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- ▶ You will be placed on mute during the webinar. Type content-related questions in the Chat dialogue box and Dr. Marzano will answer select questions at the end of the presentation.
- ▶ Webinar recording and handouts will be available at MarzanoResearch.com. You will receive an email with this link within the next five business days.



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Today's Presenter

Dr. Robert J. Marzano

Cofounder and CEO of Marzano Research Laboratory in Englewood, Colorado

Leading researcher in education, speaker, trainer, and author of more than 30 books and 150 articles

Topics include:

- instruction
- assessment
- writing and implementing standards
- cognition
- effective leadership
- school intervention

Books include:

- Designing & Teaching Learning Goals & Objectives*
- District Leadership That Works*
- Formative Assessment & Standards-Based Grading*
- On Excellence in Teaching*
- The Art and Science of Teaching*
- NEW!** *The Highly Engaged Classroom*



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What are learning goals?

A learning goal is a statement of what students will understand or be able to do.

For example:

- Students will understand direct and indirect democracies.
- Students will be able to do three-column addition.



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Learning Activities Goals

- As a result of what we do today, you will:
- Understand...
- Be able to...

- Today's assignment
- Read pages 12–16
- Complete 10 equations
- Finish writing paragraph

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Learning Goals or Activities/Assignments

Students will be able to recognize the protagonist, theme, and voice of a piece of literature.		
Students will produce a book report on a book of their choice, including a table of contents, with proper pagination and format throughout.		
Given a set of coordinates, students will be able to graph the slope of a line.		
Students will compare and describe the slopes of two lines.		
Students will understand the differences and similarities between metamorphic, igneous, and sedimentary rock.		
Students will understand how the Borgia family influenced the renaissance.		
Students will be able to explain how the problems created by the French and Indian War contributed to causes of the American Revolution.		
Students will produce a play dramatizing aspects of how the problems created by the French and Indian War contributed to causes of the American Revolution.		
Students will understand that matter is made up of atoms and that atoms, in turn, are made up of sub-atomic particles.		
Students will write a paper describing the relationships among atoms and subatomic particles.		

State Learning Goals *in a Specific Format*

Content knowledge can be organized into two broad categories:

Declarative knowledge or Procedural knowledge

- **Declarative** knowledge is informational in nature.
- **Procedural** knowledge involves strategies, skills and processes.

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State Learning Goals *in a Specific Format*

The format for writing a declarative or procedural learning goal is:

- Students will understand _____
- Students will be able to _____

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Declarative and Procedural Learning Goals

- Students will understand the characteristics of the barter system.
- Students will understand that plants and animals have life cycles—growth, reproduction, and death.
- Students will be able to do long division.
- Student will be able to use the c-v-c rule to sound out unknown words.

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Declarative and Procedural Learning Goals

Occasionally a learning goal involves a substantial amount of **declarative and procedural knowledge**. In such cases, a useful format for writing a learning goal is:

- Students will understand _____ and be able to _____

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Declarative and Procedural Learning Goals

To illustrate, the following is a learning goal for the topic of number sense at the third grade that includes both declarative and procedural knowledge:

- Students will understand the defining characteristics of whole numbers, decimals, and fractions with like denominators, and will be able to convert between equivalent forms as well as represent factors and multiples of whole numbers through 100.

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Identifying Declarative versus Procedural Knowledge

Creating a line graph to represent data			
Describing the events that led to the Cold War			
Determining breathing rate and heart rate			
Refusal skills			
Characteristics of chance events			
Keyboarding techniques			
Keeping in rhythm			
The relationship between the seasons and the tilt of the earth			
Survey sampling technique			
Front-end rounding			

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Learning Goals That Are Specific

In general, specific goals have a more powerful effect on student achievement than do general learning goals.

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The Problem in Practice

Often, teachers are provided with general statements of learning that must be translated into specific learning goals to be useful instructionally.

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Typical general statements found in content-standards documents

- Understands the basic concept of a democracy
- Understands and uses a variety of sentence types
- Understands the concept of Natural Selection
- Understands and applies the concept of function

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Writing a Learning Goal

To translate general statements into learning goals, a teacher must articulate the more specific declarative and procedural knowledge implied in the general statement.

