CLASSROOM STRATEGIES

And Using it for Research Studies

Dr. Shannon Duvall
Elon University
sduvall2@elon.edu
My Ideal

• Learn from the best
• Create classes you’d like to attend
• Active teaching, active learning

• Entertaining + Interesting + Relevant + Informative + Clear
Advice #1: Craft your courses.

• Don’t “plan” a class. Craft it. Be intentional about every part of it. Assess it.

• Use resources:
  – Center for Teaching and Learning
  – Good Books (Understanding by Design)
  – Good Teachers at your institution

• Publish!

Advice #2: Have FUN.

- Set a tone of fun, engagement, & participation with your actions, your syllabus, and your words – from day one!
- It’s okay for students to be wrong
- It’s okay for you to be wrong or for you to say, “I don’t know”. Relax.

Advice #3: Active Teaching is More than Flipped Classrooms.

- Play games
- Play with toys
- Act it out
- Tell a story
Toys in Computer Class
Games in Computer Class

- Fun – They can be cooperative OR competitive
- They motivate students not motivated by grades
- Use a variety of prizes – candy, points, toys, stickers
- You can celebrate non-technical students (prize for most creative project)
- YOU CAN MAKE THEM EASILY

(Goal + Arbitrary obstacle = Game)

Stories in Computer Class

Stories

Playing in Computer Class

Kinesthetic Learning

- Act it out
- Makes abstract concepts concrete

Examples

- Be a hashtable, binary search tree, linked list
- Sort yourselves by birthday using quicksort

Advice #4: Spontaneous Playfulness Saves the Day

- Story: The Annoying Student
Advice #5: Find your mantras

• Story: Avoiding the Crickets
Advice #6: Decide What You Care About

- Story: Discrete Math Homework Sucks
Advice #7: Tell Stories

• Story: Fermat’s Last Theorem
  – Putting It All Together:
    • Decide what’s important
    • Crafting a Teachable Moment
    • (Kinda) Spontaneous Playfulness
    • Storytelling
    • Led to a new mantra
PIERRE DE FERMAT
ARITHMETICA
\[a^n + b^n = c^n\]

“I have discovered a truly remarkable proof which this margin is too small to contain.”
Scholarship of Teaching & Learning

- Attend SIGCSE and CCSC
- You already know how to do research – read papers, emulate the good ones
- Anecdotes are good
- Experience Reports / Tool Presentation
- IRB:
  - Exemption
  - Control groups
  - Informed Consent

https://tinyurl.com/duvallrib
Be Practical

• Don’t change too much in one semester
• Give yourself a break
• Enlarge your comfort zone (rather than working outside it.)
• Set the tone on Day One
The Big Picture

Reflect often.
What makes a successful semester?
What makes teaching worth it for you?
What do students say about you and your classes?
What will people say when you retire?

“The main thing is to keep the main thing the main thing.”