Supporting Coherence in Classroom Discussions Across Content Areas

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Classroom discussions have become a major focus for supporting student learning. While much research exists that describes the importance and benefits of classroom discussions for students' development (Fitzgerald & Palinscar, 2019), the literature has rarely explored similarities and differences in classroom discussions across content areas. Making connections in teaching across content areas is particularly important for elementary teachers who are expected to engage children in discussions of their ideas to deepen their learning in the areas of mathematics, English language arts (ELA), science, and social studies. We currently work with a group of elementary teachers to promote classroom discussions in their teaching across content areas. Our goal in this article is to illuminate how elementary teachers might make sense of facilitating classroom discussions, and the similarities across content, exemplified by the opportunities and challenges of a subset of the teachers with whom we work.

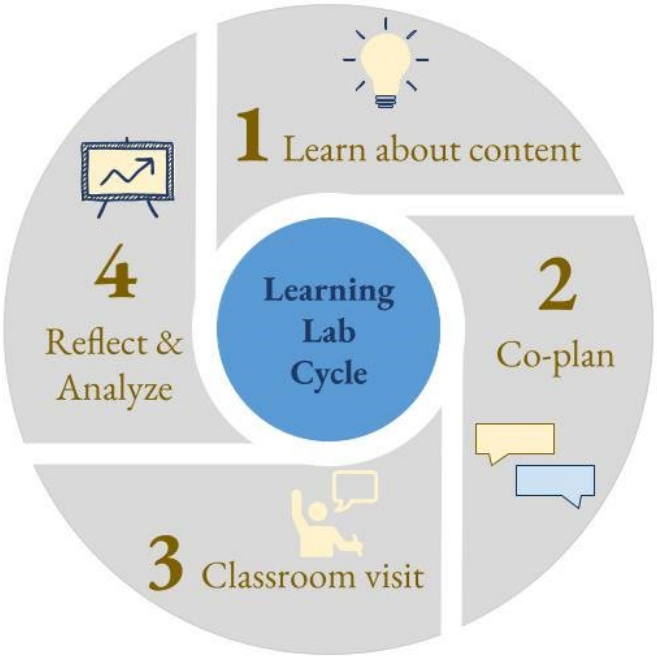
The mathematics education literature has shown how students' mathematical learning is supported through intentional classroom discussion (e.g., Lampert, 2001). Research on discussions in mathematics classrooms has: explored how discussions can support students' deep disciplinary thinking (Kazemi & Stipek, 2001), examined aspects of students' learning and participation (O'Connor et al., 2017), considered productive practices for its facilitation (Chapin et al., 2009), and specified how teachers can or should enact meaningful discussion practices (Chapin et al., 2009).

Learning Labs Professional Learning Structure

Our professional learning research project focuses on understanding and supporting the classroom discussion practices of elementary teachers, not just in mathematics, but across the multiple content areas in which they are expected to facilitate classroom discussions. We wanted to understand how to support elementary teachers to make sense of facilitating classroom discussions, and the similarities and differences in doing so when facilitating discussions in ELA, mathematics, and science.

In one K-5 elementary school, we engaged each grade level team of teachers in a professional learning structure called "Learning Labs" (see Kazemi et al., 2018 and tedd.org for more detail) to explore the use of classroom discussions in their teaching. The Learning Lab follows a typical learning cycle structure (see Figure 1). We briefly comment on the four-part structure here to portray the cycle.

Figure 1
Learning Lab Cycle Structure



At the start of a typical Learning Lab, the facilitator leads a team of teachers in examining tasks and standards, engaging in the discipline, and discussing research on children's thinking – all connected to a particular disciplinary focus. Then, the team co-plans an instructional activity by identifying the goals of the instructional activity, considering strategies students might use, and generating questions to elicit students' ideas. The resulting lesson plan is treated as a rough guide that remains flexible enough to allow teachers to pursue questions about student learning and respond to students' ideas during enactment (Gibbons et al., under review). During the classroom visits, the planned instructional activity is brought to life. The intent is for the team to enact, and actively co-construct, the lesson *together*, not to watch one teacher model the lesson. Thus, one or two people take the "lead teacher" role in interacting with students and other teachers chime in to collectively think together about what to do next (Gibbons & Okun, under review). The facilitator then leads a debriefing conversation focused on what the team learned during the classroom visit about students' thinking in relation to their learning goals. Through reflecting on their pedagogy, the educators also discuss implications for their instructional practice.

We focused a set of Learning Lab experiences on facilitating classroom discussions in mathematics, followed by a set of experiences in ELA, and then science. The discrete and sequential nature of the Learning Labs provided opportunities to leverage the discussion concepts from one lab content area to the next. It is during Learning Labs where teachers have an opportunity to think together about opportunities and challenges in facilitating discussions based on their goals for teaching and learning in different content areas. To give an image of what connections are possible, we share

excerpts from 4th grade teachers, Lois and Thomas[1], and their experience in the mathematics Learning Labs.

