Cultivating Effective Teaching In Every Classroom

IPLI
HRS Level 2 Deep Study
Session One Handout

Session One Goals:

- Strengthen our pedagogical knowledge of specific instructional elements and how they should be used correctly in classroom practice.
- Explore stages of teacher professional growth.
- Understand the concept of focusing on learning as an evaluator and/or instructional coach.

Presented Virtually
Dr. Phil Warrick
Marzano Resources Author and Associate

Leading Indicator 2.1: The school communicates a clear vision of how instruction should be addressed in the school.

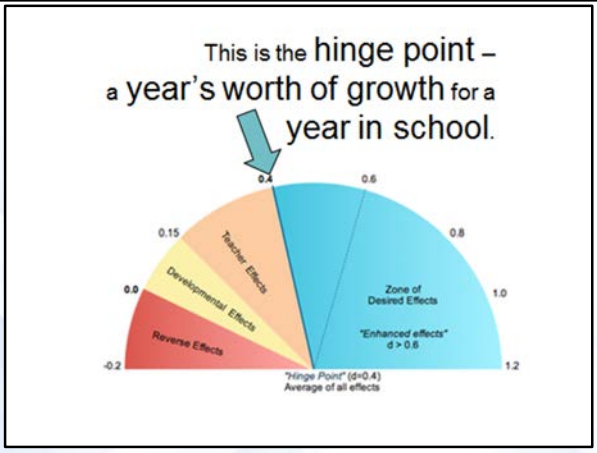
A model of instruction....

- Establishes a common language of instructional practice for district and schoolwide practice.
- Clearly defines instructional actions that a district and school commit to using to help students learn.
- Provides a framework for quality, initial instruction aka... tier one academic (RTI / MTSS).

Districts should use a research base to guide their instructional model development

Research-Based Instruction

- '**Effect Size**' is a way of measuring the difference in performance between two groups of students.
- The **Effect Size =** the effectiveness of a specific instructional element or strategy on learning as compared to without it.
- The Effect Size is a probable result when specific aspects of instruction are used consistently and correctly over time.



Hattie, J. (2009). Visible learning: A synthesis of over 800 meta-analyses related to achievement. New York: Routledge.

THE NEW ART AND SCIENCE OF TEACHING

FEEDBACK

Providing and Communicating Clear Learning Goals

1. Providing Scales and Rubrics
2. Tracking Student Progress
3. Celebrating Success

Assessment

4. Informal Assessments of the Whole Class
5. Formal Assessments of Individual Students

CONTENT

Direct Instruction Lessons

6. Chunking Content
7. Processing Content
8. Recording and Representing Content

Practicing and Deepening Lessons

9. Structured Practice Sessions
10. Examining Similarities and Differences
11. Examining Errors in Reasoning

Knowledge Application Lessons

12. Engaging Students in Cognitively Complex Tasks
13. Providing Resources and Guidance
14. Generating and Defending Claims

Strategies That Appear in <u>All</u> Types of Lessons

15. Previewing
16. Highlighting Critical Information
17. Reviewing Content
18. Revising Knowledge
19. Reflecting on Learning
20. Purposeful Homework
21. Elaborating on Information
22. Organizing Students to Interact

CONTEXT

Engagement

23. Noticing When Students Are Not Engaged and Reacting
24. Increasing Response Rates
25. Using Physical Movement
26. Maintaining a Lively Pace
27. Demonstrating Intensity and Enthusiasm
28. Presenting Unusual Information
29. Using Friendly Controversy
30. Using Academic Games
31. Providing Opportunities for Students to Talk About Themselves
32. Motivating and Inspiring Students

Rules and Procedures

33. Establishing Rules and Procedures
34. Organizing the Physical Layout of the Classroom
35. Demonstrating "Withitness"
36. Acknowledging Adherence to Rules and Procedures
37. Acknowledging Lack of Adherence to Rules and Procedures

Relationships

38. Using Verbal and Nonverbal Behaviors that Indicate Affection for Students
39. Understanding Students' Backgrounds and Interests
40. Displaying Objectivity and Control

Communicating High Expectations

41. Demonstrating Value and Respect for Reluctant Learners
42. Asking In-Depth Questions of Reluctant Learners
43. Probing Incorrect Answers with Reluctant Learners

Structure of *The Art and Science of Teaching*

Three Categories of Instructional Practice

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feedback (specific information provided to and from the teacher and learner to clarify and guide learning)

content (the ways in which lessons typically progress from direct instruction through use and review of the knowledge and skills being learned)

context (addressing the psychological needs of students—things like engagement, a sense of belonging, and high expectations)

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Instructional Design areas aligned to the way the brain learns and specific mental states involved in learning.

