

# Effective Teaching Strategies (ETS)



Dennis Yarmouth Public Schools  
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# Welcome Back!

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► <https://www.youtube.com/watch?v=xZzEzDkeHzI>

1) Please **complete the ETS pre-assessment** without talking or sharing.

► Please **submit** when you have completed.

✓ 2) Please **skim** the **Getting Acquainted with the Essential Nine** document Star (\*) the strategies used the **most**, check those used the **least**

► THANK YOU!

# Optimal Learning Environment

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## Norms

- ▶ **Respect** all participants
- ▶ **Engage** completely
  - ▶ Participate in all activities and attend the entire seminar
  - ▶ Be accountable to the task at hand/Maintain focus
  - ▶ Place cell phones in “manner mode”
- ▶ **Be responsible** for your own learning
- ▶ **Collaborate/Enjoy!**

# Take 5---Get 3!

WALK AROUND THE ROOM AND GET 3 NEW

- ❖ IDEAS
- ❖ TIPS
- ❖ SUGGESTIONS/RECOMMENDATIONS
- ❖ APPS (EDUCATIONAL OR OTHERWISE)

FROM 3 OF YOUR COLLEAGUES WRITE DOWN THE IDEA AND THE PERSON WHO GAVE YOU THE IDEA IN YOUR ETS NOTEBOOK-GIVE COLLEAGUES IDEAS TOO!

Without an excellent, intentionally designed, **emotional environment** (one which builds **authentic community** in the classroom), the standards and the technologies are of little value. As Steven Covey and many others have said, "First things first!"

What do you do to **intentionally build community** in your classes?



# The Purpose of PD

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- ▣ The **purpose** of staff development is not just to implement isolated instructional innovations; its central purpose is to **build strong, collaborative work cultures** that will develop the **long-term capacity for change.**

-Michael Fullan



# Characteristics of Effective Professional Development under ESSA

- ▶ Professional development must be 'sustained, (not stand-alone, 1-day, and short-term workshops), intensive, collaborative, job-embedded, data-driven, classroom focused....'

# Effective Teaching Strategies Seminar Structure

**Day 1: Laying The Foundation-** Overview of Effective Teaching Strategies. Focus Strategies and Ideas for Application and Reflection

**Day 2 :Building our Capacity-** Focus on strategies Intentional, deliberate, purposeful, and collaborative decision making by educators who view planning as a natural extension of the instructional teams (Data teams/PLCs) process.



# ETS Seminar Objectives

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- ▣ UNDERSTAND/HELP OTHERS UNDERSTAND the connection between thorough lesson planning, effective instruction, and student learning
- ▣ KNOW/ASSIST OTHERS IN KNOWING a variety of research-based, effective teaching strategies

In order to...

- ▣ APPLY/ASSIST OTHERS IN APPLYING the strategies in context (before, during, and after learning)
- ▣ DEMONSTRATE/ASSIST OTHERS IN DEMONSTRATING readiness for implementing best practices

# My Personal Learning Goals

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- ▶ Please Record Your **Personal Learning Goals and Objectives** in your notebooks.

- ▶ Helpful stems include:

The seminar will be a success if...

I personally want/need to learn more about...

When this seminar is over I will better understand...and or be able to... in order to....

- \* Consider doing this for your 2016-2017 academic year and have students do the same goals for the year/semester/quarter/unit. How do educators design their goals?

# Let's Begin With The End In Mind...

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- ▶ What will I do to develop and support effective lesson/unit planning and data analysis which incorporates our deliberate use of “effective” strategies” *Art & Science, p. 174*

# Essential Questions

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What are Effective Teaching Strategies?

Why use Effective Teaching Strategies?

How do Effective Teaching Strategies connect to other pedagogical elements?

How do I apply Effective Teaching Strategies in my classroom or support the use of in others' classrooms?

How do Effective Teaching Strategies connect to student learning/educator evaluation/professional growth?

# Putting The Pieces Of The Puzzle Together

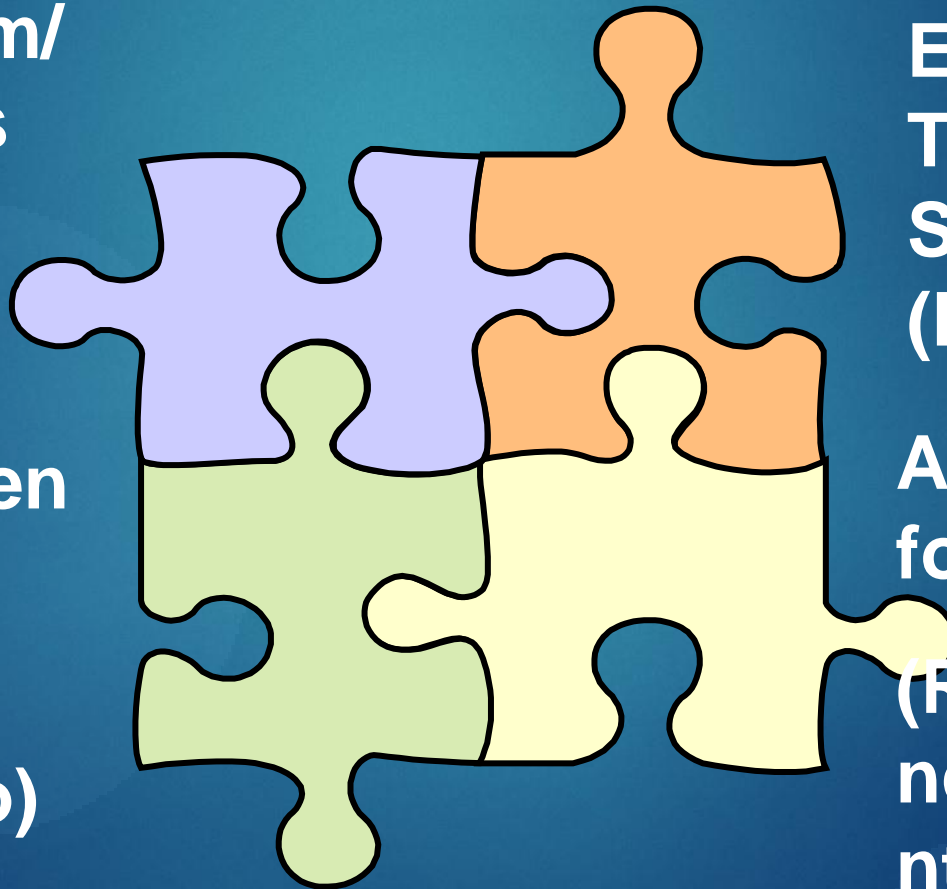
13

**Curriculum/  
Standards**

**(What)**

**Data-Driven  
Decision  
Making**

**(Why/Who)**



**Effective  
Teaching  
Strategies  
(How)**

**Accountability  
for Learning  
(Results/Evidence/  
Assessments/When)**



# 3 Elements Of Effective Pedagogy

- ▣ Instructional Strategies
- ▣ Management Techniques
- ▣ Curriculum/Assessment Design
  - In this workshop the focus is on **one element** of effective pedagogy – **Effective Instructional Strategies** but we will discuss natural connections to the other two
  - Connected to Educator **Evaluation Standard I and Standard II and Standard IV**

# ETS: The Connection To Data Teams And The 5 Step process

- ▶ 1) Chart the Data
- ▶ 2) Identify Strengths and Challenge areas in the data
- ▶ 3) Construct the SMART goal
- ▶ 4) Brainstorm and Select Instructional Strategies
- ▶ 5) Identify Results Indicators

# ETS Learning Tracker

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- ▶ Capture the learning in chunks to increase retention and application
  - ▶ Look to the ETS Strategy Template for guidance on note taking if necessary
  - ▶ House ideas/notes for future application
  - ▶ Deepen understanding of the strategy by actively processing
- 
- ▶ How would you use a learning tracker in your classroom for a unit of instruction?

# What Does “Effective” Mean?

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“The *reflective process* is at the very heart of accountability. It is through reflection that we distinguish between the popularity of teaching techniques and their effectiveness. The question is *not* ‘*Did I like it?*’ but rather ‘*Was it effective?*’ ”

(Reeves, D. B., *Accountability for Learning*, 2004, p. 52)

And.....*how do you know?*

# What are the Most Effective Teaching Strategies? Why?

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- ▶ EFFECTIVE: Actions of the teacher that elevate or lift cognition of learners
- ▶ The simple question is, “Is it working for you and your students as evidenced by learning outcomes?”
- ▶ What teaching strategies are most commonly used in your schools that DO NOT WORK?
- ▶ WHY?
- ▶ \* Think Pair Share



# Resources

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- ▶ *Classroom Instruction That Works*

Robert J. Marzano et. al, 2001 and 2<sup>nd</sup> edition

- ▶ *A Handbook For Classroom Instruction That Works*

Robert Marzano et. al, 2001

- ▶ *The Art And Science of Teaching*

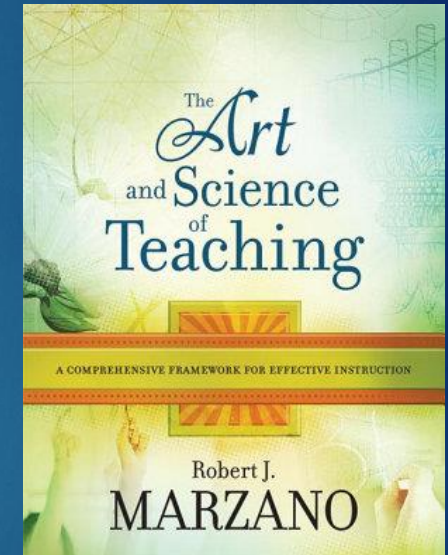
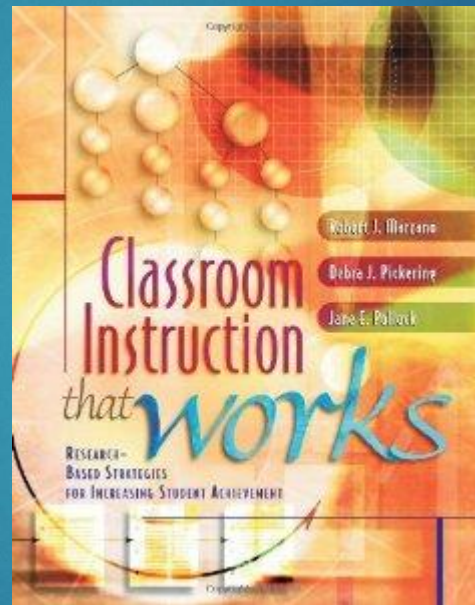
Robert J. Marzano, 2007

