

A NEW RHYTHM

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“More students are engaged in thinking about the answer. Rather than hoping they don’t get called on, they’re actually thinking and considering what their response might be.”

“Students often respond to another student’s response, which sparks more discussion.”

“George found and corrected his own mistake when he gave a wrong answer yesterday!”

What’s happening in these classrooms? Teachers are partnering with students to establish a new rhythm in classroom questioning. This rhythm provides teachers and students with a silence for thinking at two crucial junctions in the questioning process:

■ *Wait Time 1*: After a question is posed but before a student is called on to answer.

■ *Wait Time 2*: Directly following that student’s response.

Teachers and students in these classes are also adopting new expectations related to thinking, responding, and listening.

The Power of Waiting

Almost 50 years ago, Mary Budd Rowe (1969) famously discovered multiple benefits associated with intentionally pausing at these two points in the question–response–follow-up sequence. She further found three to five seconds to be optimal for both Wait Times 1 and 2.



Introducing “think time” transforms classroom questioning—when we prepare students to use the pause to reflect.

FOR RESPONDING

During the next two decades, a flurry of research affirmed and extended Rowe’s initial findings (Rowe, 1986; Tobin, 1987). Investigators found that both students and teachers benefit from the intentional and consistent use of these silences. Students, of course, are the most important beneficiaries, particularly in terms of their responses to teacher questions. Their answers are lengthier (by more than 300 percent); more often evidence-based; cognitively more complex; and more frequently correct and complete. In addition, the answers show a deeper level of understanding (Rowe, 1986; Tobin, 1987).

Wait times have been also linked to an increase in the percentage of students who respond to questions. Low-achieving students are more likely to answer questions when afforded time to think—and they and their classmates are more likely to volunteer to respond.

The manner in which learners answer also changes in a positive direction: All students answer with more confidence; speak more to one another (not just to the teacher); initiate more comments; and, significantly, ask more questions. Moreover, students interrupt their classmates

less frequently, and they engage in more collaborative conversations, evidencing a greater group spirit (Rowe, 1986; Tobin, 1987).

Not surprisingly, teacher questioning practices improve when teachers have time to think—before calling on a student, while the student answers, and just after. Teachers who pause ask fewer questions, and their questions are cognitively more complex; they ask more probing questions after student responses and allow students to react to one another’s answers. Notably, educators’ expectations for student performance improve, and teachers engage more students—including more minority and lower-achieving students—in responding (Rowe, 1986; Tobin, 1987).

So Why Don’t Teachers Practice Wait Time?

Given these impressive outcomes, you might expect widespread use of wait times. To the contrary, these pioneering researchers found only a small percentage of practitioners incorporating silence into classroom questioning sequences. Moreover, as they worked with teachers to implement Wait Times 1 and 2, they documented

teachers’ difficulty in implementing and sustaining these pauses.

In the intervening years, little has changed. Although Rowe’s findings made their way into preservice courses and professional development sessions, as observation in almost any classroom will show, relatively few teachers consistently incorporate wait time in practice. In our own work with hundreds of U.S. schools, we seldom observe consistent use of Wait Time 1 and almost never see Wait Time 2.

Over several decades of working with teachers, we’ve asked why such a potentially powerful practice is so underused. Teacher responses—across all grade levels, content areas, and geographic regions—are remarkably similar:

- I’ve never experienced wait time myself—in school, student teaching, or professional development.
- I don’t have time to wait; we have standards to meet, and when you pause, students keep talking.
- I like to make sure students hear the correct answers, so sometimes I intervene to make sure the right answer is on the floor.
- It’s very uncomfortable. Students look at me like I’ve lost my mind!
- It’s not the way we talk in today’s

culture. . . . silence isn't valued. Maybe thinking isn't either!