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A Clear Focus on Learning

- Instructional strategies are intended to generate specific mental states and processes in the minds of learners which, in turn, enhance students' learning.

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Research Based Elements

Categories of classroom practice that have a clear and consistent effect size on learning.

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Elements and Strategies

- Elements are categories of effective, instructional practice....
- **Strategies are the ways teachers choose to enact an element in their classroom....**
- **Each element has multiple strategies a teacher can use.**
- This relationship provides **"Defined Autonomy"** for teachers in their professional practice.

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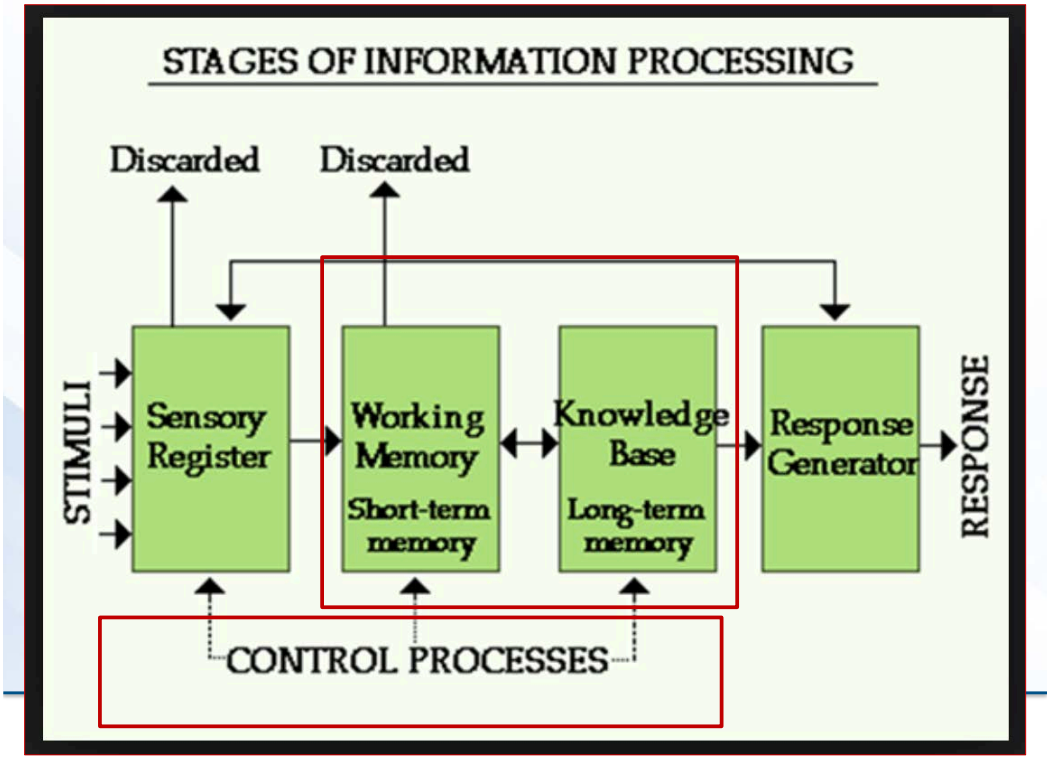
	Teacher Actions	Student Mental States and Processes
FEEDBACK	**Providing and Communicating Clear Learning Goals**	1. Students understand the progression of knowledge they are expected to master and where they are along that progression.
	Assessment	2. Students understand how test scores and grades relate to their status on the progression of knowledge they are expected to master.
CONTENT	**Direct Instruction Lessons**	3. When new content is being presented, students understand which parts are important and how the parts fit together.
	Practicing and Deepening Lessons	4. After new content has been presented, students deepen their understanding and develop fluency in skills and processes.
	Knowledge Application Lessons	5. After new content has been presented, students generate and defend claims through knowledge application tasks.
	Strategies That Appear in All Types of Lessons	6. Students continually integrate new knowledge with old knowledge and revise their understanding accordingly.
CONTEXT	**Engagement**	7. Students are paying attention, energized, intrigued, and inspired.
	Rules and Procedures	8. Students understand and follow rules and procedures.
	Relationships	9. Students feel welcome, accepted, and valued.
	Communicating High Expectations	10. Typically reluctant students feel valued and do not hesitate to interact with the teacher or their peers.

