South Lewis Central School
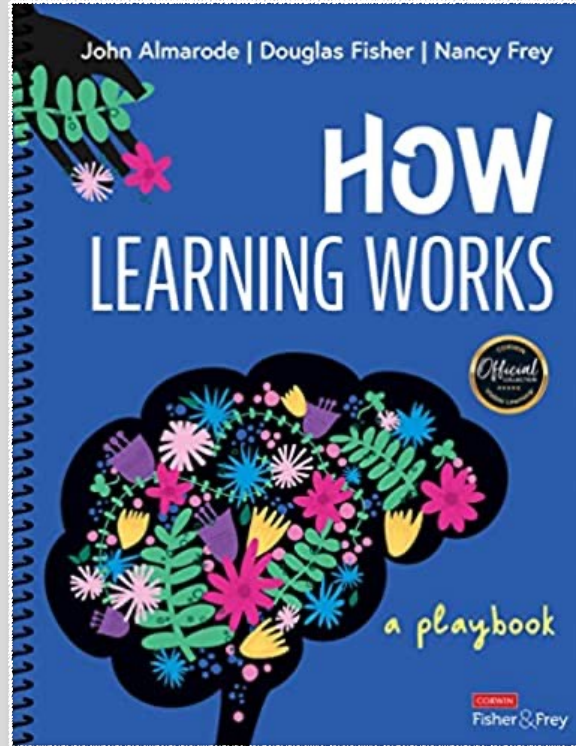
November Faculty Meeting
November, 2023

One District • One Building • One Family

How Learning Works

"The purpose of this playbook is to take a closer look at how our students learn so that we can better design learning experiences that align with how learning works" (Almarode, Fisher & Frey, 2022, pg 3).

Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook.* Thousand Oaks, CA: Corwin Press.
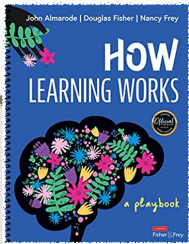
Rebound

Acceleration (d = .68)
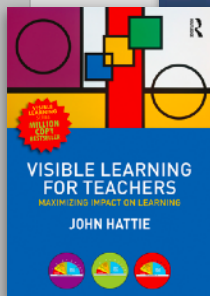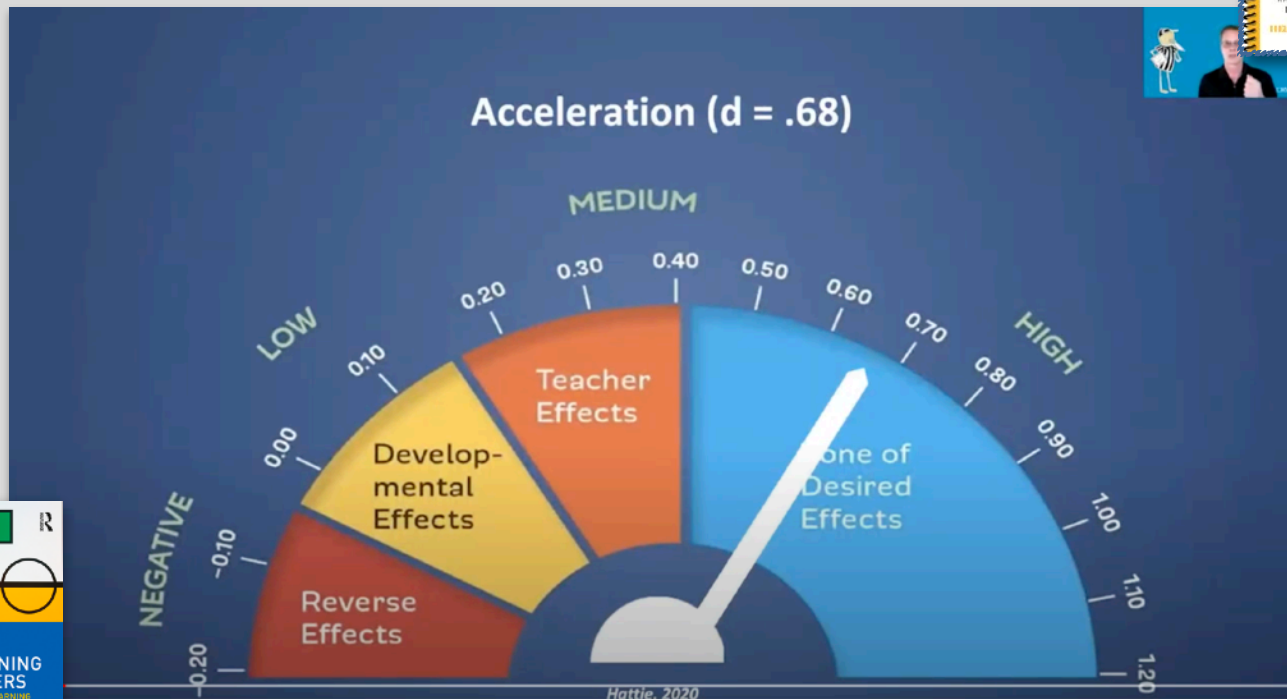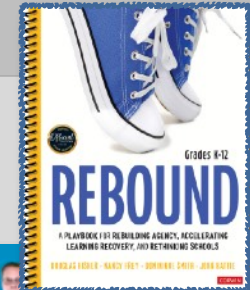
Fisher, D., Frey, N., Smith, D. & Hattie, J. (2021). *Grades K-12 rebound: A playbook for rebuilding agency, accelerating learning recovery, and rethinking schools.* Thousand Oaks, CA: Corwin Press.

