

24. MAKING STUDENTS' THINKING VISIBLE

This arena is a constellation of 24 teaching principles that create robust student dialogue where students talk more than teachers, at a high level of thinking, and simultaneously develop a safe and supporting climate for making errors and risk-taking. These skills are important in high expectations teaching for several reasons. First of all, the perseverance we often display to get students to speak their thinking is a sign of respect. So is the use of wait time. Second, we get a great deal of information about what students do and don't understand (misconceptions, gaps in knowledge). We can use this directly with our low-confidence students to accelerate their learning. Third, these moves are surrounded by a judgment-free environment that embeds a new and constructive view of error (it's normal and useful) and encourages student risk-taking in a safe environment that focuses on thinking rather than winning the competition to be first, fast, and right all the time.

Cultivating Classroom Discourse to Make Students' Thinking Visible

When you lead classroom discussions, follow the principles below to create a talk environment of robust student-to-student discourse. This will shift the dynamic from the teacher listening to and interacting with just one student at a time to everyone listening to each other and contributing to each other's thinking.

Table 5.2 24 Operating Principles and the Verbal Behaviors That Go With Them

| <i>Getting the conversation started</i> | |
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| <p>1. Engage student thinking</p> | <p>Begin the dialogue with a planned question or statement designed to engage student thinking.</p> <p>"Why do you suppose Fitzgerald always has Gatsby comment on the Eckleburg sign between East and West Egg?"</p> <p>"What is the difference between an ionic and molecular compound?"</p> <p>"How can you tell if two fractions are equivalent if their denominators are different?"</p> <p>"What do you think Papa really wants when he says that to the children?"</p> |

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| <i>Laying the foundations by creating a safe and inclusive environment for discourse</i> | |
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| 2. Call on all | <p>Call on all students over time in large groups whether hands are raised or not.</p> <p>Engage all students when it is a small group. This sets the expectation for everyone to participate in the learning.</p> |
| 3. Pause, use wait time | <p>After posing a question or hearing a student's response, allow a brief silence.</p> <p>Give all students time to process a question or a student comment by pausing for a minimum of 3–5 seconds after posing a question and before calling a student or before calling on another student to answer.</p> |
| 4. Avoid judgment | <p>Respond to students without judgment.</p> <p>Replace the language of praise (or blame) with specific feedback, naming what the student did.</p> <p>"You expressed an idea and gave an example that helps us understand your thinking."</p> <p>This affirms effort and reinforces visible thinking behaviors.</p> |
| 5. Validate confusion | <p>Validate students who acknowledge confusion and give encouragement, expressing confidence in their ability.</p> <p>"Strong students say when they are confused like you just did, Jasmine. Let's start by going back over what we know so far. I know you'll get it."</p> |
| <i>Getting started on making students' thinking visible</i> | |
| 6. Explain | <p>Get students to explain or elaborate.</p> <p>When a student responds to a question, <i>stay with the student for several exchanges</i>, whether his or her response is right or wrong. This shifts the dynamic from short answers to developing students' stamina to engage in complex conversations.</p> <p>"Tell us why."</p> <p>"How did you arrive at that; what is your thinking?" (Student responds.)</p> <p>"So then what was different about his wife's motivation?"</p> |
| 7. Restate | <p>Get another student to paraphrase or restate what has been said to highlight an important idea (or to check listening).</p> |

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| | <p>"Marie, how would you restate what Josh just said?"</p> <p>This sends the message that everyone's voice has weight and sets the expectations that students need to listen to one another's ideas, not just the teacher's voice.</p> |
| 8. Turn and talk | <p>Use turn and talk often in large-group settings.</p> <p>"So what are the five criteria for a good pictograph? Turn and talk to a neighbor and see if you can come up with them all."</p> <p>"How was Scout's opinion of Boo changing? Turn to a partner and talk about what you think the change was and why."</p> <p>This gets more active participation more of the time and promotes speaking and sharing openly and frequently. It also gives reticent students the opportunity to rehearse their ideas prior to speaking to the whole group.</p> |
| <p><i>Helping students who are wrestling with concepts and problems</i></p> | |
| 9. Establish norms | <p>Make norms of interaction explicit between students in groups.</p> <p>"Today please be sure to say 'because . . .' after you say that you agree or disagree."</p> <p>"In your groups remember to make sure you check each person's understanding before going on to the next problem."</p> |
| 10. Listen actively | <p>Paraphrase and use careful active listening to unpack student thinking, especially for a wrong or incomplete argument, until there is mutual understanding of what the student actually intended to say.</p> <p>"You seem to be saying that Antigone really spurns her sister, has no respect for her at all. Is that right?"</p> <p>"I think what you are saying is . . . am I understanding you?"</p> |
| 11. Revoice | <p>When students are grappling with an idea, or their explanations are vague, occasionally revoice (paraphrase or extend) an answer, infusing academic language when appropriate.</p> <p>"So, Mike, you're saying that the combination of rising prices—inflation—and wages staying the same—wage stagnation—was hurting the middle class."</p> |
| 12. Scaffold | <p>When students experience difficulty explaining their response, scaffold their thinking by asking questions</p> |