THE NEW ART AND SCIENCE OF TEACHING

FEEDBACK	CONTENT	CONTEXT
Providing and Communicating Clear Learning Goals 1. Providing Scales and Rubrics 2. Tracking Student Progress 3. Celebrating Success *Assessment* 4. Informal Assessments of the Whole Class 5. Formal Assessments of Individual Students	*Direct Instruction Lessons* 6. Chunking Content 7. Processing Content 8. Recording and Representing Content *Practicing and Deepening Lessons* 9. Structured Practice Sessions 10. Examining Similarities and Differences 11. Examining Errors in Reasoning *Knowledge Application Lessons* 12. Engaging Students in Cognitively Complex Tasks 13. Providing Resources and Guidance 14. Generating and Defending Claims *Strategies That Appear in <u>All</u> Types of Lessons* 15. Previewing 16. Highlighting Critical Information 17. Reviewing Content 18. Revising Knowledge 19. Reflecting on Learning 20. Purposeful Homework 21. Elaborating on Information 22. Organizing Students to Interact	*Engagement* 23. Noticing When Students Are Not Engaged and Reacting 24. Increasing Response Rates 25. Using Physical Movement 26. Maintaining a Lively Pace 27. Demonstrating Intensity and Enthusiasm 28. Presenting Unusual Information 29. Using Friendly Controversy 30. Using Academic Games 31. Providing Opportunities for Students to Talk About Themselves 32. Motivating and Inspiring Students *Rules and Procedures* 33. Establishing Rules and Procedures 34. Organizing the Physical Layout of the Classroom 35. Demonstrating "Withitness" 36. Acknowledging Adherence to Rules and Procedures 37. Acknowledging Lack of Adherence to Rules and Procedures *Relationships* 38. Using Verbal and Nonverbal Behaviors that Indicate Affection for Students 39. Understanding Students' Backgrounds and Interests 40. Displaying Objectivity and Control *Communicating High Expectations* 41. Demonstrating Value and Respect for Reluctant Learners 42. Asking In-Depth Questions of Reluctant Learners 43. Probing Incorrect Answers with Reluctant Learners



Direct Instruction Review Activity	
Element 6 ***Chunking Content***	• What was a key takeaway for you regarding Chunking?
Element 7 ***Processing Content***	• What are some strategies for having learners process new chunks of content? What are you seeing in the classrooms at your school now?
Element 8 ***Recording and Representing Content***	• What are you seeing in your school currently in regard to this element? What would you like to see more often?

Elements #6 and #7 Chunking Content and Processing Content

Age = Attentions Span: When a learner has been attending to a specific task for a time frame equal to their age, their brain must experience a "change of state" to refocus the learners attention.

Attention span tops out at 18 to 20 minutes in adults.

Without a specific "change in state" for the learner the brain begins to lose focus and pay attention to other stimuli other than the learning.

Primacy-Recency Effect: In any learning episode we remember best that which occurs first. We remember second best that which comes at the end, and we remember least of all that which occurs in the middle.

