

# Self-Understanding

## Learning Styles

*“Uneducated is not knowing  
how to keep learning.”*

*David Kearns,  
former CEO, Xerox*

# Learning Styles

- Self-understanding is key
- Recognizing strengths & weaknesses
- DO NOT predict success/failure
- DO NOT label people
- Understanding lets us learn/work more efficiently

# Active Learners

- Learn best when engaged
  - Discussing
  - Applying
  - Explaining
- Try things out, see what happens
- Enjoy group work
- “Lecture” courses can be challenge

# Reflective Learners

- Quietly think things through
- Work alone
- Can also find “lecture” classes challenging



# Balance

- BOTH active and reflexive learning styles are effective
- Not all one or other
- Find balance
- Build on strengths and weaknesses

# Strategies

## Active Learners

- Create study groups, everyone does some explaining.
- Work with others
- Prepare for tests by talking about what will be asked, how those questions will be answered
- Apply material to homework, other classes, work, other interests, etc.

# Strategies (Continued)

## Reflective Learners

- When reading or reviewing, think, reflect
- Consider possible questions, applications of the material
- Write short summaries
- Paraphrase, own thoughts, words

# Sensing Learners

- Facts and figures
- Detail oriented
- Solve problems with established procedures
- Complications and surprises are frustrating
- Appreciate clear learning objectives and expectations

# Intuitive Learners

- Creative
- Dislike repetition, drill & practice
- Comfortable with:
  - new concepts
  - Formulas
  - Abstract ideas
- Often work fast
- Innovate

# Balance

- BOTH sensing and intuitive learning styles are effective
- Not all one or other
- Find balance
- Build on strengths and weaknesses

# Strategies

## Sensing Learners

- Find ways new learning applies to "real-world"
- Ask appropriate questions in class
- Consider ways to apply new materials to different situations.
- Use reference sources to learn
- Talk to friends or study-group
- Brainstorm ways to use learning

# Strategies (Continued)

## Intuitive Learners

- Ask how facts are connected
- Look for "bigger picture"
- Use textbooks and reference sources to see how facts relate
- Carefully read BEFORE starting
- Pay attention to the details
- Check all work, especially on tests

# Visual Learners

- Remember what they see or imagine
- Mental visualization powerful tool
- Pictures, diagrams, charts, time lines, video
- Demonstrations

# Verbal Learners

- Work best with words, written and spoken
- Effective for traditional “lecture” classes
- Effective note takers
- Assumed that most students can work with this style

# Strategies

## Visual Learners

- Look for diagrams, sketches, schematics, photos, charts, etc.
- Ask professor for visual aides
- Use reference books, search online, or ask a reference librarian for help
- Create concept maps
- Color code with highlighters, use same color for related concepts



# Balance

- BOTH visual and verbal learning skills are important
- Not all one or other
- Traditional classes assume verbal learning style
- Find balance
- Build on strengths and weaknesses

# Sequential Learners

- Using linear steps
- Each step leads to the next in logical sequence
- Apply and practice procedures
- Can explain steps and processes
- Often solve problems without full understanding

# Global Learners

- Jump around different ideas
- Understand ideas before making connections
- Flash of inspiration, “I get it!”
- See “big picture”
- May have difficulty explaining process/procedures

# Strategies

## Sequential Learners

- Traditional classroom style
- Outline material in logical order
- If professor skips around, ask for help to “fill in gaps”
- Work from details towards “big picture”
- Develop BOTH sequential & global skills

# Strategies (Continued)

## Global Learners

- Be patient
- Not slow, just different
- Skim through entire chapter BEFORE reading a section
- Relate new material to previous learning
- Remember: Thinking globally can result in creative problem-solving



# Balance

- BOTH sequential and global learning styles are important
- Not all one or other
- Find balance
- “Real World” problem solving requires both sequential and global perspectives

# 4-Step Learning Model

## 1. Senses (attention)

- Perceive the world from senses
- Sound, sight, touch, smell, taste
- Specific areas of brain interpret each of these types of information
- Nothing happens until we pay attention to a stimulus
- Attention Deficit: Difficulty paying attention to incoming information

# Learning Model (Cont.)

## 2. Process (auditory, visual, kinesthetic, tactile, speed)

- Specific parts of brain process visual, auditory, tactile, kinesthetic processing
- Involves interpreting, making sense, organizing information
- Happens at different speeds
- If too quick or slow, information gets “lost”

# Learning Model (Cont.)

3. Memory specific parts of brain process visual, auditory, tactile and kinesthetic processing

- Two types: short-term memory (storage) capacity & long-term
- Short-term, “working” memory; answer question, perform calculation
- Long-term, over time; links between “chunks” of information

# Learning Model (Cont.)

## 4. Expressing (thinking, writing, doing)

- Final outcome
- Expressing information
- Involves doing something such as writing, speaking, drawing.
- Difficulties expressing information in speech could relate to expressive language weakness (i.e. word retrieval) or memory weakness

# Want to Learn More?

## What are your learning preferences?

<http://www.engr.ncsu.edu/learningstyles/ilsweb.html>

- This presentation is adapted from the *Index of Learning Styles* (ILS) by Richard M. Felder and Linda K. Silverman.
- Check out their online *Index of Learning Styles Questionnaire*