

# Talk Science

Professional Development

## Transcript for Talk Strategies: Goal 1 – Share, Expand and Clarify



### 1. Overview

In getting started, the very first step is to encourage *individual* students to “say more” — to voice their thinking out loud and explain their reasoning and evidence. If your students are going to participate actively in the discussion, they need to have a chance to explain their thinking clearly enough for others to hear and understand. If only a few students in the group are good at this, you can’t have a real discussion. All students need practice developing their skills at explaining complex ideas so that others can think with them.

Three different types of talk strategies can help you in bringing this about. These moves help students go public with their ideas, clarifying their thinking for the entire group. This set of talk strategies is therefore the foundation for all academically productive talk. These are the very first moves to try out and practice getting good at.

These three strategies are:

**1) Providing “Time to Think”** in preparation for discussion. This can be done through Partner Talk, opportunities to “Stop and Jot” and Wait Time.

**2) The “Say More” talk move**  
“Can you say a little more about that?”

**3) “So, are you saying?”** – sometimes called verifying and clarifying by revoicing, or revoicing for short.  
“So, let me see if I’ve got your thinking right. Are you saying ...? [Pause] Do I have that right?,” always giving the student a chance to agree or disagree with you and say more.

### 2. Time to Think

Many teachers say that their students are not good at discussion because only one or two kids are willing to talk. That’s why the “think time” strategies are so useful. Many students need time and space to develop their ideas before they feel ready to go public with them in a large group. Here we present three strategies that support this “practice” time for students.

#### **Partner Talk as a Time to Think strategy**

In partner talk, the teacher simply pauses, and asks the students to consider a particular question with the person nearest them for a brief period, usually no more than a minute or so. This kind of

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brief, low-stakes exploratory talk has many benefits. Students who might be shy or afraid to go public with their ideas in front of the entire class get a chance to practice their ideas in a low-pressure environment. For English Language Learners, this private practice ground can be especially helpful, both for hearing and rehearsing their ideas in English. So using this strategy can help you increase participation. After a partner talk, you will be able to call on students who might otherwise not volunteer.

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### Classroom Video Example 1:

Teacher: So we need to start thinking, how can we compare the volumes of liquids? I want everyone to just take a minute and think. How can we compare them? And then I want you to actually turn to a partner next to you and maybe just talk about it for quick second. How do you – how would you compare the volumes of different liquids? Go ahead and turn to someone next to you.

Student: I would put them into different containers, [pointing] like that...

### Classroom Video Example 2:

Teacher: Now let's get back to this discussion about the weight of the rock, or the volume of the rock. We're going to work on that idea today. We're going to test whether or not it's the weight that makes the water rise higher or the volume. All right so talk to your partner about that for a minute and then we're going to make some rules up.

Successful teachers use partner talk strategically in two ways. Often they plan for partner talk in advance, coming up with a discussable question to be used at a well-timed point, to get every student involved. Alternatively, it sometimes happens that a question arises that puzzles the group, and no one knows what to say (teacher included). This can become a wonderful spontaneous moment to launch a partner talk.

### Stop and Jot: Writing as a Time to Think strategy

Before launching a discussion, once a clear question has been posed, it is often helpful to give students a chance to write silently. This gives everyone a chance to focus their thinking, to formulate and clarify their ideas. It helps build equity by giving everyone something to say at the beginning of a discussion. Quiet or shy students can often be called on and simply asked to read what they have written.

### Classroom Video Example 3:

Teacher: To predict, it says, which factor makes the water rise higher. Is it weight, volume, or both? I want everyone right now to take just a minute to maybe jot down their predictions, because we're going to be testing this out. What is it that you think makes the water level to rise. Is it the weight of the object? Is it the volume or the size of the

object? Or do you think it's both? Take a minute and think. Just take a minute and jot down your prediction. And of course we always give a reasoning why. Don't just say, I think it's weight or I think it's volume, or I think it's both. Make sure you give a reason why.

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### **Wait Time:**

Finally, there is Wait Time, simply giving students a space to develop and explain a complex idea:

“Take your time; we'll wait.”