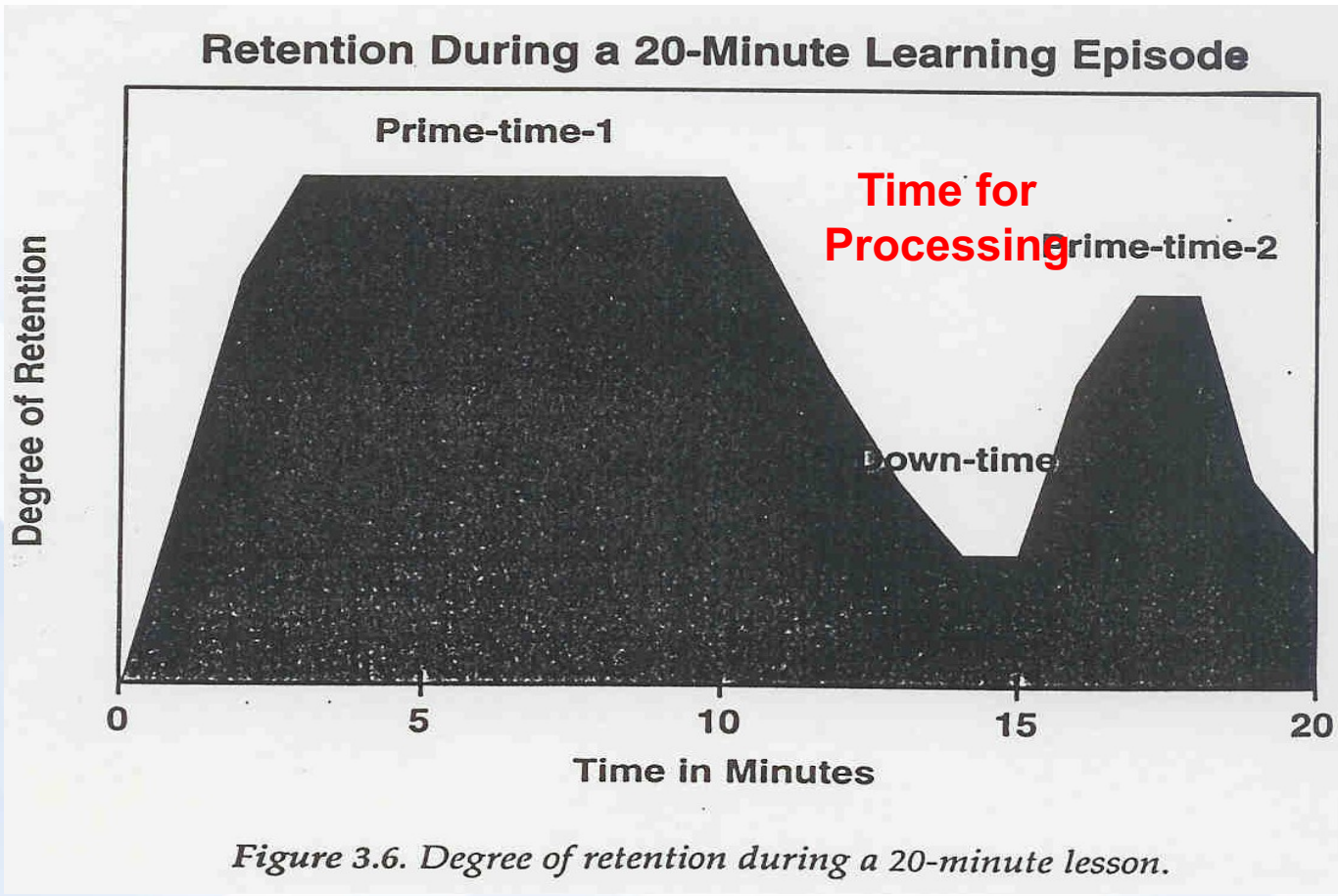


Figure 3.6. Degree of retention during a 20-minute lesson.

David Sousa – "How the Brain Learns"

Grouping for Active Processing

The teacher assigns students to groups of two to five members for processing new information. Groups can be assigned for a specific purpose (ad hoc groups) or formed as long-term partnerships. In either case, groups should have operating rules of behavior and interaction. The teacher might place students in groups randomly, group them based on current levels of understanding, or even mix students who appear to understand something quite well with those who don't. When students process new information in groups, they are exposed to the ways other students process information, some of which might enhance their own understanding.

Teacher Actions

- Asking students to process new information in groups
- Creating operating rules for student processing groups

Desired Student Responses

- Processing new information with other students
- Explaining how their understanding of new information changed after interacting with peers

Extra Support

- Creating protocols for groups to follow that prompt students to share their perspectives, ask and answer questions, and paraphrase what other students are saying

Extension

- Asking students to evaluate the extent to which they offered their perspectives, asked and answered questions, and paraphrased what other students were saying during group discussions

Tips for Grouping Students to Process New Content

- **Organize groups appropriately:** Consider the content you will be presenting or the purpose for which you are grouping students before putting them in groups. For difficult content, consider grouping students who might have trouble understanding the content with students who are likely to understand it more easily. For a problem-solving activity, consider grouping students with partners with whom they have worked well in the past.
- **Allow students to process information collectively:** This strategy does not have to wait until after content has been presented. Try grouping students at the beginning of the lesson so they can process information collectively throughout. Pause during the presentation of new content and prompt students to discuss, ask each other questions, and formulate questions to ask the whole class.
- **Ask students to present what they have learned:** Formalize the discussion process by having students and groups perform specific tasks that involve sharing knowledge. Ask each student to summarize his or her understanding of the content for the group and then have each group compile a collective summary. Groups can also work together to create a nonlinguistic representation, such as a diagram or demonstration, of the content. Allow each group to present to the whole class, then lead a whole-class discussion on the similarities and differences in the groups' findings.

