The Authority of Ideas: How Students Become Influential in Linguistically Heterogeneous Small Group Discussions

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Abstract: The objective of this poster is to explain how students in a linguistically heterogeneous classroom became influential during small group mathematical discussions. In particular, the study focuses on the role of the teacher on: (1) the perceived merit of students’ contributions; and students’ (2) position of intellectual authority; (3) access to the conversational floor; and (4) access to interactional space. This analysis extends our understanding of equitable classrooms to consider interactional dimensions of student influence.

Research on collaborative group work has shown that when students are engaged in peer-to-peer discussions, the influence of students’ contributions often falls prey to issues of social domination (Anderson et al., 1997; Hogan, Nastasi, & Pressley, 2000). These student dynamics can be particularly acute in diverse classrooms that include students from marginalized communities, such as language learners (Moschkovich, 2010). This poster reports on a study that focused on the role of the teacher, who walks from group-to-group for short periods of interaction, in determining whose ideas become influential during collaborative group work. In particular it utilizes a promising framework to examine how students’ ideas are attended to, evaluated, and taken up by others during collaborative work and then focuses on the role of the teacher in how students’ positions of authority and mathematical ideas are negotiated during group work.

Theoretical and Methodological Approaches

In order to investigate the role of the teacher on how student ideas are attended to and taken up by others during group work, I draw on a framework I helped develop for modeling how student contributions to group discussions become more or less influential (Engle, Langer-Osuna, & McKinney de Royston, 2012). The framework is built on literatures about persuasion, argumentation, discourse, and classroom discussions to propose that each student’s level of influence in a discussion emerges out of the social negotiation of influence itself and the following four factors that interact with it: (1) the perceived merit of each student’s contributions; and each student’s (2) position of intellectual authority; (3) access to the conversational floor; and (4) access to interactional space.

Data analyzed in this study was derived from a video record of one lesson in a fifth grade classroom in which a high proportion of English language learners (ELLs) are served. A linguistically heterogeneous student dyad, Ana and Jerome, was selected for analysis (one ELL and one English proficient). The teacher was participating in a professional development study focused on instructional practices that supported equitable, discussion-based mathematics classroom communities for linguistically heterogeneous classrooms. On the focal day, the teacher attempted to implement two new instructional practices: utilizing an open-ended mathematics problem and drawing on a greater variety of student answers as part of class-wide sense-making activity. Both practices were implemented with some difficulty on the focal day.

In order to analyze student group interactions, the transcript of the video record of the focal lesson was uploaded to Atlas ti software, and words and actions relevant to each of the five types of components in the Influence Framework (which were operationalized in Engle, Langer-Osuna & McKinney de Royston, 2012; see Table 1) were coded: (a) signifying potential changes in Influence by agreement, uptake, and/or building on the ideas of a particular student; (b) evaluating the Perceived Merit of a conjecture; (c) the perceived Authority of the speaker; (d) management of the Conversational Floor, and (e) management of Interactional Space. The Hypertext function of the software was used to link components where a shift in one (e.g., uptake of a peer’s ideas toward the solution path) was clearly subsequent to a shift in another (e.g., a positively perceived evaluation of the idea’s merit). These connected episodes were analyzed to explain key moments of student influence (Barron & Engle, 2007; Jordan & Henderson, 1995; Ochs, 1979). See Table 1 for definitions of each component.

Table 1. Definitions for each component of the proposed framework, operationalized in Engle, Langer-Osuna & McKinney de Royston (2012):

<table>
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<th>Framework component</th>
<th>Definition</th>
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<td>Influence</td>
<td>The degree to which the student is socially positioned by group members</td>
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as having swayed other students’ understanding or solution path

| Perceived Merit of a student’s conjectures | The degree to which the student’s argument is socially positioned by group members as being of high quality, whether or not this corresponds with normative standards of quality |
| Authority | The degree to which the student is evaluated, acts, or is treated as a credible source of information by group members |
| Access to the Conversational Floor | The degree to which the student can initiate turns when desired, complete them without interruption, and control who else has access to the floor during group work |
| Access to Interactional Space | The degree to which the student is visually attended to and physically oriented to by group members when speaking or listening, and is able to affect the spatial access of others. |

Findings: The Role of the Teacher in Unilaterally Affecting Student Influence

Our Influence Framework shows promise for investigating the forms of participation and the positionings of ELLs during small group work, and in particular highlights the role of the teacher in affecting unilaterally access to the interactional space and conversational floor, positions of authority, and the perceived merit of the Ana’s (ELL) and Jerome’s contributions. Ultimately, Ana was positioned with authority and garnered considerable influence in directing the dyad’s solution path.

What is particularly noteworthy about this case is that, as the poster will show in greater detail, Ana’s ideas weren’t necessarily normatively meritorious. Rather, the teacher, in an attempt to draw on a variety of approaches to the mathematical problem, inadvertently positioned problematic ideas as seemingly meritorious. The case poignantly reveals the power of the teacher in affecting whose ideas are attended to and how they are positioned by group members, even when the ideas are nonsensical. The poster will illustrate in greater detail the analysis of the dyad’s solution path, summarized here in the following analytical narrative: At the start of activity, Ana grabs scissors, glue, poster, and paper and begins to cut and glue mathematics word problem onto poster. Jerome waits. Teacher publicly positions Jerome as off-task 3 times, and needing to focus on Ana, positioning her as central to the activity. Ana takes up positioning and begins to issue directives to Jerome, increasing her authority and control of the floor.

Ana gains teacher’s attention by successfully bidding for floor. Teacher positions Ana’s drawing as meritorious. Ana’s authority and influence increase while demoting Jerome’s authority. Ana issues directives to Jerome to implement her ideas, which he does. Teacher publicly positions Ana as having good ideas twice, and directly afterwards Ana claims to have found the solution. Ana gains the floor and explains solution to teacher, who accepts answer. Ana revises solution and Jerome immediately takes up her revised solution. Ana gains the floor and explains solution to teacher, who asks Ana to present her solution to the class, increasing Ana’s authority.

References


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