Preparation, Participation, Assessment, and Messiness

TA Training Second Meeting
September 18, 2019
Last Time

• Roles and Responsibilities
  – Yes: Leading discussion sections, answering questions, grading
  – No: Running errands, Babysitting…
  – No dating your students!

• Creating a Welcoming Environment
  – Create a feeling of community
  – Not using terms that aren’t yet covered in the curriculum
  – Apply the same rules to everyone
  – Insist on decency
    • No flaming, watch for microaggressions and bias
Helping others

Meeting new people
Not knowing the answer

Grading

- Stupid questions
- Debugging
- Time management
- Logistics
- Deadlines
- Losing sleep
- No one in office hours
- Waking up early
- Bad answers from students
- Letting students down
- No questions
- Toolchain setup
- Silence in discussion sections
- Grade disputes
- Designing assignments
- Learning assignments
- Student doing poorly but not asking for help
- Not being prepared
- Difficulty level
Today’s Agenda

• Being Prepared
  – Preparing for a discussion sections and office hours
• Classroom Management
  – Motivating and engaging students
  – Unruly students
• Assessment
  – Dealing with grade disputes
  – The importance of rubrics
• Human Messiness
  – Life affects our perspective
  – Life affects our ability to learn/meet deadlines
  – Cheating
    • And life
    • How to find it
    • What to do about it
Time Management
Being Prepared
Determine Content

• Consider your learning goals for that section
• Determine what material will be covered
  – Be certain to motivate the importance of the topic!
• Create a timeline
• Write out speaking notes, questions to ask, problems to demonstrate
  – NOTE: Do not be afraid to vary from your pre-set presentation
Find the Student Mindset

• Who is your audience?
• Ensure that you know student context
  – Complete (or review) reading assignments
  – Complete (or review) homeworks, programming assignments, and their solutions (if available)
  – Review recent course material
• Allows you to better identify sources of confusion and other pitfalls
  – True even and especially for introductory courses
  – Be careful about assuming intro courses are so easy you don’t need to prepare (more in a minute)
Identify Difficulties

Consider the struggles you had learning the topic

– How easy was the topic when you first learned it?
– Which parts were difficult?
– What made those parts difficult?
– What would have made it better?
Eliminate Pitfalls

Watch for knowledge leaps and built-in assumptions

– *You* know the definition of idempotent—-but do they?
– *You’ve* heard of the knapsack problem—-have they?
– *You* know the difference between disk and memory—-but do they?
– Students should only be required to know material covered in the pre-requisites for the course.
Decrease Monotony

• Once you have set your material, consider if there might be a better way to learn it
  – In-class activities
  – YouTube videos
• Look for real-world applications or tie ins
• Find analogies that they will find relevant and/or interesting
Are you prepared?
Classroom Management
Strategies for Motivating Students
Strategies for Motivating Students

• Challenge them
  – But provide help
FLOW

(Csikszentmihalyi, 2003)
Strategies for Motivating Students

• Challenge them
  – But provide help

• Provide feedback
  – Timely, constructive, emphasize the Growth Mindset
Fixed Mind-set  
Intelligence is static

Growth Mind-set  
Intelligence can be developed

**CHALLENGES**
- Leads to a desire to look smart and therefore a tendency to...
  - avoid challenges
  - embrace challenges

**OBSTACLES**
- Leads to a desire to learn and therefore a tendency to...
  - give up easily
  - persist in the face of setbacks

**EFFORT**
- Leads to a desire to learn and therefore a tendency to...
  - see effort as fruitless or worse
  - see effort as the path to mastery

**CRITICISM**
- Leads to a desire to learn and therefore a tendency to...
  - ignore useful negative feedback
  - learn from criticism

**SUCCESS OF OTHERS**
- Leads to a desire to learn and therefore a tendency to...
  - feel threatened by the success of others
  - find lessons and inspiration in the success of others

As a result, they may plateau early and achieve less than their full potential.

All this confirms a deterministic view of the world.

As a result, they reach ever-higher levels of achievement.

All this gives them a greater sense of free will.

