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50+ Tools That Support the Gradual Release of Responsibility

> Douglas Fisher Nancy Frey Kierstan Barbee Sarah Ortega



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## **Gradual Release of Responsibility**

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### **Teacher Responsibility**



## **Strategies in Alphabetical Order**

STRATEGY	PHASE OF GRR	PAGE
5-Word Summary	F G C I	64
Advance Organizer	F G C I	8
Anchor Charts	F G C I	10
Anticipation Guides	F G C I	34
Close Reading	F G C I	36
Cognitively Guided Instruction	F G C I	38
Collaborative Annotations	F G C I	66
Concept Mapping	F G C I	100
Debate Corners	F G C I	68
Discussion Roundtable	FGCI	70
Elaborative Interrogation	F G C I	72
Entrance and Exit Tickets	F G C I	102
Exemplars	FGCI	12
Fishbowl Discussion	FGCI	74
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Instruction By Demonstration	FGCI	16
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KWL	F	G	С	1	44
Literature Circles	F	G	С		78
Microlectures	F	G	С	1	18
Note-Taking	F	G	С	1	106
Number Talks	F	G	С	1	46
Numbered Heads Together	F	G	С	1	80
Peer Assessment	F	G	С		82
Peer Teaching	F	G	С	1	84
Practice	F	G	С	1	108
Practice Testing	F	G	С	1	110
QRR Discussion	F	G	С	1	86
Self-Questioning	F	G	С		126
Quick Writes	F	G	С	1	112
RAFT Writing	F	G	С	1	114
Reciprocal Teaching	F	G	С		88
Retrieval Practice	F	G	С	1	116
Schema Activation	F	G	С	1	50
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## Introduction

## **Strategies That Make a Difference**

Every teacher has asked this question: *What strategy will help this student learn right now*? There are hundreds of strategies teachers can choose from and many right ways to teach. The answer to the question is impact: Which choice can we make that will increase the likelihood that students will learn? And, if the strategies we select are not having their intended impact, what is the next strategy that might make a difference? As we like to emphasize: Never hold a strategy in higher esteem than students' learning.

Whether we are planning a lesson or responding in the moment, our instructional choices shape how students engage, what they understand, and how deeply they retain new learning. Yet, teaching is not about simply collecting and implementing a set of random techniques, procedures, and tools. It's about understanding the *why*, *when*, and *how* behind each strategy to move learning forward.

This book is built on the belief that instructional strategies are not standalone tricks or isolated activities—they are purposeful moves within a larger framework of learning. Instructional strategies are the levers we pull to engage students, build understanding, promote collaboration, and ultimately help them learn to transfer knowledge and skills into independent application. Effective teaching, then, is not just about using strategies—it's about using the *right* strategies at the *right* time, for the *right* purpose, with the *right* level of support.

## The Framework of Gradual Release of Responsibility (GRR)

The organization of this book reflects our interpretation of the Gradual Release of Responsibility (GRR) framework (Fisher & Frey, 2021). There are other interpretations of this theory (e.g., Heick, 2015; Routman, 2003). When we were first refining our thinking about quality instruction, we wanted to honor our intellectual mentors and adopted the phrase "gradual release of responsibility language" (Pearson & Gallagher, 1983). In reality, the name should be the "as rapidly as possible and as slow as necessary model of instruction," but that's too much to say every time. We hope that our interpretation conveys the

1

intentional and purposeful nature of the learning experiences that teachers design and deliver to increase students' learning. We could have also called this the "intentional increase of student responsibility model of instruction," because that is the intended outcome of the experience. However, the giants who came before recognized that teaching is complex, that learning must be scaffolded (Webb et al., 2019), and that teachers and students share responsibility for learning.

In our interpretation, there are four major phases in the learning process:

- Explicit modeling and explanations (which we called "focused instruction" in 1997 what some might call input or microlearning)
- Scaffolded learning through guided practice (which we called "guided instruction" to highlight the instructional role that teachers play while students apprentice to more complex thinking)
- Consolidation of understanding between students as they coconstruct meaning and deepen understanding (which we called "collaborative learning" to highlight the need for students to interact with peers in every lesson)
- Opportunities to practice and apply learning individually and independently (which we called "independent learning" rather than "practice" to highlight the need for students to learn from the tasks they do on their own)

Importantly, these four phases can be implemented in any order that makes sense based on what students are learning. In this book, we provide more than fifty instructional strategies and align them to specific phases of our framework. Of course, many of these strategies are first taught in one phase and then practiced or applied in another. And no teacher uses all these strategies, but they do use the four phases in each session to close the learning loop for students. In fact, teaching and learning are recursive and cyclical—not linear—and teachers typically cycle through the phases several times during any given lesson, selecting strategies that they believe will impact students' understanding. You will note that we include evidence collection—checks for understanding—that allow teachers to immediately determine the impact of their selections and make decisions about any changes necessary at that time or later.

Knowing when to use a strategy—and why—is as important as knowing how to implement it. For example, a strategy like think-alouds might be used during "focused instruction" to model a cognitive process. But in "collaborative learning," students might use the same strategy with partners to externalize and refine their thinking. Similarly, exit tickets could be used as a quick check for understanding as independent reflections during "independent learning" to consolidate understanding and "guided instruction" could be used to address any misconceptions that occur during the learning process. What's important is not the strategy itself: It's the "instructional decision making" that surrounds it.

## Instructional Strategy as a Vehicle for Clarity, Connection, and Impact

Instructional strategies are most impactful when they are intentionally selected to support student-learning goals. Strategies are vehicles for the following:

- *Clarity*: Helping students understand the purpose of the learning, the expectations, and how to be successful
- Connection: Building bridges between new knowledge and prior understanding, between peers, and between concepts
- Cognitive Work: Supporting students to think deeply, reason critically, and take ownership of their learning.