- ▶ Research For Better Teaching (RBT)

Handouts/Materials 2000-2005

# Who is Robert (Bob) Marzano?

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## 2 Key Findings

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1) Teachers Matter 2) At Least Nine High Probability Strategies Exist

- ▶ From James Coleman (1966) to Robert Marzano (2001, 2015)
- ▶ *Equality of Educational Opportunity* (Coleman Report) failure by zip code or parent diploma
- ▶ *Classroom Instruction That Works*, 2001
- ▶ Wright, Horn & Sanders 1994

# There Are Nine High Probability Effective Teaching Strategies

1. Identifying Similarities and Differences
2. Summarizing and Note Taking
3. Reinforcing Effort and Providing Recognition
4. Homework and Practice
5. Nonlinguistic Representation
6. Cooperative Learning
7. Setting Objectives, Providing Feedback
8. Generating and Testing Hypotheses
9. Cues, Questions, and Advance Organizers

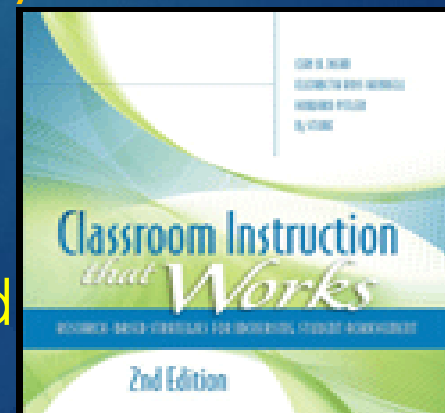
**R.J. Marzano, D.J. Pickering, J.E. Pollock,  
*Classroom Instruction That Works*, 2001**



# Updates

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- ▶ Doug Reeves adds a 10<sup>th</sup> Strategy-  
purposeful non-fiction writing –associated  
with CCSS W4
- ▶ Does not appear in the *Classroom  
Instruction That Works* publication.
- ▶ Reclassification in 2<sup>nd</sup> edition – 3 domains:  
Creating an Environment for Learning  
(Massachusetts Indicator IIB) Helping  
Students Develop Understanding, (IA, IB)  
Helping Students Extend and Apply  
Knowledge (I and II)
- ▶ \* Remember your role by supporting  
teachers in this work is part of Standard





# A Word of **Caution** From Robert Marzano....

- ▶ Setting the Record STRAIGHT on “High-Yield” Strategies
- ▶ “Watching your work adopted by educators across the nation is flattering, but not if it’s widely **misinterpreted.**”



# A Word of Caution From Robert Marzano

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- ▶ Are some instructional strategies more effective in certain subject areas? Are some instructional strategies more effective at certain grade levels? Are some instructional strategies more effective with students from different backgrounds? Are some instructional strategies more effective with students of different aptitudes? (p. 9)
- ▶ With regard to the district focus on teaching students of poverty, how does this relate when considering background?



# Identifying Similarities And Differences

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▶ Activator Glick &  
Holyoak

# Identifying Similarities and Differences

Designate a number 1-5 to each participant .  
Please read your section and summarize key points to report out to the group. You will have approximately 3 minutes to share your summary.

#1----13-16—Research and Theory

#2----17-19---Comparing

#3-----20-22---Classifying

#4-----23-25---Metaphor

#5-----26-28---Analogy

- After all participants are done reading, share out 3 minutes per section. Designate a time keeper.
- Jigsaw as a cooperative learning strategy

# Identifying Similarities And Differences

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- ▶ Basic to human thought
- ▶ Teacher guided
- ▶ Student constructed
- ▶ Graphic or symbolic form enhances students' ability to use knowledge
- ▶ Can be accomplished in a variety of ways--There are 4 Highly Effective Forms:

Comparison

Classification

Metaphor

Analogy



# Comparing

- The key to an effective comparison is the identification of important characteristics
- Teacher Directed Comparison Tasks are created for all students to have a general awareness of teacher-generated characteristics
- Student Directed Comparison Tasks are when students determine the characteristics and or items to be compared
- Graphic Organizers for Comparing are the Venn, Double Bubble, and Comparison Matrix
- Other?

# Comparison Matrix

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- ▶ Your Choice! Working together as a group
- ▶ **Teacher - Directed Task**- Fill out the Physical Education Matrix Provided with your group
- ▶ **Student Directed Task** – Create a Comparison Matrix for the 3 individuals on the screen using the template- You must create your own elements. Be prepared to share

# Compare These Three People

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# Classifying

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- ▶ With your folder group, classify what is in your ziplock bag. Feel free to stand, use the table, move cards around etc. Come to consensus on your method for classification.



# Classifying

- ▣ A critical element to effective classification is identifying the rules that govern class or category membership.
- ▣ Teacher Directed Classification- the teacher has determined the elements and categories.
- ▣ Student Directed Classification –students are given the items but must determine the categories.
- ▣ Graphic Organizers for classification include tables, charts –links to technology

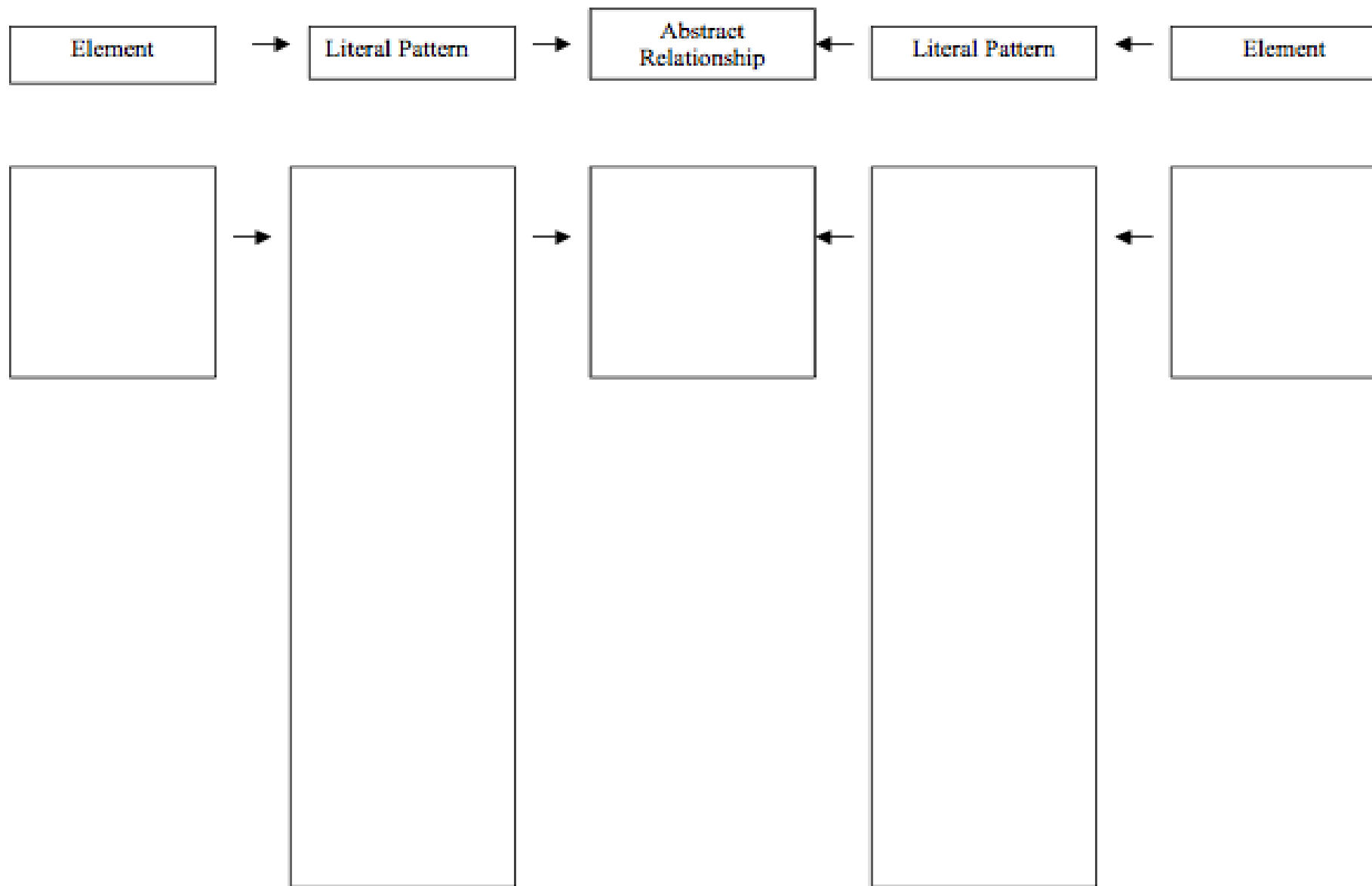


# Metaphor

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- ▣ ...the process of identifying a general or basic pattern in a specific topic and then finding another topic that appears to be quite different but has the same pattern.
- ▣ ...carry meaning from one word, image or idea to another.
- ▣ The key to metaphor is at understanding the connections or patterns between two things on an abstract non-literal level.
- ▣ Teacher directed metaphor- Teacher provides 1<sup>st</sup> element and abstract relationship, student fills in the second element.
- ▣ Student directed metaphor --Students create their own or only receive the 1<sup>st</sup> element and fill in the relationship or 2<sup>nd</sup> element.
- ▣ Purposefully use metaphor in class- point out when metaphors are used

## Metaphor Diagram



# Analogyes

.TYPICALLY TAKE THE FORM  
 $A:B::C:D$

- THE PROCESS OF IDENTIFYING THE RELATIONSHIP BETWEEN PAIRS OF CONCEPTS—IN OTHER WORDS, IDENTIFYING THE RELATIONSHIP BETWEEN RELATIONSHIPS.

