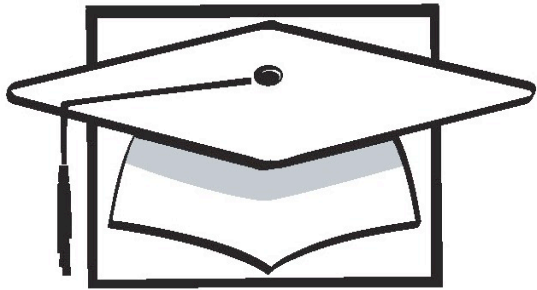


Week 5

Understanding the Teaching/Learning Process



Overview

- What is learning?
- How do we learn?
- Metacognition – Improving your learning process
- Learning is a reinforcement process
- Understanding the teaching part of the teaching/learning process
- Mistakes students make
- Don't be hung up on the idea of seeking help

What is Learning?

Learning is the process of acquiring:

- New knowledge and intellectual skills
(Cognitive learning)
- New manual or physical skills
(Psychomotor learning)
- New emotional responses, attitudes, and values
(Affective learning)

How Do We Learn?

- Receiving new knowledge
- Processing new knowledge

Receiving New Knowledge

- What type of information do you prefer?
Sensing learner
Intuitive learner
- What sensory channel do you perceive external information most effectively?
Visual learner
Verbal learner

Processing New Knowledge

- The way you prefer to process new information
 - Active learners
 - Reflective learners
- The way you progress toward understanding
 - Sequential learners
 - Global learners

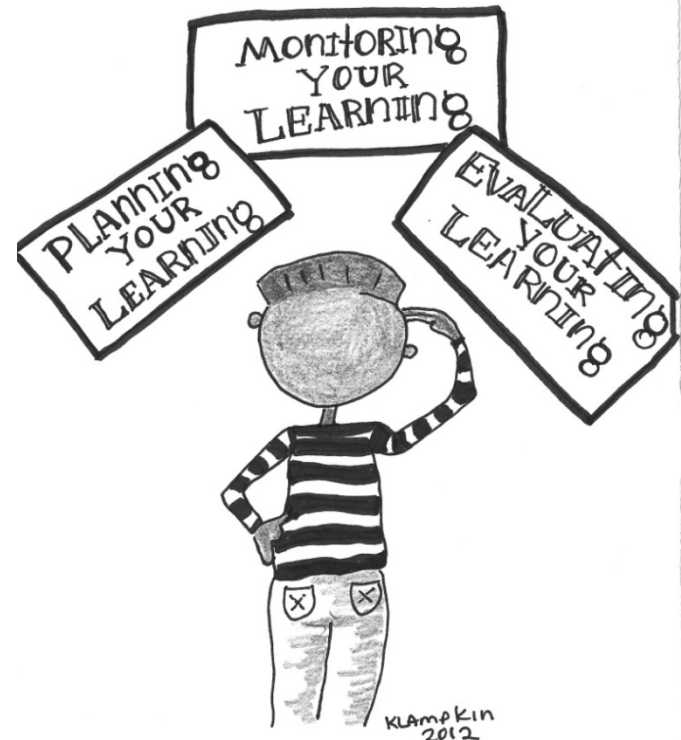
Index of Learning Styles Questionnaire



- Recommend taking Index of Learning Styles Questionnaire
www.webtools.ncsu.edu/learningstyles
- You'll choose one of two preferences for 44 items that cover the ways you prefer to receive and process new knowledge
- You'll immediately receive the scored results telling you your preferred learning styles