Quick Grouping and Regrouping Routines	
Chip Groups	Students draw or are given a poker chip with a letter or number on the chip. As the teacher wants to group students the teacher can ask students to make groups using the chips in any way such as: Form groups with like color chips, different color chips, chips with even numbers, chips with odd numbers, etc…
Find Someone Who (Kagan)	Students circulate to find others who can contribute to answers they are seeking. They give answers and receive answers for purposes of review and filling gaps in their learning.
Give One, Get One	Students write their name on a piece of paper and list 3-5 ideas about the assigned topic. Students then interact with their classmates in groups of 2 or 3 at a time. Students exchange learning from each other and add to their list. Students can ask questions about new or confusing ideas.
Label The Desks	The teacher creates labels that are placed and often taped down to the top corner of each desk or table location in a classroom. This can be done with playing cards, colors, numbers, or a combination of anything that lets the teacher arrange and rearrange students using these symbols. An example would be: A teacher labels each desk with playing cards and uses those to ask students to group with other clubs, group with one of each suit in a group, group with other Queens etc…
Think-Pair-Share, Square (Kagan)	Students think individually about their response to a question, they then discuss their thinking in pairs, and then share their own and their partner's thinking with two other students who were in different pairs to start.
Speed Discussions	Students are asked to form an initial group of 2 or 3. A discussion topic or question is displayed and students have 30 seconds to share everything they know or think about the issue. Students then get 10 seconds to find a new group and the process repeats itself with the same discussion question or a new one. This is based on the concept of speed dating and students can discuss their thinking with many different groups in the span of 3 or 4 minutes.
Learning Appointments	This strategy can use special forms or students can simply schedule the appointments on their own paper. When student enter the room, the teacher displays the directions or asks them to schedule a specific number of learning appointments. For example: A teacher asks student to schedule 3 learning appointments for the class. Student move to different classmates and record the names of who will be involved in their first appointment, their second appointment, and their third appointment. Groups of two and three work best but up to five is acceptable.
Close Partners	Students form groups of 2 or 3 with other students sitting near them, but not directly next to them in the room. These can remain their partners for a specified period of time.
Elbow Partners	Students form groups with other students sitting immediately to their left and/or right. Groups of 2 or 3 are usually the result in this strategy.

Grouping Guidelines.

Use groups of 2 or 3 but not more than 5.

Use several different grouping routine strategies within your practices

Age = Attention span, use grouping routines to change the state of your learners.

Element #8

The teacher engages students in activities that help them record their understanding of new content in linguistic ways and represent the content in nonlinguistic ways.

Recording and Representing Content

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Recording and Represent Content

- This is one key area where we can teach learners how to learn.
- Equip them with portable skills they can take with them to college and career.
- Average Effect Size = 1.00

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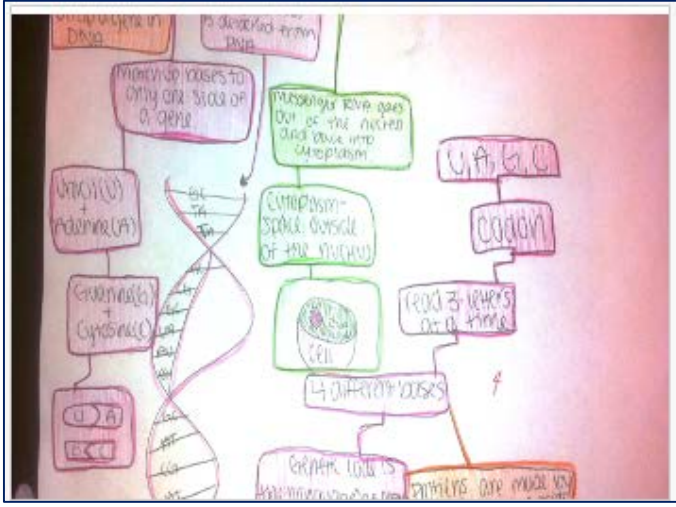


Practicing and Deepening Lessons	4. After new content has been presented, students deepen their understanding and develop fluency in skills and processes.

Procedural Knowledge	Declarative Knowledge

How we learn from mistakes is still being investigated by science, however the basic idea is this: As we act, the brain keeps track of the chain of actions and events -- what led to what led to what. When there is a negative outcome (a mistake), the brain weakens the links between all actions in the action sequence, so that next time you are slightly less likely to do the same thing as last time. When there is a positive outcome (a success or "reward") the brain strengthens all the links in the chain, increasing the chance that the same actions will be repeated. Over time and with experience, we make more and successful actions and fewer and fewer mistakes.

