

# **Memorization & Learning: The Distinction that Serves as the Cornerstone for Preparing Students for College Level Success**

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# Overview of Presentation

- The need for introducing students to the distinction between memorization & learning
- A demonstration of how to make the distinction between memorization & learning
- Uses & benefits
- Techniques that promote deep level learning
- Discussion: Q & A



# The Need for Introducing Students to the Distinction Between Memorization & Learning

- ✓ Study skills used in high school may not translate to what is needed in college
- ✓ Helps students gain understanding of how learning works
- ✓ Gives sense of meaning and importance to how to learn material in a deeper way
- ✓ Helps inspire student motivation
- ✓ Emphasizes importance of acquiring and using different learning strategies



# Memorization & Learning:

## A Demonstration of the Distinction

- ✓ **Is memorization the same as learning?**
- ✓ How is it different?
- ✓ Give an example of something you memorized but didn't actually learn...
- ✓ **Memorization  $\neq$  Learning!!!**



# Memorization = the skeleton of knowledge

- ▣ When you memorize, you do “surface” (or the “bare bones”) learning of names, places, etc.
- ▣ Memorization is important, but only the first step to learning



# Learning = putting the meat on the bones of that skeleton...

- ▣ To create a true “body” of knowledge!
- ▣ You go beyond simple memorization, and strive to really “understand”

Memorizing



Learning



# Why is this Important?

- Elementary & High School → Memorize
- College → Learn!

To **LEARN**, must master these skills ...

- \* Time Management
- \* Note Making
- \* Test Prep
- \* Active Reading
- \* Critical Thinking



# Uses & Benefits

- Great way to frame importance of acquiring success skills, especially deep level learning skills
- Develops student interest in acquiring deep level learning skills & strategies
- Motivates students to study to learn!

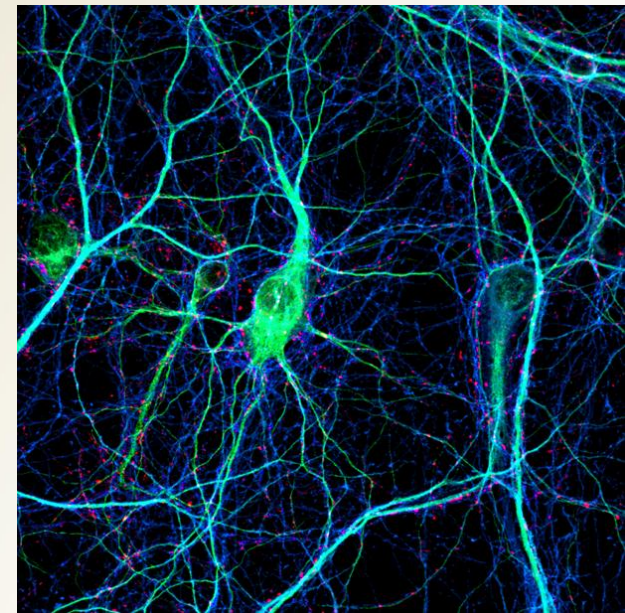




# Study To Learn

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- Cramming does not work!
- Dendrites = prior knowledge
- Brain takes new info & tries to connect it to prior knowledge
- Grow your dendrites!
- Does not happen overnight
- Memorization  $\neq$  Learning



# Bloom's Taxonomy



<b>Remembering:</b> can the student recall or remember the information?	define, duplicate, list, memorize, recall, repeat, reproduce state
<b>Understanding:</b> can the student explain ideas or concepts?	classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase
<b>Applying:</b> can the student use the information in a new way?	choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.
<b>Analyzing:</b> can the student distinguish between the different parts?	appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
<b>Evaluating:</b> can the student justify a stand or decision?	appraise, argue, defend, judge, select, support, value, evaluate
<b>Creating:</b> can the student create new product or point of view?	assemble, construct, create, design, develop, formulate, write.

