Durable Learning that Lasts

Meaningful learning experiences lead to deep learning that lasts. Through this workshop, participants will

- Explore evidenced-based strategies for designing meaningful learning experiences that produce learning that lasts.
- Examine the role of memory, study habits, feedback, and relevance in building deeper usable learning.
- Learn the key to differentiated instruction that leads to deeper learning.
- Revise an activity/lesson that you can use immediately using the "play structure" to deepen learning.

Participants will take away for their practice:
1. An understanding of the science behind learning that lasts.
2. Routines used with their current curriculum to deepen learning.
3. Prompts that encourage learners with diverse strengths and needs to think for themselves.
4. Routines for small group collaboration to build and challenge understanding.
5. For example, examine the teaching for understanding versus memory on the chart below and envision different activities in your own classroom that illustrate the differences.
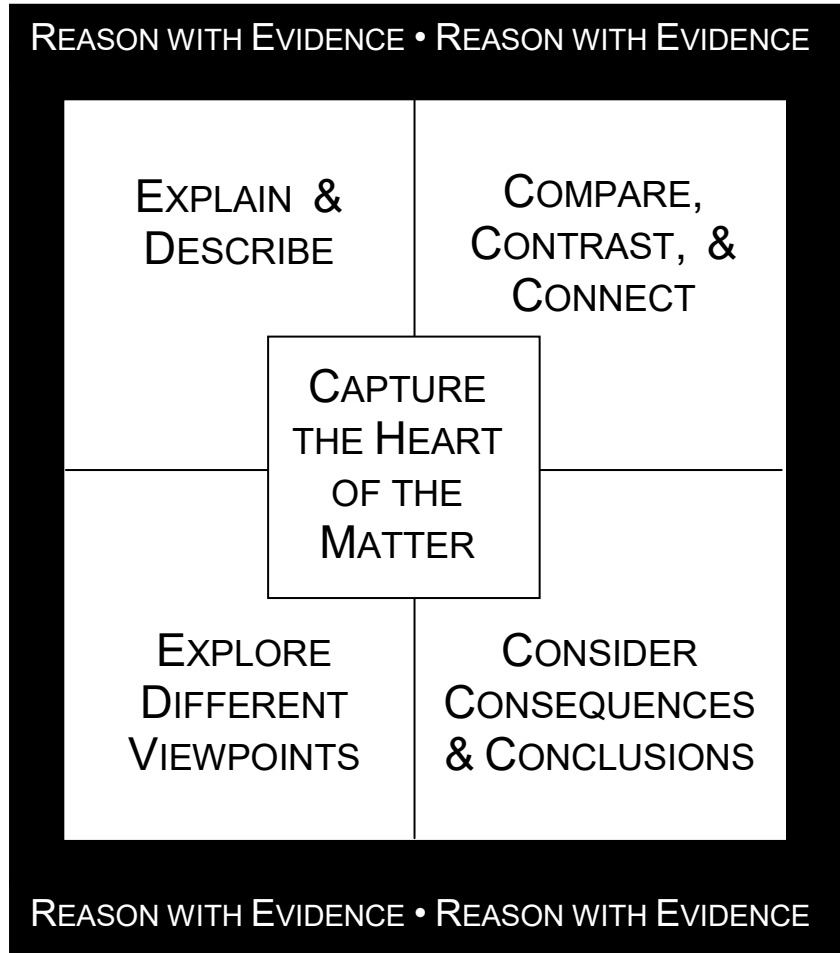
Exploring Our Own Understanding

understanding 1 : a mental grasp **:** comprehension
2 a : the power of comprehending; *especially* **:** the capacity to apprehend general relations of particulars **b :** the power to make experience intelligible by applying concepts and categories. understanding. (2010). In *Merriam-Webster Online Dictionary*. Retrieved May 10, 2010, from http://www.merriam-webster.com/dictionary/understanding

