

## Session 03: Learning Styles

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18 Oct 2005 CSE599A TA Training, Au'05, Session 03

## Outline

- Quarter-long activities you chose
- Classroom activities and discussions related to learning styles

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## Resources

- Teaching Tips*
  - Ch. 13 (pp. 151-158, 167-171)
- Tools for Teaching*, by Barbara Gross Davis
  - Ch. 7 (p. 56), Ch. 22 (pp. 185-193)
- Matters of Style*, by Richard Felder
  - <http://www.ncsu.edu/felder-public/Papers/LS-Prism.htm>
- Collection of resources on learning styles
  - [http://www.ncsu.edu/felder-public/Learning\\_Styles.html](http://www.ncsu.edu/felder-public/Learning_Styles.html)
- How People Learn*
  - pp. 12-13 (<http://www.nap.edu/openbook/0309070368/html/>)
- Fish is Fish*

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## Chosen Activities: Statistics

**Doing:**

- Be a Tutor **3**
- Mentor a New TA **0**
- Lead (Part of) a CSE599A Session **1**
- Organize a Role-Playing Session **0**
- Practice Teaching Us (Microteaching) **4**
- Observe a Fellow TA and Provide Feedback to Them **13**
- Be Observed in Class and Discuss Experiences with Peers and/or the Instructor **10**

**Writing:**

- Keep a Teaching Journal **5**
- Reflect on Your Teaching Experiences **3**
- Write a Learner's Autobiography **1**
- Write Your Teaching Philosophy Statement **8**
- Write a Short Research Paper **0**

**Reading (and Writing):**

- Read a Book and Write Your Reaction **2**
- Do a Literature Review **3**

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## Chosen Activities: Observers and Observed (latest)

Observers	Observed
Eytan	Adrienne
Yaw	Travis
Tanya	Anna
Jonah	
Roxana, YongChul	Elizabeth
John	
Nodira	Suporn
Travis, Marius	Yaw
Kayur	Paul
Vibhor	
Elizabeth	YongChul
	Jonah
	Prasad

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## Felder-Silverman Learning Styles Test Results

- I'd like to collect the results *anonymously* and aggregate them, in order to see the distribution of preferences among all of us.
- Please enter your results on the sheet you get, but *not* your name.
- I will come and collect the sheets in a minute.
- Caution:** These are not your in-born preferences; they are "muscles" that you can (re)train if you need them differently.

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## Student Attention vs. Time

Plot the graph of how you think the level of student attention changes with time during a 50-minute lecture.

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## Content Retention in a Conversation

Person A calls Person B on the phone and tells B some information. How much of that information do you think is retained (correctly) after the conversation?

- q Less than 20%
- q 20-40%
- q 40-60%
- q 60-80%
- q Over 80%

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## Implications for How One Can Teach More Effectively

**Suggestions:**

- n Regularly shift gears, change subjects and teaching techniques to avoid/break monotony
- n Involve people mentally and physically (kinesthetic learning activities) in their learning
- n Provide alternative means for the non-auditory learners in the audience
  - n Visual archives (slides, diagrams, text), audio archives, etc.

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## People Learn Best When ... (revisited)

- n ... their strongest senses are engaged (e.g., visual, auditory, kinesthetic).
  - n The case against a one-size-fits-all approach
  - n **Suggestion:** Provide alternative forms and formats of explanation in order to match the different learning styles of your students / audience.

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## What Different Learning Styles Are Out There?

- n Visual vs. auditory learners
- n Kinesthetic vs. static learners
- n Active vs. passive learners
- n Individual vs. group learners
- n Learners with vs. without disabilities
- n Cultural biases, learned behaviors, norms, and expectations

Felder-Silverman have terms for many of these.

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## Why Do Learning Styles Matter?

- n If students are aware of them, they'll be more careful about not shunning activities that do not fit "their style."
- n Student-teachers who know about learning styles may be more careful in approaching their students.
- n The awareness of learning styles suggests what might be reasonable to expect from students.
  - n "Grad students understand computing well, but students in their classes may have a different way of looking at things."
- n They suggest that we all differ in some aspects and that a one-size-fits-all approach to teaching would fail for many.
  - n It is tempting, but inconsiderate, to say "This was easy for me, therefore it should be clear for them too."

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## How Do We Gauge Student Engagement?

- “Teaching Tips” argues that we cannot reliably tell the level of engagement by eye contact, question responses, or even by the exam results.
- How do we tell if students are engaged then?

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## How Do We Gauge Student Engagement?

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### Suggestions:

- Consider the whole person; try to get to know them more fully and avoid judging them.
  - The case for an individualized approach to teaching
- Show respect for the differences.
- Be encouraging.

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## Felder-Silverman Test Results Aggregated (from Today)

ActSenVisSeq 1	ActIntVrbSeq
RefSenVisSeq	RefIntVrbSeq 2
ActSenVisGlo	ActIntVisSeq 1
RefSenVisGlo 1	RefIntVisSeq 2
ActSenVrbSeq	ActIntVrbGlo 1
RefSenVrbSeq	RefIntVrbGlo 3
ActSenVrbGlo	ActIntVisGlo 4
RefSenVrbGlo 2	RefIntVisGlo 3

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## MBTI Test Results in CSE403 (Aggregated across 6 Quarters)

ENFJ	10	ESTJ	3
INFJ	14	ISTJ	20
ENFP	1	ESFJ	3
INFP	2	ISFJ	7
ENTJ	17	ESTP	2
INTJ	25	ISTP	3
ENTP	7	ESFP	2
INTP	8	ISFP	4

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## Does It Make a Difference Which Test One Uses?

Felder et al. results:

- No matter which one of several known tests one bases the conclusions on, the recommendations remain the same.
- Teachers need to provide multiple paths (not just a repetition of the same one) to the concepts that they want students to learn.

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## Meta-Lessons: Teaching Techniques I Used Today

- Having students prepare for class by reading a short related material
- Getting feedback from students in class
  - Sheets where you entered the test results
- Classroom technology to engage everyone
- In-class discussion
- Shifting gears between presentation and discussion
- Meta-cognition
  - How are we doing?
- Just-in-time teaching
  - Incorporating results from the test into the discussion
- One-minute paper: for quick feedback

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## Take-Away Points

- There are *valid* differences in how each of us perceives and reacts to the world!
  - The “if you aren’t like us, there’s something wrong with you” mentality has caused untold suffering in the history of mankind, and, unfortunately, continues to pervade even today.
  - If you’ve seen only one view of the world, it’s not surprising that you might believe it to be the only possible way.
- Approach your students (and really, all people) with an appreciation of how they differ and are unique.

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## One-minute Feedback

- What one or two ideas discussed today captured your attention and thinking the most?
  
  
  
  
  
  
  
  
  
  
- List any ideas / concepts that you would like to hear more about. Be specific.

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