Accountability to Rigorous Thinking

If accountability to accurate knowledge can be thought of as getting the facts straight, accountability to rigorous thinking has to do with building a line of argument. Making cogent and compelling arguments requires linking together claims and evidence (facts) in a logical, coherent, and rigorous manner. When classroom talk is held to rigorous thinking standards, students and teachers consistently push for clear statements of claims (positions, explanations, or predictions) and sound reasoning in backing up those claims with evidence.

Teachers and students examine evidence critically, knowing that just having accurate facts is not, in and of itself, enough. The evidence presented has to be "good" or what is often called "warranted" evidence. Beyond merely being accurate, the evidence has to be sufficient (e.g., a claim about people in North America vs. people in Europe needs to be based on more than an informal survey of a few people from Chicago and an exchange student from Paris). The facts must be credible (information quoted from the Washington Post is more authoritative than information quoted from an unnamed source in the National Enquirer or downloaded from an unrefereed bulletin board on the Web). The facts must be relevant to the claim being made (information about Japan, however accurate and authoritative, will probably not be germane to an argument about North Americans vs. Europeans). And the claim must be appropriately qualified (if all the evidence for a particular claim comes from interviewing people from New York City, it might not be fair to generalize to the entire population of North America).

Distinguishing sharply between accountability to knowledge and accountability to rigorous thinking is not easy because they so often go hand in hand. It is possible, of course, to have rigorous and cogent reasoning, but with a factually false premise. It is possible to have inadequate or incorrect evidence for one's claims. Similarly, it is possible to have well-researched, factually accurate evidence that is not directly relevant to the claim one is making. The evidence, while counting as accurate knowledge, simply does not warrant the conclusion drawn. Thus it is possible to distinguish between factual knowledge and standards of reasoning, but in practice, they are intertwined and both necessary.

It takes effort and time to teach students to adhere to rigorous thinking standards. In a classroom that is accountable to rigorous thinking, we may not always see perfectly structured arguments and reasoning. What we will see, however, is consistent attention to the quality of claims and arguments: How well supported is a claim? Is the evidence good? Sufficient? Authoritative? Relevant? Unbiased? In seeking to build sound and rigorous arguments, students and teachers ask questions that test their own understanding of concepts, redefine or change explanations as needed, and identify their own biases. They draw comparisons and contrasts among the ideas presented as evidence and indicate to what degree they accept the evidence and claims.

Michaels, S., O'Connor, M. C., & Hall, M.W. (2010, 2013). *Accountable Talk® Sourcebook: For classroom conversation that works, version 3.1*. Retrieved from University of Pittsburgh Institute for Learning website: http://ifl.lrdc.pitt.edu/index.php/resources/other_resources , 5-6, 11-15.

In classroom talk that is accountable to generally accepted standards of reasoning, students use data, examples, analogies, and hypothetical "what-if" scenarios to make arguments and support claims. Students are encouraged to seek out different kinds of supporting evidence, strengthening an argument by using a variety of sources to support it. Students and teachers assess and challenge the soundness of each other's evidence and quality of reasoning, often posing counter-examples and extreme case comparisons to illustrate a point. Hidden assumptions are uncovered and examined. Students and teachers consistently ask one another to show why the evidence used to support a claim is accountable to rigorous thinking.

In emphasizing accountability to rigorous thinking in classrooms, regardless of content area, one central purpose is to create a public arena where arguments can be explicated more fully and made public, looked at by others, interrogated, and developed further. We want students to learn ways to expand and improve their reasoning, making their ideas clear and compelling to others, in part by making their contributions elaborated and explicit. We want students to dig deep, to question their underlying assumptions, to evaluate the adequacy of their evidence, and to see things from a variety of perspectives. Explicating one's reasoning in words or in writing makes it public and available for others (or oneself) to assess, critique, question, or challenge.

EMBEDDING TALK IN RIGOROUS ACADEMICS: MOVING FROM PURPOSES TO INSTRUCTIONAL TASKS TO TALK

Surface features of an *Accountable Talk* classroom are easy to identify. To see whether students' talk shows evidence of accountability to the learning community, we look for signs that students link their talk to what others have said, using expressions like, "I have something to add to what Dahlia just said." To see whether students are accountable to knowledge, we might look for teacher or student moves that question a source of information, or the accuracy of evidence in the argument being constructed. To see whether students are accountable to rigorous thinking, we listen for teacher or student moves that press for links between the claims being made and the evidence that supports those claims: "So are you basing your theory on your everyday experience with moving objects?" "I'm not convinced that your evidence is relevant." "I'm not following your line of argument. How does that evidence support your point?"

In order to be sure that the academically productive talk, and in order to actually promote and support learning, it is critical to begin with a focus on academic purposes. If talk itself, focusing on individual moves taken out of context, is the teacher's primary focus and no attention is paid to the academic goal, then the lesson may incorporate lots of student talk ("I sort of agree with Stephen..." "My reason is the same as LaShaun's...") but little actual learning. Moreover, even though the talk at any one point may provide evidence that the students are accountable to accurate facts and rigorous reasoning, the conversation as a whole may not build a coherent line of reasoning. The conversation may jump around from point to point, without generating a sense of overall coherence within the lesson.

Teachers who consistently create *Accountable Talk* classroom conditions begin by having a clear conception of their academic goals for the lesson. They begin with questions like, "What are the key concepts I want my students to learn in this lesson?" "What are the big ideas I want them to grapple with?" and "How do these ideas relate to what we've just done?" Such questions all precede these teachers' consideration of the kinds of talk they hope to see and how they will orchestrate it.