# Analogy Example

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- ▶ Oxygen is to humans
- ▶ As
- ▶ \_\_\_\_\_ is to  
plants

# Analogyes

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- Teacher directed analogyes—provide 3 or 4 of the elements
- Student directed analogyes-provide 2 of the elements
- Graphic organizer for analogyes helps emphasize the importance of identifying the relationship before completing the analogy.

How could you incorporate analogyes into your class?



# Analogy Graphic Organizer



is to



Relationship:

---

as



is to



| Relationship Type    | Description   |
|----------------------|---|
| Semantic             | Meaning, definition, synonym, antonym, contrast, degree, intensity, word parts, expressions               |
| Classification       | Hierarchy, classification, category, membership, whole/part   |
| Association          | Object/characteristic, order, sequence, transformation, agent/object, creator/creation, function, purpose |
| Logical/Mathematical | Mathematical equivalence, multiples, negation, letter or sound patterns                                   |
| Content Area         | Description   |
| General              | Culture, work, business, life experience  |
| Humanities           | History, fine art, literature, philosophy, religion, music  |
| Mathematics          | Numerical, quantitative, computation  |
| Language             | Vocabulary, word meanings, grammar, usage   |
| Natural Sciences     | Biology, chemistry, physics, ecology  |
| Social Sciences      | Psychology, sociology, economics, political science, anthropology   |

# Analogy resources

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- ▶ <http://www.wordmasterschallenge.com/sample-analogies-word-lists>
- ▶ <http://www.englishforeveryone.org/Topics/Analogies.htm>
- ▶ <http://www.majortests.com/mat/miller-analogy-test01>

# Quick quiz

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- ▶ 1) Name a graphic organizer for **comparison**.
- ▶ 2) Which strategy assists students in seeing **relationships between relationships**?
- ▶ 3) What is the **key to an effective comparison**?
- ▶ 4) What is one way to enhance student knowledge based on the generalizations from the research on Similarities and Differences?
- ▶ 5) How would you apply ( or assist educators in applying) this strategy to **your content area or grade level** ?
- ▶ \* Quizzing is key to end an effective jigsaw.

# Reflection

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## Reflecting and Planning for Strategy #1

### Identifying Similarities and Differences

How will you use this in class or how will you support teachers in using in their classes?

What standards align with this strategy?

Record ideas on your Learning Tracker or in your Academic Notebook



# Summarizing and Note Taking

## Anticipation Guide

Please write down if you **Agree or Disagree** with the following statements. (A/D)

- 1) Understanding the structure of a piece is key to summarizing it.
- 2) Verbatim note taking is the best way to take notes
- 3) The more notes the better
- 4) Deleting some information is important to summarize
- 5) Taking notes in outline form is the best way to take notes
- 6) Notes should be revised
- 7) Notes should be used as a study guide

# Summarizing

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- ▶ Please Read the article provided and create provide of a summary of what you have read. You may record your summary in your academic notebook.

# Summarizing

- ▶ Requires the ability to keep, delete, and substitute information
- ▶ Requires the ability to analyze information deeply
- ▶ Awareness of the structure of information aids in summarizing the information
- ▶ Summarizing strategies include: The rule based strategy, summary frames, and reciprocal teaching

# Summarize With The Rule Based Strategy

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- ▶ Delete trivial material that is unnecessary to understanding;
  - ▶ Delete redundant material;
  - ▶ Substitute superordinate terms for lists (e.g., “flowers” for “daisies, tulips, and roses”);
  - ▶ Select a topic sentence, or invent one if it is missing.
- ▶ ( Brown, Campion, & Day 1981)

# Summarizing Using Summary Frames

- ▶ Being aware of the explicit structure of the information is an aid to summarizing information
- ▶ The teacher creates a series of questions that align to the structure to aid in student summarizing
- ▶ Narrative Frame
- ▶ Topic Restriction Frame
- ▶ Definition Frame
- ▶ Argumentation Frame
- ▶ Problem Solution Frame
- ▶ Conversation Frame



# Note Taking

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- ▶ Verbatim note taking is the least effective way to take notes
- ▶ Notes should be considered a work in progress
- ▶ Notes should be used as study guides
- ▶ Students refer to and enhance notes continually/the more notes the better
- ▶ Many approaches to taking notes
  - ▶ Two-column, Cornell, mixed, informal outline teacher-prepared, combination notes, academic notebooks, code the text, doodles, shared notes, tracker, etc.

# Reciprocal Teaching For Summarizing

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- ▶ Summarizing
- ▶ Questioning
- ▶ Clarifying
- ▶ Predicting

# Note Taking

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- ▶ Please **review the notes** you have taken from the seminar up until this point
- ▶ What do **you notice about what the way** you take notes?
- ▶ **Share** your notes with others
- ▶ Feel free to **adjust your notes**
- ▶ What **do you notice about how others** take notes?

# Note taking

52

- ▶ Verbatim note taking is the least effective way to take notes
- ▶ Notes should be a work in progress
- ▶ Notes should be used as study guides
- ▶ The more notes taken the better
- ▶ Teacher Prepared vs Student Directed
- ▶ Different formats use of graphic organizers Cornell Combination

<https://www.youtube.com/watch?v=oF9Z8fXQ2jk>



# Reflecting On Learning From Strategy #2 Summarizing And Notetaking

- How will you use this in class or how will you support teachers in using in their classes?
- What standards align with this strategy?
- Record ideas on your Learning Tracker or in your Academic Notebook

# Reinforcing Effort and Providing Recognition

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Think of a time when you accomplished something, to what did you attribute your success?

Talk to your table partners about your experience.

# Effort/Motivation

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Two generalizations from the research on Effort:

- ▶ “Not all students realize the importance of believing in effort.”
- ▶ “Students can learn to change their beliefs to an emphasis on effort.”

Marzano, *Classroom Instruction That Works*, p. 50

# Grit

- ▶ <http://www.edutopia.org/research-made-relevant-grit-perseverance-walk-video>



# What Can I Say To Myself?

## Instead of...

- I'm not good at this.
- I'm awesome at this.
- I give up.
- This is too hard.
- I can't make this any better.
- I just can't do math.
- I made a mistake.
- She's so smart. I will never be that smart.
- It's good enough.
- Plan A didn't work.

## Try thinking...

- What am I missing?
- I'm on the right track!
- I'll use some of the strategies we've learned.
- This may take some time and effort.
- I can always improve, so I'll keep trying.
- I'm going to train my brain in Math.
- Mistakes help me to learn better.
- I'm going to figure out how she does it so I can try it!
- Is it really my best work?
- Good thing the alphabet has 25 more letters!



# Effort And Its Relation To Achievement

- ▶ <https://www.youtube.com/watch?v=I10vxL0VJO0>
- ▶ Share videos and stories with students explicitly
- ▶ Create an effort/achievement rubric tracker
- ▶ Have students share their stories
- ▶ Carole Dweck “Mindset”– the importance of “Yet”
- ▶ Angela Duckworth “Grit”

# School Climate To Support Effort

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- ▶ Teacher responsibilities....
  - ▶ Demonstrate enthusiasm for youth and learning
  - ▶ Build personal, social, and academic relationships between self and among youth
  - ▶ Respect power-authority relationships
  - ▶ Ensure students have hope
  - ▶ Teach and reinforce effort
  - ▶ Make the connection between Effort and Achievement visible—Students chart
  - ▶ Develop/Use Rubrics for Effort

Mendler, *Motivating Students Who Don't Care*

# Effort And Achievement Rubric

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- ▶ Making the connection between effort and achievement explicit to the learner
- ▶ Student Self Assessment

### Effort and Achievement

### Effort Rubric

- 4 I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident. I viewed difficulties that arose as opportunities to strengthen my understanding.
- 3 I worked on the task until it was completed. I pushed myself to continue working on the task even when difficulties arose or a solution was not immediately evident.
- 2 I put some effort into the task, but I stopped working when difficulties arose.
- 1 I put very little effort into the task.

### Achievement Rubric

- 4 I exceeded the objectives of the task or lesson.
- 3 I met the objectives of the task or lesson.
- 2 I met a few of the objectives of the task or lesson, but did not meet others.
- 1 I did not meet the objectives of the task or lesson.

