Redefining Engagement and Participation: The Co-Construction of Student Learning Practices

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Abstract: We examine three student learning practices (SLPs) – listening, presenting, and making and using records – central to participation and engagement in academically ambitious mathematics classrooms. These SLPs, enacted to learn academic content, are *means* to learning outcomes and *outcomes* in their own right. We study these SLPs in an elementary mathematics laboratory in which SLPs are supported and developed. Grounded in practice, this analysis enriches concepts of participation and engagement and advances our understanding of SLPs.

Purposes

Students' learning in classrooms is often equated with their engagement and participation in classroom activities. Yet, engagement and participation are associated with how many students appear to be sitting quietly and answering questions. We complicate these views, unpacking specific practices that students enact in order to participate and engage in learning mathematics in classrooms, and illuminate the work of teaching to support the SLPs of listening, presenting, and making and using records.

We examine: listening, which encompasses the practices associated with developing an understanding of the ideas in the classroom discourse; presenting, which includes representing mathematical thinking for the purpose of explaining to others; and making and using records, which includes keeping track of the significant mathematical ideas in the class. Analyzing the interaction of these SLPs, we identify work that both teachers and students do in order to build and support classroom participation and engagement.

Theoretical framework

Students' use of instruction – their engagement with teachers, content and each other – comprise the work of learning and lead to learning achievement (Cohen, Raudenbush, & Ball, 2003). Researchers posit a set of student practices that might be involved in the work that students do to learn – Lampert's (2001) inquiring, discussing, thinking, reading carefully, and examining closely, Fenstermacher's (1986) reciting, practicing, seeking assistance, reviewing, checking, and Ericson and Ellet's "attending to instructions and explanations carefully… practicing with an eye to proficiency, appraising carefully" (2002, p. 5). SLPs enable students to be successful users of classroom resources, and they support students' abilities to be a resource for themselves and others. Research has implied that SLPs are crucial to learning outcomes (Dewey, 1902/2001; Fenstermacher, 1986), but researchers have not operationalized SLPs or the ways in which they are constructed in classrooms.

Methods

We study SLPs in the context of a two-week elementary mathematics laboratory (EML) in which these practices are developed with fifth grade students. The nature of the laboratory, the lesson plans, and the practice of "public teaching" provide a setting that supports collective observation and analysis of teaching and learning, making it an authentic context to investigate SLPs (Ball, Mann, Shaughnessy, Suzuka, & Thames, 2013). We ask the following: What SLPs are constructed, and by whom, in the context of the EML? What is the work of teaching to support the construction of the SLPs?

We analyzed video recordings, lesson plans, student work, field notes, and memos written during the EML to identify which SLPs were being taught, for what purposes, and the ways in which they were co-constructed. We used a grounded-theory approach (Glaser & Strauss, 1967). We focus on three SLPs that emerged from an earlier study (Goldin & O'Neill, 2013) and were also a focus of instruction in the EML (Ball & Shaughnessy, 2013).

Results

Our analysis of three SLPs provides insight into the individual and collaborative nature of the SLPs and reveals the ways in which these practices operationalize participation and engagement. The study traces the development of these SLPs across time between the teacher and students in the context of specific mathematical work.

Analysis of SLPs suggests that listening is used to develop an understanding of the ideas in the classroom discourse in the EML. It is an activity to make sense of a topic or question that is the focus of

classroom inquiry for the purpose of using and evaluating other's ideas and building understanding. Here, listening in the classroom is associated with seeing and understanding other's thinking and noticing different approaches and solutions. Students' work presenting in the EML is comprised of publicly articulating ideas for the purpose of explaining to others. The analysis surfaces students' work presenting, and the ways the teacher co-constructs students' presentations by scaffolding, modeling, and doing some of the work with students. Making and using records includes the private and public efforts to record and create documents that keep track of the significant mathematical ideas in the class. This practice includes using a record of one's own mathematical work, organizing the various mathematical tasks in a single notebook, and recording ideas from the whole class. This practice creates records that are intended to serve the learner(s) in the moment as well as provide a resource to return to at a later date.

This study also focuses on these SLPs as a group, as component parts of the work that students and teachers need to do in classrooms to learn. These are SLPs that are particularly salient in crowded classrooms, and are fundamental to learning in classrooms with others. Regarding teaching practice, we illustrate the ways in which there might be overlapping teacher moves that themselves have dual purposes – to scaffold what is involved in presenting while also facilitating listening, for example. Results highlight the ways that these individually and collectively held SLPs develop over time. Working on these SLPs necessitates explicit teacher attention and support as the teacher models and scaffolds the individual and collective construction of SLPs.

Significance

This analysis brings forward the nuances present in classroom participation and engagement and is useful for helping teachers, administrators, and researchers "see" the individual and collaborative forms of participation and engagement. Identifying teachers' work with students to develop SLPs illuminates how instruction can leverage and equalize students' access to and engagement with ambitious content. This work builds on scholarship that details the ways in which deliberate to teaching that supports SLPs can "be central to the attainment of equity" (Boaler, 2002, p. 239). Further, this work has direct implications for how teachers might work with students. Focused on practice – students' SLPs and the practices of teaching that support them – this study improves our understanding of the work that students do to learn and supports the design of instruction that enables the successful development of these SLPs.

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