

# Think Aloud Strategy

## What Is It?

The think-aloud strategy asks students to say out loud what they are thinking about when reading, solving math problems, or simply responding to questions posed by teachers or other students. Modeling this for students is beneficial. In this way, they demonstrate practical ways of approaching difficult problems while bringing to the surface the complex thinking processes that underlie reading comprehension, mathematical problem solving, and other cognitively demanding tasks.

Getting students into the habit of thinking out loud enriches classroom discourse and gives teachers an important assessment and diagnostic tool.

## Why Is It Important?

By verbalizing their inner speech (silent dialogue) as they think their way through a problem, teachers model how expert thinkers solve problems. As teachers reflect on their learning processes, they discuss with students the problems learners face and how learners try to solve them. As students think out loud with teachers and with one another, they gradually internalize this dialogue; it becomes their inner speech, the means by which they direct their own behaviors and problem-solving processes. Therefore, as students think out loud, they learn how to learn. They learn to think as authors, mathematicians, anthropologists, economists, historians, scientists, and artists. They develop into reflective, metacognitive, independent learners, an invaluable step in helping students understand that learning requires effort and often is difficult (Tinzmann et al. 1990). It lets students know that they are not alone in having to think their way through the problem-solving process.

Think-alouds are used to model comprehension processes such as making predictions, creating images, linking information in text with prior knowledge, monitoring comprehension, and overcoming problems with word recognition or comprehension (Gunning 1996).

By listening in as students think aloud, teachers can diagnose students' strengths and weakness. "When teachers use assessment techniques such as observations, conversations and interviews with students, or interactive journals, students are likely to learn through the process of articulating their ideas and answering the teacher's questions" (National Council of Teachers of Mathematics 2000).

## How Can You Make It Happen?

### Modeling Thinking Out Loud

Asking students to use a strategy to solve complex problems and perform sophisticated tasks is not enough. Each strategy must be used analytically and may require trial-and-error reasoning. Thinking out loud allows teachers to model this complex process for students.

For example, suppose during math class you'd like students to estimate the number of pencils in a school. Introduce the strategy by saying, "The strategy I am going to use today is estimation. We use it to . . . It is useful because . . . When we estimate, we . . ."

Next say, "I am going to think aloud as I estimate the number of pencils in our school. I want you to listen and jot down my ideas and actions." Then, think aloud as you perform the task.

Your think-aloud might go something like this:

"HMMMMMM. So, let me start by estimating the number of students in the building. Let's see. There are 5 grades; first grade, second grade, third grade, fourth grade, fifth grade, plus kindergarten. So, that makes 6 grades because 5 plus 1 equals 6. And there are 2 classes at each grade level, right? So, that makes 12 classes in all because 6 times 2 is 12. Okay, now I have to figure out how many students in all. Well, how many in this class? [Counts.] Fifteen, right? Okay, I'm going to assume that 15 is average. So, if there are 12 classes with 15 students in each class, that makes, let's see, if it were 10 classes it would be 150 because 10 times 15 is 150. Then 2 more classes would be 2 times 15, and 2 times 15 is 30, so I add 30 to 150 and get 180. So, there are about 180 students in the school. I also have to add 12 to 180 because the school has 12 teachers, and teachers use pencils, too. So that is 192 people with pencils."

Continue in this way.

When reading aloud, you can stop from time to time and orally complete sentences like these:

- So far, I've learned...
- This made me think of...
- That didn't make sense.
- I think \_\_\_\_ will happen next.
- I reread that part because...
- I was confused by...
- I think the most important part was...
- That is interesting because...
- I wonder why...
- I just thought of...

Once students are familiar with the strategy, include them in a think-aloud process. For example:

Teacher: "For science class, we need to figure out how much snow is going to fall this year. How can we do that?"

Student: "We could estimate."

Teacher: "That sounds like it might work. How do we start? What do we do next? How do we know if our estimate is close? How do we check it?"

In schools where teachers work collaboratively in grade-level teams or learning communities, teachers can plan and rehearse thinking out loud with a partner before introducing the strategy to students. This is especially useful when the whole school is focusing on the same strategy, such as using learning logs or reflective journals in content area classes or applying fix-up strategies when reading informational and story texts.

## **Reciprocal Think-Alouds**

In reciprocal think-alouds, students are paired with a partner. Students take turns thinking aloud as they read a difficult text, form a hypothesis in science, or compare opposing points of view in social studies. While the first student is thinking aloud, the second student listens and records what the first student says. Then students change roles so that each partner has a chance to think aloud and to observe the process. Next, students reflect on the process together, sharing the things they tried and discussing what worked well for them and what didn't. As they write about their findings, they can start a mutual learning log that they can refer back to.

## **Assessment**

After students are comfortable with the think-aloud process, use the strategy as an assessment tool. As students think out loud through a problem-solving process, such as reflecting on the steps used to solve a problem in math, write what they say. This allows you to observe which strategies students use. By analyzing the results, you can pinpoint the individual student's needs and provide appropriate instruction.

Assign a task, such as solving a specific problem or reading a passage of text. Introduce the task to students by saying, "I want you to think aloud as you complete the task: say everything that is going on in your mind." As students complete the task, listen carefully and write down what students say. It may be helpful to use a tape recorder. If students forget to think aloud, ask open-ended questions: "What are you thinking now?" and "Why do you think that?"

After the think-alouds, informally interview students to clarify any confusion that might have arisen during the think-aloud. For example, "When you were thinking aloud, you said . . . Can you explain what you meant?"

Lastly, use a rubric as an aid to analyze each student's think-aloud, and use the results to shape instruction.

For state-mandated tests, determine if students need to think aloud during the actual testing situation. When people are asked to solve difficult problems or to perform difficult tasks, inner speech goes external (Tinzmann et al. 1990). When faced with a problem-solving situation, some students need to think aloud. For these students, if the state testing protocol permits it, arrange for testing situations that allow students to use think-alouds. This will give a more complete picture of what these students can do as independent learners.

**The Reading Apprenticeship at West Ed. Evidence-based Teacher Professional Learning to Improve Academic Literacy and Social Emotional Learning**

<https://readingapprenticeship.org/>