

TALK MOVES CODING MANUAL

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1 Teacher Talk Moves Coding Manual

1.1 Introduction to Teacher Talk Moves

The talk moves described in this manual are grounded in accountable talk theory (Michaels, et al., 2008; 2010). Teacher talk moves refer to discussion strategies that teachers can use to promote students' equitable participation in a rigorous classroom learning environment. Talk moves encourage students to contribute and listen to each other, engage with the math content, and dig deeply into their own reasoning.

➤ For this project, we are coding two types of teacher talk moves:

1. **Teacher utterances that are meant to elicit a student response (regardless of whether they actually do elicit a response); and**
2. **Teacher utterances that repeat, elaborate on, or build off of student contributions.**

1.2 Categories and Talk Moves

➤ Accountable talk theory includes three broad categories: accountability to the learning community, accountability to content knowledge, and accountability to rigorous thinking. This manual includes our definitions for six teacher talk moves within these three categories.

- **Category: Accountability to Learning Community:**
 - *Teacher Talk Move: Keeping Everyone Together*
 - *Teacher Talk Move: Getting Students to Relate*
 - *Teacher Talk Move: Restating*
- **Category: Ensuring Content Knowledge:**
 - *Teacher Talk Move: Pressing for Accuracy*
- **Category: Accountability to Rigorous Thinking:**
 - *Teacher Talk Move: Revoicing*
 - *Teacher Talk Move Pressing for Reasoning*

1.3 Accountability to the Learning Community

Keeping Everyone Together

Teacher prompts for students to be active listeners are coded as *Keeping Everyone*

Together. This code is used for yes/no questions, managing turns, getting students' attention, keeping students on task, asking a student to read a question, call-and-response, and asking students to repeat each other.

- Yes/no questions (that are not related to another student's idea/contribution):
 - ***So x equals five dollars, right?***
 - ***Seven?***
 - ***Can we say these answers are the same?***
- Teacher utterances that manage student turns or interactions in a general way:
 - ***Go ahead.***
 - ***Shelly?***
 - ***Can you repeat what you just said?***
 - ***Turn and talk to your partner.***
 - ***Raise your hand if you know the answer.***
- Teacher utterances that are intended to keep students' attention:
 - ***You know what?***
 - ***It's going to be 150, right?***
 - ***I know the dot goes here, okay?***
- Questions intended to keep a student on task:
 - ***Are you finished?***
 - ***Where are your questions one, two, and three?***
- Asking a student to read a problem/instructions aloud or to repeat a teacher utterance:
 - ***Can you read the problem out loud?***
 - ***Repeat after me: common denominator.***
- The teacher prompting a call-and-response utterance:
 - ***T: Bum bum bum bum bum***
S: Bum Bum
- Asking the students if they heard or can repeat what another student or teacher said:
 - ***What did she say?***
 - ***Did you hear what he said?***
 - ***Someone tell me what he just said about his equation.***

Getting Students to Relate to Another's Ideas

Teacher prompts for student contributions that relate to another student's work or contribution are coded as *Getting Students to Relate*. These prompts must go beyond asking a student to repeat another student's utterance. This code is used when teachers ask students to comment on or to agree/disagree with another's work or ideas.

- Asking students to comment or elaborate on other students' contributions:
 - ***How do you feel about what they said?***
 - ***Do you know what he was doing?***
 - ***Would you like to add on to what he said?***
 - ***Does anyone understand how she solved the problem?***
 - ***Why did your classmates think that it was 7/2 ?***
- Prompting students to take a position/stance or talk about their own thinking in relation to that of another student in the class:
 - ***Do you agree or disagree with him?***
 - ***Who is right?***
 - ***Raise your hand if you agree.***
 - ***Did you come up with something different than her?***
 - ***Did anyone else have three?***

Restating

The teacher repeating all or part of what a student says word for word, without adding anything or changing any of the wording, is coded as *Restating*.

- Examples:
 - S: The same size and shape but it moves to a different position.
T: It moves to a different position. (Restating)
 - S: An exponent
T: Exponent. (Restating)
 - S: It's four million and then the two.
T: Four million two. (Restating)

1.4 Accountability to Content Knowledge

Pressing for Accuracy

Teacher prompts for an answer related to a mathematical procedure or for a short math-related answer are coded as *Pressing for Accuracy*. The teacher may be prompting students to walk through problem-solving procedures, consider language accuracy, or define elements of a problem. This code also may be applied when the teacher asks

students to write their answers at the board in front of the class.

