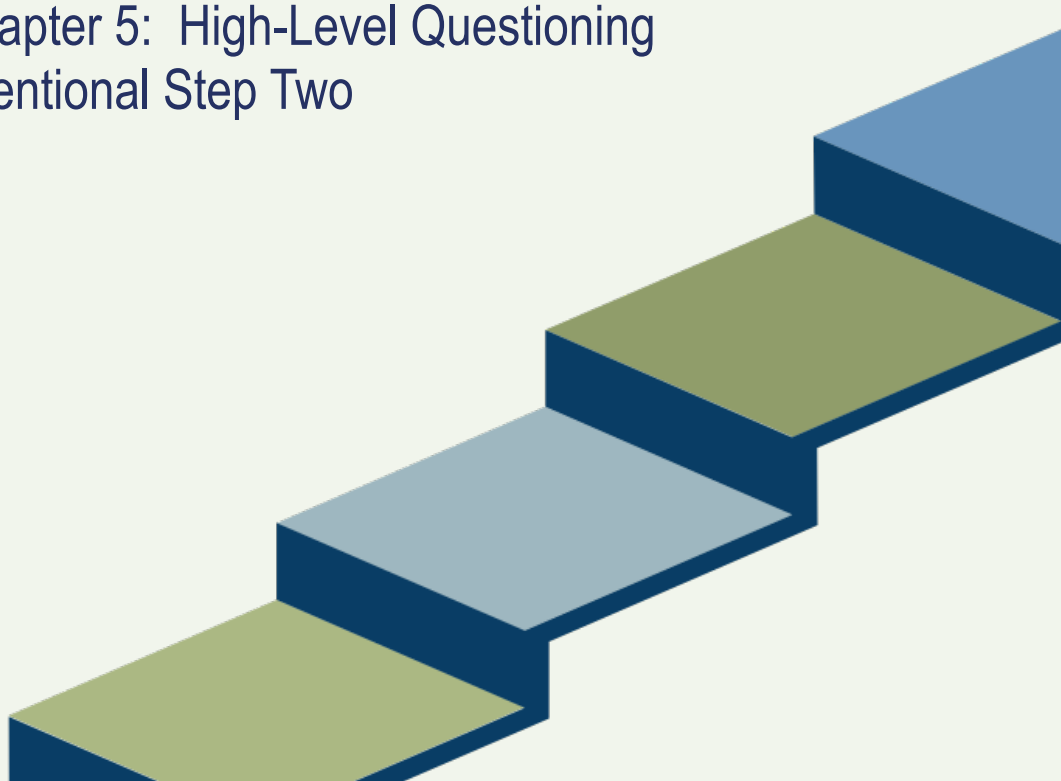
Intentional Instructional Moves

Strategic Steps to Accelerate Student Learning

Companion Guide

Chapter 5: High-Level Questioning
Intentional Step Two



Chapter 5

Intentional Step Two: Encourage Students to Answer Higher-Level Questions

What is the value of asking rigorous questions if students aren't able to answer them? This dilemma is likely something many teachers have wondered, including Dr. Terry Talley. In her work in curriculum and instruction, Talley (2020) has pointed out the significance of intentional design and scaffolding when incorporating more rigorous questions in the classroom. We want to get students to a place where they're regularly analyzing and synthesizing information, but we also want to avoid overwhelming or stumping them. If a teacher asks a high-rigor question and gets a bunch of blank stares or "I don't know" responses, it can feel discouraging.

The good news is that with scaffolding and strategies designed to promote deeper thinking, teachers can help foster the confidence and abilities students need to answer those higher-level questions. The techniques below help guide student inquiry and understanding, while also encouraging independent thinking and student-to-student interactions. When the teacher uses well-designed sequences of questions paired with supports that help access deeper levels of thinking, student responses will become more thoughtful and cognitively complex.