For example:

Understands the basic concept of democracy

It is implied that the student will understand specific defining characteristics of democracies.

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Creating Specific Learning Goals

Teacher content knowledge and expectations of students (grade level, content area) aid in translating general statements into specific learning goals.

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Figure 2.3

Learning Goals and Assessment Tasks

Subject Area	Learning Goal	Assessment Task
Language arts	Students will be able to use syllabication to sound out words.	Break each of the words below into syllables using the format provided, and then put the syllables back together to sound out the word.
Math	Students will be able to find the volume of a cylinder given its circumference and height.	The cylinder in the drawing below has a circumference of 42 cm and a height of 26 cm. Find the volume of the cylinder, showing your work.
Social studies	Students will understand the major events of the Vietnam War and the order in which they occurred.	Create a timeline that orders the following events: the Gulf of Tonkin Resolution, the Battle of the La Drang, and the Tet Offensive. In the space provided, briefly explain the significance of each event.
Science	Students will understand the key characteristics of warm-blooded animals (internal maintenance of temperature, live births).	From the group of pictures of animals provided, select an animal that is warm-blooded. Briefly explain what makes the animal warm-blooded and what excludes another animal from the same group.

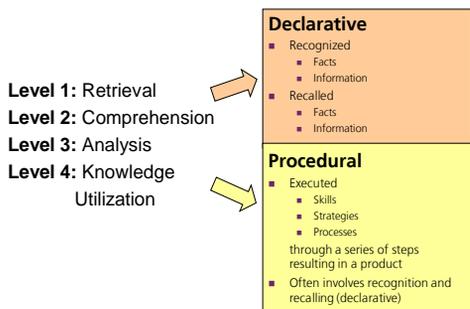
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Goals at Multiple Levels of Difficulty

- **Level 1:** Retrieval
- **Level 2:** Comprehension
- **Level 3:** Analysis
- **Level 4:** Knowledge Utilization

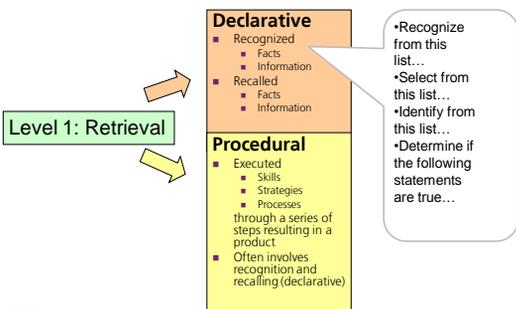
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How Systems of Thought Process Domains of Knowledge



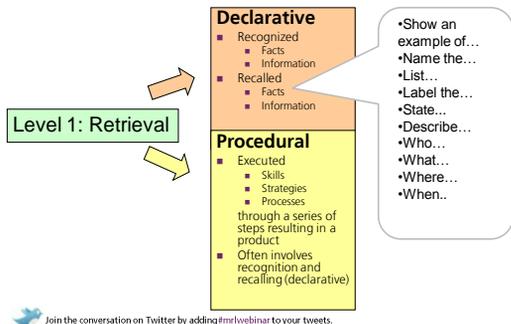
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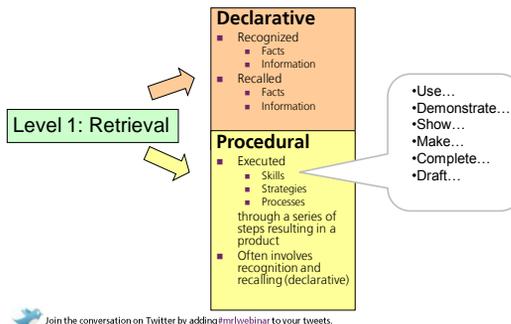


