
TEAM CONSTRUCTION AND ACCOUNTABILITY

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POGIL has truly changed my teaching. POGIL has helped both my students and me(!) engage this material that I love so much at an even deeper level.

—A POGIL practitioner of five years

This chapter will examine the basis for the use of teams in the POGIL pedagogy and will explore practical methods for implementing effective teamwork into the classroom. Evidence grounded in decades of research indicates that team-based classroom approaches contribute significantly to student learning as well as to the development of a variety of personal and professional skills. Education literature provides the theoretical grounding and practical tools to guide the instructor in creating, training, and evaluating the student teams that are central to a POGIL classroom.

We begin this chapter with a term clarification—we are going to use the term *team* when referring to POGIL student groups as opposed to *group*. Teams tend to be more formal and have a higher level of functioning than groups. Groups are collections of people who bring together their individual efforts to accomplish a task, whereas a team is a collection of people who share and are dedicated to common goals, work *together* to achieve those goals, and are committed to each other. Teams have a higher level of internal accountability. Moving forward, *group* will be used as a generic term and *team* will be used to describe student work in the POGIL approach.

Structured group work is a centerpiece of the POGIL approach to teaching and learning. Small teams of students work together to construct and apply course-specific knowledge by completing guided-inquiry activities. Part of the structure of a POGIL team arises from the assignment of specific roles for each team member. Teams are self-managed, and the instructor

acts as facilitator rather than as the source of information and approver of answers. An effective POGIL classroom is one in which all students and the instructor are actively engaged in learning, and well-constructed group work is one way to provide this engagement.

When using group work as part of a pedagogical practice, it is important to consider aspects beyond the work itself. The intention to have students work in teams should be an integrated part of the overall course plan, including the criteria used to group students together, the tasks the student groups undertake, and the form of assessment used to gauge their success (Janssen, Kirschner, Erkens, Kirschner, & Paas, 2010). The POGIL approach takes all of these criteria into account and is designed to provide a basis for functional teamwork that leads to improved learning of content and process skills.

The Benefits of Working in Groups

A central tenet of the POGIL approach is that each student constructs an understanding of the course material, building on Vygotsky's (1978) assertion that "learners co-construct knowledge by sharing meaning of information *in a social context*" (as cited in Stump, Hilpert, Husman, Chung, & Kim, 2011, p. 477, emphasis added). Thus, working in well-managed teams is important to student success in a POGIL classroom.

The educational literature abounds with evidence that carefully constructed and managed group work is beneficial to students' learning and social development. In addition to constructing their own understanding of course content, group work benefits students in a wide variety of ways. In comparison to students who work individually, students who work in well-functioning groups earn higher grades, ask more and better questions, and are more willing to share their ideas with their classmates (Johnson & Johnson, 1999; Lewis & Lewis, 2005; Stump et al., 2011). Group work leads to improved cognitive tasks that are higher on Bloom's (1956) taxonomy of learning including critical reasoning, developing new ideas, designing solutions to problems, and applying new knowledge to different situations or conditions (Hammar Chiriach, 2014; Johnson & Johnson, 1999). In addition to improved academic skills, students show increased motivation, a higher level of engagement with class activities, and more productive use of time (Johnson & Johnson, 1999). Students who are physically and psychologically engaged in the course learn more, are less disruptive, and are more likely to persist in the course and in school in general (Johnson & Johnson, 1999; Johnson, Johnson, & Smith, 2007; Saville, Lawrence, & Jakobsen, 2012; Stump et al., 2011; Tinto & Goodsell-Love, 1993). They also display a more positive attitude toward learning and show increased self-confidence (Johnson et al., 2007; Stump et al., 2011).