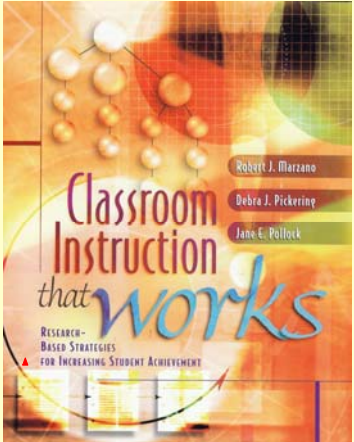


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It's all about the teaching!


Mid-continent Research for Education and Learning (McREL) meta-analysis of 100 studies involving 4000+ control groups.

1


Content and Strategies




2



Least effective teacher
14 percentile points




Average teacher
34 percentile points



Most effective teacher
53 percentile points

3



Mike Schmoker's "Results Now,"
Association for Supervision and Curriculum Development, 2006

Teaching = x6 to x10 more important than ALL other factors combined.

4

Marzano:


Same socioeconomic population

Least effective teacher - 27 percent of students will pass;

Most effective - 72 percent of students will pass

A life-changing difference!

5



Surprised?

6

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Validate what you are
doing

A new piece of
the puzzle



7

Instructional strategies

Classroom Instruction That Works, Marzano, Pickering, Pollock ASCD 2001

1. Identifying similarities & differences
2. Summarizing & note taking
3. Reinforcing effort & providing recognition
4. Homework & practice
5. Nonlinguistic representations
6. Cooperative learning
7. Setting objectives & providing feedback
8. Generating & testing hypotheses
9. Cues, questions and advance organizers

8

Strategies that make kids



think



9

1
Identifying
similarities and
differences

10

Identifying similarities and
differences is explicit in:

Comparing/contrasting

Classifying

Creating metaphors or
analogies


11

Teach it in a highly
structured manner!

12

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What does it mean to compare and contrast?

"They're hideous, aren't they?"

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Let's compare men and fish

What is the frame of reference?


Which characteristics are most important to us?

Are we aiming for a general idea of similarities and differences, or do we need to be specific about some aspect?

What rules govern the membership in a particular group?

How will we organize our findings?



14

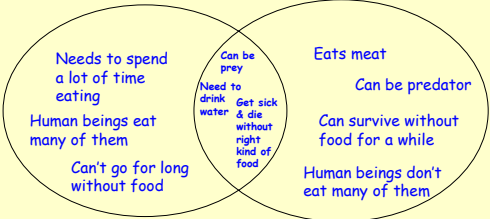


Use graphic organizers to identify similarities and differences

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Venn Diagram

Herbivores  Carnivores 



Needs to spend a lot of time eating
Human beings eat many of them
Can't go for long without food

Can be prey
Need to drink water
Get sick & die without right kind of food

Eats meat
Can be predator
Can survive without food for a while
Human beings don't eat many of them

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Classification Matrix

Classify the following simple machines:
nail, oar, wheel, saw, pulley, ramp, nutcrackers, axe, broom, shovel, knife...

Inclined plane	Wedge	Screw	Lever	Wheel & axle	pulley

17

Metaphors - things are connected by an abstract or non literal connection



The food chain

????????????????????????????????

18

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Verbal

"... you don't catch the terrorist fish by machine-gunning them from the sky, but by draining the sea of grievance in which they swim."

Jonathan Freedland, *The Age*, January 12th 2007.

19

Visual



20

Analogies - help us see the similarities in apparently dissimilar things

A is to B as C is to D
hot is to cold as day is to night

carpenter is to hammer as painter is to brush

Shakespeare is to literature as is to painting

21

- Oxygen is to humans as ? is to plants
- Tsunami is to wave as ? is to tremor
- Core is to earth as ? is to atom
- Newton is to force & motion as ? is to air pressure
- 25 is to 100 as $\frac{1}{4}$ is to

22

2 Summarizing & note taking

23



What's important?

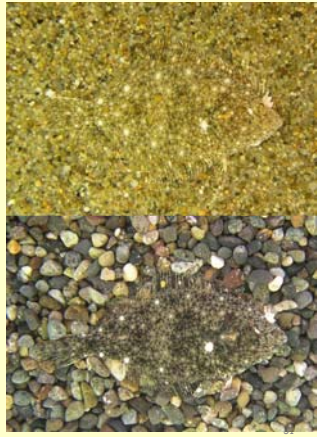
What's trivial?

