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When collaborative is not collaborative: Supporting student learning through self-surveillance

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ABSTRACT

Collaborative learning has been widely endorsed in education. This qualitative research examines instances of collaborative learning during mathematics that were seen to be predominantly non-collaborative despite the pedagogical efforts and intentions of the teacher and the task. In an effort to disrupt the non-collaborative learning, small groups of eighth grade students engaged in self-surveillance where they viewed video data of their group's collaborations and then reflected collectively on their observations. A key finding from this research is that self-surveillance disrupted students' normalized patterns of collaborative learning creating greater opportunities for individual student learning and participation. Implications for student learning and pedagogy will be discussed.

1. Introduction

A plethora of research exists demonstrating the benefits of collaborative learning (Dekker, Elshout-Mohr, & Wood, 2006; Gabriele, 2007; Kramarski & Weiss, 2007; Pijls, Dekker, & van Hout-Wolters, 2007). Collaborative learning is a learning environment that requires students to collectively work towards a common academic goal. Collaborative learning enables students to develop the important life skills of working jointly with others on shared problems or challenges. Collaborative learning also provides an environment where students have the opportunity to share their expertise, to clarify and refine their own thinking through the process of sharing, and to also learn from one another (Duff, 2002; Gumperz & Hymes, 1986; Hardy, 2000; Nührenbörger & Steinbring, 2009; Pimm, 1987; Saville-Troike, 2003; Sfard, 2000; Sierpinska, 1998; Stacey & Gooding, 1998). The existing research has resulted in numerous policy initiatives world-wide, emphasizing the benefits of students working and communicating with one another on common academic goals (Expert Panel on Student Success in Ontario, 2004; National Council of Mathematics Teachers/NCTM, 2000, 2006; Ontario Ministry of Education and Training/OMET, 2005).

Extensive research has also been undertaken documenting and analyzing characteristics of collaborative learning (Barnes & Todd, 1978; Cohen, 1994; Johnson & Johnson, 1994; Slavin, 1995; Vermette, 1998). Collaborative learning environments are those that: (1) allow all students to participate in meaningful ways, (2) generate opportunities for students to learn from one another in ways that enable individual students to move along in their own continuum of learning, (3) have individual accountability where knowledge and skills acquired will be necessary for future learning or will be assessed in some way, (4) include group-level academic accountability (i.e., assessment of common academic goal), (5) have social accountability in

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that individual students are concerned with other students' individual learning, and (6) are centered around academic goals that require the collective efforts of all students (Barnes & Todd, 1978; Cohen, 1994; Johnson & Johnson, 1994; Slavin, 1995; Vermette, 1998).

Some debate exists on which elements are essential for collaborative learning. For example, Cohen (1984, 1994) asserts that the need for the collective efforts of all students are pivotal in order to achieve the common academic goal. In contrast, Johnson and Johnson (1989, 1992, 1994) argue that "positive interdependence" where students have a willingness to accept accountability for one another's learning is indispensable. Lave and Wenger (1991) suggest that participation at the periphery of the group is sufficient at the onset of collaborative learning and a bare minimum for a student to be able to acquire knowledge and skills.

While the large body of research on collaborative learning (e.g., benefits and characteristics) is largely in agreement on the merits of collaborative learning, studies do exist that show that collaborative learning has negatively affected learning despite the social conditions within the group or the task (Sfard & Kieran, 2001; Sfard, Nesher, Streefland, Cobb, & Mason, 1998; Sinclair, 2005). For example, Sinclair (2005) describes how instances of incorrect information sharing, limited peer support, exclusion, and peer oppression, resulted in little learning from some children working in pairs in a computer lab setting. These studies illustrate that (a) collaborative learning may not be equally beneficial for all students, (b) educators need ways to identify when students are not benefiting from collaborative learning, and (c) there is a need to contemplate interventions that might be applied in a classroom setting when collaborative learning is unsuccessful for some students.

1.1. Research goals

In this paper, I share results from a year-long research project investigating collaborative learning in mathematics in an eighth grade classroom. Results from this research revealed that collaborative learning was often non-collaborative despite the pedagogical efforts and intentions of the teacher and despite the task. My goal in this paper is to illustrate and theorize about "self-surveillance," an intervention that took place in this classroom.

1.2. Defining self-surveillance

Self-surveillance, as I use it in this research, describes a process in which students watched videotaped recordings of their collaborative learning with their group members and then reflected collectively on their practices. Self-surveillance was found to be helpful in facilitating alternative collaborative learning norms amongst groups of students who had been engaging in predominantly non-collaborative learning.

1.3. Defining collaborative learning

In keeping with the characteristics of collaborative learning described earlier, for the purpose of this research "collaborative learning" is defined as a learning environment that permits students to attain participation within the group so that individually and collectively students can achieve both common and individual academic goals. In contrast, "non-collaborative learning" is defined as learning environments where some students are prevented or limited in their ability to participate because of either social or academic factors. In the case of non-collaborative learning, the common academic goal(s) of the group may still be achieved, but not necessarily the individual academic goals by those students who were limited in their ability to participate. These students may achieve their individual goals; however the collaborative learning environment may have had little to do with the achievement.

1.4. Potential contributions from this research

This research makes a contribution to the existing scholarship about collaborative learning by (1) highlighting the reality that not all collaborative learning results in positive outcomes for all students, despite pedagogical effort and intention, and the task, and (2) demonstrating how the intervention of self-surveillance can potentially improve collaborative learning by disrupting normalized patterns, and thus facilitating alternative collaborative learning norms. Additionally, this research raises alternative theoretical perspectives on surveillance, which has been historically viewed as dystopic (Andrejevic, 2005; Foucault, 1977; Lyon, 1994; Vaz & Bruno, 2003; Yar, 2003). Although the content area in this research is mathematics, the results speak to a wider constituency about the potential for non-collaborative learning amongst students.

2. Theoretical framework

2.1. Dystopic and unidirectional view of surveillance

The concept of self-surveillance stems from the work of Foucault (1977). Foucault uses 18th century British philosopher and social reformer Jeremy Bentham's proposed plan for a prison, called the *Panopticon*, as an architectural metaphor to theorize about surveillance and the power it exercises. Designed (though never built) by Bentham following the French Revolution, the Panopticon was a semi-circular structure built around an observation tower, intended to exert power and