#### **Students Are the Focus**

Ultimately, this book is not about strategies—it's about students. The best strategy in the world is ineffective if it does not meet the needs of the learners in front of us. That's why the strategies presented here are adaptable. They were selected not only for their evidence base and effectiveness, but also for their flexibility across grade levels, content areas, and classroom contexts.

Each strategy offers entry points for students at different readiness levels, with diverse language backgrounds, and with varying learning needs. You'll find strategies that support multilingual learners, that foster metacognition and self-assessment, and that encourage academic dialogue and productive struggle. Most important, you'll find ways to use strategies responsively—to meet students where they are and support them in getting where they need to go.

## What You'll Find Inside

As you explore the strategies in this book, you'll find explanations of what each strategy is, why it works, when it's most effective, and how it fits within the GRR framework. You'll also find step-by-step implementation guidance, examples, and related strategies to help you plan with flexibility and confidence. The strategies are organized alphabetically within each of the four major categories of the gradual release of responsibility for quick reference, but each entry is anchored in instructional purpose and real-world practicality. You'll see the following:

- Clear definitions and explanations
- Research-informed rationale for why each strategy works
- Connections to the GRR phases
- Checks for understanding

- Step-by-step implementation guidance
- · Variations to adapt across learners and contexts
- Related strategies for planning cohesive lessons

The appendix includes samples of lessons in which the strategies are integrated into the components of the gradual release of responsibility framework. These samples demonstrate the ways that teachers can weave the strategies into a logical flow that builds students' competence and confidence.

Whether you're a new teacher building your toolkit or an experienced educator refining your craft, this book is designed to support your planning, reflection, and in-the-moment decision making. It's a resource you can return to again and again, not just for what to teach—but how to teach it *so that learning moves forward*.



# Focused Instruction

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## Building Clarity, Connection, and Cognitive Engagement

Focused instruction is a deliberate and structured instructional move in which the teacher models, explains, or demonstrates new learning with clarity and precision (Fisher & Frey, 2021). It is the part of a lesson where students are not expected to discover or construct meaning independently but rather are building foundational understanding through the teacher's expert direction. In the broader instructional framework of a gradual release of responsibility (GRR), focused instruction represents the "I do" phase in which the teacher is doing most of the work—an essential moment where content is introduced, misconceptions are anticipated, and thinking is made visible.

Teachers use focused instruction to surface the most critical aspects of a concept—what must be known or done—and to reduce cognitive overload by sequencing information in meaningful ways. The goal is to provide clarity and confidence before asking students to engage with tasks more independently.

What distinguishes focused instruction is its intentionality. It is not simply lecturing or telling—rather, it involves a carefully orchestrated set of decisions about how to present new concepts and skills or deepen understanding of recently learned ones. Because all of the phases of GRR are dynamic, the focused instruction portions of the lesson move seamlessly into other phases. Even as an instructional strategy is being enacted, the teacher is continually looking and listening for when to intervene, and how to scaffold learning so that students are not overwhelmed.

Achieving this clarity depends on the thoughtful integration of high-impact strategies that support students' working memory and comprehension. For example, when a teacher uses an advance organizer or a visual walkthrough, they are not just introducing content—they are also activating background knowledge. This activation draws on students' prior knowledge, allowing learners to make mental connections between what they already know and the new ideas being introduced. Without this bridge, students may struggle to find relevance or coherence in what they're learning. This approach not only improves retention but also fosters a sense of continuity, making new material feel more accessible and less abstract.

In mathematics instruction, clarity is particularly crucial, as the cognitive demands of problem solving can easily overwhelm learners who are unsure of what steps to take. During focused instruction, presenting worked examples—fully solved problems with annotated reasoning—can offer students an essential model of thinking. This doesn't eliminate the need for productive struggle later, but it does provide an initial cognitive scaffold. Research from cognitive load theory supports this practice, suggesting that worked examples reduce unnecessary effort during the acquisition of new skills, allowing students to concentrate on patterns and principles (Sweller, 2011).

#### SECTION ONE: FOCUSED INSTRUCTION

Focused instruction also benefits from brevity and precision. Here, microlectures—short, intentional bursts of explanation—are useful. Rather than delivering lengthy expositions filled with countless presentation slides, effective teachers chunk content into manageable segments that align with the learning intentions of the lesson. These concise explanations are often accompanied by gestures, which enhance comprehension by engaging multiple modalities. For instance, when explaining a geometric principle, a teacher's hand movements might mirror the symmetry or transformation being described. Such gestures are not peripheral—they are part of the cognitive representation of the idea.

The physical embodiment of concepts through gesture is mirrored in another powerful strategy: demonstrations of learning. Whether it's modeling how to annotate a text or conducting a science experiment, demonstrations make the invisible visible. They give students access to the teacher's internal thought processes and make abstract concepts more concrete. Demonstrations also provide a shared reference point for discussion and analysis, anchoring subsequent collaborative or independent practice in a common experience.

Sometimes, that experience can be immersive. Focused instruction doesn't exclude dynamic or interactive elements—in fact, it often benefits from them. A well-designed simulation, for example, can function as a form of guided exploration. In the context of focused instruction, simulations are used not to replace explanation, but rather to enhance it by providing students an experiential toehold before deeper analysis. A virtual ecosystem simulation in a biology lesson allows students to observe patterns and causal relationships that the teacher will later explain and formalize. In this way, simulation complements direct instruction rather than compete with it.

Importantly, focused instruction is not passive absorption but a space of active construction, guided by the teacher's clarity and expertise. Thus, focused instruction is not defined solely by what the teacher says, but by the cognitive conditions it creates. When instruction is clear, purposeful, and anchored in evidence-based strategies, it lays the groundwork for deeper inquiry and independent learning. It recognizes that before students can take academic risks, they need a solid foundation of understanding, and that before they can collaborate effectively, they must share a common frame of reference. It ensures that every student—regardless of prior experience, language background, or readiness level—has access to the content in a way that makes sense.

When teachers thoughtfully integrate instructional strategies profiled in this section, they are not merely applying techniques—they are cultivating clarity, reducing confusion, and preparing students for success. By foregrounding these strategies within the structure of focused instruction, teachers can make learning memorable and meaningful.