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Camouflage

to exploit
the natural
surroundings
to disguise
something



timelines

maps

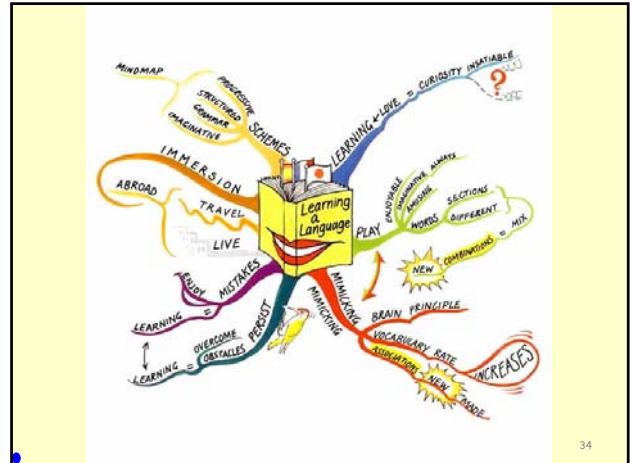
mind maps

bodies and dramatizations

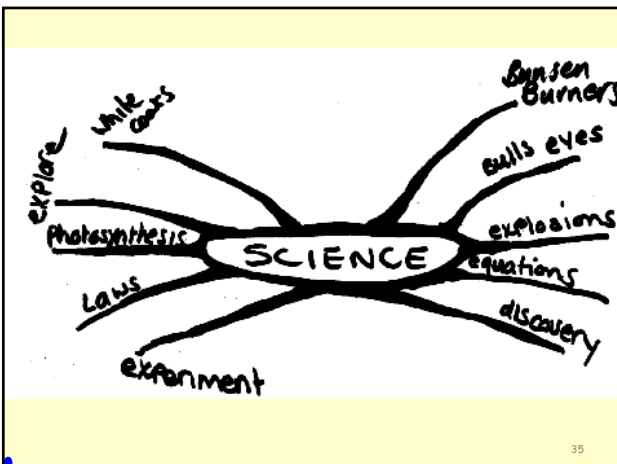
32



33



34



35

8
Generating &
testing
hypotheses

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Powerful

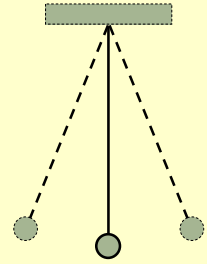


Pushes the known
into the unknown



Clarity of thinking

What
happens to
the
pendulum if
its string is
longer?



Initially thinking, not doing.

9
Cues, questions
& advance
organizers

The Earth

(this is the cue)

What do you know about
the history of the earth,
its structure and how it
changes?"

Activate prior knowledge

Reveal misconceptions

What to expect

Focus on what's relevant

Provide material for the advance organizer

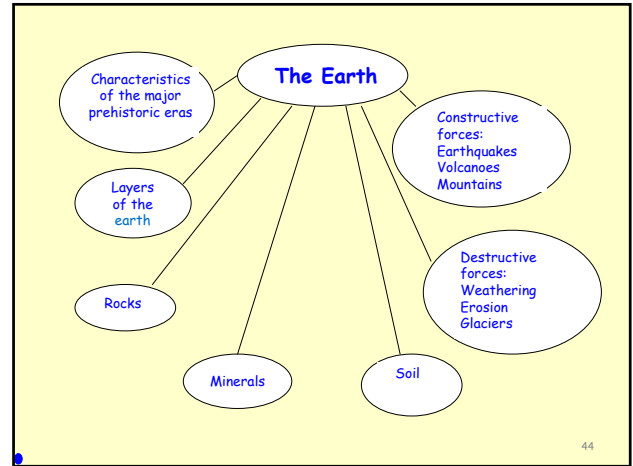
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The advance organizer

Thinking deeper

"We are going to be studying the earth by looking at the following areas:

43



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Collate & Organize

know what they know

know something about what they don't know

know what they are going to learn

have a clear structure to put it in

45

Hooray - there's a bonus!!!

You now have a structure for assessment



46

Making sure the strategies happen

Keep a copy of them at hand when planning

Share ideas with colleagues during planning meetings

Make teaching **strategies** the focus of planning rather than content

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You cannot have strategies without content

You can have content without strategies!

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It's all
about the
teaching!

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We invite your continued contact with us



Thinking & Learning In
Concert

... promoting the harmonious integration
of skillful thinking and learning

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