Wait Time might seem like an unusual “talk move” because it's actually silence, a pause in the talking. But it's the most researched of all the talk moves, and it's been shown to have remarkable effects on the quality of both students' and teachers' thinking.

The research on Wait Time is extensive. Several different situations have been described as powerful opportunities to give students time to think. The first is after you've asked a question but before you've called on a particular student. This gives the whole class time to think, rather than favoring the few students who are quick to put their hands up.

### **Classroom Video Example 4:**

Teacher: What we're focusing on today is what causes water level to rise? Who can kind of explain what that question means? What does that mean? What is that question even asking? What causes water level to rise? What do you think that question is asking?

Another situation that calls for wait time is after you've called on a student, but that student is getting off to a very slow start. Giving the student time to think can boost confidence over time and lets every student know that they have a right to the time they need to make a contribution.

### **Classroom Video Example 5:**

Teacher: How do you know this one has much more volume?

Student: Because it has ... more space ... (long pause)

Teacher: What do you mean when you say it has more space? Why do you think that C has the greatest volume, meaning it has the greatest amount of water in it?

Yet another kind of Wait Time is after a student speaks, before you respond in any way to what the student has said. This gives everyone time to think about that idea.

The research, at all grade levels, and across all subject domains, shows that if you increase your wait time -- to a mere 3 seconds or more – dramatic changes take place.

**Text on screen**

By Increasing Wait Time

1. Students say more. The length of student responses increases between 300% and 700%
2. They expand and clarify and explain their thinking, with evidence.
3. The number of questions asked by students increases dramatically.
4. Student-to-student talk increases.

Increasing Wait Time **after** a student has talked is particularly powerful in increasing the complexity of student explanations and depth of reasoning. It also increases the amount of student-to-student talk, where students spontaneously address a peer or ask a question of someone in the group.

**3. “Say More”**

Kids often assume that their perspective is shared by everyone. So a student’s response to a question is often very condensed, and doesn’t fully spell out his or her thinking. Because the student doesn’t say much, it’s hard to understand. When this happens, you can ask the student to expand: We call this the “Say More” move, but there are actually a variety of ways you can say it.

**Can you say more about that?**

**Tell us more about your thinking.**

**Can you expand on that? or**

**Can you give us an example?**

This ‘family’ of say more moves sends the message that you want to understand the student’s thinking. It sends a signal that you want more than just a correct answer. It also gives the student time to regroup and clarify their thoughts.

**Classroom Video Example 6:**

Student: A rock.

Teacher: A rock is gravel?

Student: Or a mineral ...

Teacher: Ok, you want to expand a little bit on that? Can you say a little bit more?

Student: A rock is like a solid...

**Classroom Video Example 7:**

Teacher: Ok, what you mean that they belong to the earth? Can you kind of explain that a little bit more?

The “Say more” move is a good move to start with, in helping students develop skill and confidence in going public with their thinking, and in clarifying their thinking in front of other people. In almost any context, this move will work. It turns out that in most cases, the student actually **does** have more to say. And you,

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as the teacher, get a little bit of time, and a second chance to listen carefully to what this student has to say, as do the rest of the students.

The “say more” move will often get individual students explaining their thinking in more depth, as in the clips that follow.

**Classroom Video Example 8:**

Teacher: Yes, Kyla.

Student: I think that um, that none of them have a greater volume.

Teacher: Okay. Can you say a little more about that?

Student: Because um, since they’re at the same height, they’re the same container, they’re at the same level. Um, and um since they have the same amount of stuff inside them I thought that they-- that none of them have a greater volume. They’re the same.

**Classroom Video Example 9:**

Student: Just because two liquids are in different containers doesn’t mean that their--their volumes are going to be different.

Teacher: OK, can you say a little more about that?

Student: Like, for example, like if I um got two cups of water and one ...

**Text on screen:**

The “Say More” move:

- 1) Gives students practice explaining and clarifying complex ideas.
- 2) Lets everyone know that you are interested in their thinking, rather than simply the correct answer.
- 3) Gives you and the entire group more to work with, in responding to someone’s ideas.