1. What is something that you understand well?

2. How did you develop that understanding?

3. How do you know that you understand?

4. Share and record responses to notice: What patterns do we see in our responses?

5. Think: What might this tell us about teaching for understanding?

A MAP OF UNDERSTANDING

REASON WITH EVIDENCE • REASON WITH EVIDENCE

EXPLAIN & DESCRIBE

COMPARE, CONTRAST, & CONNECT

CAPTURE THE HEART OF THE MATTER

EXPLORE DIFFERENT VIEWPOINTS

CONSIDER CONSEQUENCES & CONCLUSIONS

REASON WITH EVIDENCE • REASON WITH EVIDENCE

Using the Understanding Map:

- **When you want to understand something:** Have you asked yourself questions related to each of the quadrants and the center? Have you been able to provide responses to the questions using reasoning backed up with evidence? Can you give yourself a self-talk in which you have something to say about each of the five areas?

- **When you want to assess someone else's understanding**: Does the person provide reasons with supporting evidence for what they belief about the topic? Is it clear that the person has thought about and explored each of the five areas? Is the person able to answer questions that address each of the five areas? Has the person explored alternative explanations in each area rather than merely settled on a quick answer?
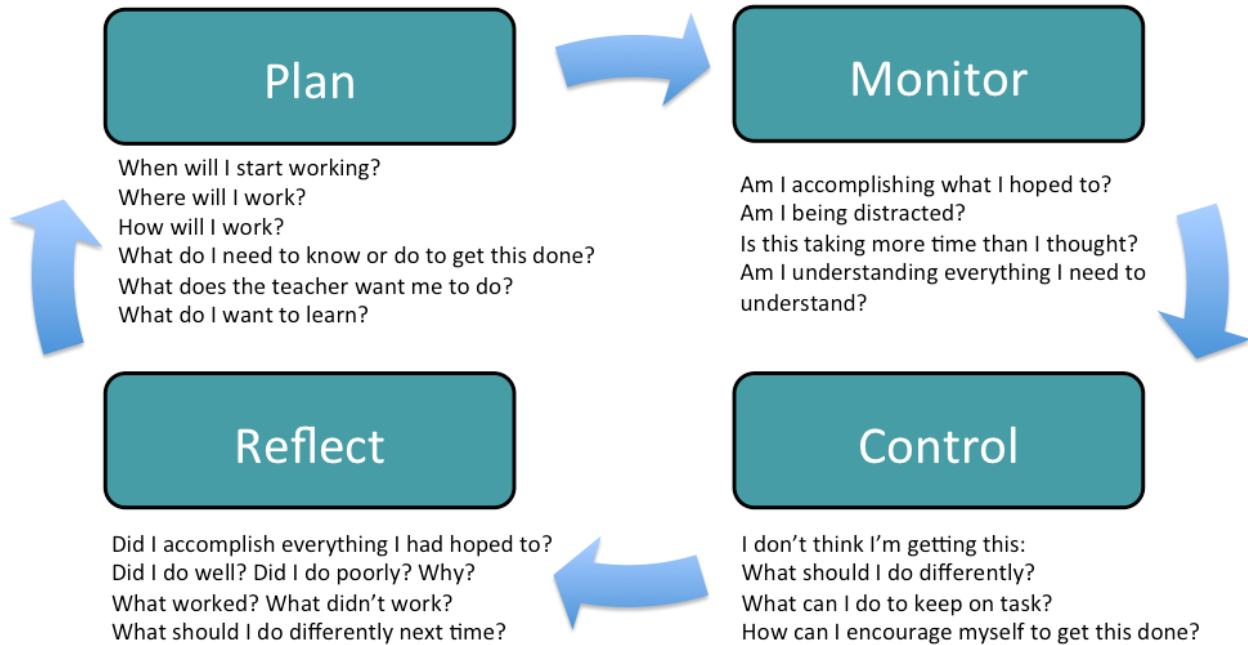
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Understanding	Memory
←	→
Applying knowledge and skills with purpose	Reciting facts
Problem solving and finding	Rote learning
Useful in many subject areas and over time	Relevant only to a discrete topic
Transferring knowledge, skills, understanding to different contexts	Replicating in similar context
Searching for relevant patterns	Using patterns to increase memory
Sense making and meaning making	Memorizing
Dialog – Exchange of Ideas, Building on Ideas	Lecture
Facilitating	Telling
Simulation	Observation
Teams	Individuals
Hands On	Passive listening
Personalized learning	One approach for all
Self directed learning	Prescribed learning
Practice	Practice

If understanding is durable then what does this mean for teaching? For differentiated instruction?