As we considered what teachers told us about difficulties in using wait time, three themes emerged: (1) pressure to cover the content, (2) fear of giving up control, and (3) the press of the broader fast-paced culture in which silence feels uncomfortable to people. How might we approach wait time differently—and discuss it with students—so that it's easier to implement?

Focus on Thinking, Not Waiting

We have attempted to identify the causes, including embedded feelings and fears, behind teachers' and students' limited use of wait time. One barrier is students' failure to understand that waiting is not an end unto itself—that the purpose of pausing is to afford time for a learner to think about what the question is asking, what he or she knows that connects to that question, or what peers think in response to the question. For this reason, in lieu of *wait time*, we join others who use the term *think time*—which conveys the purpose for pausing.

In classrooms where students effectively use intentional silences during a questioning sequence, teachers are explicit about the reasons for the two pauses *and* about their expectations of what students will do during these pauses.

Teaching students the purposes of these pauses addresses one obstacle; however, three more conditions must be met.

First, the questions teachers ask must be worthy of thought—they must *not* be asking for easily retrievable or memorized information. Attempting to implement think times without attention to the quality of questions is a recipe for disaster. (See “Toward Questions Worthy of the Wait” on p. 49 for some examples—and non-examples—of suitable questions.)

Second, students must understand what they are supposed to do during the silences. You cannot do wait time *to* students; you must do it *with* them.

Third, wait times are generally not effective or long-lasting if they're implemented in isolation from other expectations that boost learners' motivation to think and respond—especially the expectation that their

teacher will use their responses to support their learning, not to evaluate or embarrass them. And students must know they won't be let off the hook easily; their teacher will hold them accountable for answering sooner or later.

If *all* students are to use the pause after a teacher question to generate what they think they know about that question, teachers must challenge beliefs many students hold deeply. Most students believe that teachers ask questions to get the right answer (the *teacher's* answer) on the floor—not to assess what students know and use this feedback to clarify misunderstandings. So most students stop thinking if a “right” answer doesn't immediately come to mind; many are

afraid to answer incorrectly. Such beliefs impede the use of questions as checks for understanding (which most of us would agree is a primary purpose of questioning). Compounding the problem is many students' view that they can opt out of answering a question because their teacher will call on volunteers to respond.

Pausing after asking a question is of no value to students who hold such beliefs. Students will use Think Time 1 only if they believe their teachers care about what they know (or don't) and understand that teachers won't allow them to opt out when called on. This requires teachers to convey and consistently demonstrate to students that everyone is subject

NOW THAT'S A GOOD QUESTION!

Are You Sure?

I had a chemistry teacher who made me think by asking questions. He often answered our questions with more questions and pushed us to be confident in our answers by asking, “Are you sure?” even when we were correct.

It's a strategy that I used with my own students and now encourage other teachers to use. At first, students react by retracting or erasing their answer (just like I did in chemistry class), but soon enough this question pushes students to think about why their answer is correct. It encourages students to have reasoning behind their answers, not just the “right” answer.

Even if a student isn't sure, this question forces them to think about *why* they aren't sure and sparks a question of their own.

—Jill Swissa, manager of school partnerships,
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to being called on and that incorrect responses have value.

We recommend putting two expectations for students front and center (while emphasizing that yours is a risk-free classroom): (1) Use teacher questions to prompt your own thinking, not to try to guess the teacher's answer, and (2) Use incorrect answers or misunderstandings as opportunities to learn. With time and support, learners will accept these new responsibilities.

Talk About Thinking and Responding

You might discuss the fact that questions prompt thinking, but most people don't form a response instantaneously. Getting to a well-formed response is a multiphased cognitive process. First, students must be paying attention as the question is posed. Second, they must figure out what is being asked. (This step is especially important for second-language learners, who may have to translate the question from English to their home language and then work to understand its meaning.) Next, students search their long-term memories to make connections between their prior knowledge, experience, or preconceptions and what the question is asking. Then, students can answer to themselves and finally answer aloud.

