Talk Tools At-a-glance

TEACHER-STUDENT TALK TOOLS

Probing: Ask probing questions or give prompts that ask students to make public their observations. Some examples below:

1. What did you notice happening here (before, during, or after) the [phenomenon event] happened?
2. What did you think was going to happen in this [video, situation, demo]?
3. What experiences have you had with [really loud sounds]?

The teacher is NOT evaluating responses, but instead, getting as many initial ideas brought up as possible.

Follow ups: Follow-ups are requests for additional information and are just as important as the initial question. These questions help you understand student comments better and gives students a chance to clarify their meaning. Some examples include:

1. Can you tell me more about that?
2. Can you explain/describe it in a different way?
3. What do you mean by that?

Pressing: Sometimes a teacher must ask students to reason further (and out loud) about something they've just said. This is known as *pressing*. Pressing students is very different from eliciting their ideas and experiences (i.e., different from probing). Below are a few ways of pressing:

- **Asking for examples:** Can you give an example of the idea you just mentioned? Can you think of a case where this holds true? Or does not hold true?
- **Pressing for consistency:** Does your claim fit with the data we have? How is your explanation different from the one that [a peer] just offered? But is what you are saying consistent with [a known science principle, fact]?
- **Asking for evidence or justification:** What makes you think that? How did you arrive at that conclusion? What evidence do you have? How does that idea support your claim?
- **Requesting students to "fill out" explanation**
- **Asking how one could test a claim:** That's an interesting idea; is there a way we could test it to see if it's true? What resources might we need to do that? What would make a fair test?
- **Asking a "what if" question**

Wait Time: During whole-class discussions, *students need time to think*. Not everyone can spontaneously interpret what a teacher's question means and respond to it within a couple of seconds. Pause for 20 seconds or so and explicitly tell them you are giving them time to think about a prompt or question.

Revoicing: Revoicing means that the teacher listens to an extended statement a student has made, then paraphrases and rebroadcasts to the class what was said.

- Revoicing to mark a segment of idea as important.
- Revoicing to repair how an idea is expressed: A sentence starter here might be: "Here's how I understand your explanation [restate it], but did you mean to say ____, rather than ____?" Instead of "correcting" statements on a routine basis or evaluating them overtly, the teacher makes clarifications in a sensitive way to avoid confusing other students.
- Revoicing to connect students' everyday language with academic language.

Excerpts taken from Ambitious Science Teaching (pp. 54-79)

Focusing: Occasionally students will be overwhelmed by a question or task in a way that teachers could remedy by drawing their attention to a small part of the problem space. Here are some example teacher statements"

- Tell us just about [this smaller part] of the story—focus on that.
- What do you think this one data point tells us?
- I think you need to consider the [X] activity we did and think about what it told us might be happening here (pointing perhaps to a place in the students' written explanation or on their drawn model).

Putting idea "On Hold": Sometimes students make off-topic statements or questions. Politely acknowledge their contribution but let them know you'll need to discuss this another day. A teacher might say: "That's an interesting idea, and it is something that we will talk about tomorrow, but for now . . ." or "I like your thinking, but let's hold on to that thought."

STUDENT-STUDENT TALK TOOLS

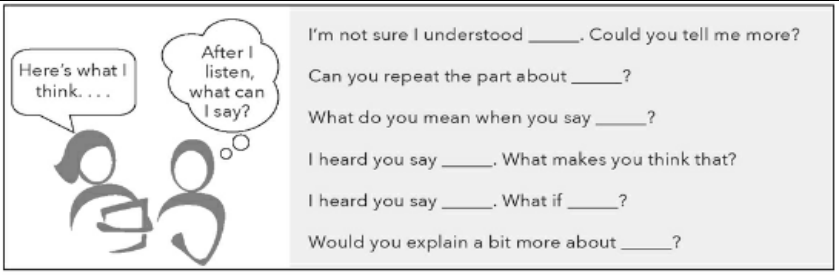
Establishing Student talk norms: It's vital to have standards of respect for students to share ideas with each other. Also, frequent use of talk moves helps students know the expectations of talking to make sense of ideas.

Group talk and think-pair-shares: In this common routine the teacher poses a question and asks students to **think** silently for a minute or two how to respond, then **pair** with a peer to compare ideas, and finally return to the whole-class conversation to **share** their thinking. To help students feel more comfortable to have their ideas shared with the whole class, the teacher can ask a spokesperson from a group/table to share what *their group* discussed, rather than a single person's ideas.

Opening up Cross Talk: Here are some types of questions that get students to *compare*, *critique*, and *add on to the ideas* of others:

- Can you rephrase what Marie said in your own words, and check with her to see if that's what she meant?
- Can you tell Jordan whether you agree or disagree with his statement and why or why not?
- Does anyone want to respond to that idea? Please talk to the person rather than to me.
- Can you two compare the ideas you just came up with?
- Are you saying they are the same thing?

Talk Cards with Sentence frames as scaffolds. Provide students with cards like the one found to the right with sentence starters to use when discussing phenomenon or concepts with each other.



Give Talking Roles for Small Group Work: Assign student roles in group work to foster better student to student interactions and discussions. Roles should give students responsibility over parts of science talk rather than managerial roles (i.e. "The Trash Captain"). Some roles include *Big Ideas Person, Clarifier, Questioner, Skeptic, Progress Monitor, Floor Manager (see more in AST on pp. 77-78)*

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