Durable – staying strong and in good condition over time, able to withstand wear, pressure, or damage, hard-wearing (http://www.merriam-webster.com/dictionary/durable)

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Phases of Self-regulation

Plan

When will I start working?
Where will I work?
How will I work?
What do I need to know or do to get this done?
What does the teacher want me to do?
What do I want to learn?

Monitor

Am I accomplishing what I hoped to?
Am I being distracted?
Is this taking more time than I thought?
Am I understanding everything I need to understand?

Reflect

Did I accomplish everything I had hoped to?
Did I do well? Did I do poorly? Why?
What worked? What didn't work?
What should I do differently next time?

Control

I don't think I'm getting this:
What should I do differently?
What can I do to keep on task?
How can I encourage myself to get this done?

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Today's Topic

_____

New Vocabulary	Important Information + learned or ✓confirmed	Ideas

Questions I have

Today's Topic relates to our Essential Question because…

_____

_____

_____

Today's Topic made me think of…

_____

_____

_____

"TODAY I…" *(Circle all that apply)*

Helped a classmate   Asked for help   Stayed on task Had fun

Followed Directions   Arrived On Time   Was prepared to learn

My next steps are to:

The ALL-ED Framework: A Play Structure to Monitor Student Learning

Goals: Clear, Accessible, Relevant, and Rigorous

- What is the overall purpose of this activity/lesson?
- Are goals attainable by everyone and/or attainable parts identified?
- Is it interesting/useful/valuable?
- Is it challenging enough for everyone?

Starting Position

- Are the starting positions the same for all students?
- What questions do students have about this topic?
- What is their prior knowledge?
     Will they all understand the vocabulary?
- Any misunderstandings I need to address?
- Do students feel confident about the topic?
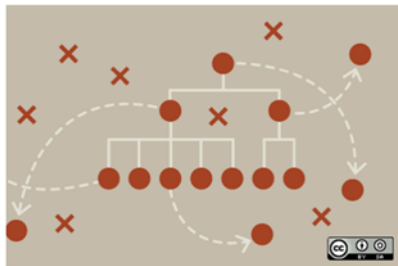
Action Pattern

- How do I ensure that *all* students are participating (and that there's no social loafing?)
- How can I make sure that students feel comfortable participating? (that they feel like they can participate)
- How can I promote productive group collaborations where students help each other learn?

Quality Criteria

- How can I make sure that students achieve the objectives of the activity/lesson? What is the rubric for lesson/activity?
- What are the must-haves (i.e., those things that all students should be able to do or understand by the end of each activity/lesson)?
- How do I stretch students? What are some quality criteria (yes and …criteria; things that make students go above and beyond?)

What is Self-Regulated Learning?

When it comes to tackling academic tasks, are you aware of how you learn? Do you know what your strengths and weaknesses are? Are you good at knowing what you know and don't know? Do you know what kind of strategies help you to complete a given task successfully? Before working on a task, do you set appropriate goals? While working on the task, do you monitor how you're doing and whether or not you need to change your strategies? When you encounter an obstacle, do you figure out ways around it? Once you complete a task, do you reflect on what you've learned and what you may need to do to improve your performance the next time around?

These are the kinds of questions that concern researchers who study self-regulated learning (SRL). Although there are a number of theoretical models of SRL, they all define SRL as a constructive process whereby learners proactively activate, monitor, control, and regulate their thoughts, feelings, and behaviors to achieve self-set learning goals (Zimmerman, 1990).

Top 10 Facts About SRL

1. Self-regulated students – that is students who reflect on their thinking, set appropriate goals and plan for learning, monitor progress towards those goals, and adjust or regulate their thinking, motivation, and study habits – are more likely to achieve academic success than those who do not (Pintrich & Zusho, 2007; Zimmerman, 1990).