Almost all students can profit from the three to five seconds of think time, especially internal processors who will move through these steps methodically and silently rehearse their answers. External processors—who think by talking—benefit from learning to control their impulsivity and rethink their initial responses. And it's good for all students to develop an understanding of the thinking process and to respect the fact that individuals process differently—that speed in responding does not equal intelligence.

Toward Questions Worthy of the Wait

For think time to bear fruit, we must pose questions that require students to think rather than simply recall.

Questions Based on Recall

- Is 17 a prime number?
- In what year did the United States enter World War II?
- What is a renewable resource?
- In *Charlotte's Web*, how old was Wilbur when Mr. Arable decided he should live outside?

Questions That Require Deeper Thinking

- Why is 17 a prime number?
- Imagine that you are a U.S. citizen during World War II. How would you justify neutrality during the early years of the war?
- How might you convince a friend that it's important to know whether or not a resource is renewable?
- In *Charlotte's Web*, how do you think Mr. Arable attempted to help Fern understand his decision to move Wilbur outside?

Use Think Time 2 for Formative Assessment

Think Time 2 can produce even greater benefits for student thinking and learning than the first pause. When used appropriately, Think Time 2 contributes significantly to real-time formative assessment by providing an opportunity for the teacher, the responding student, and nonresponding students to

reflect on a proffered answer.

When students use Think Time 2 as intended, they're actively engaging in self-assessment, which is potentially the most powerful type of formative assessment. Consider a student responding to this question: "What are some ways the Watergate scandal changed U.S. citizens' views on public service?" With time to reflect, that student could evaluate the answer she gave, going deeper into her knowledge base and self-correcting or adding to the response. Or she might form and ask a question that would help clarify what the teacher asked. Such self-assessment requires time and, for many of us, silence.

There's the risk that Think Time 2 will become "dead time" if nonresponding students don't use this time productively, but rather tune out and get overtly off-task. However, when teachers hold nonresponding students accountable for listening and comparing their responses to the answer provided, these students can become full participants in the questioning transaction and in their own self-assessment.

Let students know you expect them to compare the answers they brought to mind (during the first pause) to the response of a classmate—and decide whether they agree or disagree with that peer's response. Listening students must be ready to provide reasons for their positions, pose questions to the responding student, or piggyback on the answer. This means that teachers must establish a classroom routine of actively involving students in assessing a peer's oral response—perhaps with a simple signal like thumbs up if you agree, thumbs down if not, thumbs to the side if you don't understand. Students who use this second pause for thinking realize that their teachers intend questions to engage every student in assessing, rethinking, and extending their learning.

FIGURE 1. What Respondents, Teachers, and Listeners Should Do in the Pause Following a Response

RESPONDING STUDENT	TEACHER	LISTENING STUDENTS
<p>Think about what he or she is saying</p> <p>Add to the answer—either by providing additional information or by taking the thinking to a different level</p> <p>Correct erroneous information or errors in logic</p> <p>Pose a question about something that is puzzling</p>	<p>Listen to understand the thinking behind the student response</p> <p>Compare the student response to both the knowledge and cognitive requirements of an “acceptable” answer</p> <p>Decide on the next “move”— (1) posing a follow-up question to responder; (2) calling on another student to agree or disagree and provide rationale; (3) stopping and reteaching</p>	<p>Listen to understand the responding student’s answer</p> <p>Compare the answers they had in their minds to that offered by the responding student</p> <p>Assess their own answers and that of the responding student and get ready to agree or disagree with the response given and to provide a rationale</p> <p>Form a question to ask of the responding student or of the teacher</p>

Think Time 2 is also a true gift for teachers committed to using questioning as a check for understanding. As shown in Figure 1, Think Time 2 gives teachers time both to evaluate whether a student’s response is correct and complete and to choose their next instructional move—whether to pose a follow-up question (that will clarify, scaffold, or extend the student’s thinking); redirect the question to another student; or consider reteaching. Without this time to think about a student’s response, the teacher may be tempted to provide the correct answer or keep fishing for it from another student.

