

Research Question

How does a course on engineering ethics affect an undergraduate student’s feelings of responsibility and decisions about ethical problems?

ECE 216: Engineering Ethics

- Elective, 3 semester hours of credit
- Emphasizes professional responsibility of individuals in organizations rather than social policy

Interviews

- Six students who took ECE 216, including four “successes” and two “failures”
- Six students who did not take ECE 216
- Equal numbers of men and women
- 45-50 minute interviews, audio recorded
- Students were placed in the position of an engineer in two scenarios that posed ethical problems



Payroll Scenario and Variations

- **Payroll scenario:** A payroll system created years ago has a small intermittent glitch in which calculations could be off by a few pennies every pay period
- **Original version:** You have no affiliation with the company; a good friend tells you the story
- **First variation:** You are a consultant to the company responsible for the error
- **Second variation:** You are an employee of the company; your boss tells you the story



Non-ECE 216 Students

- Four of six non-ECE 216 students varied their responses according to proximity
- Non-ECE 216 generally did not feel responsible in the original scenario

It’s probably not the most right thing to do, but I’m always thinking, ‘what’s the most practical thing to do? What’s the thing that would not tank the company?’

Non-ECE 216 student

ECE 216 Students

- ECE 216 students remained consistent in their answers
- ECE 216 students felt more comfortable and formulated more options

I kind of think my answers would be the same for everything. It doesn’t matter for me. I’m trying to think what the right course of action would be.

ECE 216 student

Successes and Failures

- All four ECE 216 “successes” would take action even in the original version of scenario
- Two ECE 216 “failures” did not feel responsible in any variation of the scenario

I do feel that he should tell them. However, it isn’t my business as someone that works outside both these two companies to step in and make a phone call.

ECE 216 “failure”

Conclusions

- ECE 216 students gain confidence and consistency in responses to ethics problems
- Successful ECE 216 students understand that professional responsibility extends beyond completing assigned tasks

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