

## Methodology/Design Description

"In Their Own Words" reflects information gathered in interviews with twenty-four engineering students throughout the summer of 1996. All students were interviewed by an independent interviewer who used the same protocol, or set of questions, with each student. Students were questioned about positive and negative experiences in their classrooms and other learning environments. Beyond that, what the students said was unsolicited.

The video draws on qualitative data, exploring emergent themes drawn from transcripts of standardized student interviews. Qualitative techniques are frequently used in social science and educational research when quantitative techniques fail to uncover answers to evident or hypothesized problems. The concept is based upon the scientific method of qualitative analysis, in which the testing of a substance or mixture is used to determine its chemical constituents. Social problems involving human subjects present "stickier" questions, the underlying root of which can be discovered via in-depth interviews or focus groups. Accordingly, the results are based upon analysis of transcriptions of student interviews rather than upon numerical or survey type data.

### HOW WERE THE STUDENTS CHOSEN?

- Convenience sample of 24 undergraduate engineering students
- Representative of gender, race, and variety of engineering majors
- Deliberate oversampling of underrepresented groups (See below)
- GPAs  $\geq 3.0$

### WHO DID THE INTERVIEWING AND HOW?

- Independent, non-university, interviewer
- Students were guaranteed confidentiality
- Structured interview protocol, or set of questions, asked for both positive and negative experiences in the learning environment
- Unsolicited comments offered by students were included in transcripts for analysis

### WHY LIMIT THE GPA'S?

- "Litmus test"- The experiences of the best students are reasonable indicators of the quality of the learning environment for all students
- Opinions of high performing students are less easy to dismiss than those coming from a less successful or disaffected student

HOW WERE THE INTERVIEWS USED TO CREATE THE VIDEO?

- Situations depicted are compilations of actual student experiences and highlight:
  - emergent themes that arose from the interviews.
  - themes that arose during the interviews that literature in this area supports as being commonly present in learning environments.
- Student quotes were chosen to engender discussion; they are controversial, and some are contradictory.
- Although underrepresented groups were oversampled, this does not affect outcomes in the context of this study; research and experience indicate that solutions to the problems they report can improve the learning environment for all students.

ARE ALL ENGINEERING STUDENTS DISAFFECTED AND UNHAPPY?

- Although the video explores issues about areas that students perceive as needing improvement, students were overwhelmingly positive about their undergraduate engineering experience and their pride in succeeding in an esteemed and rigorous engineering curriculum. The preponderance of negative reports on specific issues may indicate that they need more opportunities to candidly discuss their experiences as engineering undergraduates.