Elementary Teachers' Sensemaking about Facilitating Classroom Discussions

One of the core principles for our work with teachers is to center all students as sensemakers and capable learners in every content area and consider how classroom discussion might be used to uphold this principle. In conversations with teachers about how classroom discussions can provide opportunities for student sensemaking in mathematics, the teachers made connections to similar practices and considerations for their work with students in other content areas. For example, teachers drew connections between how classroom discussion can support sensemaking in mathematics and science. During one Learning Lab, teachers watched a video of a mathematics discussion, where a teacher facilitated multiple student strategies and engaged students in making connections across strategies. As a group, we discussed how supporting students to acknowledge each other's ideas can help develop deeper disciplinary understanding. Lois added:

> That's what they're teaching with the science [curriculum]…you want [discussion] to build on others' thinking… But it takes time and a deep understanding. And you don't have to have that order, you just have to recognize the different types of thinking.

Her comments suggest that the core importance of students sharing their ideas is not about what ideas get shared in what order (although the sequencing of ideas can have some benefit), but that meaningfully engaging with multiple student ideas allows for deeper learning. Lois' connection highlights the expectation for teachers to recognize and value different types of thinking in science. It also highlights the importance of teachers creating classroom environments that support students to hear other students' thinking so that they can engage in collective meaning-making processes.

During our interactions, teachers had opportunities to consider how classroom discussions can have similar purposes across the content areas, related to providing students with opportunities to collectively make sense of important disciplinary ideas. Similar to what Lois highlighted above, teachers discussed that a shared purpose of discussion in mathematics and ELA (via shared reading) is for students to listen and learn from their peers. Teachers also had opportunities to consider pedagogical moves that can be made to support classroom discussions, such as the use of Chapin and colleagues' (2009) talk moves for math discussions and their application in ELA discussion, as framed in Kazemi and Hintz's (2014) book *Intentional Talk*.

Making connections in classroom discussions between mathematics and other content areas is not without its challenges, especially given how teachers may interpret teaching and learning across content areas. The varied stances in each content area can shape their perspectives of what is possible in classroom discussions. After rehearsing and enacting a mathematics discussion on area with Lois' students, the same teachers reflected together, sharing how they wished the discussion involved

[1] Teacher names are pseudonyms

more talk about the *meaning* of area. During the conversation, Thomas shared similar feelings about the mathematics discussion and compared it to what happens in reading discussions:

> Thomas - Yeah, I kind of felt the same way cause [if] they had a little more time to grasp what they were working on I think the discussion would have been more rich. I don't know if you see the same thing but during our reading discussions, they're always kind of bouncing ideas off each other. But for this I feel like they were just a little bit rushed and didn't have quite enough time to work all the way through it.
>
> Professional Learning Facilitator - Do you have ideas about how this is like the reading discussions you have? Besides having more time, what else do you think would be in place for them to feel like they can bounce those ideas off each other?
>
> Thomas – I mean just kind of the nature of the reading thing with so many inferential questions in the reading it's easier for them to have different opinions. Math is, there's a correct answer and an incorrect answer, so the reading leaves a lot more flexibility for different ideas.

The initial comments Thomas made refer to a need for students to have time in discussion to understand the ideas of their peers in meaningful ways across all content areas. After the questions from the facilitator, Thomas shared what he believed as different ways that teaching happens in reading compared to mathematics. Thomas' concern related to his interpretations of the nature of reading and mathematics, which put the content areas at odds for using similar moves in facilitating discussion. The core principle of students making sense of ideas is present in discussions for mathematics and reading but for Thomas, mathematics has one right answer and reading has more possibilities.

Conclusion

Providing opportunities for elementary teachers to make sense of similarities and points of tension is important for teachers to make sense of facilitating discussions across content areas. Building on what they know about leading sensemaking discussions in other content areas can support their learning about leading such discussions in mathematics. We continue to work alongside elementary teachers to examine how they coordinate or experience contradictions in their development of discussion practices across content areas. In doing so, we consider: How do teachers see some discourse practices as useful across disciplines—are there *transdisciplinary* applications? And, what discipline-specific supports allow teachers to understand *how, when,* and *why* to use discussion practices within a content area? In collaboration with the school administrators, we established a content-inclusive definition of discussion that centers on sensemaking and how we may use it in ongoing professional learning with these teachers. Our ultimate goal in continuing this work is to create tools and frameworks that allow elementary teachers to consider facilitating discussions that support deep content learning while attending to the disciplinary practices that teachers are apprenticing students to use.

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