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| | <p>that allow the pieces they <i>do</i> know to surface and then nudge them to build on it.</p> <p>S: It's a multiplication <i>and</i> a division problem! T: How did you figure that out? S: Ummm . . . I just know. T: Uh huh. So let's see. . . . How many boxes of notebooks did the school buy, Damian?" S: Eight. T: How did you know that? S: 'Cause the delivery man could only carry two in each of the four trips. T: And how many classes needed notebooks? S: (Silence) T: If it's not in the words, maybe it's somewhere else. S: Oh, the map of the school! T: And books in each box? S: 100. T: So then what was your reasoning? S: Oh, well, first you had to . . .</p> |
| <p>13. Persevere and return</p> | <p>Return to a student whose answer was initially incomplete or incorrect. Ask him or her to put together the points that were produced in subsequent class discussion by others.</p> <p>"So now, Ricardo, put it all together for us. What are natural resources?"</p> |
| <p><i>Relinquishing old habits</i></p> | |
| <p>14. Adjust speed for coverage</p> | <p>Slow down the conversation to get repetitions and restatements of answers.</p> <p>People need to hear things more than once and have the opportunity to put ideas into their own words in order to understand them.</p> |
| <p>15. Save students</p> | <p>Allow students to struggle, and stick with them, dwelling on their thinking.</p> <p>Attend and listen without commenting as they talk through their ideas.</p> |
| <p>16. Answer yourself</p> | <p>When a student asks you a question, see if another student can answer it rather than answering it yourself.</p> <p>"Who would like to try answering Jason's question?" "Elaine, how would you answer that?" "Jamil, what do you think would be the next step?" when Jason has asked for the next step.</p> |

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| 17. Do the thinking for students | <p>Leave a student with a puzzle to ponder and come back later to see what he came up with.</p> <p>"Keep thinking about it. I think you are onto something we will be talking about later. So see if you can make a connection."</p> |
| <i>Getting students to interact with one another</i> | |
| 18. Agree or disagree | <p>Invite students to agree or disagree with an idea someone shares, and require them to explain their thinking or reason why.</p> <p>"What do you think, Jane? Agree? Disagree? Why?"</p> <p>"Who agrees . . . who disagrees? Tell us why."</p> <p>"Show me a sign: Agree? Disagree? Why?"</p> |
| 19. Add on | <p>Ask a student to comment on or add to another's thinking.</p> <p>"Let's comment on what Mike said. Leo, what do you think about Mike's interpretation?"</p> <p>"Who has something to add on to what Tiffany is saying?"</p> |
| 20. Compare thinking | <p>Have students comment on the similarity or difference between two students' ways of thinking or approaches.</p> <p>"You seem to be thinking about this with economic motives whereas Wanda was thinking more about people's emotions driving them. Which helps us more at this point?"</p> <p>"So Anthony made his rectangle 3 across and 4 down. Erika made hers 4 across and 3 down. Is one more correct than the other? Would either work? Why?"</p> |
| 21. Surface discrepancies | <p>Ask questions to surface discrepancies.</p> <p>"How can that be if. . . What do you think is going on there?"</p> |
| 22. Revisit previous thinking | <p>When, after reflection or struggle, a student changes his or her opinion or answer, ask the student to compare the two lines of thought that led to a different answer.</p> <p>"So what was different on this second try from the first way you did it?"</p> |
| <i>Teaching and reinforcing academic vocabulary</i> | |
| 23. Infuse academic vocabulary | <p>Seize opportunities to infuse academic vocabulary and the language of thinking into dialogue and, ultimately, into the culture of the classroom.</p> |

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| | <p>"Yes, and what you just did, Brendan, is an example of <i>analysis</i>."</p> <p>"I see your point. That's a <i>generalization</i>, and we'll be looking for more of them later in the period."</p> |
| 24. Record academic vocabulary | <p>Record and keep the emerging academic vocabulary visible so students have access to it when writing and speaking.</p> <p>On the board in the corner is this vertical list: proposition, thesis, antithesis, argument, evidence, contrary evidence.</p> |

Communicate "This is important, you can do it, and I won't give up on you."

Space prevents a full exposition of these skills here. Readers can go to <http://rbteach.com> for a thorough online course with dozens of videos of the skills in action across many grade levels and subjects.

A teacher uses making students' thinking visible in a small group.

<http://rbteach.com/products-resources/video/making-thinking-visible-small-groups>



Video 5.5

A teacher uses making students' thinking visible with a total class discussion.

<http://rbteach.com/products-resources/video/making-thinking-visible-and-classroom-climate>



Video 5.6

25. FREQUENT STUDENT SUMMARIZING

Active summarizing strategies not only get students cognitively active in recasting their learning but also give the teacher information about what students know and any errors or gaps. Summarizing can be a twofer: summarizing and checking. Learning logs, 3-2-1 summarizers (3 things I learned, 2 things I wonder about, and 1 thing I'm confused about or didn't understand), and many other devices serve this purpose.