## **STRATEGY: Advance Organizer**

**Explanation:** An advance organizer is a textual or visual framework that a teacher presents at the beginning of a lesson to help students connect prior knowledge to new learning. These short visual texts are designed to provide students with the big ideas of what they're about to learn. They serve as a high-level overview of how concepts are linked.

**Why this is impactful:** For lessons that are content heavy with abstract concepts, advance organizers orient students to the structure and big ideas of the lesson. When new and complex content is introduced, it can be difficult for students to track the flow of the lesson and understand how concepts are related. Advance organizers give students a generalized preview of the highlights of the content. This offers learners an anchor point to attach their knowledge as they acquire new content and skills.

**How this fits in the GRR:** Although students will be reading and engaging with the content, advance organizers are teacher created and offer the quick introduction to the learning. The teacher creates the text or visual roadmap for students to help make the subsequent focused instruction easier to follow.

#### **Checks for Understanding:**

#### Before the lesson

- Listen to the questions students ask about the content.
- Listen to how students process the content. This gives you an understanding of what they already know to help you make intentional connections during your explicit teaching.
- Look for the notes students take to see how they're processing the new ideas.

#### After the lesson

 As students make connections and add to their understanding at the end of a lesson, use their writings or discussions to note any misconceptions or errors that need clarification.

#### Variations:

- Consider the following variations from Fisher and colleagues (2025):
  - Expository. Describes new knowledge a learner will need to understand relates information to what is already known
  - Narrative. Presents information in a story format to activate background knowledge to help learners connect to new information
  - Skimming. Provides a high-level overview that focuses on titles, headings, and subheadings before reading the material more carefully
  - Graphic. Offers pictographs, concept maps, and descriptive visuals or patterns to overview the information that will be explored

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#### SECTION ONE: FOCUSED INSTRUCTION

#### **Related Strategies:**

Schema Activation Concept Mapping Self-Assessment Retrieval Practice Anticipation Guides

#### **STEP BY STEP**

#### **Preparation:**

- 1. **Identify the learning intention.** It is important that the teacher and students are clear on the end goal or outcome of the learning.
- 2. **Analyze students' prior knowledge.** Consider what students already know and how it links to the to-be-learned content. This will help ensure that the new knowledge is not completely foreign to students.
- 3. Choose the type of organizer for how to best present the overview.
  - *Expository.* Verbal or written. A short explanation of the content to be learned. This could be a paragraph or high-level outline.
  - Narrative. Story or example that is linked to key ideas, typically presented verbally.
  - *Skimming.* Structured preview of text. Allow students to skim titles, headings, subheadings, and graphics to determine big ideas.
  - *Graphic.* Visuals like timelines or concept maps that show how concepts are linked.
- Design the organizer. Keep the advance organizer simple and relevant. It is not teaching students new content but simply showing big ideas. Consider the learning intention and activate prior knowledge to scaffold to new learning.

#### Implementation:

- **Introduce the organizer BEFORE teaching the lesson.** Model how to use the organizer if necessary and explain its purpose. Keep it brief (three to five minutes).
- **Engage students with the organizer.** After reading, hearing, or viewing the content, students should annotate or discuss the ideas to activate their thinking instead of passively taking in the information.
- **Reference back to the organizer throughout the lesson** if students have their own printed or digital copy. Referencing the organizer reinforces learning and helps students make connections to big ideas.
- Reflect at the end of the lesson. Have students use the organizer to explain high-level concepts or rate their understanding of ideas. Students can add or discuss new learning and how it connects, or they can do a quick retrieval of all the new information they learned.

## **STRATEGY: Anchor Charts**

**Explanation:** Anchor charts are cocreated visual tools that capture key concepts, strategies, and learning processes in a way that students can reference independently. Rather than making these in advance, teachers build these charts with students during instruction to reinforce understanding and provide a shared record of learning. Anchor charts serve as ongoing reference points, helping students recall information, clarify misconceptions, and apply strategies. When students know where to look for help, they become more self-reliant in discussions, problem solving, and writing. Incorporating visuals, definitions, and translations can make anchor charts even more accessible, especially for multilingual learners.

Why this is impactful: Anchor charts empower students by making learning visible and providing a structured way to revisit concepts over time. They encourage independence by offering a resource students can turn to before asking for help. Additionally, they support retention by reinforcing learning through visual representation and active engagement in their creation. When teachers continually reference and model using anchor charts, they strengthen student connections to key ideas and promote long-term understanding.

**How this fits in the GRR:** Anchor charts allow the teacher to guide students through key concepts in a structured way. Although students can contribute to the chart, the teacher's main objective is to provide comprehensible input so that students acquire knowledge, they process that knowledge, and then the teacher continues to input information. Once the chart is completed, it then serves as a scaffold that students can reference during collaborative or independent practice, reinforcing their learning over time.

#### **Checks for Understanding:**

- Observe how often students reference the anchor chart while working independently or during discussions.
- Listen to see if students are incorporating language or strategies from the chart in their responses.
- Ask students to explain how they use the anchor chart to support their thinking.

#### Variations:

- Sketch out images, key terms, or layouts ahead of time to ensure clarity while still creating the chart with students. This approach can help imprint the information more effectively while making the teacher appear like a skilled artist by simply tracing over prepared drawings.
- Stack multiple anchor charts together with labeled sticky notes acting as an index, so students can flip through the stack to find the chart they need, making it easier to reference past learning.

- Enhance anchor charts by adding printed visuals, student work samples, or real-world examples to deepen connections to content.
- Teach from your walls. Continually reference anchor charts during instruction, modeling how to use them as a learning tool. When students see teachers and peers using them regularly, they are more likely to engage with them independently.

