Levels of Engineering Education Inquiry

**Level 0** Teacher
- Teach as taught ("distal pedagogy")

**Level 1** Effective Teacher
- Teach using accepted teaching theories and practices

**Level 2** Scholarly Teacher
- Assesses performance and makes improvements

**Level 3** Scholar of Teaching and Learning
- Engages in educational experimentation, shares results

**Level 4** Engineering Education Researcher
- Conducts educational research, publishes archival papers

Ideal Future

Design Approach - It could well be that faculty members of the twenty-first century college or university will find it necessary to set aside their roles as teachers and instead become designers of learning experiences, processes, and environments. Jim Duderstadt

Design Foundations

Science of Instruction (UbD)

- Yes
  - Good Theory/ Poor Practice
  - Good Theory & Good Practice
- No
  - Good Practice/ Poor Theory

Science of Learning (HPL)

- Yes
- No

Collaboratory for Engineering Education Research
http://cleerhub.org

How People Learn Engineering
- Ruth Streveler – streveler@purdue.edu

Path – Advance the State of the Art

Levels of Engineering Education Inquiry

- **Level 0** Teacher
  - Teach as taught ("distal pedagogy")
- **Level 1** Effective Teacher
  - Teach using accepted teaching theories and practices
- **Level 2** Scholarly Teacher
  - Assesses performance and makes improvements
- **Level 3** Scholar of Teaching and Learning
  - Engages in educational experimentation, shares results
- **Level 4** Engineering Education Researcher
  - Conducts educational research, publishes archival papers

Karl A. Smith
University of Minnesota/Purdue University
ksmith@umn.edu

http://www.ce.umn.edu/~smith/links.html