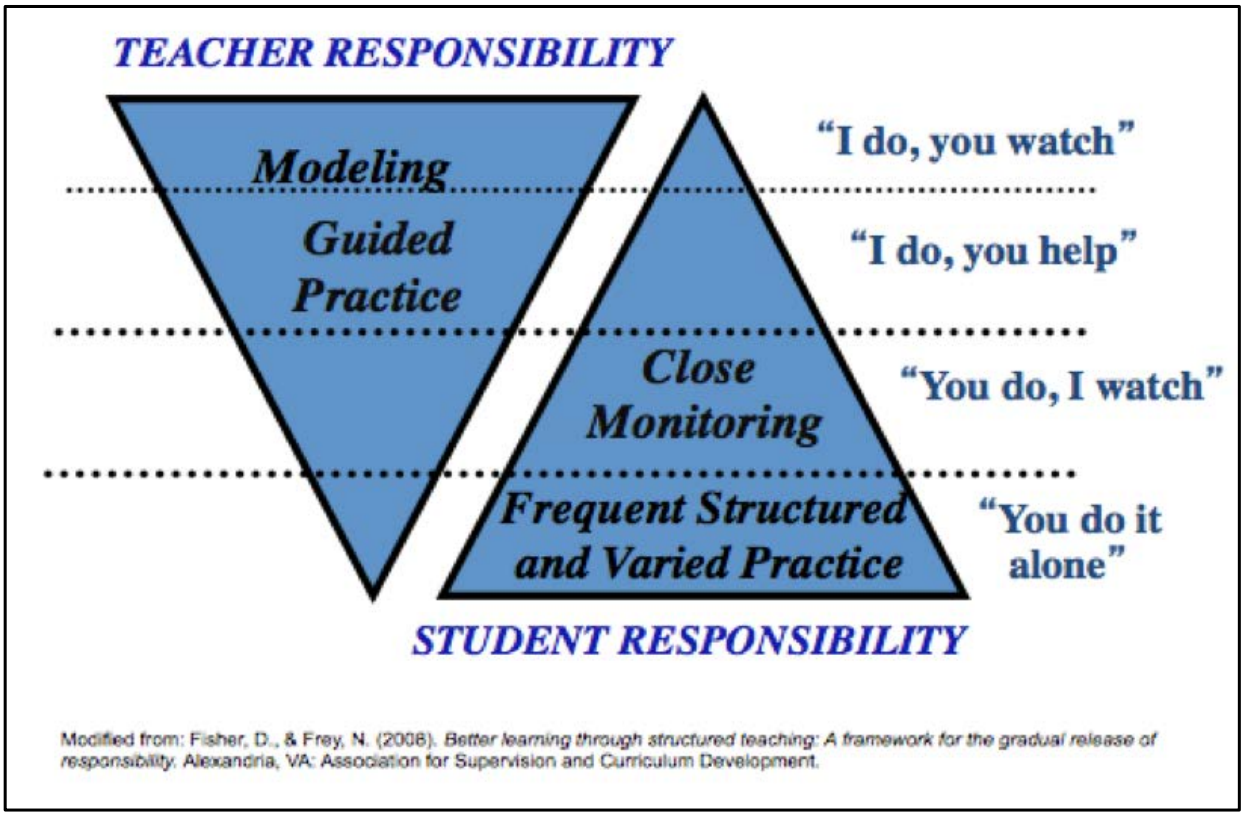
Paul King, UC Berkeley Redwood Center for Theoretical Neuroscience

Desired Effect: Students perform the skill, strategy, or process _____.

How can I help students practice skills, strategies, and processes?

- ❑ Structure practice sessions spaced closely together.
- ❑ Plan for practice sessions that are gradually less structured and more varied.
- ❑ Plan for practice sessions that help students develop fluency.
- ❑ Consider cooperative learning strategies for practice activities. This can occur once students have engaged in some form of individual practice and then collaborate with peers to check their work an dialogue about what led to their correct/incorrect answer.

Element #9: Structured Practice Sessions



Modified from: Fisher, D., & Frey, N. (2008). *Better learning through structured teaching: A framework for the gradual release of responsibility.* Alexandria, VA: Association for Supervision and Curriculum Development.

Worked Examples Strategy:

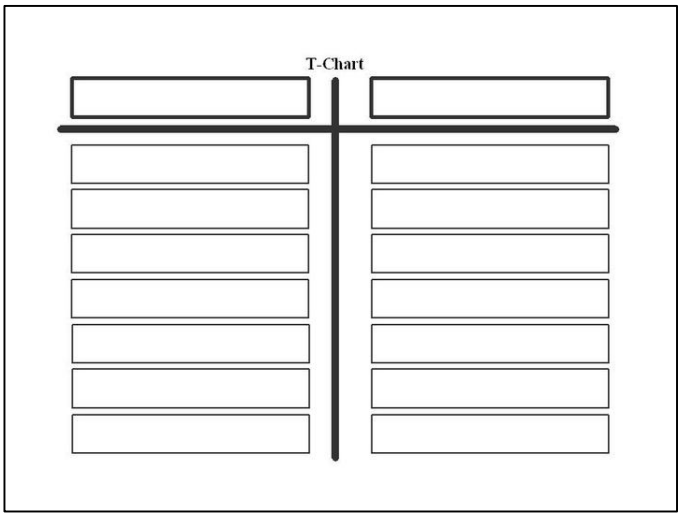
Provide students with an example that has already been worked and shows the correct steps and answers.