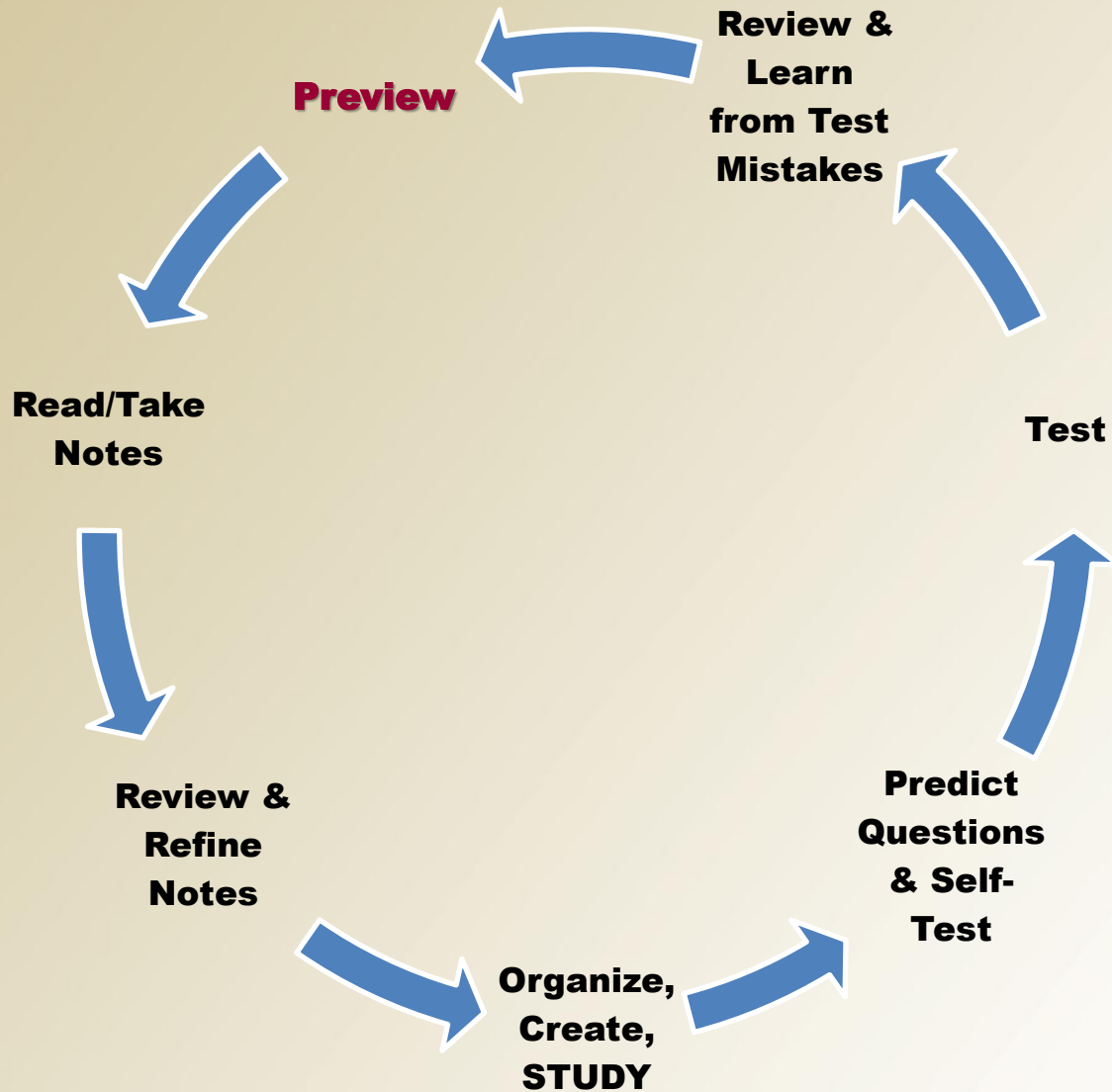
# Techniques that Promote Deep Level Learning

- Follow the study cycle
- SQ3R active reading method
- Cornell note making system
- Review notes within 24 hours of taking them
- Explaining/teaching the material to others
- Create a study plan!



# The Study Cycle

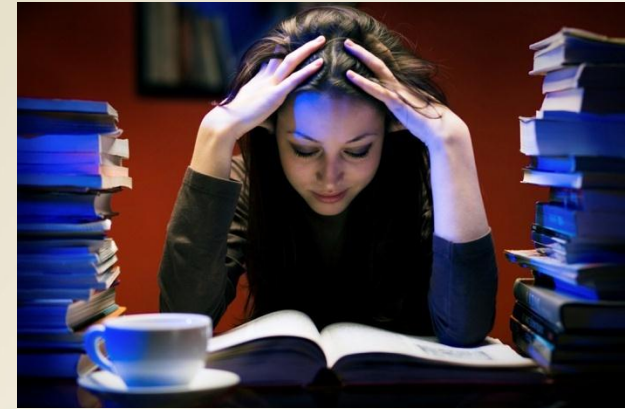
(adapted from UT Learning Center)





# Preview-Read/Take Notes: SQ3R Active Reading Method

When you read...survey, question,  
read, reflect and review!!