How Learning Works: a playbook

A Thought to Ponder.......

Last year we focused on Promising Principles from the science of learning. This year we will focus on Student Learning Strategies that have potential to considerably accelerate learning.

⭐ Promising Principles Structured Review ⭐

Promising Principle 2: Attention

- **Selective Attention** refers to **directing students' attention** to what we want them to focus on.
- **Posting learning objectives** and **providing success criteria** are ways that we can **focus our students' attention** on the important content, skills and understandings of the lesson.
- **Learners** must be able to **attend** for the **learning process** to occur.

Promising Principle 5: Cognitive Load

Just like a surge protector "...our cognitive architecture provides similar protection against information overload"

(Almarode, Fisher & Frey, 2022, pg. 88).

MANAGE Intrinsic Load
MINIMIZE Extrinsic Load
MAXIMIZE Germane Load

"Cognitive load refers to the 'weight' or 'source of pressure' put on our students' working memory"

(Almarode, Fisher & Frey, 2022, pg. 90).

Promising Principle 6: Productive Struggle

COMPLEXITY = THINKING

DIFFICULTY = EFFORT

- **Productive Struggle** focuses on the **quality** of the learning as opposed to the **quantity**.
- **Productive struggle** refers to the balance of **complexity** and **difficulty** of the content, skills, or task of a lesson.

Promising Principle 7: Feedback

"**Feedback** is the **glue** that holds the **acquisition**, **consolidation**, and **storage of learning** together"

(Almarode, Fisher & Frey, 2022, pg. 110).

Purposes of Effective Feedback
- Direction
- Success Criteria
- Closing Gaps
- Directing Practice

Features of Effective Feedback
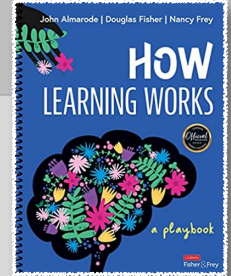- Timing
- Amount
- Mode
- Audience

"**Learning strategy instruction** will build the **capacity** and **efficacy of students** as they move <u>beyond</u> the specific **learning experiences** and **outside of our classrooms**" (Almarode, Fisher & Frey, 2022, pg. 6).

Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook*. Thousand Oaks, CA: Corwin Press.
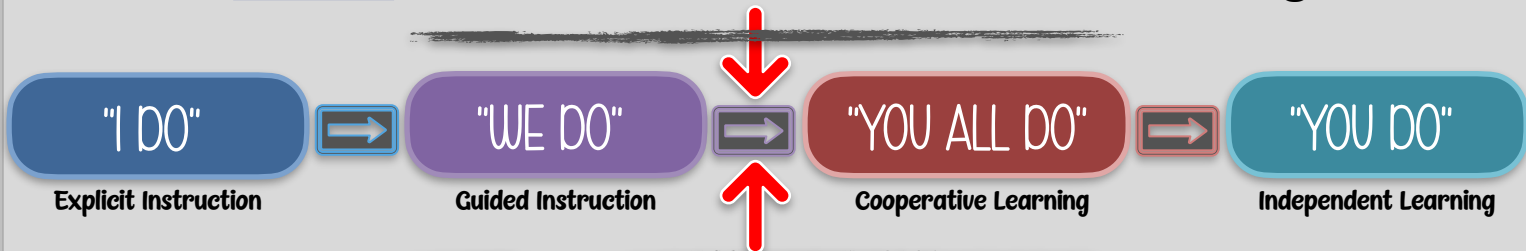
How Learning Works

