

INTRODUCTION

"Good teaching begins long before the first day of class!"

Topic 1: Pedagogy

- (1) Introduction and overview
- (2) Pedagogy - what is it? see [handout of definitions](#) [pdf] distributed in class
- (3) A Framework for Teaching: [A Model for Instructional Design](#) [pdf] distributed in class
- (4) Introductory overview of various pedagogical philosophies and approaches:

- **authoritarian vs. constructivist models**
- **traditional content delivery vs. inquiry-based**
- **teacher-centered vs. learner-centered**
- **lecture-based vs. hands-on/active-learning**

- [Seven Principles of Good Practice in Undergraduate Education](#) [pdf] distributed in class

Follow-up Readings & Webpage for today's topics:

- **Visit the "Moodle" Site for an overview of the constructivist philosophy of learning:** <http://moodle.org/doc/?frame=philosophy.html>)
Moodle is a course management system (CMS) - a free, [Open Source](#) software package designed using sound pedagogical principles, to help educators create effective online learning communities.
- **Read:** [Got Teaching? A Student Perspective on Effective Teaching at UA](#) [pdf]
This is a report on a student project completed for Dr. Nancy Huber's Fall 2003 AED 403/503 Collaborative Leadership course)

(5) **Learning Styles and Cognitive Skills** [Corresponding handout](#) [pdf] distributed in class

- Overview of Bloom's Taxonomy, critical thinking and problem solving
- Survey of different models/studies on learning styles

*The following **assigned readings** will "flesh out" the concepts summarized in the pdf handouts above.*

Please read them in preparation for next week's class:

On Learning Styles:

- **Read:** Felder, R.M. [Matters of Style](#) [pdf]
also at: <http://www.ncsu.edu/felder-public/Papers/LS-Prism.htm>
- **Browse:** Wikipedia's (!) pretty good summary of [Learning Styles](#)

On Cognitive Development and Critical Thinking Skills

- **Browse** webpages on: **Bloom's Taxonomy** at these URLs, or others you find on your own:
<http://faculty.washington.edu/krumme/guides/bloom.html>
<http://www.edpsycinteractive.org/topics/cogsys/bloom.html>
<http://www.nwlink.com/~donclark/hrd/bloom.html>
- **Read:** Lynch, C.L. Wolcott, S.K. (2001) [Helping Your Students Develop Critical Thinking Skills](#) [pdf] See also: <http://www.wolcottlynch.com/> for more ideas and information about the authors of this paper.

Follow-up Exercise (to be assigned next week; but you can do now if you like!)

- ==> Complete the Learning Style Assessment under "Self-Assessments" at the UA Think Tank website:
http://thinktank.arizona.edu/resources/selfassessment/learning_style
- ==> Complete this [Learning Style Inventory](#) based on David Kolb's Model (you'll have to click on Enter Profile and fill out at #13 to get access to the survey)
- ==> Complete the indicators on this page from Richard Felder and browse its contents:
[More on cognitive skills & learning styles](#)

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LEARNING STYLE FOLLOW UP: More on cognitive skills & learning styles

[Richard Felder's Home Page: RESOURCES IN SCIENCE AND ENGINEERING EDUCATION](#)

- Take the **Index of Learning Styles** (ILS) Questionnaire: <http://www.engr.ncsu.edu/learningstyles/ilsweb.html>
- Read through Felder's accompanying links to understand more about his approach:

[Frequently asked questions.](#) Responses to frequently asked questions about the ILS, including questions about its origin, reliability and validity, and availability for use in teaching and research, and how businesses may license it.

[ILS questionnaire.](#) A 44-item questionnaire that can be submitted and automatically scored on the Web.

[Descriptions of the learning styles.](#) A four-page handout that briefly explains the instrument results.

[Validation study.](#) "A Contribution to Validation of Score Meaning for Felder-Soloman's Index of Learning Styles," by Professor Malgorzata Zywno.

[View comments on the Index of Learning Styles tool](#) (in [MERLOT](#) Multimedia Educational Resource for Learning and Online Teaching <== lots of resources in MERLOT!)

["Learning and Teaching Styles in Engineering Education."](#) *Engr. Education*, 78(7), 674-681 (1988). The article that originally defined the Felder-Silverman model and identified teaching practices that should meet the needs of students with the full spectrum of styles. The paper is preceded by a 2002 preface that states and explains changes in the model that have been made since 1988.

["Reaching the Second Tier: Learning and Teaching Styles in College Science Education."](#) *J. College Science Teaching*, 23(5), 286-290 (1993). An article that explains the learning style preferences and their implications for teaching.

Take the Myers-Briggs Type Indicator (MBTI) test (or equivalent) to learn what your "type" is.

Online variation of the MBTI: <http://www.humanmetrics.com/cgi-win/JTypes1.htm>

Then see the following from Felder:

The subsequent references focus on individual style dimensions, including several on the Myers-Briggs Type Indicator that are not included in the F-S model but are equally important in understanding different ways that students learn and perform in classroom settings.

R.M. Felder, ["Meet Your Students: 1. Stan and Nathan."](#) *Chem. Engr. Education*, 23(2), 68-69 (Spring 1989). The sensing learner and the intuitive learner.

R.M. Felder, ["Meet Your Students: 2. Susan and Glenda."](#) *Chem. Engr. Education*, 24(1), 7-8 (Winter 1990). The sequential learner and the global learner. (See also *The Visual-Spatial Learner*, described below.)

R.M. Felder, ["Meet Your Students: 3. Michelle, Rob, and Art."](#) *Chem. Engr. Education*, 24(3), 130-131 (Summer 1990). Three different approaches to learning (deep, surface, and strategic), and the conditions that induce students to take a deep approach.

R.M. Felder, ["Meet Your Students: 4. Jill and Perry."](#) *Chem. Engr. Education*, 25(4), 196-197 (Fall 1991). The judger and the perceiver on the Myers-Briggs Type Indicator.

R.M. Felder, ["Meet Your Students: 5. Edward and Irving."](#) *Chem. Engr. Education*, 28(1), 36-37 (Winter 1994). The extravert and the introvert on the Myers-Briggs Type Indicator.

R.M. Felder, ["Meet Your Students: 6. Tony and Frank."](#) *Chem. Engr. Education*, 29(4), 244-245 (Fall 1995). The thinker and the feeler on the Myers-Briggs Type Indicator.

See also: Student Learning and the Myers Briggs Type Indicator:
<http://www.gsu.edu/~dschjb/wwwmbti.html>