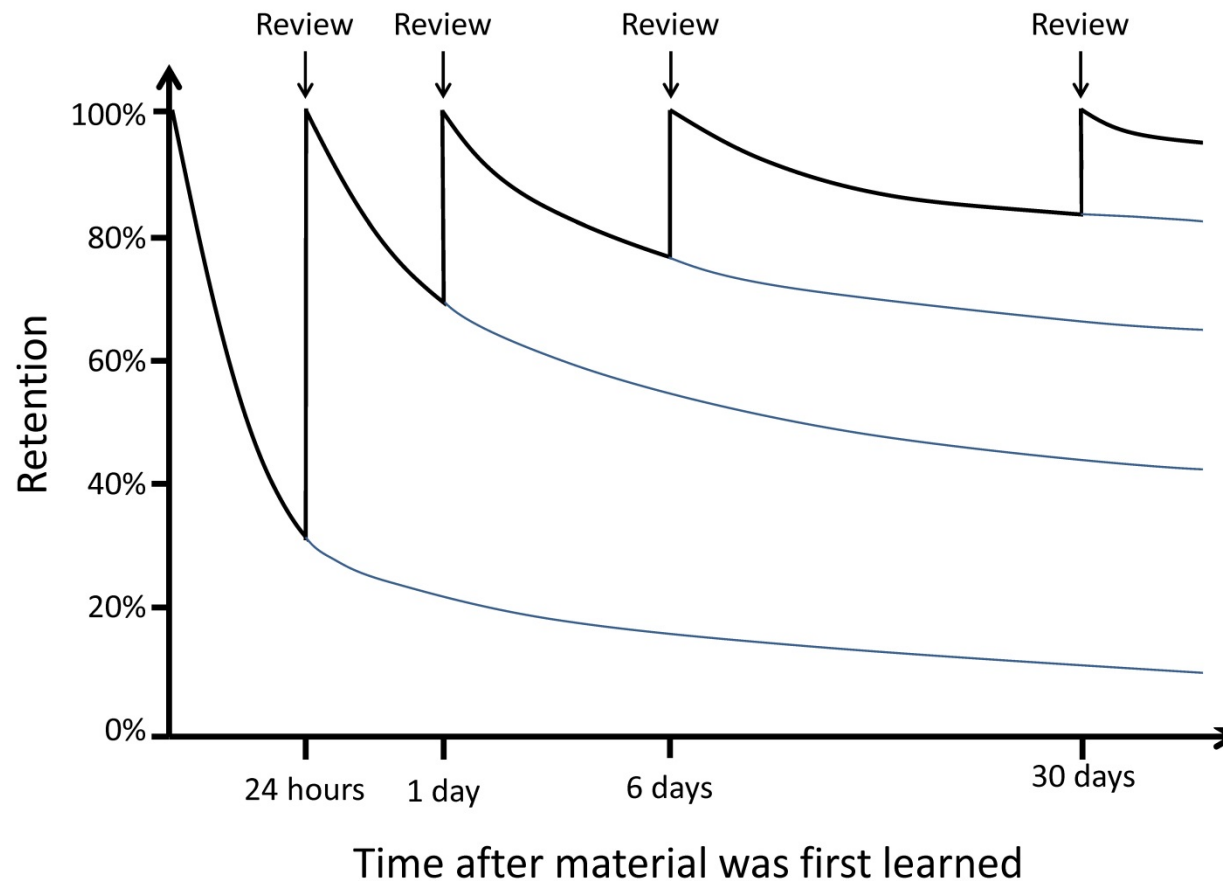
Metacognition – Improve Your Learning

- Plan your learning
- Monitor your learning
- Evaluate your learning and make changes



The Forgetting Curve

Frequent Review instead of Cramming



Overview of the Teaching Process

Teaching modes

- Large lectures
- Small lectures
- Recitations
- One-on-one tutoring



Characteristics of Teaching Modes

- Each involves a person who is knowledgeable about a subject (an “expert,” if you will) communicating what he or she knows to a less knowledgeable person (the student)
- Generally, most of the communication is one-way—i.e., from the teacher to the student
- Relatively little learning takes place

Five Aspects of Teaching Styles

Note: Teaching styles most prevalent in math/science/engineering courses are underlined