GRAPHIC BY NIGEL HOLMES
Strategies for Motivating Students

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• Connect material to larger goals
  – Career, larger understanding
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• Connect material to larger goals
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• Build rapport and community
  – Icebreakers, discussions, group work
Strategies for Engaging Students

• Asking questions
  – Students can volunteer to answer
  – Cold-calling is also an option
  – What about wrong answers?
  – Thumbs up/thumbs down

• Get them to ask questions

• Working problems together

• In-class activities
Losing Their Attention

• Student attention wanders when:
  – They’re no longer following the lesson
  – They don’t believe they need to know the material
  – Discussion wanders off topic for too long
  – Electronics are out
  – They are tired/hungry/sad...
Unruly Students

• Best answer: these don’t exist because students learned manners before they got to you...
Unruly Students

• Best answer: these don’t exist because students learned manners before they got to you...
• However:
  – Remain calm. You are a professional. Do not match the student’s emotion.
  – Ask them to please stop and to talk to you after class
  – As necessary, you may ask them to leave class
  – Report the incident to your supervising instructor
• You are never expected to tolerate any sort of abuse: not name calling, not anger, not malicious rumors...
• This is your place of work. You cannot and will not be asked to tolerate bad behavior.
Assessment
Goal: Assessing Learning

Assessment tools, including in-class questions, projects, and exams:

• Assess how well a student has learned a topic or set of topics

• Also assess how well the topic(s) has been taught---by you and by the instructor!
Bloom’s Taxonomy

- **Remember**
  - Recall facts and basic concepts
    - define, duplicate, list, memorize, repeat, state

- **Understand**
  - Explain ideas or concepts
    - classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

- **Apply**
  - Use information in new situations
    - execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

- **Analyze**
  - Draw connections among ideas
    - differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

- **Evaluate**
  - Justify a stand or decision
    - appraise, argue, defend, judge, select, support, value, critique, weigh

- **Create**
  - Produce new or original work
    - Design, assemble, construct, conjecture, develop, formulate, author, investigate

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Exams

• Step 1: Prepare Questions
  – What material do you want to test?
  – Was some part of the material more important than other parts?
    • Question content and difficulty should reflect any differences
  – Think through Bloom’s Taxonomy
  – Variety of question types:
    • Short answer, multiple choice (with multiple answers), fill in the blank, numeric, explain in plain English
Exams

• Step 2: Think through answers
  – Answer the questions yourself!
  – Is the question asked in such a way that you will get the answer you expect?

• Step 3: Create rubric
  – Create sample criteria
  – Helps clarify the question
  – Be open to changing the rubric when you see student answers
Exams

• Step 4: Administering
  – Lessen anxiety as best you can
    • Welcome them
    • Maybe play music (in the beginning, not for the whole test!)
    • Room with double seating and continuous writing surfaces
  – Reduce distractions
    • Provide scratch paper (staple to exams)
    • Explain bathroom policy ahead of time
Exams

• Step 4: Administering
  – Increase fairness:
    • No questions(!?!)  
    • Names only on front
  – Lessen cheating:
    • Assign random seats  
      – Number exams  
      – “Randomly” assign students to an exam  
      – Post EID/test number chart outside class room  
    • If you have more than one class taking the exam, request a uniform time  
    • No hats, phone, earphones
Grading

• Prompt and Consistent
• Use initial rubric, adjust as necessary
  – Be prepared for students to interpret a question differently from what you intended
• Grade one question at a time
  – This allows you to get into a rhythm
  – Helps with consistency
Regrading

• Stick to the Rubric
  – This is why it is important you take time to get the rubric right and you have confidence in it

• Fairness is key
  – If you do change the rubric, you will need to regrade everyone’s

• Don’t get taken in by slick arguments
  – Written requests help with this
  – Don’t let students argue the rubric
Now you try it...
Human Messiness
Perspectives

• Be aware of student differences
  – Cultural differences due to race/ethnicity, gender, socioeconomic differences
  – Context differences due to hobbies (gamers? athletes? maintain own Linux system?), prior education (CS in HS?)

• Be inclusive
  – Motivate all students
  – Questions from all students

• Watch for micro-inequities
  – Food vs. bomb
  – Interruptions
  – Inappropriate jokes
Privilege

• Be aware of privilege
  – Gender
  – Socioeconomic
  – Racial/ethnic
  – Unpack the knapsack!

• Provide encouragement
  – Imposter syndrome
  – Dunning-Kruger effect
Roadbumps

• Students’ outside lives continue
  – Things are not always as they seem
  – Low performance does not always imply a lack of caring or stupidity

• May have non-academic problems
  – Student Emergency Services (SES)
    • 512-471-5017
  – Student Disability Services (SDS)
    • Physical disabilities, ADHD, Depression, ...
    • 512-471-6259
  – Behavior Concern Advice Line (BCAL)
    • 512-232-5050
Cheating

• Squash cheating
  – Cheapens degree
  – Unfair to other students
  – Better if caught sooner rather than later
• Find it using MOSS
  – Measure of Software Similarity from Stanford
• Report cheating to Student Judicial Services
  – Suggest sanction
• *Talk to the instructor before you do anything.*
Cheating

• Cheating does not mean the student is “bad”
  – Is often an act of desperation
  – Cultural differences

• Talk to the student
  – Let the student know the action has consequences
  – Assure the student he/she can recover
Scenarios and Difficult Conversations
Thank you!

We appreciate you coming.