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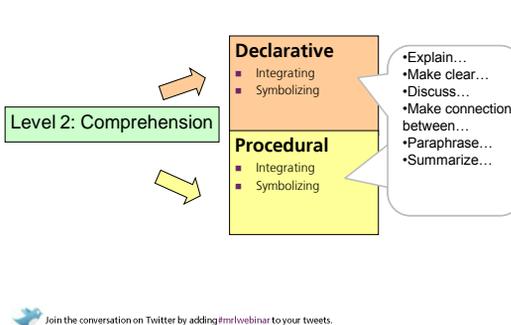
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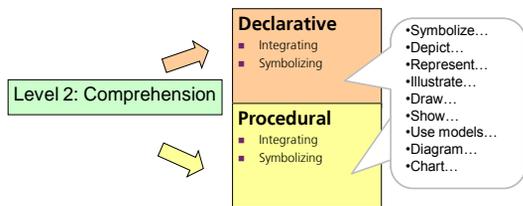
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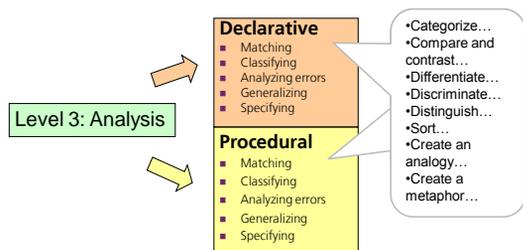


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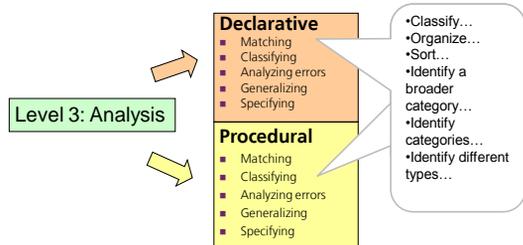
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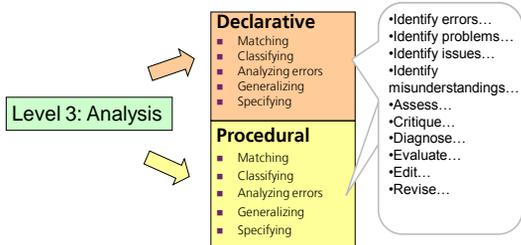
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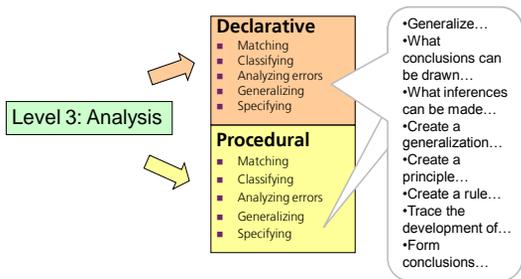
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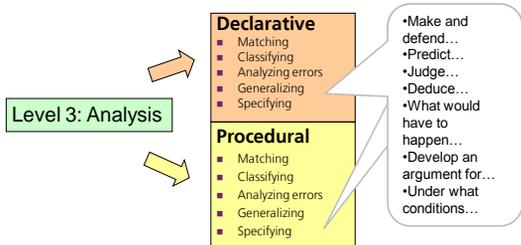
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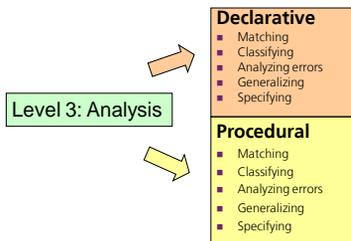
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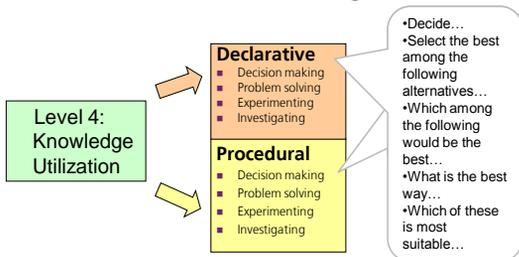
Now you try it!