#### 4. “So, are you saying...?”

Remember that your goal is to get individual students to expand on their thinking and share their ideas. But when students do say more and talk about complex phenomena, they are often unclear. The next move is a good one to use when you are not sure you understand what a student has said, or when you want to verify or clarify a student’s thinking so that everyone in the group can understand it as well. This “So are you saying...?” move is what we call “verifying or clarifying by revoicing,” or “revoicing” for short.

“So, let me see if I’ve got what you’re saying. Are you saying...?”  
(always leaving space for the original student to agree or disagree and say more)

**Classroom Video Example 10:**

Teacher: OK, so they should count by the same number, the whole way? So, if you’re going to count by twos, you count by twos the whole way, and if you count by tens you count by tens the whole way? Is that what you’re saying, Josaiah?

Student: [nods head yes]

Teacher: OK.

Revoicing is *not* just repeating. In a revoicing move, the teacher

essentially tries to repeat some or all of what the student has said, and then *asks the student to verify* whether or not the teacher's revoicing is correct. This verifying/clarifying move encourages students to work hard to make sure what they are saying is clear, and lets students know that you are authentically interested in understanding their thinking.

**Classroom Video Example 11:**

Student: Because there's this much and it's not as much as this much. They're still touching.

Teacher: So you're seeing that the skinnier one has about one third of its height more than the fatter one?

Student: If it had one third, you'd be able to, kind of squash it down to fit to that.

Teacher: Oh and then it would work. But it doesn't?

Student: But it has less than one third, so.

Teacher: Oh.

**Classroom Video Example 12:**

Teacher: So you're talking about the layers of the earth, and bedrock is a type of rock that's one of these layers? Is that what you're saying?

Student: [Nods head yes]

Teacher: OK, interesting idea.

Notice in the last clip, the teacher said, "Interesting idea" rather than "That's right" or "Good, yes." By not evaluating the correctness of the idea, the teacher leaves it open to the students to think critically and to agree or disagree. If you telegraph correctness too early, students stop thinking for themselves.

In the next clip, the teacher is revoicing an idea that she knows is incorrect, hoping to "rebroadcast" it to the entire group so that everyone can think with it. Many other students in the group shared the idea that small rocks would not raise the level of the water, so it was important to discuss this.

**Classroom Video Example 13:**

Student: If you put a little rock, right there, it'll still stay the same, but if you put a big rock in there, it'll rise up a little bit.

Teacher: So you think a small rock or a small object won't cause the water level to change, but a big rock will.

Student: Yes.

After getting the group to grapple with this idea, agreeing or disagreeing, the class tested it out, to see what actually happens.

A verifying/clarifying by revoicing move can also be used to juxtapose different students' ideas, which may not have been contributed in sequence. This move gives the teacher a way to focus the group's attention, while crediting the students as originators of key ideas, and giving everyone a chance to think together with these ideas.

**Classroom Video Example 14:**

Teacher: OK, but what I heard Kyla say was actually a little bit different than what I heard Alecia say. So, Kyla, you're saying that if I have three cups, I need to put the same volume in each cup? And Alecia, if I listened to you correctly, were you saying that you need to pour different amounts into the cups?

Alecia: No, like you have three different cups and then you put A in one cup, put B in a different cup, and then you put C in the cup and you see if they have the same volume.

If you are authentically trying to understand a student's thinking, and you don't revoice exactly what the student was trying to say, they will typically let you know, and correct your thinking.

**Classroom Video Example 14:**

Student: When you do the numbers -- like the numbers, and the numbers are like, really far apart, um you should like make it like shorter. Like so they can -- so they can be like -

Teacher: So Destiny, are you saying the numbers should be evenly spaced?

Student: No, I'm trying to say like, when the numbers are like being sorted out, ...

**Text on screen:**

The "So, Are You Saying...?" Move:

- 1) Helps YOU understand better what the student is saying.
- 2) Helps rebroadcast a complex idea to the entire group, while crediting the student who originated the idea.
- 3) Allows individual students an opportunity to clarify their thinking and say more.
- 4) Lets everyone know that explaining complex ideas takes time and effort.