

## Why do students succeed?

Based on the results of the Gallup-Purdue Index, Purdue is changing the student experience with greater focus on faculty-student interaction, internships, on-the-job training and experiential learning, and creative use of technology<sup>1</sup>. To improve student success, Environmental and Ecological Engineering (EEE) does a yearly survey of undergraduate students asking about mentoring, activities, internships/coops, research, study abroad, and experiential learning.

### Problem Statement

We have administered the EEE Experiential Survey for 3 years. The survey is implemented in Qualtrics with data exported as an Excel spreadsheet.

- The data is difficult to tabulate
- Facts and trends are difficult to extract (no querying capability)
- Students don't remember from one year to the next what they have entered

Additional data is collected based on previous information requests. These include:

- Whether the students take the FE exam (important for environmental engineers)
- Students nominated for awards
- Providing student resumes to companies expressing an interest in interviewing EEE students
- Satisfaction with the EEE faculty mentor

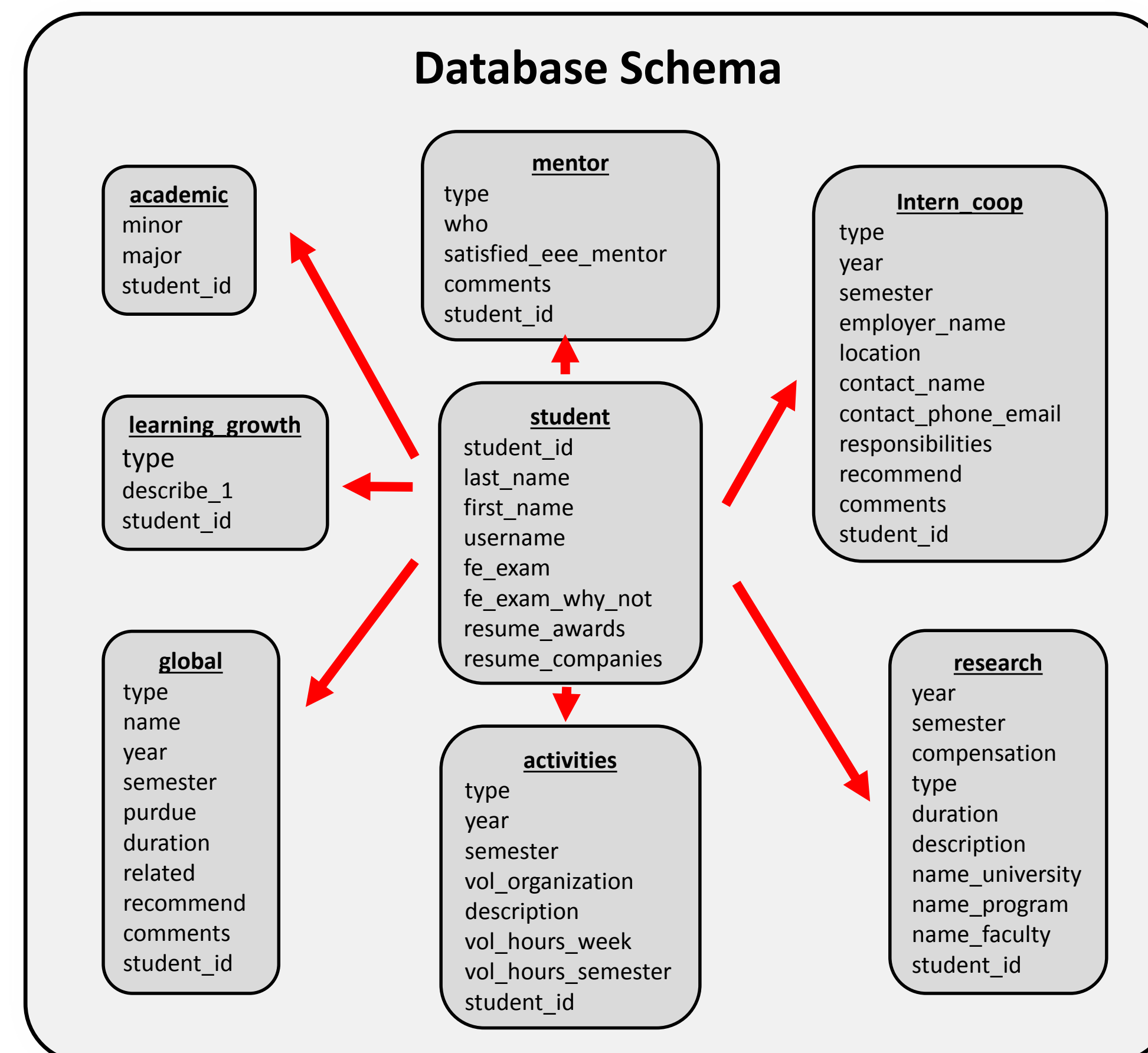
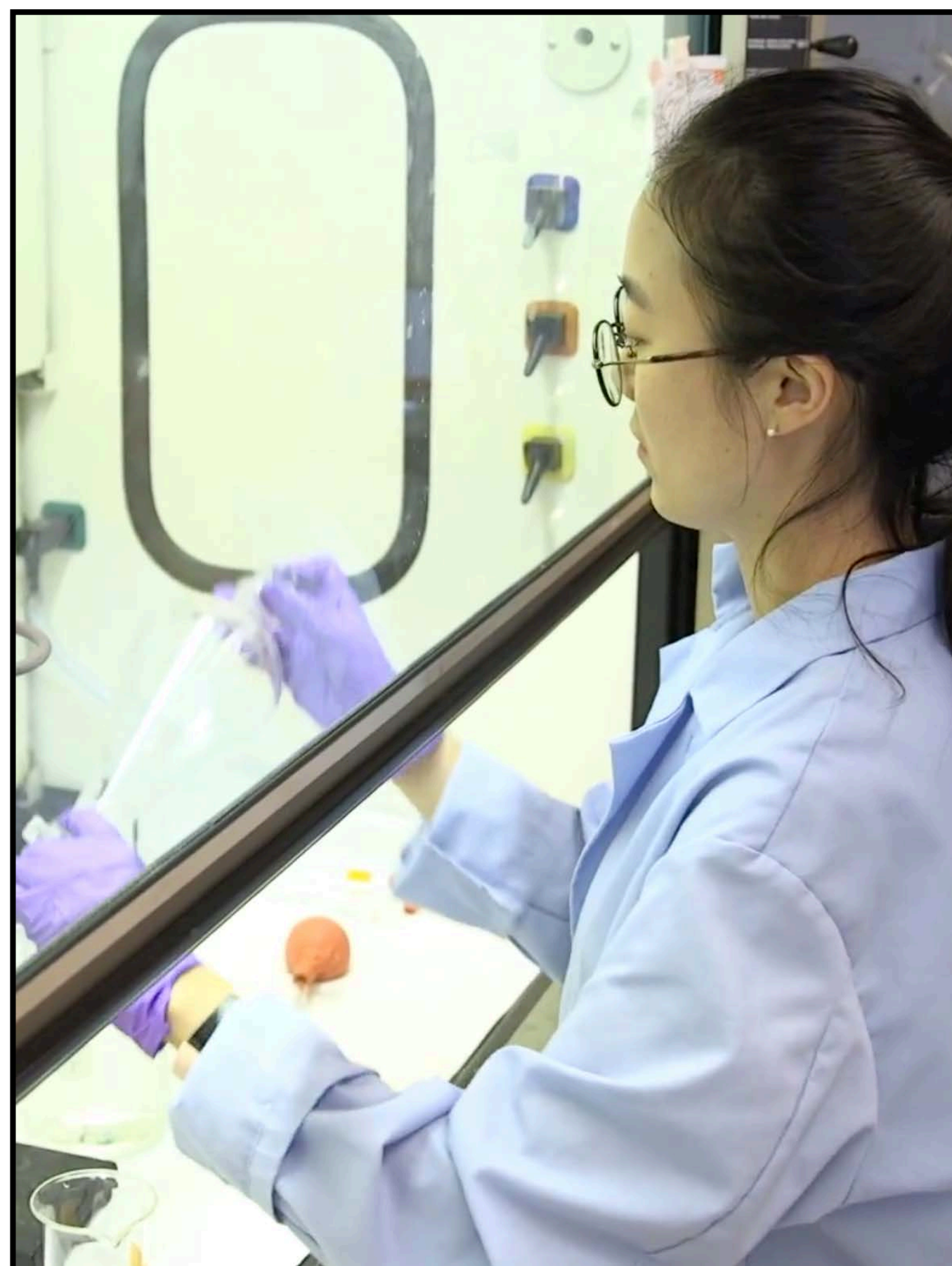
The survey is a requirement to receive a registration PIN.