[illegible]



# The “Take” on Recognition

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1. Recognition includes praise and reward
2. Rewards do not necessarily have a negative effect
3. Reward works when contingent upon achievement of a standard
4. Abstract, symbolic recognition is more effective than tangible rewards
5. Tangible rewards can be + when used as contingent on achievement of standard
6. Tangible rewards “do not seem to work well as motivators”

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*Abstract rewards—particularly praise—when given for accomplishing specific performance goals, can be a powerful motivator for students*

*Classroom Instruction That Works, p. 55*



# Carrots And Sticks Are So Last Century.....

- Move from “if then” to “now that” rewards
- Daniel Pink – *Drive*

*Any extrinsic rewards should be unexpected and offered only after the task is complete.*  
*Teresa Amabile Harvard Business Review-*

*In a study of 684 open source developers found that “That enjoyment based intrinsic motivation , namely how creative a person feels when working on a project , is the strongest and most pervasive driver.” P.23*

*Offering rewards as contingencies can be harmful*

*-Upgrade to autonomy , mastery , purpose*

# Daniel Pink's Drive For Educators

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► <http://connectedprincipals.com/archives/2202>

# Simon Sinek And The Importance Of Public Recognition

66

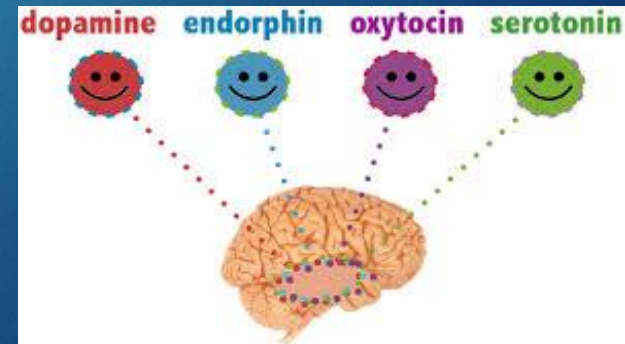
► <https://www.youtube.com/watch?v=vCE0XKdrRa0>

Endorphine

Dopamine

Serotonin- We feel gratitude when people believe in us. There is reciprocity in the pride of the giver

Oxytocin



# Reflection on Strategy #3

## Reinforcing Effort And Providing Recognition

How will you use this in class or how will you support teachers in using in their classes?

What standards align with this strategy?

Record ideas on your Learning Tracker or in your Academic Notebook

# Homework And Practice

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- ▶ What is effective Homework?
- ▶ What does it sound like? Look like? What do you expect to see?



# The Research On Homework

- ▣ The amount of homework assigned to students should differ by grade level.
  - General guideline of 10 minutes per grade level
- ▣ Minimize the need for parental involvement.
- ▣ Identify and explain the purpose of homework.
- ▣ Provide feedback on assignments. If homework is assigned, it should receive comments.

# Homework

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- ▶ Positive Effects
  - ▶ Immediate achievement and learning
  - ▶ Long-term academic benefits
  - ▶ Nonacademic benefits
  - ▶ Allows practice, preparation, extension, and integration with/links to other content areas

# Homework Options

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- ▶ What motivates students?
  - ▶ Choice
  - ▶ Empowerment
  - ▶ Competence
- ▶ How can we transform homework from drudgery into engagement?
  - ▶ Let students **CHOOSE** from a homework menu or from different categories ( pick one item from category 1 and 3 items from category 2)
  - ▶ Design interesting, motivating, engaging assignments

# Homework

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- ▶ Establish and Communicate a Homework Policy
- ▶ Design Homework assignments that clearly articulate Purpose and Outcome
- ▶ Vary the ways that feedback is provided

# Homework

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► <https://www.youtube.com/watch?v=ArKr1exR2rg>



# Practice

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- ▶ Mass practice for skills, processes: frequent repetitions
- ▶ Distribute practice for concepts: develop understanding over time
- ▶ Mastering a skill requires a fair amount of focused practice
- ▶ 24 repetitions = 80% competency- depends on the skill
- ▶ While practicing ,students should adapt and shape what they have learned.
- ▶ The “shaping phase” is when students attend to their conceptual \understanding of a skill- this phase should not be rushed.

# Vocabulary Development And Practice

- ▶ To learn a new word in context a student must be exposed to the word at least 6 times in context before they have enough experience with the word to remember and ascertain its meaning (Jenkins et.al. 1984).
- ▶ \* Over the next few days, try to use your vocabulary word at least 6 times in context

# Practice In Practice

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- ▶ Charting Accuracy and speed
- ▶ Design Practice Assignments that focus on a specific skill or element—"focused practice" on an aspect of a multi-step process
- ▶ Provide planning time for students to increase their conceptual understanding of a skill or process

# The Importance Of Practice

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- ▶ [https://www.youtube.com/watch?v=Qh228Cbbp\\_o4](https://www.youtube.com/watch?v=Qh228Cbbp_o4)

# Reflection On Strategy #4

## Homework And Practice

- How will you use this in class or how will you support teachers in using in their classes?
- What standards align with this strategy?
- Record ideas on your Learning Tracker or in your Academic Notebook

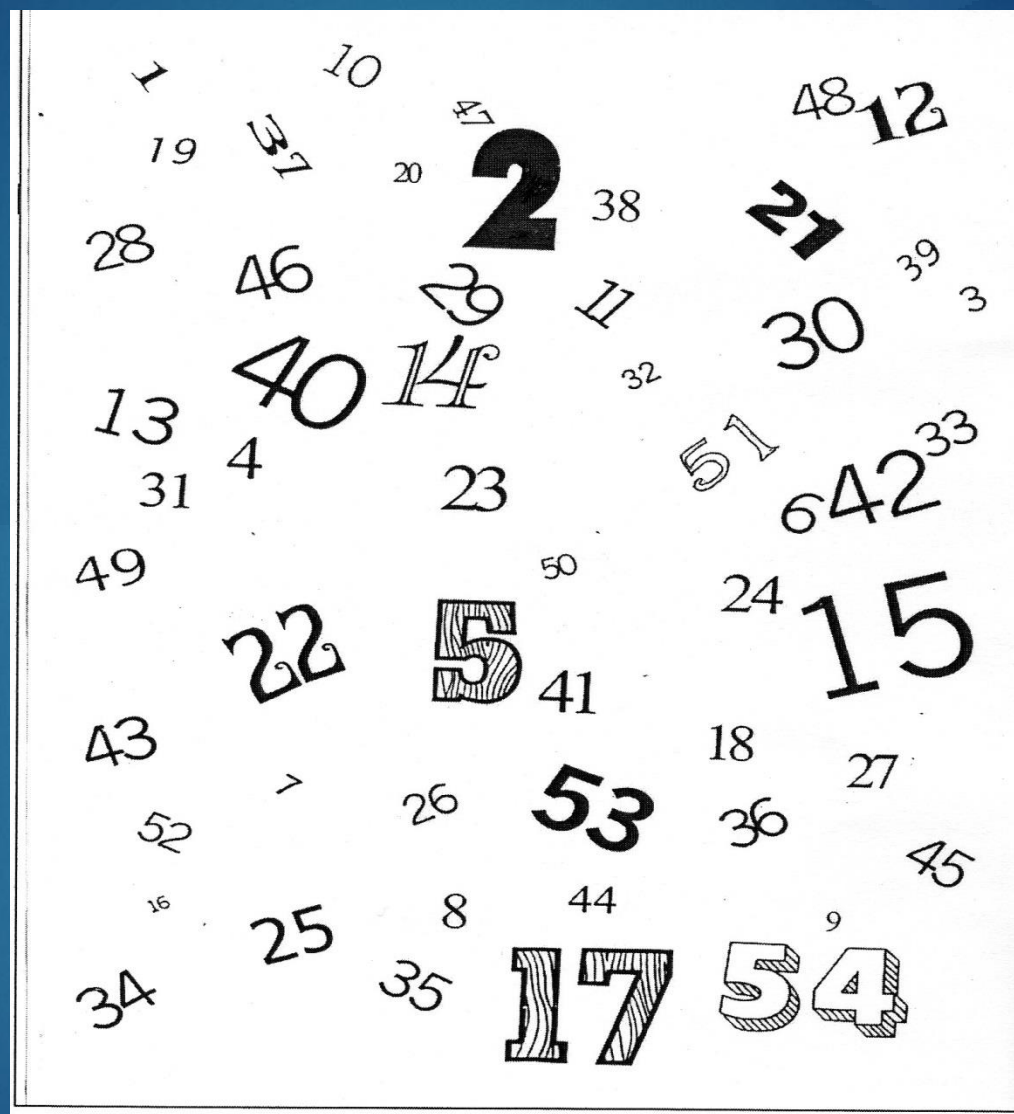


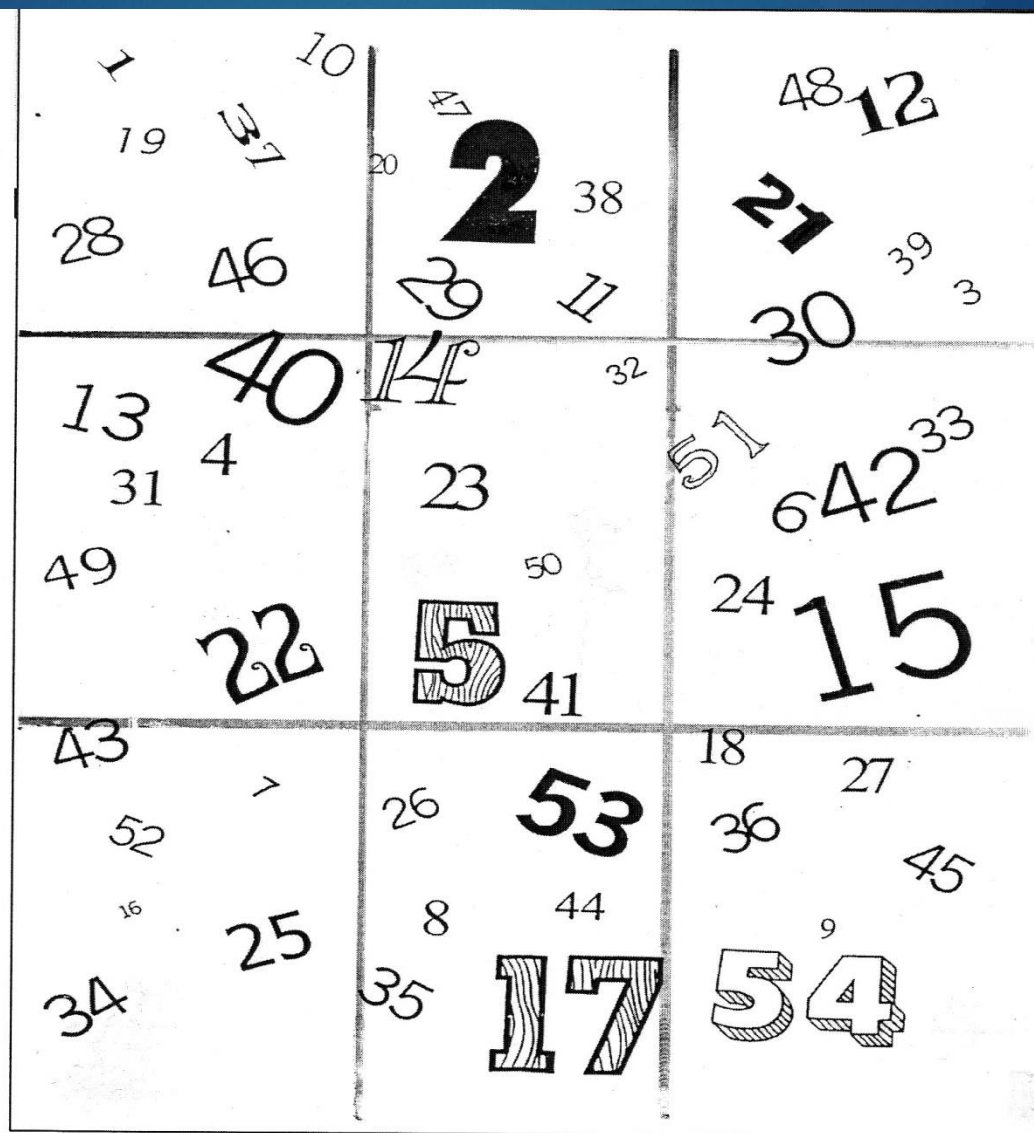
<http://www.edutopia.org/practice/exit-tickets-checking-understanding>

