CS 301, October 17, 2004 (the value of wrong answers)

- handouts
  - questions for self-paced tutors to ask
- where do you expect to encounter a student with a wrong answer?
  - office hours: program bug, or wrong answer for homework or exam
  - lab: program bug
  - discussion section: wrong answer to a question you ask
- what do you do with it? what should you not do with it?
- what is your goal?

what should be your goals

- exposing wrong answers
  - provide opportunities for active learning
  - peer instruction
  - questions we have tutors in the self-paced courses ask
- find out the reasons for the wrong answer
  - Ed Dubinsky anecdote
  - misconceptions research
- let student talk as much as possible; how do you know what he/she knows otherwise?
  - anecdote: debugging expert in self-paced
- don’t embarrass the student
  - anecdote: tic-tac-toe
- helping students do better on exams
  - common reasons for wrong answers: not understanding material, careless errors, misunderstanding the question
  - a solution should target the problem, e.g. by having students generate problem interpretations rather than answers
- emphasize process over end product
  - problem solving tree
  - case studies
  - small steps in curriculum