Academic Integrity among Engineering Undergraduates: Seven Years of Research by the E³ Team

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The Problem Statement

- Engineering students report higher rates of cheating than do most other students
  - No one has explained the difference
- Students who cheat in high school are more likely to do so in college
- Students who cheat in college are more likely to:
  - Cheat in post-baccalaureate schooling
  - Engage in unethical work-place behavior
  - Drive in a risky way
  - Steal from employers, shoplift, abuse alcohol, cheat on taxes
  - Engage in unethical work-place behavior

PACES-1: Our Initial Explorations

- **Goal**: Investigate general issues around cheating
- **Instrument**: 139 forced-choice questions
- **Sample**: 643 engineering undergrads from all class levels at 11 institutions

**Major findings**

- Some factors that influence decision (e.g., year in college, past high school cheating, being on scholarship) vary by context
- Many factors (e.g., moral obligation and stress) are common across context
- Attitude toward a behavior is related to self-reported engagement in it
- Students often rationalize cheating using instructor-based neutralizations (It’s wrong to cheat even if...)

**Implications**

- Context is critical in the study of cheating
- Individual efforts to improve teaching and show concern for students may reduce cheating
- Successful deterrents may involve moral obligation and shame → a empirical model may be useful

PACES-2: A Model-Based Approach

- **Goal**: Compare an empirical model for engineering and humanities students
- **Instrument**: PACES-2 Survey and DIT-2
- **Sample**: 527 undergrads at 3 institutions

**Major findings**

- Engineering undergrads cheat more in college than those in humanities, independent of number of opportunities
- These differences do not exist in high school
- Psychological factors are common predictors across discipline and context

**Implications**

- Emphasizing higher-order thinking skills and using more qualitative assessments may promote better ethical behavior
- Exploiting common aspects of ethical decision-making may result in more effective interventions

The SEED Study: A New, NSF-Funded Initiative

- **Goal**: Identify and disseminate specific activities that most positively impact ethical development of engineering undergrads
- **Funding**: 4-year, collaborative grant for > $850K

**Strategy**

- Conduct interviews and focus groups with faculty, students, and administrators at diverse set of institutions to gain perspectives about activities that affect students’ ethical development
- Develop a survey to examine the relationship between the identified activities and components of empirical model of ethical development
- Identify specific curricular and extracurricular activities most positively impact ethical development and disseminate that information to engineering colleges, faculty, and administrators