1. What type of information is emphasized?

Concrete – Facts, data, observable phenomena

Abstract – Principles, concepts, theories, mathematical models

2. What mode of presentation is stressed?

Visual – Pictures, diagrams, films, demonstrations

Verbal – Spoken words, written words

3. How is the presentation organized?

Deductive – Start with fundamentals; proceed to applications

Inductive – Start with applications; proceed to fundamentals

Five Aspects of Teaching Styles (continued)

4. What mode of student participation is facilitated?

Active – Student involved (talking, moving, reflecting, solving problems)

Passive – Student as a spectator (watch, listen)

5. What type of perspective is provided on the information presented?

Sequential – Step by step progression

Global – Content and relevance are provided

Active Learning in Classrooms

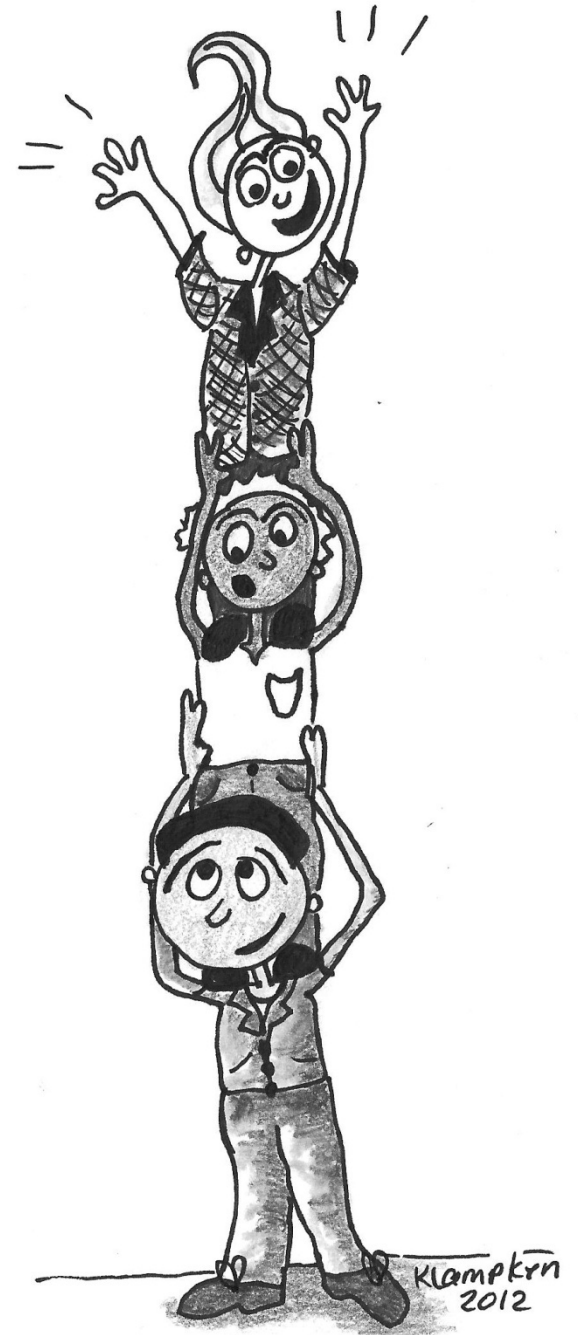
- Active learning strategies:
 - Interactive lecture/group work
 - Problem-based learning
 - Inquiry guided learning
 - Team Based Learning
 - etc.
- **Participate** in active learning opportunities
 - Benefits to you are **better performance on exams**, improved **critical thinking skills** and **problem-solving abilities**

Don't Be Hung Up on the Idea of Seeking Help

If I have seen a little further, it is by standing on the shoulders of Giants - Isaac Newton

Primary sources of “help” with your academic work

- Your peers
- Your professors



Key Finding

Students who get the most out of college, who grow the most academically, and who are the happiest, organize their time to include interpersonal activities with faculty members, or with fellow students, built around substantive academic work.

Harvard Assessment Seminars