- The teacher requesting an answer to a problem:
 - ***What is the answer to number 2?***
 - ***Can you give me an example of an ordered pair?***
 - ***What is 6 times 6?***
 - ***Can you write your answer on the board?***
 - ***Show me where 6 inches is on the ruler.***
- Prompting a student to talk through a problem-solving procedure or possible variations on a problem:
 - ***How can you figure that out?***
 - ***How did you solve it?***
 - ***What would I write next?***
- Prompting for an answer related to language precision:
 - ***What is this called?***
 - ***What's the definition of a square?***
 - ***What's another word for that?***
- The teacher asking a student to define elements in an equation:
 - ***What does the .5 mean here?***
 - ***What does x stand for?***

1.5 Accountability to Rigorous Thinking

Revoicing

The teacher repeating what a student says AND adding on to or changing the wording in any way is coded as *Revoicing*. This includes when the teacher is correcting a student and when a teacher repeats a student's utterance in another language.

- Examples:
 - S: It had two.
T: So instead of one flat edge, it had two. (Revoicing)
 - S: An exponent.
T: The exponent. (Revoicing)
 - S: Oh, Company B.
T: It's Company B because that's the one that charges you \$2.00 per minute. (Revoicing)
 - S: I got 2X minus Y.

T: It's not 2X. (Revoicing)

- S: La respuesta es siete.

T: The answer is seven. (Revoicing)

Pressing for Reasoning

Teacher prompts for students to provide evidence, explain their idea, or share their thinking behind a decision are coded as *Press for Reasoning*. The teacher may also be prompting for students to connect concepts or compare mathematical representations.

- Teacher prompts students to explain their ideas:
 - ***Can you explain why?***
 - ***How did you know?***
 - ***What made you extend these lines?***
 - ***Why does this method work?***
 - ***What's the point/What's the purpose?***
- Teacher asks a student to connect two or more ideas or explain how a concept is related to the problem:
 - ***How are these ideas connected?***
 - ***How does this apply to ...?***
- Teacher prompts students to compare across mathematical representations:
 - ***Where do we see the $x + 1$ in the tiles?***
 - ***How do we see that slope in your table of ordered pairs?***
 - ***How would that equation look on a graph?***
 - ***What would a table look like if I were to show that in a systematic way?***

1.6 What is not coded

- Teacher utterances that neither ask for a student contribution nor repeat all or part of a student contribution.
- Teacher utterances that are not related to the lesson (such as talking to students before or after a lesson).
- Teacher utterances that are not understandable (i.e., an important part of the transcript is blank).
- Teacher questions like "Okay?" or "Right?" if that is the complete utterance.
- Evaluative statements like "That's interesting," or "Good."
- Teacher utterances that seem like a talk move but do not fit into any of our categories.
- Any student utterances.
- Teacher utterances explaining a concept generally or stating goals or objectives.

- Teacher utterances asking students to write something on their own paper.
- Teacher utterances addressing another teacher.
- Teacher questions that have no bearing on the math, e.g. “What should we call this street?”

2 Student Talk Moves Coding Manual

2.1 Introduction to Student Talk moves

Student talk moves are discourse actions such as making claims, using reasoning, reacting to other students’ ideas, and asking questions. By using these moves, students not only contribute their ideas, but they attend to and build on the ideas of their classmates, helping to ensure they are actively and equitably engaged in challenging academic work (Candela, Boston & Dixon, 2020).

2.2 Categories and Talk Moves

Accountable talk theory includes three broad categories: accountability to the learning community, accountability to content knowledge, and accountability to rigorous thinking. This manual includes our definitions for four student talk moves within these three categories.

- **Category: Accountability to the Learning Community**
 - *Student Talk Move: Relating to Another Student*
 - *Student Talk Move: Asking for More Information*
- **Category: Accountability to Content Knowledge**
 - *Student Talk Move: Making a Claim*
- **Category: Accountability to Rigorous Thinking**
 - *Student Talk Move: Providing Evidence or Reasoning*

2.3 Accountability to the Learning Community

Relating to Another Student

When a student uses their classmate’s idea as a basis for their own idea, these utterances are coded as *Relating to Another Student*. This code is applied when a student comments on or asks about another’s work, a student answers another student’s question, students agree/disagree with another’s ideas, or a student repeats another student’s utterance.