#### **Related Strategies:**

Think-Alouds	Think–Ink–Pair–Square
Concept Mapping	

#### **STEP BY STEP**

#### **Preparation:**

- 1. **Determine the focus of the anchor chart.** Identify key concepts or strategies that would benefit from a visual reference.
- 2. **Consider the structure of the chart, including headings, visuals, and key terms.** Depending on the purpose, leave space for student contributions or future additions as their understanding deepens.
- 3. **Gather materials.** Have ready chart paper, markers, and any necessary printed visuals.

#### Implementation:

- Set the purpose of the lesson. Before creating the chart, clearly explain the learning goal so students understand what they are expected to learn and how the chart will support them.
- Write or draw on the chart to build students' skills or knowledge. As you write or draw on the chart, pause to allow students to process the information using a strategy such as think-pair-square.
- **Encourage student contributions**, such as defining key terms in their own words.
- Incorporate visuals that enhance understanding without distracting from the core concepts.
- Ask students to contribute insights, suggest examples, or draw representations.
- Make it explicit how students are to use and interact with the chart. Model and regularly refer to the chart during lessons to demonstrate how the chart supports learning and problem solving.
- Place the chart where students can easily reference it during independent work and discussions.
- Regularly review, modify, and expand anchor charts as learning progresses, reinforcing their relevance and usefulness.

## **STRATEGY: Exemplars**

**Explanation:** Exemplars are authentic products that show students a range of proficiency levels, from emerging understanding to mastery. These carefully selected student samples or teacher-constructed exemplars allow students to see how the quality of a product progresses, as well as the necessary markers of success, so learners can see, study, and learn from the examples.

Why this is impactful: Words alone are often not enough to convey what success looks like. Pairing exemplars with success criteria helps students gain a stronger understanding of the expectation, including what it looks like and/ or sounds like. This gives students mental models for the range of performance indicators. When they know and understand what success looks like, students can better orient their efforts to better achieve the goal. Having models that are indicative of performance levels allows students to best match their levels of proficiency with a corresponding model and determine their next steps.

**How this fits in the GRR:** Although students can use the exemplars to assess their work in comparison, exemplars are the model of success. Used in conjunction with success criteria, exemplars give students a tangible product to study so that they know and understand the quality markers of a successful product.

#### **Checks for Understanding:**

- Pay attention to how students are identifying key features without support.
- Check to see if students are transferring the skills fluently to their own products.
- Ask students to self-assess their work against the exemplar continuum.

#### Variations:

- Use self-assessment. Identify exemplar essays with a range of performance, leveling them 1 to 4. With support from a teacher, students can determine the markers of success and why each essay receives the score that it does according to success criteria. Then students can self-assess the quality of their essay and determine their next steps.
- Focus solely on proficiency. Although it may be helpful to see nonexamples in comparison to what mastery looks like, showing students an example of proficiency while performing think-alouds of the most significant features helps students understand success.
- Use a student sort. Give students copies of the exemplars and allow them to sort them from emerging to mastery.

#### SECTION ONE: FOCUSED INSTRUCTION

#### **Related Strategies:**

Think-Alouds	Worked Examples
Anchor Charts	Self-Assessment

#### **STEP BY STEP**

#### **Preparation:**

- 1. **Gather exemplars.** Use anonymous student work with permission, or create a range of examples that show emerging learning, almost there, proficient, and masterful or exemplary learning, as follows.
  - *Emerging learning* exemplar shows the most foundational aspects of a product but in a very early phase of learning.
  - *Almost-there* products show growth from the emerging learning but don't quite exhibit proficiency.
  - Proficient examples show the grade-appropriate expectations.
  - Masterful or exemplary examples show exemplary performance above and beyond the grade-appropriate skill.

#### **Implementation:**

- Show students the exemplars. For focused instruction, allow students to read and analyze the examples without any labels to see what they see. Name the qualities that are represented in each level of performance. Thinkalouds are helpful.
- **Connect the exemplar to the success criteria.** Whether you present the success criteria as "I can" statements or rubrics, connect the markers of proficiency back to the exemplar. Color code or label the qualities in the work that students should aim to accomplish.
- **Lead a discussion.** Have students discuss what they noticed, including the qualities. Have students assign the labels: *emerging, almost there, proficient, exemplary*. Prompt students to consider their categorizations.
- Have students highlight information. Have students highlight, underline, circle, or label the success criteria. For example, in an essay, a student could highlight the thesis in green, the reason in pink, the evidence in yellow, and the transitional phrases in blue. This helps students to spot what is missing in the emerging and almost-there products and where the masterful exemplar has exceeded the expectations.

## STRATEGY: Gesturing

**Explanation:** Gestures are purposeful hand movements that support speech to enhance communication and learning. There are several categories of types of gestures, but "iconic gestures" and "metaphor gestures" are the types identified as having the most impact on comprehension of verbal information (Dargue et al., 2019). Iconic gestures visually represent a concrete action, event, or object and have a direct semantic relationship with the verbal information being spoken (Dargue & Sweller, 2018). For example, when explaining the concept of a pendulum, a teacher might swing their hand back and forth in a smooth arc to illustrate its motion. The other type of helpful gestures are metaphoric gestures, which are movements that represent an abstract concept. For instance, when discussing the structure of an argument, a teacher might stack their hands vertically to symbolize building layers of reasoning.

**Why this is impactful:** Gestures provide students with an additional modality for learning and promote active engagement. When teachers incorporate gestures into their explanations, students understand and retain information more effectively. This is because when students observe the physical gesture, their brains connect the meaning of that physical gesture with the content of the verbal information.

**How this fits in the GRR:** Gestures allow teachers to highlight key concepts and emphasize points as they provide new learning for students. As the teacher introduces new concepts, using intentional gestures reinforces meaning and supports student comprehension.

#### **Checks for Understanding:**

- Listen for improved explanation and connections when students explain the targeted concepts.
- Observe whether students mimic gestures when recalling information.

#### Variations:

- Ask students to mimic the gestures when the vocabulary word or term is being used.
- Ask students to create their own gestures for key concepts and to explain their reasoning.