# NonLinguistic Representation

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- ▶ Beyond the Graphic Organizer





## Nonlinguistic Representations

| Graphic Organizers              | Physical Models                             | Mental Pictures                               | Pictures                                   | Kinesthetic Activities      |
|---------------------------------|---|---|--|-----------------------------|
| Venn<br>Maps<br>GOs<br>Diagrams | Sculpture<br>Models<br>Diorama<br>Foldables | Similies<br>Metaphors<br>Analogies<br>Imagery | Cartoons<br>Video<br>Photos<br>Pictographs | Role Play<br>Demos<br>Dance |



[HTTP://WWW.EXEMPLARS.COM/](http://www.exemplars.com/)

Supporting  
Characters

Solution

Problem



# How Are NLRs Effective?

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- ▶ **Dual Coding Theory** of Information Storage( knowledge stored in 2 forms linguistic and imagery)
- ▶ **Visual, kinesthetic elements engage other parts of the brain**
- ▶ Help students see connections and elaborate on learning
- ▶ **Promote retrieval**
- ▶ Provide another mode of learning

# Applications: The Power of NLRs

- ▶ Plan approaches to task
- ▶ Organize data and information
- ▶ Hold action sequences until executed
- ▶ Maintain focus
- ▶ Monitor and evaluate actions and progress

# 8 Cognitive Processes

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- ▶ 1. Representing in Context
- ▶ 2. Describing
- ▶ 3. Comparing and Contrasting
- ▶ 4. Grouping and Classifying
- ▶ 5. Ordering and Sequence
- ▶ 6. Cause and Effect
- ▶ 7. Part-Whole
- ▶ 8. Relationships



## Context Map

- Used for brainstorming
- Help define a thing or idea
- Elicit prior knowledge
- Outside rectangle is for another dimension



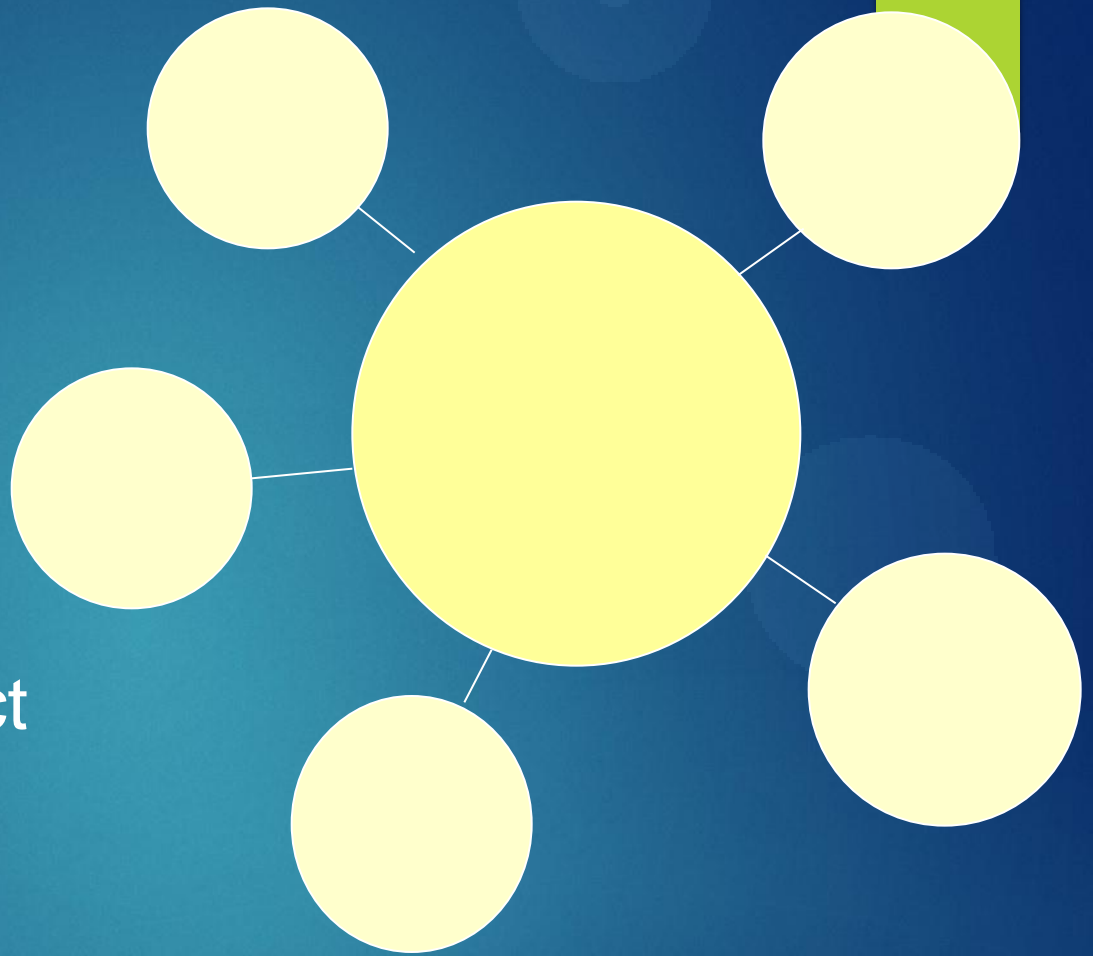
*Hyerle, Visual Tools for  
Constructing Knowledge, 1996*

## Attribute Map

Describes  
qualities

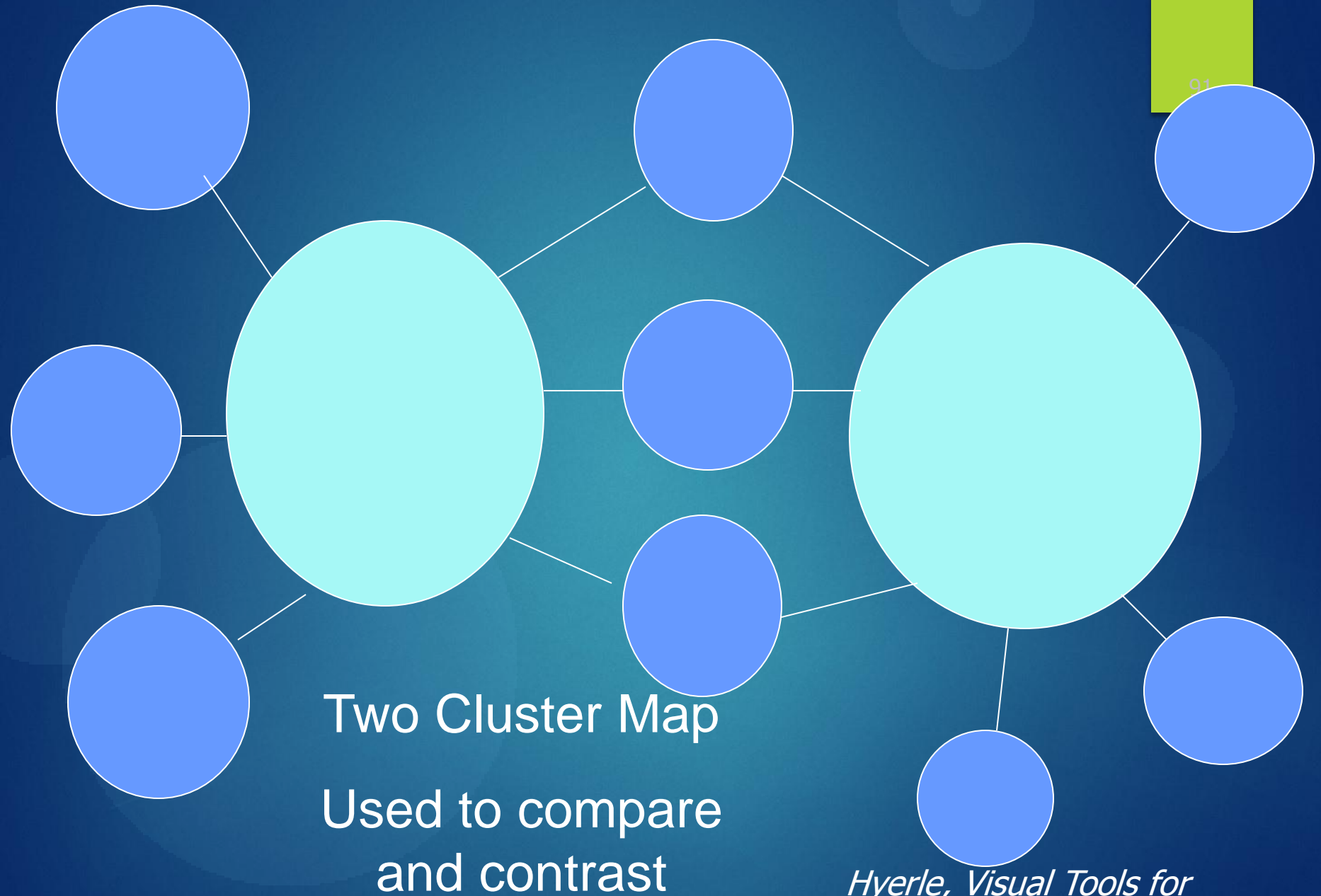
Often uses  
adjectives/adjective  
phrases

