

## The Tools of Classroom Talk

It is useful to carefully think about the tools we use when eliciting responses from students: it matters what you say and how you say it.

The tools include strategies called “talk moves” that:

- Support mathematical thinking
- Talk formats that provide different ways to organize students for conversation
- Ideas for creating a classroom where respect and equal access to participation are valued norms

**When students talk about mathematics, it’s often very difficult to understand what they say... even if their reasoning is sound.**

### Revoicing

“So, you’re saying that it’s an odd number?”

What it is/Use	Benefits
<ul style="list-style-type: none"> <li>• Teacher essentially tries to repeat some or all of what the student has said, and then asks the student to respond and verify whether or not the teacher’s revoicing is correct</li> <li>• Provides more “thinking space” for other students</li> </ul>	<ul style="list-style-type: none"> <li>• Allows teacher to interact with a student in a way that will continue to involve that student in clarifying his/her own reasoning</li> <li>• Not only helps the teacher to help the student clarify their meaning, but also helps other students understand their meaning</li> <li>• If students are not able to verbally explain their understanding, ideas, methods, etc., they will not be able to explain it in writing</li> <li>• Solidifies understanding and identifies misconceptions</li> </ul>

**Mathematics Example:** *Ms. Davies has given her third graders a series of numbers, and in a whole-group discussion has asked them to say whether the numbers are even or odd. They have established that if you can divide a number by two evenly, then it is an even number. Phil has tackled the number 24. His contribution is less than completely clear.*

**Phil:** Well, if we could use three, then it could go into that, but three is odd. So, then if it was...but...three is even. I mean odd. So if it’s odd, then it’s not even.

**Ms. D:** OK, let me see if I understand. So you’re saying that twenty-four is an odd number?

**Phil:** Yeah. Because three goes into it, because twentyfour divided by three is eight.

*...identifies a basic misconception about even and odd numbers.*

**Non-Mathematics Example #1:** *Students in the art classroom are engaged in a discussion about famous Americans based on a selection of paintings and photographs of the famous Americans.*

**T:** *Is this a photograph?*

**Felicity:** *No.*

**T:** *No?*

**Felicity:** *It is a painting not a photograph.*

*Note: This example shows the teacher revoicing what the student said with the question inflection at the end of the revoicing. Conversely, the teacher could have responded with a variation of “No? Then what is it?”*

**Non-Mathematics Example #2:** *Students are in the classroom discussing a book that was just read.*

**Francis:** *Owls see by not moving their head up and down.*

**Mrs. S:** *So, what I heard you say was that owls don’t move their heads up and down. Is that what you said?*

**Francis:** *Yes. They just move their head around, not up and down.*

## Asking students to restate someone else's reasoning

"Can you repeat what he just said in your own words?"

What it is/Use	Benefits
<ul style="list-style-type: none"><li>Teacher asks one student to repeat or rephrase what another student has said, and then immediately follows up with the first student</li></ul>	<ul style="list-style-type: none"><li>Gives the rest of the class another rendition of the first student's contribution</li><li>Gives the class more time to process the first student's statement</li><li>Adds to the likelihood that students will follow the conversation and understand the student's point</li><li>Gives all students full access to participate (and encourages students to LISTEN, because they are now accountable for what others say)</li><li>Especially valuable for ELL students</li><li>Provides evidence that the other students could and did hear what the student has said</li><li>Provides students with evidence that his/her thinking is being taken seriously</li></ul>

### Mathematics Example:

**Ms. D:** Can anyone repeat what Phil just said in his own words? Miranda?

**Miranda:** Um, I think I can. I think he said that twenty-four is odd, because it can be divided by three.

**Ms. D:** Is that right Phil? Is that what you said?

**Phil:** Yes.

**Non-Mathematics Example #1:** *Students are discussing a story and the pictures from the story that was just read in a small group.*

**Mr. T:** What do you think?

**Alice:** I think someone colored them.

**Mr. T:** What did she just say?

**Bernice:** She thinks that someone drew them.

**Non-Mathematics Example #2:** *Students are sorting living and non-living objects during a science lesson.*

**Mrs. W:** What are you doing Kelly?

**Kelly:** I am sorting them into the correct places. The things that are alive go over here. The things that are not alive go over there.

**Mrs. W:** Did you hear what she said?

**Leslie:** Yes

**Mrs. W:** What did she say?

**Leslie:** She's sorting them.

**Mrs. W:** What else did she say?

**Leslie:** The things that are alive go over here. The things that are not alive go over there.

## Asking students to apply their own reasoning to someone else's reasoning

### "Do you agree or disagree and why?"

What it is/Use	Benefits
<ul style="list-style-type: none"><li>To elicit student reasoning about the claim made by a student</li></ul>	<ul style="list-style-type: none"><li>The point of this move is to cause students to make explicit their reasoning by applying their reasoning to someone else's reasoning</li></ul>

#### Mathematics Example #1:

**Ms. D:** Miranda, do you agree or disagree with what Phil said?

**Miranda:** Well, I sort of... like, I disagree?

**Ms. D:** Can you tell us why you disagree with what he said? What's your reasoning?

**Miranda:** Because I thought we said yesterday that you could divide even numbers by two. And I think you can divide twenty-four by two. And, it's twelve. So, isn't that even?

