Enhancing Teaching Excellence:

Congruence of Teaching Styles and Learning Styles

Presented by:
James Stapleton, Ph.D.
Welcome & Introductions

1. Name, Department, Primary Teaching Assignment

2. What interests you most about this topic?
Think - Pair - Share

• Finish this sentence

   – How much students learn is determined by …
Factors That Determine Learning

• **Achievement** =
  – Ability
  – Attitude
  – Effort
  – Quality of Instruction

• **Attitude** =
  – Achievement
  – Effort
  – Socioeconomic Factors
  – Quality of Instruction

Young & Klemz, 2003
Facts of Life in Teaching

1. What students learn is always less than we teach
2. How much they learn is determined by
   – Native Ability
   – Background in Course Topic
   – Match Between Learning Style and Teaching Style
3. We can’t do much about their ability, background, or learning style

Conclusion: To maximize student learning, all we have to work with is our teaching style

R.M. Felder & R. Brent, Effective Teaching, ©2005 by Education Designs, Inc.
Teaching Style & Learning Style Congruence

- Teaching style refers to the instructional methods or strategies we use.
- Learning style refers to how we prefer to take in and process information.

Teaching Style & Learning Style Congruence

• Consequences:
  – STUDENTS
    • Affective: become bored, inattentive, lack motivation
    • Cognitive: don’t get it
    • Achievement: decreased
  – FACULTY
    • Frustrated by poor attendance, low grades, students’ attitudes
Think - Pair - Share

- How do you describe your students’ learning styles?
Models and Perspectives

• Perceptual Modality
  – Sensory information receptors
    1. VAK (Dunn and Dunn, 1978)
      – Visual, Auditory, Kinesthetic
    2. VARK (Fleming, 2001)
      – Visual, Auditory, Read/Write, Kinesthetic
Models and Perspectives

• Cognitive or Information Processing
  – Preferred way an individual processes information
    1. Kolb’s Learning Style Inventory (Kolb, 1984)
    2. Index of Learning Styles (Felder, 1991)
Models and Perspectives

• Personality Type
  – Preferred way an individual takes in information, makes decisions, and relates to others
    1. Myers-Briggs Type Indicator (Myers & Briggs, 1944)
    2. Keirsey Temperament Sorter II (Keirsey, 1998)
Models and Perspectives

• Social Interaction
  – Preferred interaction with teachers and other students
    1. Grasha-Reichmann Student Learning Styles (Grasha, 1996)
    2. Canfield Learning Style Inventory (Canfield, 1980)
Index of Learning Styles

# Perception

## Sensing (S) Learners
- Focus on external input
- Practical
- Notice details of environment
- Concrete thinkers (facts-data-hands on)
- Learn through repetition
- Like working with details
- Complaint about courses: No connection with real world

## Intuitive (N) Learners
- Focus on internal input
- Imaginative
- Look for meanings (miss details)
- Abstract thinkers (theories, models)
- Like variety in learning
- Like working with concepts
- Complaint about courses: Lots of memorization, repetitive

Perception

• Everybody is both sensor and intuitor; but everyone has a preference—some strong
• Balance varies by field of study
• Most undergraduates are sensors.
• Most professors are intuitors.
• Most professors teach intuitively, (emphasizing fundamentals, theories, concepts)
• Low congruence between TS and LS in undergraduate classrooms

Input Modality

Visual (Vs) Learners

• “Show me”
  – Pictures
  – Diagrams
  – Sketches
  – Schematics
  – Flow Charts
  – Plots

Verbal (Vb) Learners

• “Explain it to me”
  – Spoken words
  – Written words, symbols (seen but translated by brain into their oral equivalents)

Input Modality

• Visual and verbal information are processed differently in our brains
• You learn more when information is presented in your preferred modality, even more if you get it in both modalities
• Most people are visual learners, while 90-95% of most undergraduate course content is verbal (lecture, readings)

## Information Processing

### Active (A) Learners
- Process actively (doing something physically with presented information, then reflect)
- Think out loud
- “Let’s try it and see how it goes”
- Tend to jump in prematurely
- Like group work

### Reflective (R) Learners
- Process reflectively (thinking about presented information, then doing something with it)
- Work introspectively
- “Let’s think it through and then try it”
- Tend to delay starting
- Like individual or pair work

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Information Processing

• All classed have both active and reflective learners.

• Most classes are passive—the active learners don’t get to act on the material presented and the reflective learners don’t do much reflecting during the lectures.

# Understanding

<table>
<thead>
<tr>
<th>Sequential (Sq) Learners</th>
<th>Global (G) Learners</th>
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</thead>
<tbody>
<tr>
<td>- Build understanding in logical sequential steps</td>
<td>- Absorb information randomly, then synthesize the big picture</td>
</tr>
<tr>
<td>- Function with partial understanding of information</td>
<td>- Need the big picture (interrelations, connections to other subjects and personal experience)</td>
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<tr>
<td>- Make steady progress</td>
<td>- Large leaps of understanding with little progress between</td>
</tr>
<tr>
<td>- Explain easily</td>
<td>- Can’t explain easily</td>
</tr>
<tr>
<td>- Good at analytical thinking</td>
<td>- Holistic thinking</td>
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</tbody>
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Understanding

• Most students, instructors, curricula, and textbooks are sequential
• Not strictly a mismatch. BUT
• The global minority is
  – Extremely important (systems thinkers)
  – At risk if learning needs are not met

Think - Pair - Share

• How do you describe your teaching style?
Congruent Strategies

1. Assess students’ learning styles at the beginning of class and adapt instructional strategies.

2. Use a variety of instructional strategies assuming everybody will get something.

3. Just do your thing!
Congruent Strategies

• Group – Share
  – Sensing / Intuitive Learners
  – Visual / Verbal Learners
  – Active / Reflective Learners
  – Sequential / Global Learners
Questions?
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Perception

Sensing (S) Learners

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Perception Strategies

Sensing (S) Learners    Intuitive (N) Learners
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Input Modality Strategies

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Information Processing Strategies

Active (A) Learners  Reflective (R) Learners
Understanding

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Understanding Strategies

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