearly defined career paths in the field that make it difficult to show demand. It is believed that the success of a few key programs will help in overcoming this problem.

LIST OF ADDITIONAL SOURCES

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