Describes  
characteristics



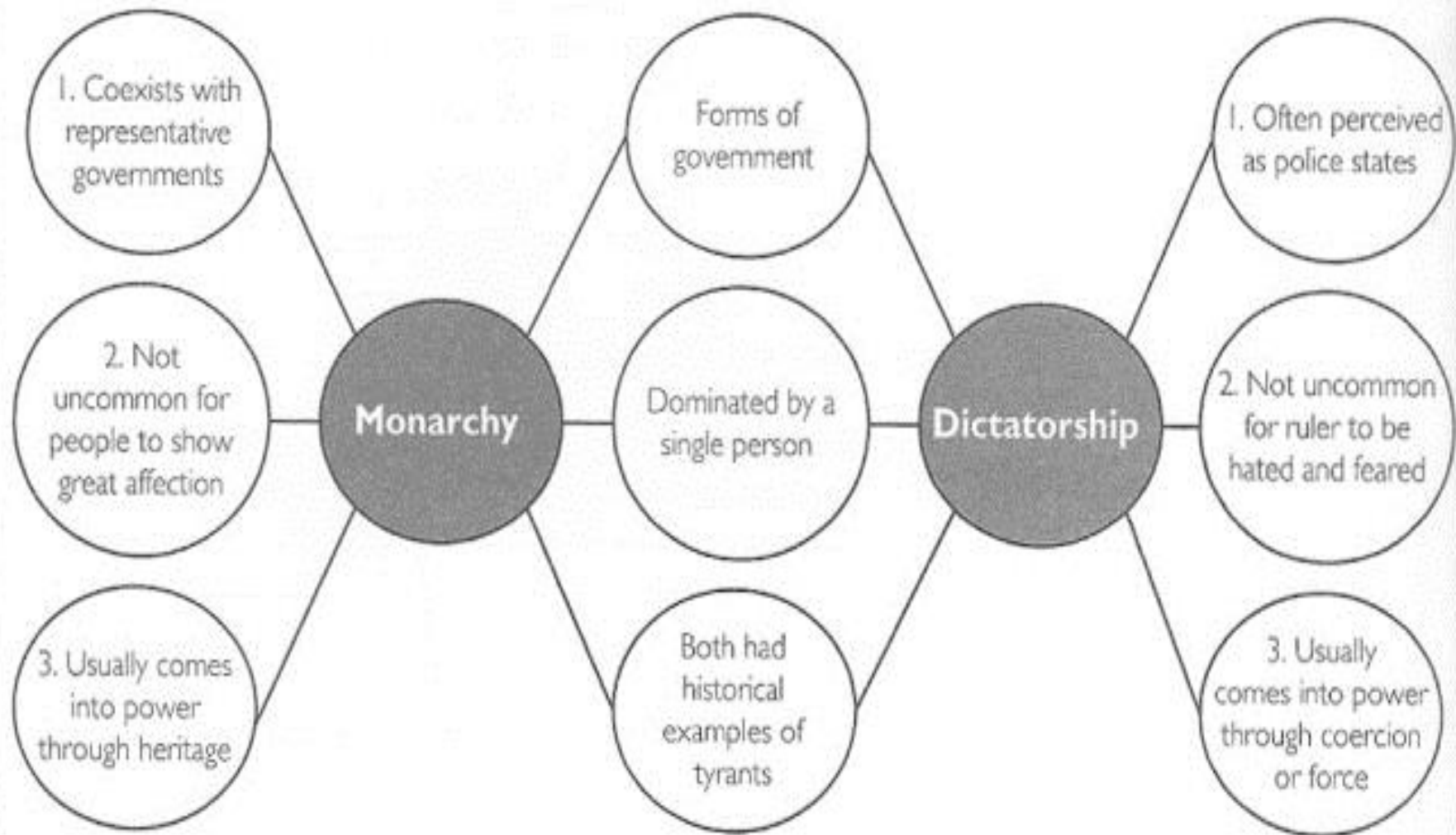
## Attribute Maps

*Hyerle, Visual Tools for  
Constructing Knowledge, 1996*



*Hyerle, Visual Tools for  
Constructing Knowledge, 1996*

**FIGURE 3.8**  
**Double Bubble**



# Venn Diagram, Comparison Matrix, and Two Cluster



# Goal

- ▶ The goal of graphic organizers is to develop independent use by students.

# Cooperative Learning

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# Why Group Students?

- ▶ Why group students?
- ▶ What challenges do you face in grouping students?
- ▶ What is cooperative learning?

# Five Defining Elements of Cooperative Learning

(Johnson and Johnson, 1999)

- ▶ Positive Interdependence
- ▶ Face-To-Face Promotive Interaction
- ▶ Individual and Group Accountability
- ▶ Interpersonal and small group skills
- ▶ Group processing

### 3 Generalizations From The Research On Cooperative Learning

98

- ▶ 1) Organizing groups based on ability levels should be done sparingly
- ▶ 2) Cooperative Groups should be kept rather small in size
- ▶ 3) Cooperative learning should be applied consistently and systematically but not overused



# Group Students In A Variety Of Ways

99

- ▶ Readiness
- ▶ Interests
- ▶ Learning Styles
- ▶ Randomly
- ▶ Create flexible groups
  
- ▶ Differentiated Instruction is highly dependent on cooperative learning and flexible grouping.
- ▶ Describe the difference between collaboration and group work

# 3 Types of Cooperative Groups

100

- ▶ **Informal\*** last a few minutes to a whole class period
- ▶ **Formal** \*employ the 5 characteristics of cooperative learning last several days or a few weeks- projects
- ▶ **Base** \*long term groups for the semester or year-intended to provide support for students (study buddies/clarifiers)

# Cooperative Learning

101

- ▶ Please watch the video and identify the elements of cooperative learning
- ▶ <http://www.edutopia.org/practice/performance-based-assessment-making-math-relevant>
- ▶ Other effective teaching strategies

# Reflection Key take-aways for Cooperative Learning

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# Setting Objectives And Providing Feedback



# Objectives And High Expectations

In examining 1500 K-12 classrooms, 24-7 consultants found that clear learning objectives were established in \_\_\_\_%.

# Research On Goals And Objectives

- ▶ Narrow the focus (Marzano)
- ▶ High expectations (TESA)
- ▶ Aligned with standards (CSDE/Mass DOE)
- ▶ Know and able to do (Marzano)

# Learning Goals

106

Use Declarative (informational) knowledge and Procedural (strategies skills and processes) knowledge-- what students should know and be able to do.

Students will understand\_\_\_\_\_ and be able to\_\_\_\_\_ in order to \_\_\_\_\_

Have students set their own personal learning goals

Negotiate Contracts for Goal Attainment

# What Is Feedback?

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“Feedback is an **objective description** of a student’s performance **intended to guide** future performance. Unlike evaluation, which judges performance, feedback is the process of helping our students **assess their performance**, identify areas where they are right on target and provide them tips on what they can do in the future **to improve** in areas that need correcting.”

~ W. Fred Miser

# What Is Feedback?

108

- ▶ Research has shown that effective feedback is not a discrete practice, but **an integral part of an instructional dialogue** between teacher and student, (or between students, or between the student and him/herself).
- ▶ **Feedback is** not evaluation-it is **value neutral**. It simply describes what you did and did not do.



# What Does The Research Say?

“Feedback seems to work well in so many situations that it led researcher **John Hattie (1992)** to make the following comment after analyzing almost 8,000 studies:

‘The most powerful single modification that enhances achievement is feedback. The simplest prescription for improving education must be ***dollops of feedback.***’”

~ Robert Marzano

# Effective Feedback

110

- ▶ A message from Dylan Wiliam
- ▶ <http://www.journeytoexcellence.org.uk/videos/expertspeakers/feedbackonlearningdylanwiliam.asp>
- ▶ The purpose of feedback is to make someone think and then improve.

# Feedback Should Be...

111

- ▶ “Corrective in nature”
- ▶ **Timely**
- ▶ Specific to a criterion

Marzano, Classroom  
Instruction That Works, p 96

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And.....

- ▶ Focused on the product, process, standard, or behavior not the student
- ▶ **Verified**-did the student understand the feedback?  
Respond to it?

# The Bottom Line.....

112

- ▶ Focus on the work, the process or the student's self regulation.
- ▶ Describe, don't judge. Be specific and clear.
- ▶ Use positive comments; accompany negative comments with positive suggestions for improvement.
- ▶ Ask students to self-assess/encourage peer assessment
- ▶ Tailor the feedback to the student.
- ▶ Be respectful of the student and the work.
- ▶ Balance strengths and weaknesses
- ▶ Give feedback as soon as you can immediate—72 hours.