#### **Related Strategies:**

Think-Alouds Microlectures Simulations Visual Walkthrough Schema Activation

#### **STEP BY STEP**

#### **Preparation:**

- 1. Identify the purpose of gestures.
  - Illustrate vocabulary words, like holding fake binoculars to the eye to show "identify" or a chopping motion to show partition.
  - **Show size or direction,** like physically moving on a number line to show negative integers or widening the hands to show expansion.
  - Reinforce a process, like forming a seed, bud, young plant, and flowering plant for the plant life cycle, or expanding and contracting your hand on your abdomen to show the movement of the diaphragm.
  - Remind students of regulatory behavior, like tapping the temple to indicate "think time."
- 2. Identify key concepts that could benefit from gesture-based reinforcement.
- 3. **Plan or create meaningful gestures that visually represent these concepts.** This can be hand gestures or full-body enactment. For example, students can make an *X* with their arms to model the sign for multiplication, or they can interlock their fingers on both hands to represent shared pairs of electrons between atoms in covalent bonding.

#### Implementation:

- Introduce gestures alongside explanations to reinforce meaning.
- **Be consistent in using the gesture with the accompanying term** so that students come to understand the gesture with the concept.
- Encourage students to mirror your gestures for difficult terms.
- **Reinforce and reuse** the gesture so that students gain fluency with the gesture and concept.

#### Notes

# 5

## **STRATEGY: Instruction by Demonstration**

**Explanation:** Instruction by demonstration is a step-by-step teaching strategy that explains and physically shows students a process before they engage in the process themselves. In situations where materials are too scarce or too dangerous for students to handle, demonstration by instruction gives students access to an in-person process to inspire and deepen their understanding. A demonstration functions as a form of success criteria by showing how something works and the steps and skill necessary to perform it.

Why this is impactful: Demonstrations without clear explanations leave students excited but without any concept of the to-be-learned concept. Conversely, words are often not enough to communicate processes to novices. Similar to visual walkthroughs, instruction by demonstration requires that teachers use object manipulation as a means to facilitate the explanation. Using manipulatives or objects helps make abstract words and concepts more tangible and concrete for students, especially when paired with think-alouds. When the demonstration is paired with well-crafted explanations, students use visual and verbal modalities that strengthen the new content's stability in the brain.

**How this fits in the GRR:** Instruction by demonstration is one way to show and explain new processes to students. The goal is to show learners what successful performance or engagement of the task or process looks and sounds like so that they understand the process more clearly or can replicate it on their own.

#### **Checks for Understanding:**

- Pause at intervals to see how students are processing the *whαt*, *how*, and *why*.
- Pay attention to student questions to determine potential gaps in knowledge.
- Ask students to reflect and make predictions to maintain minds-on participation.

#### Variations:

- To transition to guided instruction, after the modeled demonstration, allow student participation. If the goal is that students can replicate and/or explain the process, add a scaffold. The teacher continues the demonstration while students explain what is happening, why it's happening, and what needs to happen next.
- To increase student ownership, pair up students. One student demonstrates while the other explains the *what* and *why* behind the actions. This moves students from simply replicating a process to a deeper understanding through verbal explanation.

#### **Related Strategies:**

Think-Alouds Visual Walkthrough Anchor Charts Gestures Teach-Back

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#### **STEP BY STEP**

#### Preparation:

- 1. **Determine a process that would benefit from a demonstration.** Multistep processes that involve manipulation of objects are best for demonstrations such as experiments. For instance, you can use physical objects like counters or beads to helps students visualize mathematic operations, blocks for part-whole relationships, or atomic models to help students understand molecular structures and bonds,
- 2. Understand the potential pitfalls that weaken instruction by demonstration:
  - Not establishing a purpose. Students can get caught up in "doing" at the expense of learning. Whether the learning purpose is named at the beginning of the lesson or later on, students need to know the goal of the learning that the demonstration sets out to show.
  - Explaining the *what* without explaining the *why*. Getting caught up in the "doing" without explaining the *why* will have students observing a process without understanding the reasoning. As a result, students may be able to replicate a demonstration but miss the learning.
  - Going too fast. As experts, teachers often forget what it is like to not know. As a result, it's possible to assume students' prior knowledge, go too fast, or skip important steps that are necessary for students to understand the intended learning.

#### Implementation:

- **Share the purpose.** This can be before the demonstration or after (if you are taking on an inquiry-based approach). But at some point during the lesson, share the goal so that students aren't left guessing and arriving at the wrong conclusion.
- **Explain reasoning behind each step and narrate thinking.** Be explicit about what students should observe or pay attention to, so that all students are oriented to the most important features.
- **Display labels or written steps to help students make connections**. An overreliance on verbal instruction can cause students to forget key steps or key academic vocabulary. Displaying written steps or labels makes the learning more concrete.
- If students are expected to replicate the process, transition to guided instruction to provide more support. This helps ensure that by the time students engage collaboratively or independently, they know what they are doing, why they are doing it, and the precision with which they need to engage. Repeat steps as necessary.

## **STRATEGY: Microlectures**

**Explanation:** Microlectures are short, focused talks about targeted content. Unlike long lectures, microlectures explain a single concept clearly and concisely to avoid overwhelming the learner. A microlecture is different from a traditional lecture in which a teacher has a monologue and students listen passively for long periods of time. Powerful microlectures capture the big ideas of a single concept.

Why this is impactful: Although long lectures allow students' minds to wander, microlectures often appear at multiple iterations during a lesson so that checks for understanding and cognitive engagement can be applied. Because the teacher is delivering content in digestible chunks as opposed to longer bouts of monologue, students retain the input better because their working memories are not heavily taxed. The time is reduced between the teacher explaining and the student doing something with that information.

**How this fits in the GRR:** Microlectures provide new learning, or input, though teacher modeling, thinking aloud, demonstrating, or explaining a new concept. A microlecture introduces concepts or skills in a brief amount of time and with intentionality on the part of the teacher. Microlectures concentrate on a few ideas rather than a comprehensive explanation.