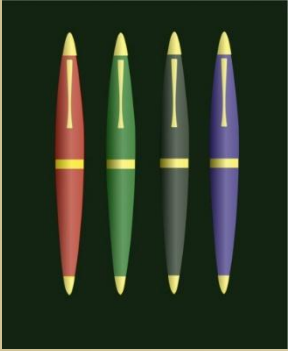
- *Survey*

- Familiarize yourself with the reading
- Read section introductions, headings, discussion questions, graphs, charts, etc.

- *Question*

- Develop questions that will guide your reading –write them in the margins (turn headings, introductory sentences, etc. into questions)





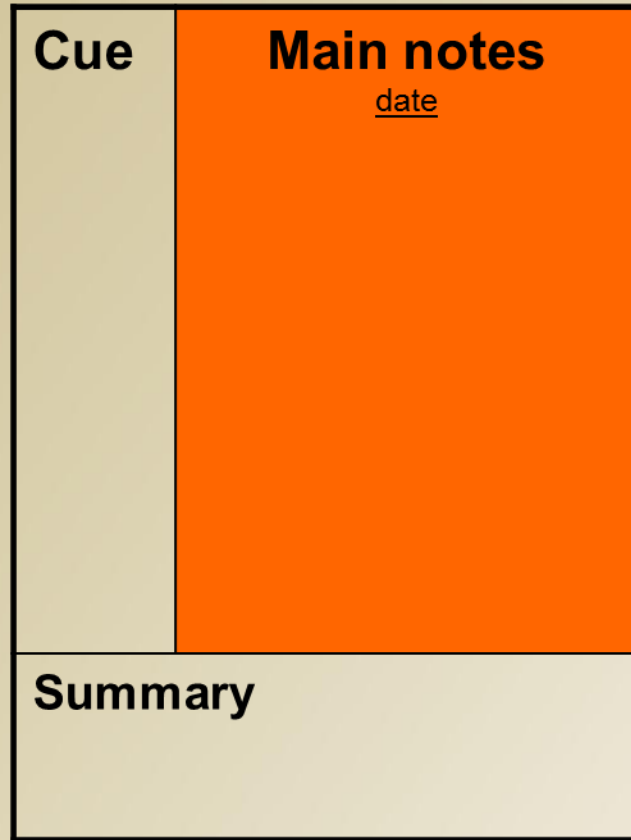
# SQ3R (continued)



- *Read*
  - Practice active reading when note taking
- *Reflect*
  - Consider what you've read, answer questions, transfer to long term memory
- *Review*
  - When finished reading, complete and review your notes
  - Do immediate and later reviews of notes
  - Write a summary in own words



# Take Notes in Class: Cornell Note Making System



## Main block

- Primary area to **Record** your notes
- Use whatever note taking format you prefer
- Don't write every word
- Don't crowd your notes



<b>Cue</b>	<b>Main notes</b> <u>date</u>
<b>Summary</b>	

## Cue column

- **Reduce**: write notes on your notes (cue words/questions)
  - Study questions: write questions here that the notes in the “main notes” column are an answer to
  - Topics
  - Clarification of points





Cue	Main notes <u>date</u>
Summary	

# Summary

- Write a short summary of what's on the page
- **Review** this before the next lecture



# Organize, Create, Study: Create a Study Plan!

## How to Make a Five-Day Plan

Break the material into four approximately equal chunks. These chunks can be chapters or groups of chapters in your text, or they may be based on notes that you have taken in class or topics listed by your instructor. You work on the material in two ways: You prepare (organize the material), and then you review (learn it).