# Is this Effective Feedback?

- ▶ [https://www.youtube.com/watch?v=Rulmok\\_9HVs](https://www.youtube.com/watch?v=Rulmok_9HVs)



# Feedback For Struggling Students

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- ▶ Focus feedback on the process. This will help them determine what actions can lead to further success. They will be “learning to learn.”

*“I noted that you reread your paper three times and made changes. Going back and checking helps you catch problems, doesn’t it?”*

# Feedback For Struggling Students

- ▶ Limit important points.
- ▶ Focus on small steps for improvement.
- ▶ Use simple vocabulary, explaining words as you go.
- ▶ Check for understanding by asking questions....*"What is one thing that we talked about that you are going to do for the next paragraph?"*

# Feedback

116

- ▶ Use self-referenced feedback (formatively) which addresses improvement.
- ▶ *“This paragraph had a lot more vivid verbs than the one you did last week. It is much more exciting to read.”*
- ▶ Note: For grading, use standards- or criterion-based feedback.

# Student-To-Teacher Feedback

117

- ▶ <https://www.teachingchannel.org/videos/improve-teaching-with-student-feedback>

# Feedback

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“Feedback gives information that a student can use....so that they can understand where they are in their learning and what to do next.” The goal is to give students the feeling that they have control over their own learning.

Brookhart,

2008



# Student- To-Student Feedback

- ▶ <https://www.youtube.com/watch?v=hqh1MRWZjms>

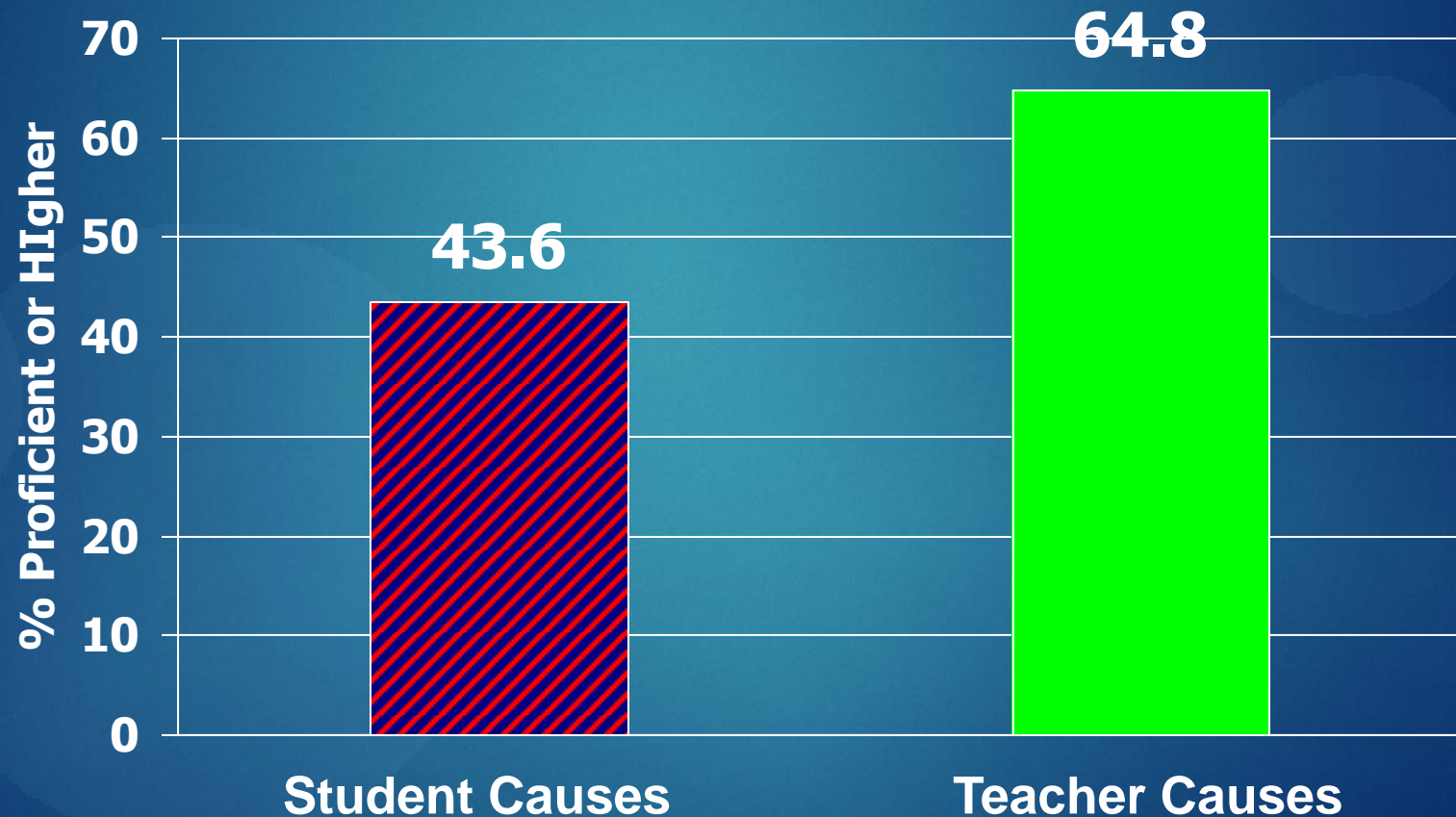
<https://www.youtube.com/watch?v=hqh1MRWZjms>

# Generating And Testing Hypotheses

# Generate Hypotheses About Teacher A and Teacher B:

- ▶ Same class makeup – a mix of diverse backgrounds and learning needs (ELL, poverty, inclusion, etc.)
- ▶ Same class size
- ▶ Same schedule, materials, curriculum
- ▶ Teacher A – 18% of students proficient
- ▶ Teacher B – 82 % of students proficient
- ▶ *ACTIVITY: Discuss with your table possible causes of the difference*

# Teacher And Leader Beliefs Influence Student Achievement!



Source: *Leadership for Learning*, 2005, Center for Performance Assessment, [www.MakingStandardsWork.com](http://www.MakingStandardsWork.com)



# Generating And Testing Hypotheses

- ▶ Hypothesis generation and testing can be approached in a inductive or deductive manner
- ▶ Teachers should ask students to clearly explain their hypotheses and conclusions
- ▶ Basic cognitive skills that can apply to a variety of tasks that are applicable across content areas

# 6 Tasks For Hypotheses Generation and Testing

125

- ▶ Systems Analysis
- ▶ Problem Solving
- ▶ Historical Investigation
- ▶ Invention
- ▶ Experimental Inquiry
- ▶ Decision Making

# Cues Questions and Advanced Organizers

# Cues, Questions, and Advance Organizers

127

## ▶ Research/Foundation

- ▶ Preview activities, provide hints, heart of classroom practice
- ▶ May account for 80% of what occurs in a given classroom on a given day
- ▶ Help students access what they already know about a topic
- ▶ Activation of prior knowledge is critical to learning
- ▶ Background knowledge influences what we perceive and learn

# Cues, Questions, Advance Organizers

128

- ▶ Should focus on what is important rather than on what is unusual
- ▶ Use explicit cues—direct approach
- ▶ Higher level questions produce deeper learning than lower level questions
- ▶ Waiting increases the depth of students' answers
- ▶ Questions are effective learning tools even when asked before a learning experience
- ▶ KNU (enhanced KWL)
  - ▶ Already know
  - ▶ Need to learn (based on standards)
  - ▶ Understand
- ▶ BKWLQ
  - ▶ Background, know, want to know, learned, questions



# Questioning

# Questioning

130

- ▶ We are moving from viewing questions as devices by which one evaluates....learning to conceptualizing questions as a means of actively processing, thinking about, and using information productively.
- ▶ Teacher questioning behaviors affect which students learn how much.

Walsh and Sattes, 2005

# Research And Practice On Questioning

131

- ▶ Questioning
  - ▶ Process
    - ▶ Wait Time
    - ▶ Language Development in ELL's
  - ▶ Content
    - ▶ Level (Taxonomy)
    - ▶ Essential Questions
    - ▶ Increasing Rigor and Relevance

Marzano, 2001

# Questioning And Wait Time

132

- ▶ Post Teacher Question Wait time
- ▶ Within-Student Pause Time
- ▶ Post-Student Response Wait Time
- ▶ Teacher Pause Time
- ▶ Impact Pause Time

Stahl, 1994

# Questions to Support Language Development

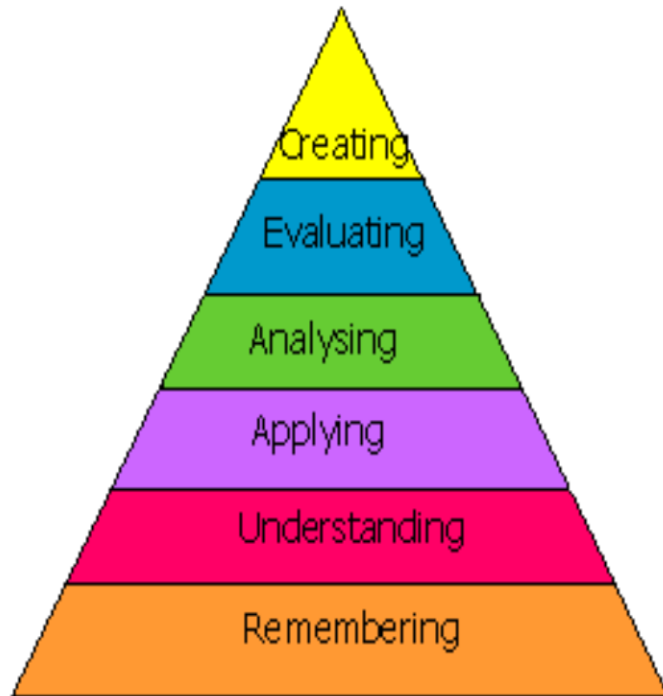
Hill and Flynn, *Classroom Instruction that works with English Language Learners*, 2006

| Stage                | Teacher prompts  |
|----------------------|--|
| Pre Production       | Show me....circle the...where is                           |
| Early Production     | Yes-No Questions<br>1 or 2 word answers<br>Lists or labels |
| Speech Emergence     | Why?<br>How?<br>Explain.....                               |
| Intermediate Fluency | What would happen if....<br>Why do you think....           |
| Advanced Fluency     | Decide if....<br>Retell.....                               |