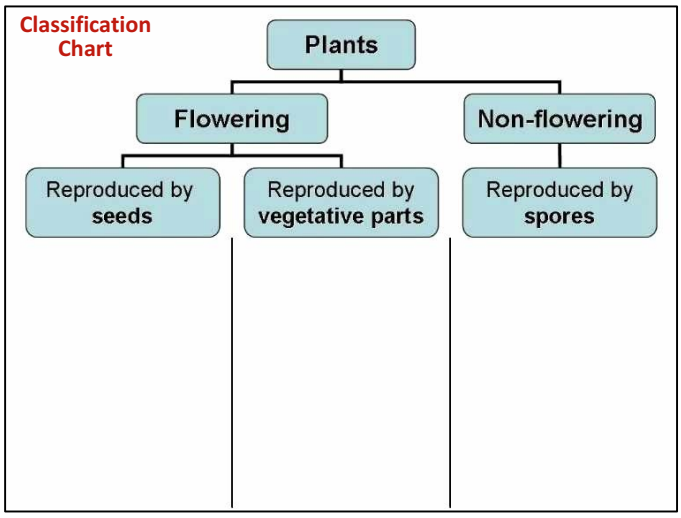
Have them work through it again, using the example as a guide so they can see how each of the steps progresses correctly.

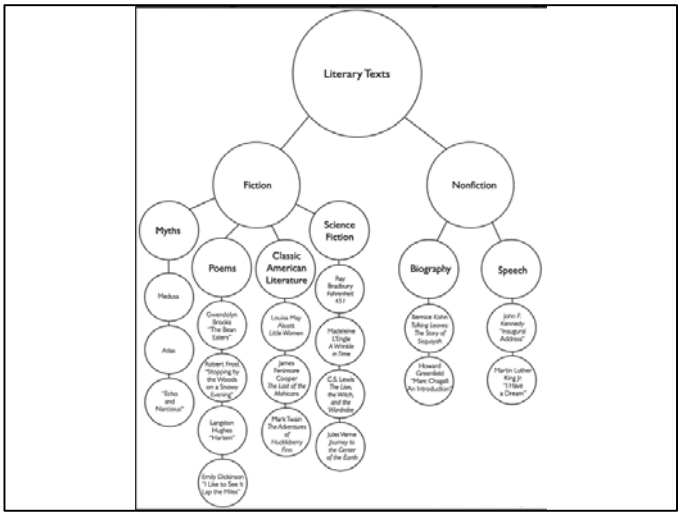
Use these examples to engage in whole class or small group discussions about the process or skill you want them to learn.

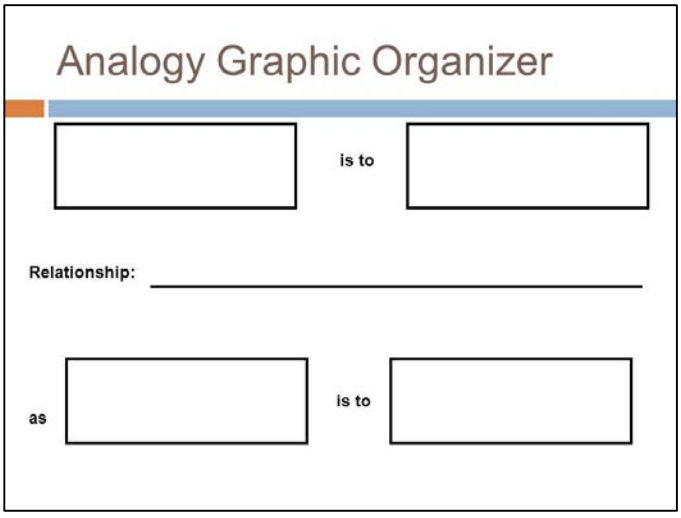
Element #10: Examining Similarities and Differences

Comparing is	• the process of identifying similarities and differences among or between things and ideas.
Classifying is	• the process of grouping things that are alike into categories based on their characteristics.
Creating Metaphors is	• the process of identifying a general or basic pattern that connects information that is not related on the literal or surface level.
Creating Analogies is	• the process of identifying the relationship between two sets of items.