*Note that Ms. Davis has refrained from supporting one or the other position.*

**Mathematics Example #2:** *Mrs. C, a first grade teacher, asks her students to count by 2s starting at the number 51. The students chorally recite, "51, 53, 55, 57, 59."*

**Mrs. C:** What did we just do?

**Fernando:** Count the... (mumbled)...

**Mrs. C:** What did you say?

**Fernando:** We skipped the odd numbers.

**Mrs. C:** Do you agree or disagree with Fernando's idea?

**Lucy:** I disagree.

**Mrs. C:** Why do you disagree Lucy?

**Lucy:** Because you skip the number after one. Like you would skip two so 1, 3 instead of 2, 4.

**Mrs. C:** What about if we were at 53?

**Lucy:** 53 that means you... (WT)... if you were on 53 you skip 54.

**Non-Mathematics Example #1:** *The PE teacher is working with a group of students to refine their throwing skills. They are reviewing the steps to throwing a ball.*

**Mrs. K:** Do you agree or disagree with Jamie's description of the steps used to throw the ball?

**Larry:** ... (WT)... I agree. He's right.

**Mrs. K:** Why do you think that?

**Larry:** We learned that you make a T, then an L, and then you step and throw. *(Student demonstrates while talking.)*

## Prompting for further participation

### “Would someone like to add on?”

What it is/Use	Benefits
<ul style="list-style-type: none"><li>Prompts other students to either state agreements or disagreements and to add on other comments</li></ul>	<ul style="list-style-type: none"><li>Increases participation by asking for further commentary</li><li>Encourages students to LISTEN by making them accountable for what others say</li><li>Over time, use of this move will result in students showing more willingness to weigh in on what the group is considering</li></ul>

#### Mathematics Example #1:

**Ms. D:** So we have two different ideas here about the number twenty-four. Phil, you're saying that twenty-four is odd because you can divide it by three?

**Phil:** Uh-huh.

**Ms. D:** And, Miranda, you're saying that it's even because you can divide it by two? Is that correct?

**Miranda:** Yes.

**Ms. D:** OK, so what about other people? Who would like to add to this discussion? Do you agree or disagree with Miranda's or Phil's ideas? Tell s what you think, or add on other comments or insights.

#### Mathematics Example #2: *Mrs. F has introduced a money problem for her students to solve.*

**Mrs. F:** What do I mean when I say “value”?

**Liz:** How much it is.

**Mrs. F:** Does anyone want to add on to that?

**Kristen:** How much it is worth.

**Lindsay:** The value is the worth.

#### Non- Mathematics Example: *Mr. P, a science teacher, is conducting a follow-up conversation to a plants experiment that the students have conducted.*

**John:** When we looked at the closet plant it looked dead.

**Mr. P:** Which plant?

**John:** The plant that was in the closet.

**Mr. P:** Does anyone else have any observations about that plant that they want to share?

**Eliza:** I don't think it is dead. It was smaller and droopy.

**Mr. P:** Anyone else?

## Using wait time

“Take your time... we’ll wait...”

What it is/Use	Benefits
<ul style="list-style-type: none"><li>• A teacher should wait at least 10 seconds for students to think before calling on someone for an answer</li><li>• After a student has been called on to participate, the student should be given at least the same amount of wait time to organize his/her thoughts</li></ul>	<ul style="list-style-type: none"><li>• Allows and encourages all students to make important contributions (that can be built on)</li><li>• If we do not use wait time consistently and patiently, students give up and fail to participate, knowing they cannot “beat the clock”</li></ul>

**Mathematics Example:** *After 15 or 20 seconds, slowly, other hands go up. After 45 seconds, Ms. Davies finally calls on Ed. He is hesitant, and actually sits silent after she calls on him even though his hand has been raised. So again, Ms. Davies waits. 10 seconds go by. Finally, the student responds:*

**Ed (ELL student):** Yes, I agree with Miranda’s ideas, because the only way you told us to find out if something is even is to divide it by two. And, if we divide twenty-four by three, we can also divide it by four. And we can divide it by six, too. So, I think we should stick with only two.

**Non-Mathematics Example # 1:** *A reading teacher is working on Concept of Word (COW) with a group of students. After repeating the poem several times with the students, the students are asked to identify certain words within the poem.*

**Ms. T:** I saw a \_\_\_\_\_ apple. Can someone help me figure out what word goes in that blank?

**Ms. T:** I’m going to give you some time to think...

**Non-Mathematics Example # 2:** *A reading teacher is conducting a small group reading discussion about the story just read.*

**Mrs. T:** Why do you think he needed to be quiet?

**David:** ... (25 seconds)...

**Mrs. T:** Why did this person choose to stay quiet?

**David:** ... (14 seconds)...

**Mrs. T:** Take your time... (10 seconds)...

**David:** So you can hear if other things are out there with you. If you were loud, you might not hear something sneaking up on you.