Explicit Strategy Instruction

"Not by chance, but by design" (Almarode, Fisher & Frey, 2022, pg. 30).

⭐ Gradual Release of Responsibility ⭐

Not all of the responsibility for learning falls on the educator!
Students must have an active role in their learning.

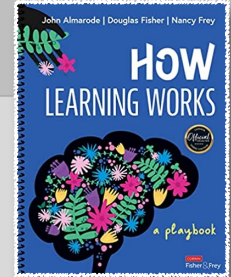| "I DO" →	"WE DO" →	"YOU ALL DO" →	"YOU DO"
Explicit Instruction	Guided Instruction	Cooperative Learning	Independent Learning

"Opportunities for practice and feedback drive the gradual release of responsibility and allow for the transition from one stage to the next" (Almarode, Fisher & Frey, 2022, pg. 126).

Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook.* Thousand Oaks, CA: Corwin Press.

How Learning Works

Explicit Strategy Instruction

Nine Barriers to Learning by Design...

1. Student Mindframes
2. Meta-Cognitive Skills and Self-Regulation
3. Student Fear
4. Insufficient Prior Knowledge
5. Misconceptions
6. Ineffective Learning Strategies
7. Low Potential for Transfer
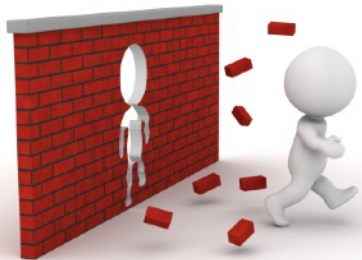8. Selective Attention Constraints
9. Working Memory Capacity

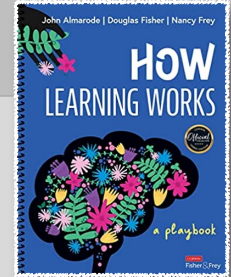(Almarode, Fisher & Frey, 2022, pg 33).

⭐ **We must know our students and what barriers they may have to learning.**

Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook.* Thousand Oaks, CA: Corwin Press.

How Learning Works

Explicit Strategy Instruction

Cognitive Load

How do we address *cognitive load* to maximize *learning by design?*

MANAGE Intrinsic Load ➕ **MINIMIZE** Extrinsic Load ➕ **MAXIMIZE** Germane Load

- Just like a surge protector "...our *cognitive architecture* provides *similar protection* against *information overload*" (Almarode, Fisher & Frey, 2022, pg. 88). Cognitive shutdown...

- *Cognitive load* can be *exceeded*, interfering with the *acquisition, consolidation, and storage* of learning during a lesson.
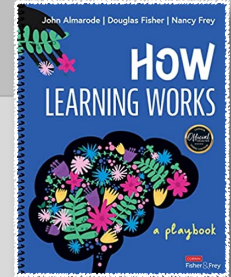
"*Active,* not *passive*. *Generative,* not *repetitive*" (Almarode, Fisher & Frey, 2022, pg. 128).

Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook.* Thousand Oaks, CA: Corwin Press.

How Learning Works

Goal Setting helps transfer the responsibility of motivation from the teacher to the student.

Explicitly teach students to:

1. Set a learning goal
2. Develop a plan for meeting that goal, and
3. Monitor their progress toward the goal

S.M.A.R.T.E.R. goals help students focus their learning and provide a roadmap for the acquisition, consolidation, and storage of knowledge. (Hint: This is the learning process!)

Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook*. Thousand Oaks, CA: Corwin Press.