Strategy 1: Wait Time

In her article "Wait Time: Slowing Down May Be A Way of Speeding Up!" Mary Rowe discusses the importance of pausing after asking a question to allow students time to think. Rowe contends that most teachers only offer a brief pause after presenting a question and quickly follow up with another question after receiving a response. But when teachers allow three or more seconds of silence to follow a question, students have more time to gather their thoughts

and offer better responses (Rowe, 1986). Students are also more likely to volunteer answers after being given more time to think and the depth of their thinking increases (Talley, 2020).

The tricky thing with wait time is that there's an art to how long is long enough without boring students. If students become bored, then John Hattie's research shows they will lose content knowledge. Boredom has a -.49 impact on student learning. We want to keep the discussion interesting but ensure we're not talking over student thinking. A teacher might begin by saying: *I don't want anybody to answer this question when I ask it. I want us to think about it for one minute and then I want us to talk through it together.* This approach allows the students to have some quiet time without interruption.

Pausing for silence might be uncomfortable at first, but it gives students time to think about their answers, thus increasing the likelihood that their responses will be more thoughtful and complex. Wait time can have a positive impact on teachers as well. Asking fewer questions and focusing on ones that require more complex thinking not only yields better student responses, it also motivates teachers to use more diverse teaching strategies and be more flexible in their practice. As students learn to respond to more challenging questions, teachers can gradually increase the complexity of follow-up questions, nudging students toward those higher levels of Bloom's Taxonomy (Talley, 2020). Wait Time can impact teacher estimates of student achievement (1.29) and lead to more complex, in-depth discussions and problem-solving.

Strategy 2: Quick Write

The teacher asks a high-level rigor question and then invites students to write down anything that comes to mind connected to that question. When they've finished writing, the

students form pairs and share what they wrote to help generate new ideas and possible ways of answering the question.

This strategy gives students time to think about the question and record their thoughts. They then share those thoughts and gain new insights from their peers. Like Wait Time, quick writes can help students produce more thoughtful and complex answers and encourage them to practice metacognitive strategies (.60).

Strategy 3: Thinking Team

After the teacher asks a question, students gather with their Thinking Team. These can be small groups of up to four students. Each Thinking Team will then discuss the question and come up with their best answer. All of the group members need to agree with the answer. Finally, the teams will present their solutions and have a whole-class or small group discussion.

This strategy allows for small group learning (.47) as students generate and evaluate potential solutions as a team. They must compare and contrast ideas and determine which answer best suits the question, honing their analytical, reasoning, and problem-solving skills.

Strategy 4: Cognitive Task Analysis

Students are given a scenario and have to think through the steps to successfully complete a task. The teacher provides rigorous questions that prompt students to think more deeply about the scenario and the potential steps involved. Based on what students know or have learned, they will need to identify the correct steps and be able to justify them with their learning and/or evidence. Students will then work through the problem or scenario following the steps they've chosen and reflect on their experience afterward.

Research in the field of decision making identifies several key steps for completing a Cognitive Task Analysis: outlining the task; noting the most important steps; grouping, connecting, and ranking the steps; and deciding which strategies to use to complete the steps (Saraiva & Bevan, 2012). For example, in a forensics class, the teacher might set up a series of clues and ask students to figure out what happened to the murder victim. Or an elementary teacher can set up an escape room where students must solve a series of clues to "escape." In a construction class, the teacher might give students two different ways to build a foundation and the students have to decide which way is better and why, and be able to justify their answer with information they've learned.

Cognitive Task Analysis challenges students to apply the content they've learned to solve a problem. Students must enter the mindset of a particular person and/or profession and think through the correct steps they need to take. Students can also ask experts to share their knowledge and experience, discovering what people know and how they know it. They'll digest and organize the information they've gathered and then practice explaining, interpreting, and justifying it to others. Students will also engage in decision-making, problem-solving, judgment, attention, and memory skills. According to Hattie, Cognitive Task Analysis has a particularly high effect size of 1.29.