2. SRL skills are learned skills that can be modified and improved, thus making it an ideal target for intervention at any age level.

3. The use of SRL-related strategies (e.g., goal-setting, monitoring, evaluating) should improve performance in any subject domain (e.g., reading, writing, mathematics, chemistry, biology, psychology, and even physical education) and at any grade level. Younger students may need more support with regulation.

4. Students who feel more confident (but not overconfident) about the subject and their academic skills are more likely to use self-regulatory strategies. Asking students to self-assess and monitor their progress helps to develop their perceptions of competence.

5. For students to regulate their learning effectively, they must also have adequate knowledge about the task and its requirements, the subject domain, and knowledge of strategies.

6. Students are more likely to regulate their learning when they have adequate resources available, including time, effective and supportive teachers and peers, as well as access to supplementary learning materials.

7. The use of SRL strategies is strongly associated with a growth mindset.

8. Students are more likely to regulate their learning when they are prompted to do so, either directly (through instruction) or indirectly (through feedback or activity prompts). Specifically, research shows that periodic self-assessments that ask students to reflect on what they know or do not know about a topic, and their depth of knowledge about key points promotes regulation of learning.

9. Differentiated instruction is easier when students support the effort by assessing their progress, seek help when needed, and pursue learning goals independently.

10. The ALL-ED routines of group learning, self-regulation, and planning with clarity, access, rigor, and relevance are central to fostering self-regulated learners.

What does it mean for "students to be aware of their next learning steps"?

An awareness of the "next learning steps" comes from assessment; the results of reflecting on student performance in relation to clear learning goals. Assessment identifies accomplishments as well as gaps between goals and achievement setting the stage for the next steps for learning. Surprisingly, the identification of next learning steps is the responsibility of both the teacher and learner. But, how do students become responsible for self-assessment and planning their next learning steps? Self-regulated learning is one strategy that will help students to both reflect on their learning and plan future goals.

Self-regulated learning (SRL) is the process where students reflect on their own thinking, set appropriate goals and plans for their learning, monitor their progress towards those goals, and adjust their thinking and strategies to learn more effectively based on their own reflections (Zimmerman, 2001). Students who independently report using self-regulation skills or self-monitoring are more likely to achieve academic success (Pintrich, 2000; Zimmerman, 1990). Students who are self-regulated learners are also more self-motivated, confident, able to address challenges that are encountered during learning, and know how to seek help when they don't know something (Zimmerman, 1990; Zusho, Karabenick, Karabenick & Newman, 2008).

Often we may think of self-regulation as part of a study skills program implemented for students who are struggling or taught once at the beginning of the school year. However, self-regulated learning can be embedded in formative self-assessments that are a part of teaching in learning in all subject areas by providing structures for students to ask and answer three questions, Where am I going?, How am I doing?, and What's next? (Andrade & Cizek, 2010, see figure below).
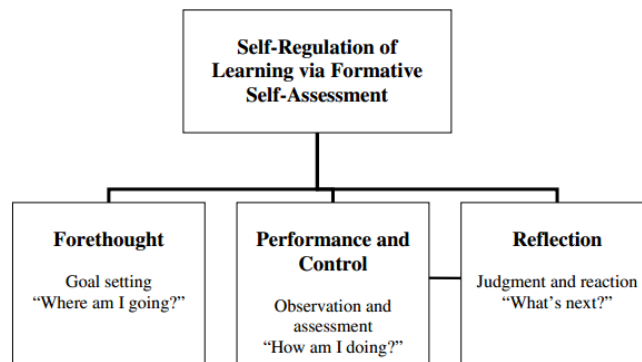
Why is it important?
Heidi Andrade uses the following quote to draw attention to the importance of the student role in learning in her chapter on Academic Self-Assessment and the Self-Regulation of Learning (Andrade, Cizek, 2010).

> Too often, teachers limit students' opportunities to receive information about their performances in relation to learning goals "by assuming that responsibility for the students…. Students, too often, view feedback as the responsibility of someone else, usually teachers, whose job it is to provide feedback information by deciding for the students how well they are going, what the goals are, and what to do next" (Hattie & Timperley, 2007, pp. 88, 101).