#### **Checks for Understanding:**

- Ask students to explain the concept in their own words. Listen for understandings and misconceptions.
- Allow students to draw, write, solve, map, sort, or discuss the new information. Observe the connections students make to the content.
- Ask what the most confusing part of the microlecture was to determine points of clarification.

#### **Related Strategies:**

Think-Ink-Pair-Square Quick Writes Note-Taking

Think-Alouds Visual Walkthrough

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#### SECTION ONE: FOCUSED INSTRUCTION

### **STEP BY STEP**

#### **Preparation:**

- 1. **Choose the topic to be learned.** Focus on a single concept or skill. Choose a topic that can be taught well in a short span (three to seven minutes).
- 2. **Determine the most important points.** Consider the need-to-know information and leave out the neat-to-know. Ask yourself, *What do my students need to know and be able to do as a result of this microlecture?*

#### Implementation:

- **Structure the talk.** Explain the concept or process using accessible language.
- Pair the microlecture with images. Using images or animations to help students process the content gives students verbal and visual access to the new knowledge.
- **Bridge to the next microlecture.** If concepts require longer explanation, break up the lecture into a series of microlectures to allow students the time to process the information. Make connections between ideas.
- **Check for understanding and adjust as necessary.** The power of a microlecture is in its intentionality and chunking of information. Have students demonstrate their understanding through a partner conversation, quick write, or a short task to see what information they're understanding.
- Repeat as necessary to develop students' understanding of the skill or concept.

#### Notes

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## STRATEGY: Short Recap

**Explanation**: Short recaps are two- to five-minute explanations that review previously learned content. A teacher can recap at the beginning of the lesson to anchor the day's learning, in the middle of a lesson to reinforce ideas, or at the end of a lesson to cement student understanding and solidify knowledge of key concepts.

Why this is impactful: Review plays an important role in synthesizing learning for students. In the face of new learning, students often forget what they already know. Whether connecting prior days' learning at the beginning of the class or summing up the big ideas at the end of class, short recaps reinforce student knowledge. The short recap gives them a zoomed-out view of the learning to reorient them to key concepts and tie them all together. This approach helps students consolidate their learning, check their own understanding of ideas, and see where in the progression their new learning fits.

**How this fits in the GRR:** Short recaps are teacher led as an important part of focused instruction. The teacher offers a coherent, high-level summary of previous days' learning or a recap of the new learning to help students revisit learned material, make sense of the content, or bring closure to a lesson. Although questioning techniques can be incorporated to check for understanding, the teacher should name the relevant learning that students need to attend to.

#### **Check for Understanding:**

- Allow students to recap the lesson and listen to what they remember and what they are forgetting. Use that information as an impetus for a formal recap so that everyone is on the same page.
- Use questioning strategies and universal response to activate prior knowledge as students retrieve and remember prior learning (see the schema activation strategy).

#### Variations:

- Short recaps are flexible in use. Consider using the following practices during daily review (Rosenshine, 2012, p. 13):
  - Review the concepts and skills that were practiced.
  - Ask students about concepts where they had difficulties or made errors.
  - Review material where most errors were made.
  - Review material that needs overlearning (i.e., newly acquired skills should be practiced well beyond the point of initial mastery, leading to automaticity).

#### SECTION ONE: FOCUSED INSTRUCTION

#### **Related Strategies:**

Microlectures Advance Organizer Worked Examples Schema Activation Anchor Charts

#### **STEP BY STEP**

**Preparation:** 

- 1. **Determine the purpose of the recap.** Whether to review, reinforce, or transition, short recaps require intentional thought. Without careful attention to the big ideas, short recaps can get caught up in details or tangents that detract students from the big-picture understanding.
- 2. **Be intentional about what is to be recapped.** Because short recaps are often about synthesis, be deliberate in choosing the select main ideas that are to be reinforced.

#### **Implementation:**

- When recapping a prior day's learning, be intentional about the transition to the current day's learning. Activating students' prior knowledge about what they've learned so far is helpful, but solidifying it through a recap helps all students to "remember" the relevant knowledge to make the day's learning more permanent.
- When recapping the day's learning, connect back to the learning intention. The learning intention includes the major skills or concepts that were the focus of the lesson.
- When using short recaps to correct class errors, select one or two of the most common errors. Although there may be several types of errors students make during collaborative and independent practice, illuminating all errors for all students can be overwhelming. Identify one or two errors that students are making most frequently and teach accordingly.
- Use visuals to anchor the learning. Use anchor charts, slide shows, or concepts to add an extra modality and help solidify learning. The visuals provide another point of access for learners to pull the information together.
- **Invite students into the conversation**. Depending on the point in the lesson in which the information is being recapped, hearing from students about their difficulties and errors can serve as a bridge to new learning.

## **STRATEGY: Simulations**

**Explanation:** A simulation is an instructional strategy that immerses students in a realistic scenario or environment. This experience allows students to navigate complex situations firsthand. In these manufactured experiences, students apply theoretical knowledge and observe the outcomes of their decisions in a controlled setting.

Simulations can support a variety of skills across subjects. For example, in a high school anatomy and physiology class, students use interactive 3D Anatomy Simulator table to engage with realistic interactive anatomical structures. In a fourth-grade social studies unit on local government, students visit a mock town where they take on roles such as mayor, banker, and shop owner. They work together to manage resources and make financial decisions about how to spend their paychecks during their work breaks.

Why this is impactful: Simulations are impactful because they are highly engaging, drawing students in through real-world connections and meaningful, hands-on experiences. The high degree of relevance makes learning more authentic, increasing motivation and participation. Simulations also create a **shared experience** for the class, fostering collaboration and discussion. Academically, they deepen students' understanding of **perspectives and concepts** by immersing them in realistic decision-making scenarios. Most importantly, simulations allow students to **put their knowledge into practice**, reinforcing learning through direct application.

