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BRIDGING

THE GAP:

STANDARDIZATION FOR SAFETY & INNOVATION



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Leveraging Moot Court Class Activity to Foster Understanding of Technical Standards

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CASE
WESTERN
RESERVE
UNIVERSITY





Academic Educational Environment

- ABET Requirement
 - Curriculum does not allow for in-depth teaching of standards
 - Limited expertise in teaching standards in academia
 - Standards mostly used in capstone projects (if at all)
 - Limited access to standards due to prohibitive costs
- Industry Expectations



Academic Educational Environment Issues

- Standards and regulatory affairs instruction is rushed
 - “dull” topic
 - not critical knowledge
 - key engineering concepts are under-emphasized
 - poor student engagement
 - lack of incorporation of concepts
- Students not always understand the value of standards to profession
- Students do not understand the importance of standards to their careers



Moot Court Cases for Standards Education

- Moot court is simulated court proceedings
- Allow for:
 - students immersion
 - self-direction
 - creativity
 - teamwork building
 - critical thinking
 - research
- Provide perspective to standards and regulations
- Applicable across engineering disciplines and topics



Results - Cybersecurity of Wearable Device

- Fun activity for students





Results - Cybersecurity of Wearable Device

- Improved understanding of:
 - regulatory language (12%)
 - the applicability of quality systems to labeling requirements (11.3%)
 - the responsibility of end users for cybersecurity (10%)
 - confidence in understanding the role of standards (16%)
 - confidence in their foundational knowledge of BME regulatory affairs (12%)



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Results - Cybersecurity of Wearable Device



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Results - Cybersecurity of Wearable Device

Self-reported rate of 3:1 in favor of the exercise

- “knowledge easily acquired in a more organic way”
- “exposes us to an important aspect of engineering aside from purely math and science”
- “it’s one thing to learn about these standards in a vacuum but seeing first hand how they can be applied and used to cover many angles was incredibly valuable in seeing the lack of my comprehension”



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Results - Cybersecurity of Wearable Device

The court decision is not important



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Standards Moot Court Cases Implementation

- Class discussions on standards
- Library presentation on standards availability
- Introducing the case and selection of moot court volunteers (~10 students serving in various court roles - lawyers, plaintiff, defendant, and witnesses)
- Dedicated class time for moot court activity (50 min)
- Active class participation
- Pre and post event survey

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Moot Court Cases Implementation

- solid plan for the session
- multiple volunteers comfortable with public speaking
- enough time for volunteers to do research
- incentives for volunteers
- real-time quiz for observers due at the end of the session

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Moot Court Cases Implementation Challenges

- Familiarity with moot court practice
- Appropriate room setting
- Availability of volunteers
- Availability of good moot court cases



Recommendations for Moot Court Cases

- Real-world cases revised to remove identifiable details and relevant to specific engineering field
- Cases should provide rich detail for context but have ambiguous endpoints to allow for exploration
- Research materials can be included in the overall module, but students should be encouraged to look beyond the materials provided



Call for Action

- We are actively seeking partners from Standards Developing Organizations to join us and co-develop a set of case studies that will enhance the awareness, knowledge, and importance of industry standards
- Curriculum materials developed for these moot court exercises are available under the Creative Commons license, see <https://osf.io/79s6z/>



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