<u>Marzano's (Nine) High-Yield Instructional Strategies</u>

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Adapted from the book: <u>Classroom Instruction that Works: Research-based Strategies for Increasing Student Achievement,</u> by Robert Marzano (2001)

High Yield Instructional Strategies	What the Research says:	How it looks in the Classroom:
Identifying similarities and differences (Yields a 45 percentile gain)	Students should compare, classify, and create metaphors, analogies and non-linguistic or graphic representations	Thinking Maps, T-charts, Venn diagrams, classifying, analogies, cause and effect links, compare and contrast organizers **QAR (Question/Answer/Relationship)**, **sketch to stretch, affinity diagrams, Frayer model (see below)**
Summarizing and note taking (Yields a 34 percentile gain	Students should learn to eliminate unnecessary information, substitute some information, keep important information, write / rewrite, and analyze information. Students should be encouraged to put some information into own words.	Teacher models summarization techniques, identify key concepts, bullets, outlines, clusters, narrative organizers, journal summaries, break down assignments, create simple reports, **quick writes, graphic organizers, column notes**, **affinity diagrams,** etc.

Reinforcing effort and providing recognition (Yields a 29 percentile gain)	Teachers should reward based on standards of performance; use symbolic recognition rather than just tangible rewards.	Hold high expectations, display finished products, praise students' effort, encourage students to share ideas and express their thoughts, honor individual learning styles, conference individually with students, authentic portfolios, stress-free environment, high-fives, Spelling Bee, Constitution Day, School Newspaper, etc.
Homework and practice (Yields a 28 percentile gain)	Teachers should vary the amount of homework based on student grade level (less at the elementary level, more at the secondary level), keep parent involvement in homework to a minimum, state purpose, and, if assigned, should be debriefed.	Retell, recite and review learning for the day at home, reflective journals, parents are informed of the goals and objectives, grade level teams plan together for homework distribution; SLCs; teacher email.
Nonlinguistic representations (Yields a 27 percentile gain)	Students should create graphic representations, models, mental pictures, drawings, pictographs, and participate in kinesthetic (hands-on) activities in order to assimilate knowledge.	Visual tools and manipulatives, problem-solution organizers, spider webs, diagrams, concept maps, drawings, charts, thinking maps, graphic organizers, sketch to stretch, storyboards, foldables, act out content, make physical models, etc.
Cooperative learning (Yields a 23 percentile gain)	Teachers should limit use of ability groups, keep groups small, apply strategy consistently and systematically but not overuse. Assign roles and responsibilities in groups.	Integrate content and language through group engagement, reader's theatre, pass the pencil, circle of friends, cube it, radio reading, shared reading and writing, plays, science projects, debates, jigsaw, group reports, choral reading, affinity diagrams, Students tackle TAKS word problems in groups and explain their answers, etc.
Setting objectives and providing feedback (Yields a 23 percentile gain)	Teachers should create specific but flexible goals, allowing some student choice. Teacher feedback should be corrective, timely, and specific to a criterion.	Articulating and displaying learning goals, KWL, contract learning goals, etc. Teacher can display objectives on the in-focus projector and follow-up on the mastery of the objective at the end of the lesson.

Generating and testing hypothesis (Yields a 23 percentile gain)	Students should generate, explain, test and defend hypotheses using both inductive and deductive strategies through problem solving, history investigation, invention, experimental inquiry, and decision making.	Thinking processes, constructivist practices, investigate, explore, social construction of knowledge, use of inductive and deductive reasoning, **questioning the author of a book, finding other ways to solve same math problem,** etc.
Questions, cues, and advance organizers (Yields a 22 percentile gain)	Teachers should use cues and questions that focus on what is important (rather than unusual), use ample wait time before accepting responses, eliciting inference and analysis. Advance organizers should focus on what is important and are more useful with information that is not well organized.	**Graphic organizers,** provide guiding questions before each lesson, think alouds, inferencing, predicting, drawing conclusions, skim chapters to identify key vocabulary, concepts and skills, **foldables,** annotating the text**,** etc.