- Student comments on, adds on to, or asks about another student’s utterance or

work:

- *He drew the y-intercept.*
- *Her graph is different from mine.*
- *I was going to say what he said.*
- *Do you know how to do this?*
- S1: You could divide it.
S2: by 2. (Relating)

➤ Student asks for confirmation or help on their own work from a peer:

- *Did I do it right?*

➤ Student answers another student's question:

- S1: *Does this point go here?*
S2: Yes. (Relating)

➤ Student agrees with/affirms or disagrees with/challenges what another student says:

- *I agree with his answer.*
- *I don't think that is the way it goes.*
- S1: The answer is 58.
S2: Right. (Relating)
- T: Do you agree with her?
S: Yes. (Relating)
- T: How many birds are in the tree now?
S1: 2
S2: 3 (Relating)
- T: Is this equal?
S1: Yes
S2: Yes (Relating)
S3: No (Relating)

➤ Student rephrases or repeats another student's utterance.

- S1: Now we need to put a comma.
S2: Comma.
- S1: It is rotated
S2: It's flipped.

Asking for More Information

Student utterances that create an opportunity for more discussion about a math idea by saying they want more information are coded as *Asking for More Information*. This code is also used when students express confusion.

- Student asks for more information:
 - ***Why did you multiply?***
 - ***Where did you get the 5 from?***
 - ***Would this be 10 or 20?***
 - ***What does Z mean?***
- Student expresses confusion:
 - ***I don't understand.***
 - ***I am confused.***
 - ***I need help.***

2.4 Accountability to Content Knowledge

Making a Claim

When a student makes a mathematical claim or makes a factual statement about a math concept or idea, the utterance is coded as *Making a Claim*. This code is also used when a student shares how they got their answer in a simple statement, defines an element or provides an equation as an answer to a problem, disagrees with the teacher, or recognizes an error in their thinking. If the student does any of the above and includes evidence or reasoning, it is coded as *Providing Evidence or Reasoning*.

- Student provides an answer to a problem or math question:
 - T: What is 6 plus 6?
S: 12
 - T: What's the answer to number 3?
S: 12x plus 5
- Student shares how they got their answer in a simple statement:
 - ***It's the same as number 6.***
 - ***I multiplied 8 and 5.***
- Student defines elements of an equation or provides an equation as an answer to a problem:

- *Y is the number of cars.*
- *25x plus 2y equals 4.*
- Student disagrees with a teacher, including elliptical responses:
 - T: I can't?
 - *S: You can.*
 - The farmer has 4 ducks.
 - *S: No, she has 5 ducks.*
- Student recognizes and error in their thinking:
 - *Oh wait, my answer is wrong.*
 - *It's 5, no, 6.*
- Student offers an answer in the form of a yes/no question:
 - *Would I divide 10 by 2?*

2.5 Accountability to Rigorous Thinking

Providing Evidence or Reasoning

Student utterances that suggest a deeper understanding of a math concept are coded as *Providing Evidence or Reasoning*. This code is used when a student describes a procedure with multiple steps, provides reasoning for their ideas, notices a pattern, answers a 'why' question, uses an if/then statement, or compares two or more mathematical representations.

- Student describes a procedure with multiple steps and over multiple sentences:
 - *I divided 6 by 2 and got 3.*
 - *First I added 5 and 2. Then I combined 7 and 2. Then I added those two answers together. (All 3 sentences coded as Providing Evidence/Reasoning)*
- Student provides reasoning for their idea:
 - *I don't think so because you can't subtract 2 from zero.*
- Student notices a pattern:
 - *It is going up by 5 each time.*
- Student answers a 'why' question:
 - T: Why can't we add these?

S: Because the denominators are not the same.

- Student uses an if/then statement:
 - ***If you double it, the shape is going to get bigger.***
- Student compares two or more mathematical representations:
 - ***2x plus 8 is going to be a positive line on the graph.***

References

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