**How this fits in the GRR:** Simulations allow teachers to model and demonstrate for students as they provide learners with structured, immersive experiences that introduce new concepts and skills in a meaningful context. By engaging in a realistic scenario, students observe key processes, analyze outcomes, and interact with controlled variables. This builds foundational understanding before moving on to guided or independent application.

#### **Checks for Understanding:**

- Observe students' decision-making processes and their ability to apply theoretical knowledge to the simulated scenario.
- Facilitate debriefing sessions in which students reflect on their actions, discuss outcomes, and articulate the reasoning behind their decisions.
- Have students complete a written reflection or an open-ended response, explaining what they learned from the simulation and how the skills or concepts apply beyond the classroom.

#### Variations:

- Ask students to assume specific roles within a scenario, allowing them to explore different perspectives and work together to navigate the experience.
- Immerse students in a fully interactive, three-dimensional virtual reality (VR) experience.

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• Utilize software to create interactive environments where students can manipulate variables and observe outcomes.

#### **Related Strategies:**

Microlectures Note-Taking Think-Alouds Visual Walkthrough

## **STEP BY STEP**

#### **Preparation:**

- 1. **Design a realistic scenario** that mirrors real-world situations relevant to the unit of study.
- 2. Gather and prepare necessary materials required for the simulation.
- 3. Anticipate potential challenges and plan strategies to address them.

#### Implementation:

- **Clearly articulate what students should achieve** through the simulation and how it aligns with course goals.
- **Model key concepts, and provide direct instruction** as students engage with the simulation.
- Offer real-time feedback to guide student understanding and reinforce learning.
- **Provide feedback** through the simulation experience.
- **Facilitate a postsimulation debrief.** Prompt reflection with questions like these:
  - What happened when . . . ?
  - How does this connect to \_\_\_?
  - What would happen if . . . ?

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## **STRATEGY: Think-Alouds**

**Explanation:** Think-alouds are an instructional strategy in which teachers verbalize their cognitive processes while working through a problem, analyzing information, or completing a task. By making their internal thinking visible, teachers model how experts approach challenges, make decisions, and apply strategies. Think-alouds can be used in any content area—whether it's working thorough a problem, analyzing a text, solving a problem, or completing a task. The goal is for students to mimic the cognitive approaches the teachers model, so learners can apply them independently.

**Why this is impactful:** This approach is like having a coach demonstrate an invisible skill—thinking—in a way that helps learners see and hear that skill in action. Research shows that when teachers verbalize their thought processes, students develop stronger metacognitive skills and become more strategic learners because they see the strategies in action (Kucan & Beck, 1997).

**How this fits in the GRR:** Think-alouds are designed to model how and why decisions are made during a cognitive task—they make the teacher's thinking visible. Teachers verbalize their thought process, explaining not just what they are thinking but why they are making specific cognitive choices. Elements of guided instruction and collaborative learning can also emerge as students are encouraged to think along with the teacher or independently apply the learning. However, the primary purpose of think-alouds is to provide students with direct insight into effective thinking strategies.

#### **Checks for Understanding:**

- Observe whether students can articulate the purpose of think-alouds with a response like, "The teacher is showing me how they think, so I can \_\_\_\_."
- Ask students to articulate their own think-alouds as they use various processes to solve a problem or analyze a concept. Students can also record themselves thinking aloud and then reflect on their strategies.
- Ask students questions like these: "Why did you make that choice?" or "Tell me what you are thinking." Listen for evidence that they are using the modeled strategies.

#### Variations:

- Use visuals to signal cognitive processes. For example, a math teacher may display visuals to represent various thinking processes while solving a problem:
  - A card with the number 3 signals making the decision to use the hidden quantities protocol to understand the context of the problem and the relationship between the quantities.
  - A card with an image of gears represents evaluating different options for starting or completing the problem.

- A card with a yellow light indicates the decision to slow down and clarify thinking before proceeding.
- This strategy can be customized for different disciplines. For example, in history, a teacher might think aloud how to analyze a historical document or a political cartoon. In science, a teacher might need to model how to understand a complex sentence in which there are lengthy noun phrases.

#### **Related Strategies:**

Microlectures	Think-Alouds
Note-Taking	Visual Walkthrough

#### **STEP BY STEP**

#### **Preparation:**

- 1. **Identify the type of thinking you want students to understand** and ensure the task highlights the type of thinking needed.
- 2. **Examine the task** and note where to model key strategies such as questioning, synthesizing, or problem solving.
- 3. Plan and script think-alouds statements in advance.

#### **Implementation:**

- **Clearly name the thinking process you will model.** For example, "I'm going to think aloud about how I decide which information is most important in this text."
- **Explain why this thinking process is valuable.** For example, "Readers constantly monitor their understanding, and this helps them stay engaged and make sense of the text."
- **Provide context for when this strategy is useful.** For instance, "I use this strategy whenever I come across a dense passage where not all the details are equally important."
- When it's applicable and it doesn't distract from the learning, use an analogy to connect new thinking processes to something familiar. For example, "This is like packing a suitcase—you have to decide what's essential to bring and what you can leave behind."
- **Model the thinking process in real time.** Verbalize your thought process as you apply the strategy, using *l can* statements. For example, "I noticed that the author has already repeated this phrase a few times. This makes me think that it must be important."
- Alert learners to common errors that are made. For example, "One mistake I used to make was underlining everything. But if highlight too much, I lose the key points. So, to fix that, I stopped highlighting as I read, and started making my highlighting decisions after I finished reading the paragraph or section."

## STRATEGY: Visual Walkthrough

**Explanation:** A visual walkthrough is a step-by-step guide that pairs images with explanation to create a deeper learning experience. Products that require assembly often use a visual walkthrough, pairing images of the parts alongside the instructions. Computer software and applications take a similar approach where they walk the user through the essential features so that the user has clarity about how to use the technology. In the classroom, designing slides with intentionally selected images paired with teacher explanations brings clarity to a process, concept, strategy, or usage of a tool. In a visual walkthrough, the visuals anchor the explanation. Think of the visual walkthrough as a user guide to academic content. The visuals are simple enough to communicate meaning, and the explanations say only enough to capture the idea.