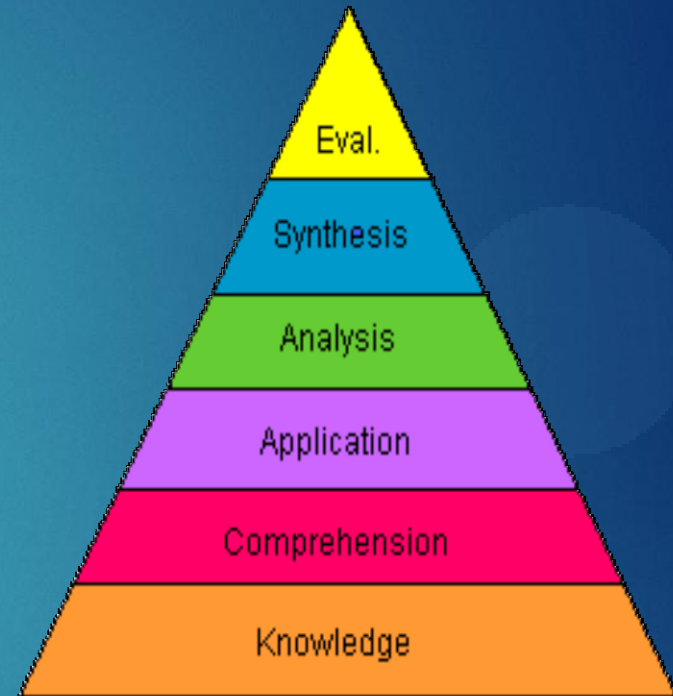
# Revised Blooms Taxonomy

134



**NEW Version**

*Note that the top two levels are essentially exchanged from the Old to the New version.*



**Old Version**

- ▶ <http://www.nbc.com/saturday-night-live/video/wo>

# Advance Organizers

136

- ▶ Expository
- ▶ Narrative
- ▶ Skimming
- ▶ Graphic

Advanced organizers help students focus on important information by providing a mental set.

# Narrative Advance Organizers

137

- ▶ A narrative advance organizer takes the form of a story. Here the teacher provides the essential ideas of a lesson or unit she plans to teach by telling a story that incorporates the ideas.

Assessment Program, 2003)

(J. Scott, Missouri

# Expository Advance Organizers

138

- An expository advance organizer may simply provide students with the meaning and purpose of what is to follow.
- On the other hand an expository organizer may present students with **more detailed information of what they will be learning** especially the information that may be difficult to understand.

(J.Scott, Missouri Assessment Program, 2003)



# Skimming As An Advance Organizer

139

When a teacher asks students to skim learning materials, it provides them with the opportunity to **preview the important information** that they will encounter later by focusing on and noting what stands out in headings, subheadings, and highlighted information.

(J. Scott, Missouri Assessment Program, 2003)

# “Graphic” Advanced Organizers

- Graphic organizers provide students with guidance on what the important information is in a lesson or unit.
- They give students direction and provide a visual representation of the important information.
- It is easy to see what is important and the relationships between the ideas and patterns in the information where they exist.

# Purposeful Nonfiction Writing

“Generous amounts of close, purposeful reading, rereading, writing, and talking are the essence of authentic literacy. These simple activities are the foundation for a trained, powerful mind—and a promising future.”

Source: Mike Schmoker, *Results Now* (2006), p. 53

# Purposes

142

- ▶ To demonstrate learning
- ▶ For learning

(Elbow, 1994)

# Reality: “I don’t have the time” is untrue!

143

Math, Science, Social  
Studies, M.C. Tests



*“When we  
spend more time  
on nonfiction  
writing with  
collaborative  
scoring, our test  
scores improve .  
 $r = .7$  to  $.9$ ”*

Source: Douglas B.  
Reeves, *NASSP Bulletin*  
(December 2000).



# Writing Increased Student Performance In..

144

- ▶ Algebra (Miller and England, 1989)
- ▶ Middle School Science (Keys, 1999)
- ▶ Family and Consumer Science (Bye and Johnson, 2004)
- ▶ Elementary Social Studies (Brophy, 1990)

.....when used as a tool for  
thinking

# 90-90-90 Study

145

- ▶ High emphasis on informative writing
  - ▶ allowing teachers the info necessary to create strategies to improve performance
- ▶ Single scoring rubric applied to every piece of student work; setting a clear, nonnegotiable set of standards
- ▶ External/blind scoring of assessments

# Writing To Learn

146

- ▶ Articulate the purpose.
- ▶ Provide genre and format constraints.
- ▶ Make assignments short.
- ▶ Make assignments strategic.
- ▶ Collect, but don't grade formally.
- ▶ Have students collaborate.
- ▶ Don't read and comment on everything.

# Implementation Is KEY!!

147

....Knowledge like research-based teaching strategies—is only as good as its intelligent application

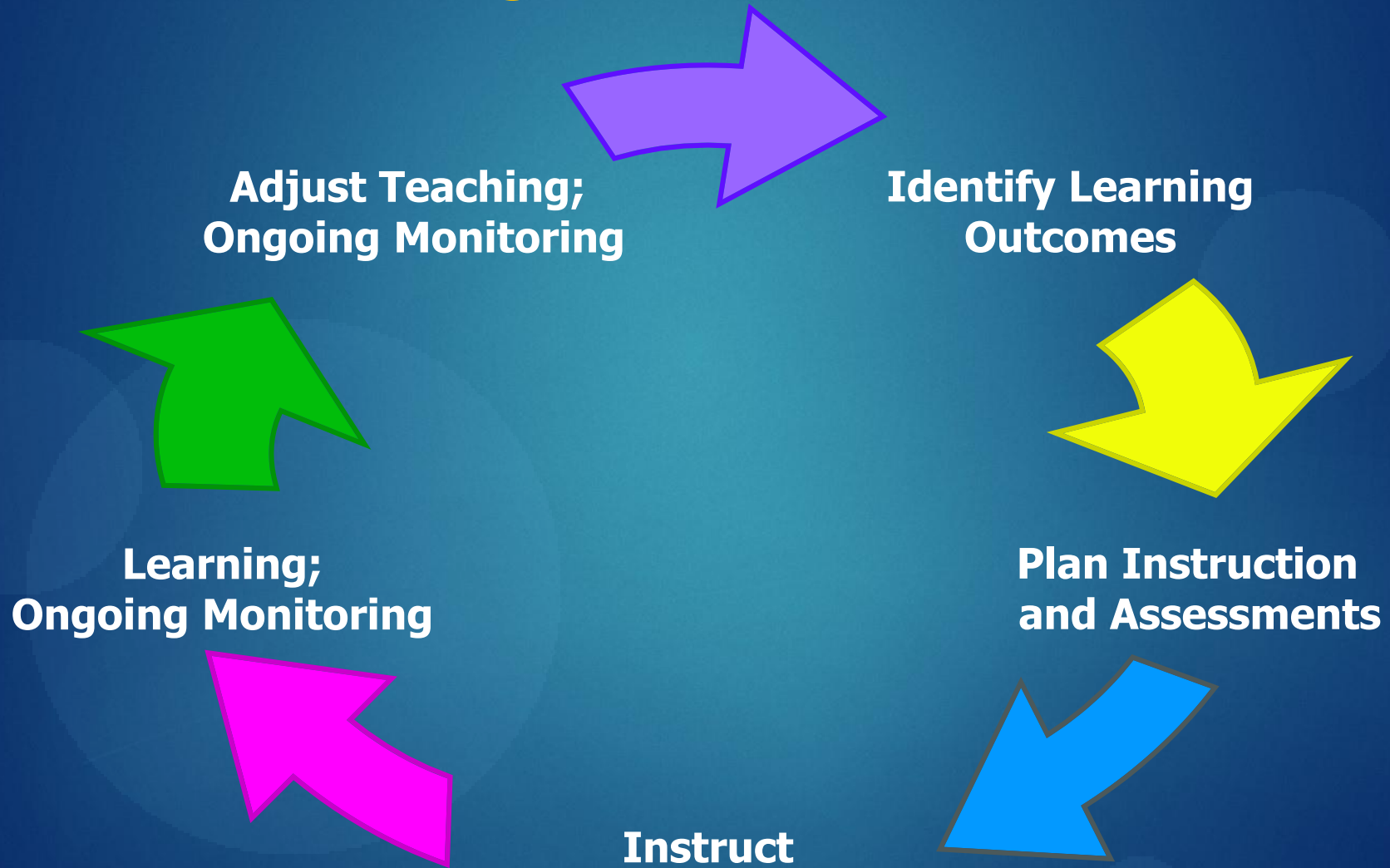
Mike Schmoker --*Results Now*,  
ASCD p.117

# Homework-For Collaborative Discussion

- ▶ Due Fall:—Choose a strategy or technique from one of the 9 general categories in *Classroom Instruction That Works*. **Record your findings** and discuss your reflections. Invite me in when you use one!
- ▶ What I tried.....
- ▶ **How it went**.....
- ▶ What I learned.....



# Learning Cycle: Teaching, Assessing and Reflecting



# 4 Box Synectics Summarizer

► Effective Teaching  
Strategies are  
like.....

► Because.....

.....

# Thank You!!!!

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