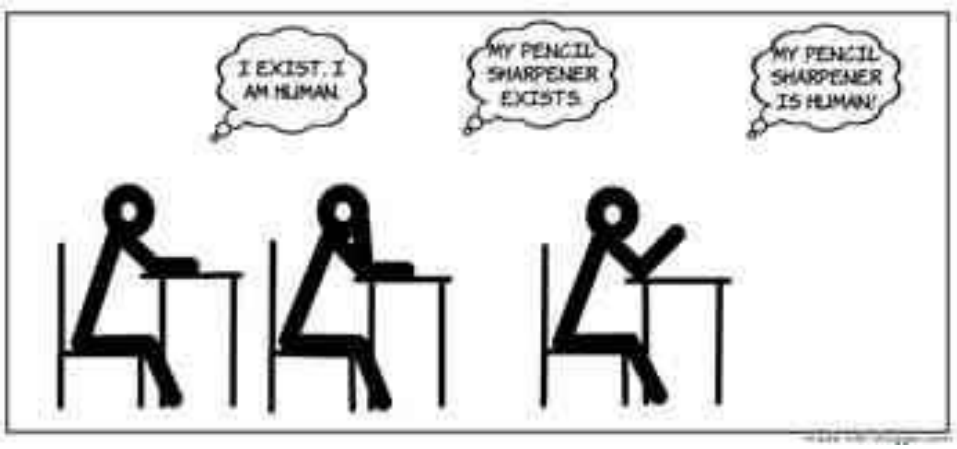








Element #11: Examining Errors in Reasoning



If students are able to examine their own reasoning, they:

- ❑ Can describe errors or informal fallacies in information.
- ❑ Can evaluate the efficiency of a process.
- ❑ Can explain the overall structure of an argument presented to support a claim.
- ❑ Can identify errors in reasoning.
- ❑ Can identify support for their perspectives using the appropriate evidence.
- ❑ Can identify the supports behind multiple perspectives.
- ❑ Can identify the evidence used to support the claim of others in presented information.
- ❑ Can identify and take various perspectives.

What We Can Do To Help Our Students Examine Their Reasoning

1. ***Use authentic examples with students.*** Collect examples of errors in reasoning from everyday life (newspapers, Internet, television, advertising, etc.). Use these examples to show students that faulty reasoning is everywhere. Invite students to bring examples to share in your classroom.
2. ***Require students to provide justification***. Provide ongoing opportunities for students to explain their work and provide rationale for their processes and steps. Encourage multiple ways to solve problems and expect them to explain their thinking.
3. ***Anticipate student errors and model them in the presentation of content.*** Design lessons to incorporate common errors you anticipate students might make. Help them become aware of these common errors so that they can avoid pitfalls.
4. ***Model and think aloud for students***.
5. ***Give students enough "think time" to reason during class discussions.***

Professional Growth Stages

Focus is Learning **Focus is Teaching**

Stage 3 Autonomous		Stage 2 Shaping		Stage 1 Cognitive
Innovating 4	**Applying 3**	**Developing 2**	**Beginning 1**	**Not using 0**
I adapt and create new strategies for unique student needs and situations.	I engage students in the strategy and monitor the extent to which it produces the desired outcome.	I engage students in the strategy with no significant errors or omissions.	I use the strategy incorrectly or with parts missing.	The strategy was called for but I did not use it.

Coach teachers on ways to monitor instruction.

Quite often, teachers will monitor but they are not monitoring learning.

Instead they are monitoring learner compliance with the activity but not the effectiveness of the instruction.

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Three ways to evaluate instructional effectiveness:

Instructional Practice: Identify the predominant element of instruction

Students' Actions	Direct Questions to Students	Students' Artifacts
Look for and listen for specific student actions based on the predominant instructional element you are observing.	Questions you will ask students based on the predominant instructional element you are observing.	Products produced as a result of the predominant instructional element you are observing

Example

Instructional Practice: Recording and Representing Information

Students' Actions	Direct Questions to Students	Students' Artifacts
• Students actively record information in an appropriate format. • Students ask and answer questions about the information they are recording.	• Can you explain the organization of this information? • What are some of the important pieces of information you have recorded?	• Note taking formats are done correctly by all students. • Graphic Organizers are completed correctly. • Students create models of concepts they are studying.

Observing Instruction By Focusing On Learning

Instructional Practice:

Students' Actions	Direct Questions to Students	Students' Artifacts

Instructional Practice:

Students' Actions	Direct Questions to Students	Students' Artifacts

Instructional Practice:

Students' Actions	Direct Questions to Students	Students' Artifacts

Accurate Evaluation in 3 Observations

- 1st observation is unannounced
  - Stay 10 to 15 minutes and evaluate the specific instructional practices you see.
  - (It can be any type of lesson)
- 2nd observation is pre-planned (formal)
  - The lesson should purposely include areas of your instructional model that were not part of the first observation lesson.

Accurate Evaluation in 3 Observations

- 3rd observation is pre-arranged
  - Can be formal but doesn't have to be
  - Should purposely involve instructional practices from your model of instruction that you have not seen this teacher use yet
  - OR
  - Should involve areas teachers have been asked to improve in based on one of the previous evaluations.