Why this is impactful: Although a visual walkthrough seems intuitive because teachers use smartboards and slides daily, it's something that is frequently done ineffectively. A visual walkthrough involves far more than a lecture with slides—it's a visually anchored explanation. Dual coding theory (Paivio, 1986) is the idea that the brain processes words and images on two different channels that are coded differently but complement one another. By incorporating intentional images with explanations of content, teachers can help students build stronger mental models than just using words alone. Carefully curating images or animations to use in a visual walkthrough strengthens the "stickiness" of information. However, it's also important to note that overly decorated slides or poorly selected images can detract from the learning.

**How this fits in the GRR:** Teachers utilize visual walkthroughs in focused instruction as a means to helping students acquire new knowledge and understanding. Images can show students a model of what a "thing" looks like, whereas the explanation of a process and how the "thing" works builds students understanding by helping them make connections between the abstract and the tangible.

#### **Checks for Understanding:**

- Check in with students to see if they've seen the image or example prior to the lesson. Make connections.
- Pause to check for understanding and allow students to explain the ideas presented in a quick write or a partner conversation. Determine if there are any ideas that need to be reexplained or reinforced.

#### Variations:

Have students use visual walkthroughs to explain a concept.

#### **Related Strategies:**

Think-Alouds Instruction by Demonstration Concept Mapping Quick Writes

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#### **STEP BY STEP**

#### Preparation:

- Determine the process, concept, strategy, or tool that would benefit from a visual explanation. Short-constructed responses, cellular respiration, taking turns, and color theory are all concepts or processes that benefit from visuals beyond explanations.
- 2. **Carefully select the visuals.** When teaching something new, avoid complex or cluttered visuals that disorient students' attention. For example, in an introductory anatomy lesson on the structure and function of a circulatory system, including images that contain the digestive system could confuse students. Consider how to sequence the visuals in a manner that best facilitates learning.
- 3. **Consider how to chunk the visuals.** Use arrows, numbering, or color coding to signal the progression of ideas. For example, using numbers to indicate *first, second,* and *third* breaks the information down into smaller chunks so that students see the individual pieces of a process or idea before putting them all together.

#### Implementation:

- Explain the goal of the learning or function of the process.
- Activate the students' prior knowledge. Determine what students already know and what misconceptions they have (see the schema activation strategy). Understanding students' levels of knowledge helps inform the explanation.
- **Narrate the lesson**. Begin explaining the concept. Intentionally reference the visuals to guide students' focus. Engage in think-alouds to explain what it is, what is happening, why it's happening, or why it matters.
- When explaining a process, use numbered steps to help explain the progression. Using numbered steps orients students to the flow of the process. It helps students think about the explained material in chunks.
- Check for understanding. Allow students to explain to a partner or write down their understanding, make predictions, or build connections between ideas.
- When students understand the surface features of the concept or process, extend learning by introducing common mistakes or misconceptions or integrating more complex images to show the nuances and complexities.

## **STRATEGY: Worked Examples**

**Explanation:** A worked example is a completed problem or task that students analyze to understand the reasoning behind each step before attempting similar problems on their own. Instead of solving from scratch, students study expert solutions and examine the process used to arrive at the answer.

Why this is impactful: Worked examples reduce cognitive load by providing a fully worked-out solution, so students can focus on understanding the process rather than simultaneously managing execution and reasoning. By analyzing multiple examples, students develop a mental model of problem structures and strategies. Additionally, exposure to varied examples helps students recognize patterns, which makes it easier for them to transfer and apply learned strategies to new and unfamiliar problems.

**How this fits in the GRR:** Worked examples fit within the guided instruction phase of the GRR framework. The teacher provides completed examples and then facilitates discussion and analysis of those examples before students apply similar strategies independently. The teacher is responsible for listening to student responses and making decisions on when to use questioning, prompts, or direct instruction.

#### **Checks for Understanding:**

- Ask students to explain the reasoning behind each step. Ask questions like these: "Why was this step necessary?" "How did this mathematician move from Step 2 to Step 3?" "Could this problem be solved differently?"
- Listen to see if students are comparing multiple approaches and recognizing patterns in the worked examples.
- · Identify misconceptions by analyzing student reasoning.
- Ask students to solve the same problem using a different strategy and to discuss the relationship between the two approaches.

#### Variations:

- Worked examples have primarily been studied and applied to math but can also be applied to other subjects, such as analyzing a scientific explanation or a well-written paragraph.
- Incorrect examples can be analyzed, but research suggests that correct examples are generally more effective (Barbieri et al., 2023).
- Include visual cues, which are particularly helpful for students with misconceptions. Visual cues include using color coding or bolding text to highlight key steps or operations. Arrows can be helpful to show connections between steps. Annotations or labels with brief explanations next to the steps help to reinforce the purpose of the step.

#### SECTION ONE: FOCUSED INSTRUCTION

#### **Related Strategies:**

Exemplars

Think-Alouds

#### **STEP BY STEP**

#### **Preparation:**

- 1. Select a problem or task that highlights the key thinking process or **strategy** you want students to understand.
- 2. Prepare a clear, well-organized example.
- 3. Plan guiding questions to prompt student analysis, such as these:
  - How did the mathematician set up this problem?
  - How does this step connect to previous concepts?
  - What other strategies could be used?
  - What mathematical or conceptual understanding was applied here?

#### **Implementation:**

- Introduce the worked example and explain its purpose, such as, "We are studying this example to understand the process before solving on your own. Analyzing this example will help us approach similar problems more effectively."
- Connect the example to prior knowledge.
- **Guide students in analyzing the example.** Focus on key elements like quantities, steps, and decision points.
- **Encourage discussion on why each step was taken** and explore alternative methods. Discuss accuracy and efficiency when applicable.
- **Transition to collaborative or independent practice** where students analyze new worked examples to apply the approach to their own problem solving.

#### Notes

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