After choosing a specific academic purpose or set of purposes, it then makes sense to ask what kind of instructional task will support the accomplishment of those purposes. If our goal is to pursue these purposes within a "thinking curriculum" then we must ask what kind of task will promote high levels of what Stein, Smith, Henningsen, and Silver (2000) call "cognitive demand." By cognitive demand, they mean "the kind and level of thinking required of students in order to successfully engage with and solve the task." Tasks with high-level cognitive demand require students to engage in complex and intensive thinking to reach a solution. In addition, if we are concerned about all students gaining access to learning opportunities, we must ask what kind of tasks will provide points of entry and opportunities for engagement by all students.

Finally, if we are concerned about creating a coherent conversation, we must plan for a clear introduction to the task, time for student activity, and a clear recap of the point, the big ideas that have been discussed, and the new understandings that have been arrived at.

At this point, it makes sense to ask what kind of classroom talk format(s) will best facilitate these academic goals. Some segments of the task can be carried out in silence, with no discussion among students. But if the task enactment requires talk, it then is critical to ask what kind of talk format is most appropriate for this instructional task.

- "Will this question or problem work best as a whole group discussion, as small group work, or as partner work?"
- "Should I set this topic up with a whole group discussion and then stop at a certain point and have the students turn and talk with partners? If so, precisely when should I tell them to do partner talk? What question should I have them think about with their partner? Will the partner talk take up too much time, and will they get out of control on their own? If the group discussion after the partner talk turns out to be rich, will I still have enough time to do some kind of recap, pointing out the big ideas we've focused on?"

In planning the set-up and enactment of any task (with clear academic purposes firmly in mind), here are a number of questions a teacher might ask him or herself:

- "Is this question or problem rich enough to sustain an extended group discussion? Will I be able to orchestrate a coherent conversation, helping the kids build up a coherent line of reasoning, in response to this question?"
- "What terms, words, or expressions are likely to create problems in my setting up of the task and making sure that everyone understands what to do?"

- "What are the likely ideas, theories, predictions, or conjectures the students will have in response to my question?"
- "What are the students likely to say in response to my question, and how will I respond? For example, what will I do if someone pops out, right off the bat, with a "correct" answer? Should I evaluate it as correct or just let it hang in the air?"
- "Is there more than one valid interpretation, answer, or position so that many different ideas can be put on the table for the group to consider?"
- "Will this question or problem work best as a whole group discussion or as small group work? Should I start off with the students working silently as individuals for a few minutes and then shift into partners or groups?"

In addition to thinking about the question that will launch the task, it is also helpful to do advance planning—and imaginary troubleshooting—about what is likely to happen (with respect to student talk and participation) once the activity is fully underway.

- "Several solutions are likely to emerge. Which one should I ask a student to present to the group first?"
- "What kinds of everyday language will they likely use and how will I link that to more academic terms?"
- "What will I do if only one solution [e.g., to the math problem] or one interpretation [e.g., to an open-ended question about literature] is put forward?"
- "What will I do if only a few students want to talk or if the boys dominate the conversation?"
- "If the discussion is very rich, should I let it continue until the end of the period, or should I end it at a certain pre-set time so that I have time for a brief recap of the big ideas or the arguments we have built together?"

These questions focus specifically on the kind of talk that a task will support and the ways that kind of talk will facilitate the aims of the activity. They are considered in light of academic purposes, lesson content, and coherence.

Naturally, different ways of structuring student talk and turn-taking are good for different purposes. Therefore, it is helpful to keep in mind three things as you plan a lesson:

1. What are my academic goals and how will the task I have chosen move them forward?
2. What are the advantages and limitations of the talk formats that I could use in this lesson?
3. How can I best maximize the coherence of the lesson?

For example, imagine that you are planning a lesson, hoping to get lots of different ideas on the table so that students can evaluate them critically. Which would be better: strategically placed

partner talk in the context of a general group discussion, or a few selected student presentations?

Imagine instead that your goal is to clarify one particular mathematical concept and press the students to be explicit and clear in their reasoning. Which would be better: a general group discussion or a few selected student presentations?

Another example: imagine that your purpose is to involve the students in debating several different interpretations of a text in language arts. You have a concern, however, that the group might not have time to fully inquire into and discuss the various interpretations of a complex text. You might consider the advantages of a group discussion guided by the teacher, or group work followed by a much shorter group discussion wrap-up, or teacher-guided whole group discussion interspersed with a few strategically placed episodes of partner talk.

Once you have made decisions about the kinds of talk formats you will use, consider how these formats will affect the overall coherence of the lesson. To ensure a highly coherent lesson, would it be better to have the students at their desks the whole time (for both whole group discussion and group work) or moving to a central place on the rug for the lesson introduction, back to their desks for group work, and then back to the rug for the recap?

There is not a single “best” way to accomplish a particular academic purpose. There is not a particular talk format that works for all students at all times. Nor is there one best sequencing of different talk formats to ensure lesson coherence. But how a task is conceived and set up, and which talk formats are selected at any given point, will have a dramatic impact on the quality of talk and the nature of participation. Moreover, how the links between the talk formats are articulated ("Now we're back together to summarize the main point of the work we've just done...") will have an impact on overall lesson coherence. That is why it is crucial for teachers to think in advance about purposes, rigorous instructional tasks, talk formats, and the value of lesson coherence as primary tools for *Accountable Talk* promotion.