How Learning Works

Personal Goal Setting and Monitoring

Cognitive scientists have long noted that learning requires effortful thinking—something our brains prefer to avoid (Kahneman, 2011). To learn something, we must commit to learning it—often by setting and monitoring progress toward a personal goal that, in effect, reminds our brains to stay powered up. More than a dozen empirical studies, in fact, point to creating personal learning goals as a powerful strategy for improving student learning. Here are some guiding principles we can extract from the research:

- **Specific and challenging learning goals.** Students who set specific goals outperform those with vague "do-my-best" goals. For example, experiments with 5th through 8th grade students writing persuasive essays found that students who were encouraged to set goals to consider the opinions of their audience and develop counter arguments wrote markedly better essays than students who merely set goals to improve their essays through re-writing (Midgette, Haria, & MacArthur, 2008).

- **Monitor progress.** Empirical studies also show that student goals are more powerful when students monitor their own progress toward them (Fuchs et al., 2003).

- **Set goals for learning, not just getting a grade.** Students achieve better outcomes when their goals focus on *mastering* new skills (such as learning how to write a good paragraph) rather than *achieving* an outcome (writing a good paragraph) (Schunk & Swartz, 1991).

The results of these studies are also compelling, with effect sizes equivalent to improving student learning from 16 to 47 percentile points. The guiding principle in all these studies, though, is that learning goals are only powerful if students internalize them as their own—when they use them to commit to learning.

The most important—and hopeful—takeaway from this research is that although students may challenge us with lack of motivation, no student is truly an unmovable object. They just need the right conditions. These two strategies provide both a fulcrum and lever to motivate reluctant learners by sparking their interest and encouraging them to set meaningful personal goals for learning.
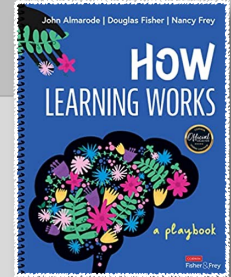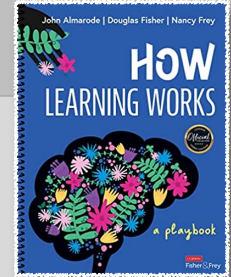
Goodwin, B. (2021, December). *Yes, you can motivate your students. Educational Leadership.* 79(4).
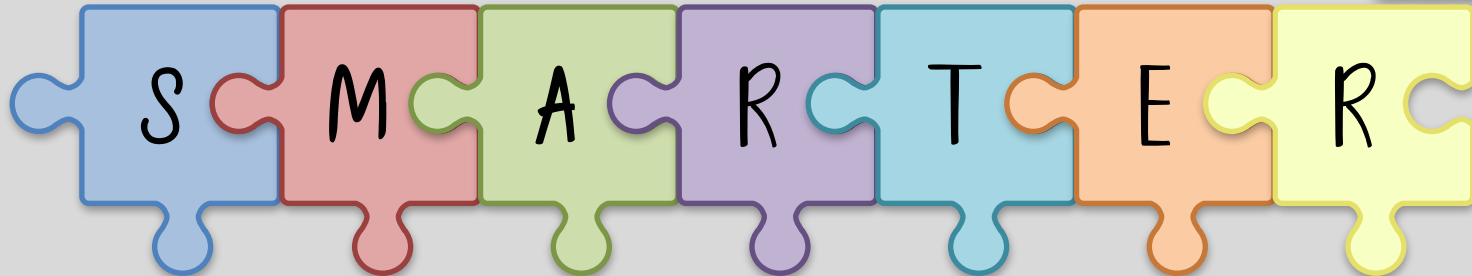
Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook.* Thousand Oaks, CA: Corwin Press.

How Learning Works

Learning Strategy I: Goal Setting

S M A R T E R

Specific
- What is the desired learning outcome?
- The goal should focus the student to the "what" and "why" of the desired learning.

Measurable
- How will the student be able to determine if he/she is making progress toward the goal?

Attainable & Ambitious
- Goals must be realistic in terms of achievability and require effort.
- *Remember - productive struggle is a good thing!*

Reason
- There must be a purpose for the learning. Otherwise it is not worth the effort.
- The goal must focus on a specific need or interest.

Timely
- The goal must have a timeframe for achievement.
- Have you ever said "I will get to it" when there is no deadline attached to a task?

