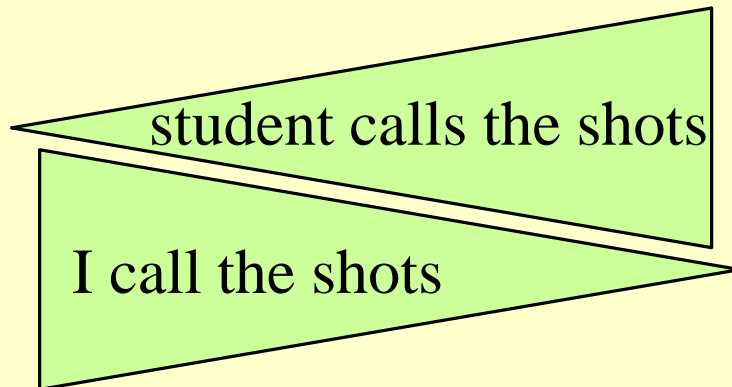


# How To Teach Research

- Dijkstra's three rules.
- My experience as a grad student at Texas: sink or swim.
- My approach here:



“Learning how to do research” really means learning how to ask the right questions. If you are in grad school, you already know how to answer hard questions.

- Your experiences?

# Finding a Thesis Topic

- Find a research area that suits you, gives you joy.
  - ◆ Classes help here.
- Read voraciously in chosen area.
  - ◆ Get a sense of where the area is heading.
  - ◆ Look for open problems in papers.
  - ◆ Pay careful attention to conference talks and keynotes and think of how you could extend that work.
  - ◆ Schedule sufficient think time.
    - Can get boring, so write down ideas or discuss them with someone.
  - ◆ Concentrate first on paper topics.
    - Your dissertation topic will probably take care of itself.

# Finding a Thesis Topic (Cont'd)

## ■ Have some tenacity.

- ◆ Giving up is the easy way out.
- ◆ I tell my students: The “sin” lies not in failing to produce results, but in failing to try to produce results.
- ◆ When the results aren't coming, continuing to try is hard.
  - Everyone goes through this.
  - People who succeed at research don't give up!
- ◆ How do you snatch victory from the jaws of defeat?
  - Try redefining the problem, talk to people, make some simplifying assumptions to get started,...

## ■ Your experiences in finding a topic?