1. Measuring the Most Important Outcomes of Higher Education:  
<https://www.purdue.edu/newsroom/gallup/>

## 2017 Survey

A relational database was designed and implemented in MySQL (see below left for schema). The data from the Fall 2017 survey was entered into the database and analyzed.

- 124 students took the survey
- 4% had coops
- 46% had internships
- 27% participated in research
- 69% felt that they had a mentor they can discuss their education and career with
  - EEE faculty mentor
  - 62% are satisfied
  - 9% are not satisfied (mostly this was due to different career interests)
  - 29% hadn't meet with their mentor (these would be the incoming sophomores and CODO students)
- 86% have had a instructor that inspired them (very touching comments in this section)
- 47% are planning on a minor. The minors vary from Biological Sciences, Env. Politics and Policy, and foreign languages.
- 92% plan on taking the FE exam, those who aren't planning on it didn't know what it was
- 24% participated in Study Abroad
- 23% participated in experiential learning classes
- 33% participated in volunteer activities



## Next Steps

- Import 2015 and 2016 data.
- Analyze correlation between activities and student success (data analytics)
- Identify resources to complete the project.
- Build a user interface with greater flexibility
  - Students can revisit, correct, and extend data over multiple years
  - Questions can be more flexibly added and modified (e.g., for use by other units)
- Provide a more flexible SQL-based query interface able to respond to time-critical CoE queries