

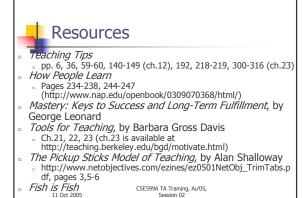


### Outline

- Questions on the quarter-long activities you need to choose from
- Classroom technology (Classroom Presenter)
- Classroom activities and discussions related to how people learn

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## Classroom Presenter Usage

### Hints:

- Do not close the Presenter application you will lose all slides if you do.
- To submit a response, write it on the slide, obeying the specified format, and then press the "Send" button.
- n Let's test a student submission...
- Have you already chosen your two activities for the quarter?

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## low People Learn

What do you think?

People learn best when

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## People Learn Best When...

- ... they see the value / rewards of what they are learning (i.e., they are motivated) or, even better, are inspired or have an urgent need to learn it.
- ... they feel that they can succeed at what they are trying to learn.
  - This usually goes together with the above point.

#### Suggestions:

- n Frequently revisit the tie between what you're teaching and the motivation why it is important.
- Be encouraging and give more free reign when you see inspiration. CSE599A TA Training, Au'05, Session 02

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## People Learn Best When...

- the learning curve is not too steep and not too mild; what they are learning they already "almost know.
  - Finding the right balance requires skill from the teacher.
  - A "one size fits all" approach would fail on this criterion.
- . they see connections between the new knowledge and the existing understanding that they already have.
  - And the gap between the two is not too big as to prevent them from seeing that they could "build a bridge.

#### Suggestions:

- Approach students personally, not as members of a herd.
- Get early feedback to understand where students are in their understanding and know where to "meet them.

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## People Learn Best When...

- they practice (over and over) what is being learned.
- So most of it must necessarily be happening outside the classroom.
- ... they reflect on their practice and adjust it accordingly.
- ... they receive frequent feedback on what they are doing.
  - These are often tied together -
    - Learning = Doing + Reflecting + Receiving feedback

#### Suggestions:

- Have assignments that give students practice and provide room for reflection (e.g., written) upon what they are doing
- Give students individual feedback and do it as frequently as practical given the resources you have at hand.

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## People Learn Best When...

- their strongest senses are engaged (e.g., visual, auditory,
  - different learning styles
  - the case against a "one size fits all" approach
- ... they are responsible for their own learning.
- ... they don't have to unlearn something else.

### Suggestions:

- Provide alternative forms and formats of explanation in order to match the different learning styles of your students.
- Teach students how to fish, do not give them the fish! Provide help by giving directions and rationale, not by providing
- Teach the essentials first, to prevent bad habits from forming.
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## How People Learn (cont.)

What do you think?

People respond negatively to learning when

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## People Respond Negatively to Learning When...

- pressure is too high (i.e., there is very little time).
- ... they don't believe in the value behind what is being
- ... they believe that the subject or practice detracts them from doing what they want.

#### **Suggestions:**

- Allow ample time for the lessons to sink in, but without rewarding laziness.
- Motivate using their terms, not yours.
- Carefully explain why what they are learning will help them be more effective \*in the long run\*.

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## People Respond Negatively to Learning When...

- the subject conflicts with their established ways of thinking.
- ... the perceived final result of the learning experience is negative.
  - This may lead to more than just not learning; it may result in the anti-lesson being reinforced.

- Consciously introduce situations in which conventional ways of thinking are spectacularly failing. Then, introduce the new knowledge to rescue students from the problematic
- Have students take "baby steps" and emphasize the need for quality at each one. CSE599A TA Training, Au°05, Session 02



## Meta Lessons: Teaching Techniques Used

Think for a minute about the teaching techniques that were used here in class today.

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# Meta Lessons: Teaching Techniques Used

- <sup>1</sup> Teaching techniques I consciously used today:
  - n In-class discussion
  - Active involvement of \*everyone\*
  - ... in a non-threatening way (anonymously)
  - <sup>n</sup> Acknowledging contributions from multiple sources
  - Using student submissions to illicit opinions, gather useful data, and emphasize the value of diverse viewpoints
  - Asking a high-level question to illustrate the breadth / complexity of an issue and the need to drill deeper
  - <sup>n</sup> Getting student feedback through student submissions

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## Meta Lessons: Benefits of the Teaching Techniques

- Emphasizing the point that valuable contributions can be made by many, not just by the instructor
  - The instructor acknowledges this by folding student submitted material directly into the lecture.
- Everyone's opinion can be "heard" without an identity disclosure
  - No raising hands, speaking up, etc.
- $_{\rm n}$  The instructor can immediately gauge the level of understanding of the audience.

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## Meta Lessons: Drawbacks of the Teaching Techniques

- It tends to slow down the pace of the lecture.
- n In a discussion, the main point may become muddled unless emphasized the instructor / facilitator.
- If the concept being discussed is well beyond the knowledge of the audience, the quality of contributions may be quite low and/or the audience may feel they have little to contribute without more explicit direction.
- Some students may be (and likely are) predisposed to learning quietly by listening and synthesizing on their own.

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