Learning OSHA Construction Standards through a Participatory Approach

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Background

• Title of program: Occupational Safety, Health, and Environment (OSH&E) Bachelor of Science Degree
• Originated in 1996 as a two-year Associate of Applied Science Degree
• Approved by Louisiana Board of Regents in 2004 to start the BS Degree
• Received ABET accreditation in Environmental, Health, and Safety, and similarly named programs under Applied Science Accreditation Commission
OSHE 382 Construction Safety

• One of the core courses in the OSH&E curriculum

• Addresses the application of management principles, communication and human relations factors, safety/health rules, industry and federal standards, accident investigation, and technical issues especially within the job planning phases in the construction industry.
OSHE 382 Construction Safety

• One of the most important course objectives for Construction Safety is to describe the legal aspects including liability and regulatory requirements of construction safety.

• In order to achieve this objective successfully, I developed a participatory approach to help students learn OSHA Safety and Health Regulations for Construction.
Objectives

• To create an active learning process through a series of exercises to understand OSHA standards for the construction industry; and

• To develop a mini course-portfolio containing the evaluation of students’ performance and feedback on this approach.

• Specifically, such a development helped me understand and create course portfolios, one of the ABET recognized program outcome assessment strategies.
Methods

• The participatory approach centered on students’ presentation of OSHA construction standards (29 CFR 1926).

• The step-by-step procedures and requirements were explained to all students one week before the actual presentation.

• The student consent form of sharing course work was also introduced. All of the 8 students agreed to participate, meaning to have their work recorded, documented, and included in the mini course-portfolio.
Assignment Requirements

1. Pre-assignment pop quiz
2. Random determination of standard subparts
3. Thorough reading and understanding of each own subpart
4. Presentation of each own subpart including one-page summary of feedback
5. Anonymous voting of the best and most impressive work
6. Post-assignment pop quiz
Pop Quiz

1. The OSHA Standards for the Construction Industry are described in 29 CFR ____________.
2. In question 1, CFR stands for ____________.
3. How many subparts are there in the OSHA construction standards?
4. The state can or cannot have its own safety standards.
5. Individual employers may petition OSHA to receive permission to deviate from a standard. This is called ____________.
6. List the titles for FIVE example subparts in the OSHA construction standards.
Recording Assignment Performance
Recording Assignment Performance
## Evaluating Assignment Performance

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<th>Question</th>
<th>Pre Assignment (8)</th>
<th>Post Assignment (6)</th>
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Summary of Feedback

• Five of the 8 students clearly stated that the assignment was very helpful in different ways.
• The other three students exclusively listed the most important things that he learned from his subpart, without discussing the advantages and disadvantages of the assignment itself.
Typical Feedback

• “The definitions were very helpful;” “This exercise was very helpful in that it having to review the entire standard ...;” and “There were requirements that I learned today that I will be observant of next time ....”

• “One of the most important things ... that you must be trained in everything you do.”

• “The most important thing ... some of the definitions provided throughout;” “Something else that I am personally responsible ...”. 
Typical Feedback

• “I learned many things about diving after reading over the subpart, which included a lot of detailed information;” “I also learned about different ways ...;” and “This assignment helped me to understand the OSHA construction standards ....”

• “There are many things that I learned from this assignment;” “The first thing ... number of electrical hazards that are present in construction;” “The assignment helped to open my eyes to ...;” and “This assignment helped me to understand the standards that OSHA has ....”
Rewarding Assignment Performance
Discussion

- Students’ willingness to participate
- A fun yet challenging method
- A variety of avenues to assess the course teaching and learning outcomes both objectively and subjectively
- Easy and convenient to organize and conduct within a limited time frame
Limitations

• Small class size
• Anonymous voting did not fulfill its promise
• “Request” of extra credits
• True reasons behind students’ positive feedback
Summary

- This assignment helped me explore a reasonable strategy to assess the learning outcomes.
- More objective evaluation should be developed and utilized to improve the effectiveness of course teaching and learning outcomes.
- A framework for comprehensive assessment of the OSH&E program outcomes was developed.
- Our program continuous assessment has been praised by the ABET accreditation team as an exemplary example for demonstration of achievement.
Questions and Comments?
Thank you!