Evaluate
- What progress is being made toward the goal?
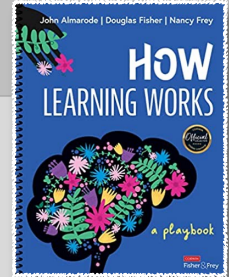- Build in checkpoints to assess progress toward the goal.

Re-Evaluate
- Evaluation is not a "one and done."
- Multiple points of evaluation of progress allows for, if any, adjustments are necessary to meet the goal.

Almarode, J., Fisher, D., & Frey, N. (2022). *How learning works: a playbook.* Thousand Oaks, CA: Corwin Press.
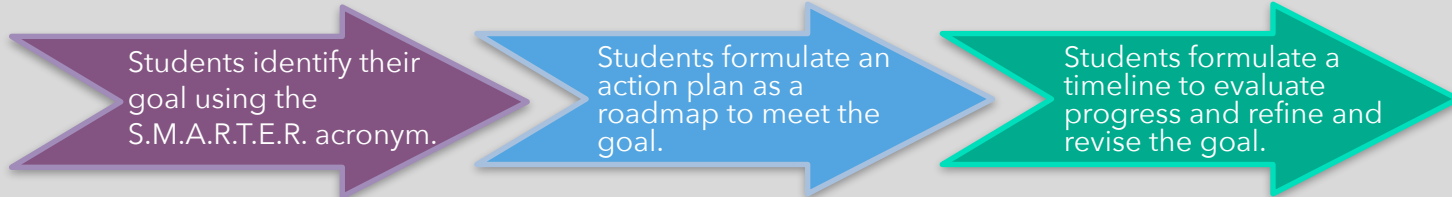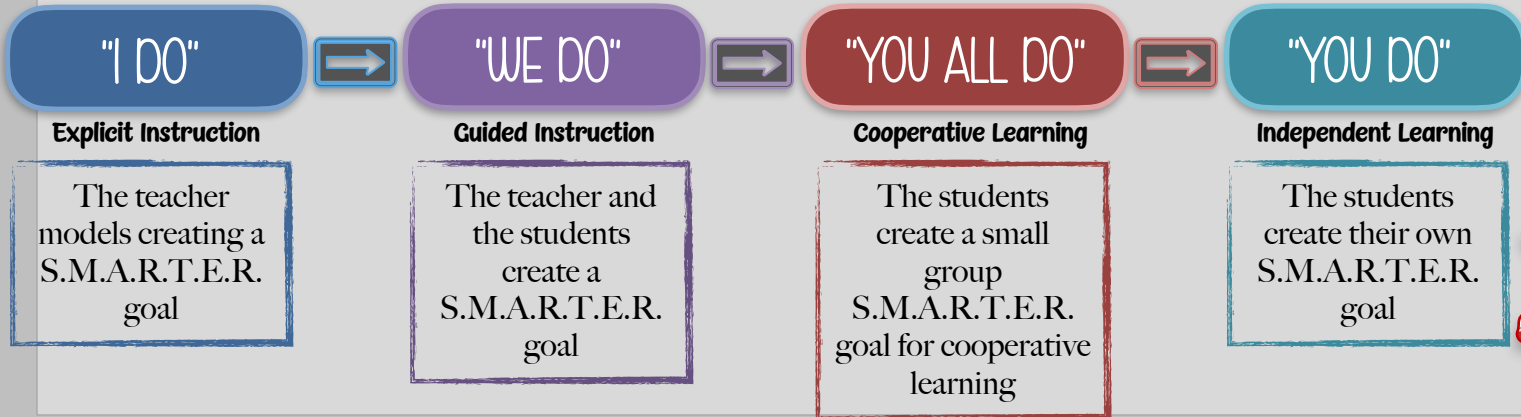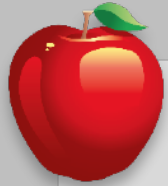
How Learning Works

Learning Strategy I: Goal Setting

The Goal-Setting Process

Students identify their goal using the S.M.A.R.T.E.R. acronym. → **Students formulate an action plan as a roadmap to meet the goal.** → **Students formulate a timeline to evaluate progress and refine and revise the goal.**

Gradual release of responsibility for goal setting.