Think times, particularly the second pause, are equally important to facilitate the kind of deep student listening that’s required for students’ engagement in a productive discussion. When students take time to think about one another’s comments, they’re better able to understand and appreciate different perspectives and ask questions to get behind peers’ thinking (Walsh & Sattes, 2011, in press).

Scaffolds to Support Change

Although pausing in questioning may seem to be a relatively simple act, long-established classroom patterns of interaction are difficult to interrupt. Change involves committing to new behaviors that run counter to traditional classroom cultures.

Teachers must first believe that using these pauses will enhance student learning. Equally important, they must partner with students to experiment with and practice these new behaviors. When committing to this journey, consider scaffolding new behaviors with these strategies.

Use signs and signals.

You might create wall posters or anchor charts that display the new expectations. Use these visual aids to introduce new expectations. Physical signals during the questioning and responding process function as real-time reminders for students of the need to pause and think instead of waving their hands or blurting out an answer.

A simple, two-sided sign shaped

like a stop sign is a teacher favorite. After asking a question, the teacher displays the red side that says “Stop and Think” for three to five seconds. After a student is called on, the teacher flips it to the green “Listen and Learn” side and keeps it raised until several seconds *after* the student stops speaking. Some teachers use hand signals to remind students to respect the pauses.

Be intentional and promote reflection.

Intentionality is essential to establish new patterns. When teachers explicitly state their expectations for how to use think times, students are more likely to learn these new practices. Teacher modeling, reinforced by sharing one’s feelings and thoughts, can be particularly powerful.

For example, a teacher might say, “It was very difficult for me to pause following Susan’s response. I wanted to jump in and add to her thinking. I remembered, however, that I needed to give her the chance to complete her thoughts—and she did! In fact, she

said what I was thinking!”

On the other hand, when failing to honor the think times, a teacher can authentically comment, “I’m trying very hard to pause for the three to five seconds we’ve talked about, but sometimes I fall back to old habits. I know it’s difficult for all of us.”

One strategy that can support intentionality is the “think-write” technique. After posing a question, ask all students to jot down their responses. Afford a reasonable amount of time (30 seconds or so) for everyone to record something on paper; then, call on one student to respond or ask students to exchange responses with a partner. This “enforced think time” can get students (and teachers) comfortable with new expectations for responding while providing all learners time to think.

Finally, teachers find it productive



to periodically reflect with students about the class’s progress in honoring the think times. Teachers might plan a discussion centered on questions like, “How do you think we’re progressing toward our goal of using pauses to think?” or “How can we support one another in becoming more skilled in using these pauses?”

The Long Haul

Effective use of think time doesn’t just happen. It begins with deep commitment and careful planning. Planning questions that are catalysts for thinking is a prerequisite, and good classroom norms—the bedrock of learning cultures—go a long way toward successfully implementing these powerful pauses.

And it’s essential to reflect on what your students believe about the purposes of questioning—and shift those

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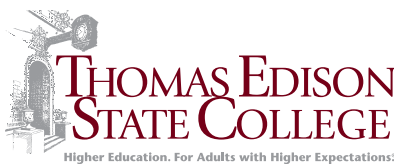
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beliefs as needed. Do students believe that teachers ask questions to assess student understanding and find out what learners really know? Do they believe that teachers will hold *all* students responsible for responding? Do they understand that they must listen actively and respectfully to their peers? Do students believe they can learn from one another—or do they think the teacher is the source of all knowledge?

Creating this type of culture will be a challenging but exciting journey to undertake with students. Together, you and your students will be creating a different tempo and rhythm for classroom questioning. The dividends for learners are immense. Partnering with students to develop their thinking is one of teachers' most

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essential jobs in today's education environment. So don't wait—think about your next steps! 

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