Team Activity: Exercise 3.3



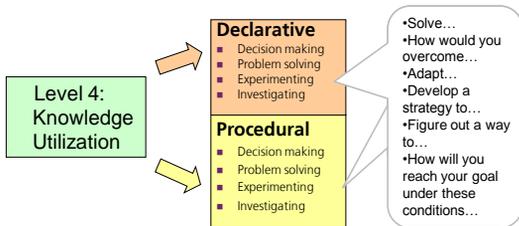
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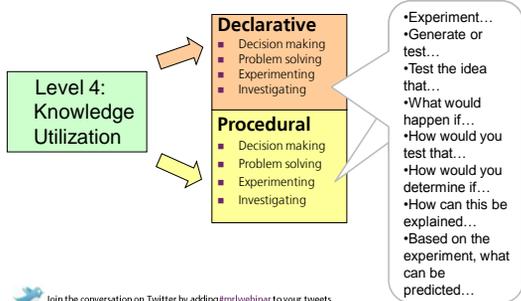
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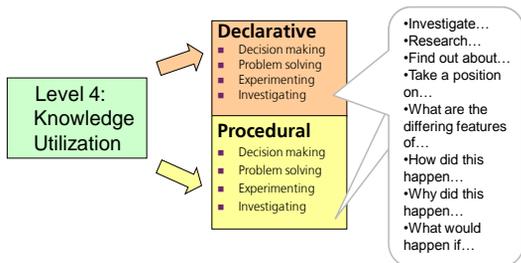
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	Beginning: Partial understanding with help	Progressing: Simpler goal	Proficient: Target Goal	Advanced: More complex goal
Procedural knowledge		Students will be able to use elements of persuasive writing in highly structured assignments.	Students will be able to write a persuasive essay using appropriate sources within a format provided by the teacher.	Students will be able to select the most appropriate format for a persuasive essay on a chosen topic and use multiple sources to address an argument and any possible counter-arguments.

Then consider more complex goals

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What do we mean by a "System of Learning Goals"

- Learning goals that are specific and aimed at a desired level of difficulty
- Appropriate instructional activities aligned with the goals
- Assessment tasks designed to determine students' progress on the learning goals
- Adjustments in grading practices

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How many learning goals should I have? Let's do the math . . .

- At 36 weeks in the school year and 2 weeks per unit – approximately 18 units of instruction
- At 2-3 academic goals per unit – 36-54 academic learning goals
Rule of thumb: midpoint – 45
- At one nonacademic goal per unit – 18

BUT . . .

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Some goals last longer than one unit

- Name a "longer-term" academic learning goal.
- Name a "longer-term" nonacademic learning goal.

SO...it's not *really* 45 and 18.

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We have even more learning goals than that!

- Goals can be clustered into reporting topics.
- Reporting topics can be clustered into strands.
- Discuss Figure 5.1

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Think big picture / all year.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	...
1	x	x																
2			x	x	x													
3		x				x	x	x										
4				x					x	x								
5					x			x			x							
6										x	x	x						
7							x						x	x				
8									x						x	x		
9														x			x	x

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Think big picture / all year.

UNIT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	...
1	x									x								
2		x									x							
3			x									x						
4				x									x					
5					x									x				
6						x									x			
7							x									x		
8								x									x	
9									x									x

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Conversion Scale 4-point rubric to traditional grades

Average Rubric Score	Traditional Grade	Average Rubric Score	Traditional Grade
3.51-4.00	A	2.17-2.33	C
3.00-3.50	A-	2.00-2.16	C-
2.84-2.99	B+	1.84-1.99	D+
2.67-2.83	B	1.67-1.83	D
2.50-2.66	B-	1.50-1.66	D-
2.34-2.49	C+	.00-1.49	F

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Grading that rewards **Growth**

End of Qtr. 1	Grade	End of Qtr. 2	Final Grade
2.0		3.0	
2.5		3.0	
3.0		3.0	
2.0		3.0	
3.0	Average: 2.5 Grade: B-	4.0	
		2.5	
		3.0	
		2.0	
		3.0	Average: 2.9
		2.5	Grade: B+

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Advantages of Continuous **Improvement**

- Students can move at their own pace through the system of goals.
- Independent study option available
- Better match to state and district benchmarks which are aimed toward achievement by *the end of the year*
- Students are motivated to greater effort by prospect of grade that reflects growth.

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Questions?



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