"I DO"	→	"WE DO"	→	"YOU ALL DO"	→	"YOU DO"
Explicit Instruction		**Guided Instruction**		**Cooperative Learning**		**Independent Learning**
The teacher models creating a S.M.A.R.T.E.R. goal		The teacher and the students create a S.M.A.R.T.E.R. goal		The students create a small group S.M.A.R.T.E.R. goal for cooperative learning		The students create their own S.M.A.R.T.E.R. goal

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How Learning Works
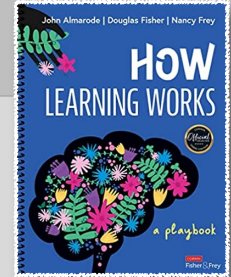
One final thought.......

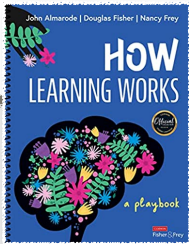"...how do we begin to **transfer** the **responsibility** of **motivation** from **solely our responsibility** as the teacher to the **responsibility** of the **learner?** One approach is to **explicitly teach** our **students** to **set a learning goal, develop a plan** for **meeting that goal**, and **monitor their progress toward the goal**" (Almarode, Fisher,& Frey, 2022, pg. 132).

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How Learning Works: a playbook
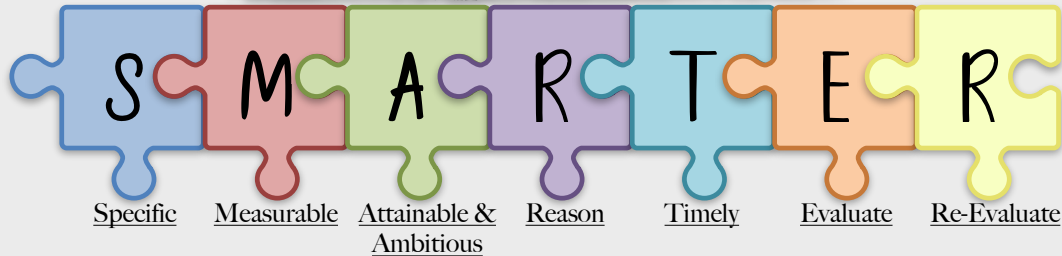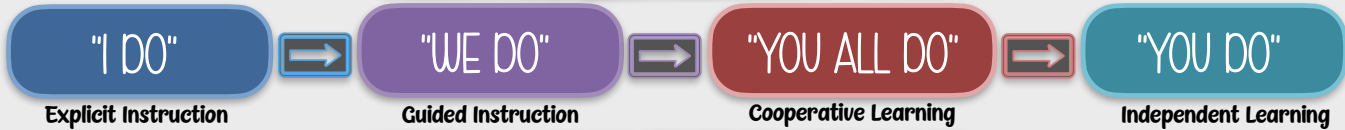
A Thought to Ponder.......

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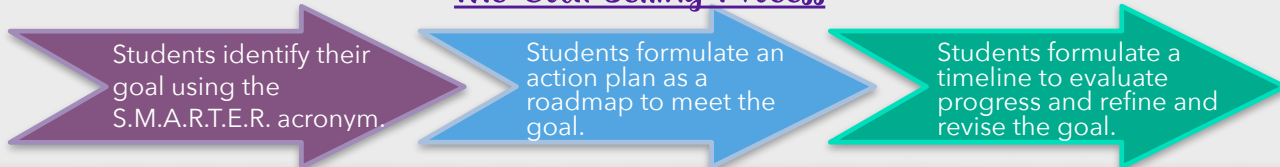### Explicit Strategy Instruction

Learning Strategy I: Goal Setting

⭐ **Gradual Release of Responsibility** ⭐

Not all of the responsibility for learning falls on the educator! Students must have an active role in their learning.

"I DO"	➡	"WE DO"	➡	"YOU ALL DO"	➡	"YOU DO"
Explicit Instruction		Guided Instruction		Cooperative Learning		Independent Learning

S M A R T E R

| Specific | Measurable | Attainable & Ambitious | Reason | Timely | Evaluate | Re-Evaluate |

Goals

The Goal-Setting Process

Students identify their goal using the S.M.A.R.T.E.R. acronym.

Students formulate an action plan as a roadmap to meet the goal.

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We all own this ……..
We're all in this together……..

KEEP CALM AND BE #SouthLewisStrong

Let's all pull together……

TEAM