HIGH-YIELD INSTRUCTIONAL STRATEGIES
SIMILARITIES AND DIFFERENCES

There are four basic types of tasks that focus on identifying similarities and differences for knowledge development:

→Comparing
→Classifying
→Creating Metaphors
→Creating Analogies

Identifying similarities and differences

T-Chart

Looks like………..Sounds like
Cause……………..Effect
Compare…………..Contrast
Pro……………Con

Identifying similarities and differences

Comparison Matrix

	Name 1	Name 2
Attribute 1		
Attribute 2		
Attribute 3		

Used to show similarities and differences between two things (people, places, events, ideas, etc.).

Key frame questions: What things are being compared?
How are they similar? How are they different?

Identifying similarities and differences

Cause and Effect Links

A *cause* is something that makes something else happen. Out of two events, it is the event that happens first. To determine the cause, ask the question "Why did it happen?"

An *effect* is what happens as a result of the cause. Of two related events, it's the one that happens second or last. To determine the effect, ask the question "What happened?"

At times conjunctions (connecting words) are used to link the cause and effect. Examples of common conjunctions (connecting words) are:

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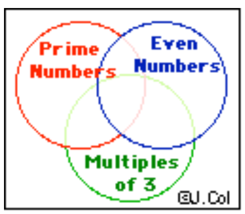
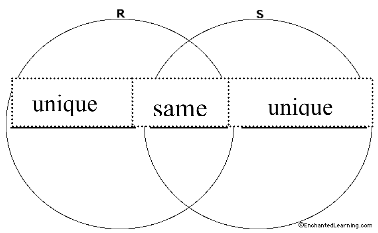
since	**as a result**	**because**	**the cause of**
therefore	**consequently**	**due to the fact**	**nevertheless**
the reason for	**thus**	**so**	**has led to**
	due to + noun phrase	**because of +noun phrase**	

Identifying similarities and differences

Venn Diagrams





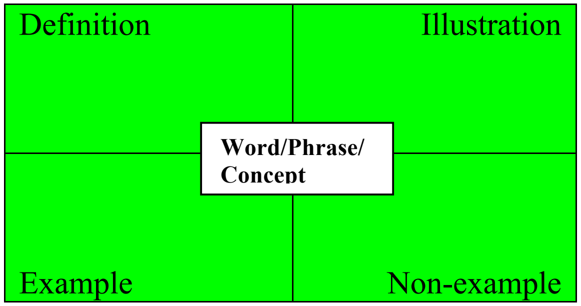
Identifying similarities and differences

Compare and Contrast Text/Character Comparison

The Life Events of: ______	Me, Too	Explanation

Identifying similarities and differences

Frayer Model



Identifying similarities and differences

Sketch to Stretch

1. Students listen as a story, article, or poem is read to them.

2. Students draw a picture that expresses:

- how the story, article or poem makes them feel
- what they think story, article or poem story means
- what they think the author looks like
- anything that comes to mind during the reading

3. Students explain their drawing to a partner/small group.

The class discusses the similarities/differences in their pictures.

Question/Answer/Relationships (QAR)
(Also related to "Book and Brain")

"Right there" (in the text) --book ques.-- 	"Think and Search" (text + my thinking) --book and brain-- 	"In my head" (my thinking only) --brain ques.-- --have to infer 

Identifying similarities and differences

Classifying

__ate family

__at family

Sort the word cards (or pictures) into the correct bucket.

Identifying similarities and differences

Comparing Frame

FRACTIONS and **DECIMALS** are **similar because** they both

____

____

____

FRACTIONS and **DECIMALS** are **different because**

fractions ________, but **decimals** ________.
fractions ________, but **decimals** ________.
fractions ________, but **decimals** ________.

Identifying similarities and differences

Creating Analogies

Analogies help us see how seemingly dissimilar things are similar, increasing our understanding of new information.

Ex: core is to earth as nucleus is to atom.

Thermometer ***...is to...*** Temperature

as

odometer ***...is to...*** speed

(Both measure things)

Identifying similarities and differences