Teachers can avoid the problems outlined above by using self-regulated learning to help students take control of their experiences, understand themselves as learners, and increase efficacy. Academic identity is the students' belief in the value of learning, competence, and confidence. What children do in school is largely a function of what they understand about themselves and school-related tasks (Zimmerman, 2001). Because fostering the development of student academic identity is one of the most important responsibilities of all teachers, teaching self-regulation is a critical feature in a well-developed classroom. Further, by using self-regulated learning as part of formative self-assessment, the learning strategies of self-regulation can be generalized throughout the curriculum.

Where to begin with self-regulated learning as part of formative assessment in classroom?

The first phase of self-regulated learning is goal setting. Teachers might use a chart like the one below to help students learn how to think about goals.

Before you get started

---

1. **Think about the learning goal(s)**

* Star the goal that is the most important to you.

✓ Check the goal that may be the most challenging to you.

+ Put a plus next to goals that you have mastered.

Big Idea:

Content Goals	*Skill Goals*
☐	☐
☐	☐
☐	☐

2. **Plan** to accomplish the goal(s). I need to complete these tasks and/or use these strategies:
   - ☐
   - ☐
   - ☐

Be able to explain the answers to these questions:

1.   Why am I learning this?
2.   What do I need to complete the tasks?
3.   How confident am I that I can do these tasks?

Monitor your learning

During the learning process, graphic organizers support students in noticing both what they have learned or accomplished and the strategies or how they have learned. See this example adapted from the Read Write Think web site.
http://www.readwritethink.org/files/resources/lesson_images/lesson95/clunks_graph.pdf

Clunks and clues graphic organizer

Words or ideas I don't understand or need to know more about:

Clunk 1:
Fix-up strategy used:
Clunk 2:
Fix-up strategy used:
Clunk 3:
Fix-up strategy used:
Clunk 4:
Fix-up strategy used:

Fix-up strategies:

1 -- Reread the sentence with the clunk and look for clues to help you figure out the unknown word. Think about what makes sense.	2 -- Reread the sentences before and after the clunk looking for clues about the unknown word.
3 -- Look for a prefix or suffix in the unknown word that might help you figure it out.	4 -- Break the word apart and look for smaller words that you already know.

Get the Gist:

Write down the most important information, or main idea, in the reading. Rephrase the main idea in your own words, using as few words as possible.

Main idea/important information:

_____
_____
_____

Think about your learning

1. **What do you notice about the clunks and the fix-up strategies?**

2. **Next steps are:**

After you finish

A performance summary and next steps planning is a helpful tool for students to compare their performance to standards-based goals. See the 6th grade math example below from Mary Ann Sheppard, In Tech Academy, Bronx. Consider the difference in student understanding between a score of 80% on this math assessment and the results of this performance summary. Ask students to complete the performance summary as a Do Now activity after graded assignments are returned.

SAMPLE 6TH GRADE MATH PERFORMANCE SUMMARY

Name _____   Class _____ / Math

Playing with the Properties

Learning Targets	Complete understanding (2 points)	Partial understanding (1 point)	Not shown in this test (silly mistake or need to know)
1. Number sense			
2. Writing about the math			
3. Number sense			
4. Writing about the math			
5. Number sense			
6. Number sense			
7. Commutative Property			
8. Identity Property			
9. Identity Property			
10. Inverse Property			
11. Inverse Property			
12. Distributive Property			
13. Distributive Property			
14. Representing a situation			
15. Representing a situation			

Performance Summary

Number Sense (#1, 3, 5, and 6) _____ /8

Writing about the math (#2 and 4) _____ /4

Commutative Property (#7) _____ /2

Identity Property (#8 and 9) _____ /4

Inverse Property (#10 and 11) _____ /4

Distributive Property (#12 and 13) _____ / 4

Representing a situation (#14 and 15) _____ /4

Reflection This assessment shows me: My next steps for learning are to:

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