Preparation strategies	Review strategies
<b>Create flash cards</b> <ul style="list-style-type: none"><li>• Words and definitions</li><li>• Questions and answers</li><li>• Names and dates</li><li>• Other simple factual information</li></ul>	<b>Work with flash cards</b> <ul style="list-style-type: none"><li>• By yourself: write or speak</li><li>• Work with a partner</li><li>• If you know an answer, put the card in a separate pile and spend more time with cards you don't know</li></ul>
<b>Create study sheets containing definitions, formulas, dates, etc.</b> <ul style="list-style-type: none"><li>• Outlines</li><li>• Charts</li><li>• Diagrams</li></ul>	<b>Rewrite study sheets without looking at the originals</b> <b>Explain the information to a partner or study group</b>
<b>Anticipate test questions</b> <ul style="list-style-type: none"><li>• Write questions in the margins of your notes or text next to where the answers are found in the notes or text</li><li>• Create a test that includes the kind of questions that will be on the exam (i.e., true/false, definitions, multiple choice) (don't use the questions in your text)</li></ul>	<b>Practice your test</b> <ul style="list-style-type: none"><li>• Cover the text, and see if you can answer the questions in the margins</li><li>• Take your test. Pay particular attention to writing out answers to essay questions</li></ul>



# PREPARE MATERIALS

- Flash cards
- Study sheets (with Q and A)
- Organize notes and text(s)
- Make up test questions
- Select math practice problems
- Make a list of things you do not understand



# REVIEW MATERIALS

- Re-read (re-write) texts, notes, study sheets
- Work with flash cards
- Study groups
- Revise as needed (re-prepare)
- Follow up on things you don't understand



**STUDY PLAN: STUDENT NAME:** ~~XXXXXXXXXX~~ **SECTION:** Monday / Wednesday

**Course Number and Name:** MAT0024 – Elementary Algebra

**Test Topics/Chapters:** Chapter 3

**Test Date/Time:** 8/1/2011 – 8am

<b>DAY 1</b>	<b>Day/Date:</b> <u>Monday 7/25/2011</u>		
	Topics/Chapters	Preparation/Review Strategy	Length of Time
<u>Prepare</u> 1 & 2 Chunks	Chapter 3 Section 1	<b>Preparation:</b> Take practice quiz for section 1 & 2.	2 hours
	Chapter 3 Section 2		
<b>DAY 2</b>	<b>Day/Date:</b> <u>Tuesday 7/26/2011</u>		
	Topics/Chapters	Preparation/Review Strategy	Length of Time
<u>Review</u> 1 & 2 Chunks <u>Prepare</u> 3 & 4 Chunks	Chapter 3 Section 3	<b>Review:</b> Redo problems missed on the practice quiz 3.1 – 3.2.	Review of Section 1 & 2 – 45 min. Prepare section 3 & 4 – 1 ½ hour
	Chapter 3 Section 4	<b>Preparation:</b> Take practice quiz for section 3 & 4.	
<b>DAY 3</b>	<b>Day/Date:</b> <u>Wednesday 7/27/2011</u>		
	Topics/Chapters	Preparation/Review Strategy	Length of Time
<u>Review</u> 1,2,3,4 ½ Chunks <u>Prepare</u> finish 4 & start section 5 Chunks	Chapter 3 Section 4 Cont.	<b>Review:</b> Redo problems missed on the practice quiz 3.1 – 3.3. <b>Preparation:</b> Take practice quiz for section 4 & 5.	Review of Section 1, 2, 3, 4 ½ – 45 min. Prepare Finish Section 4 & start section 5 – 1 ½ hour
	Chapter 3 Section 5		
<b>DAY 4</b>	<b>Day/Date:</b> <u>Thursday 7/28/2011</u>		
	Topics/Chapters	Preparation/Review Strategy	Length of Time
<u>Review</u> 1,2,3,4,5 Chunks <u>Prepare</u> 6 & 7 Chunks	Chapter 3 Section 6	<b>Review:</b> Redo problems missed on the practice quiz 3.1 – 3.5. <b>Preparation:</b> Take practice quiz for section 6 & 7.	Review of Section 1, 2,3,4,5 – 45 min. Prepare Section 6 & 7 – 1 ½ hour
	Chapter 3 Section 7		
<b>DAY 5</b>	<b>Day/Date:</b> <u>Friday 7/29/2011</u>		
	Topics/Chapters	Preparation/Review Strategy	Length of Time
Self – Test	Whole Chapter 3 Review	Take online Practice Test Chapter 3	1 hour



# Commonly Heard Student Remarks

- Now I understand why just spending more time reviewing my notes isn't enough. I wasn't really *learning* the material.
- Coming up with possible test questions is a really helpful way to study. I am really starting to understand in a deeper way.
- Turning the textbook headings into questions as I read is really helping me to focus more on the readings, and not fall asleep!



# QUESTIONS & DISCUSSION



# Contact Information

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