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POGIL IN THE LARGE CLASSROOM

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Once students are in an effective learning team and the students realize the classroom goal of learning and helping others learn is very achievable. The students love coming to my class because they experience academic success and develop an increased confidence in their abilities.

—A POGIL practitioner

Very large enrollment courses are common, especially at public universities, and, given limited state and federal budgets, large classes are here to stay. How is POGIL implemented to teach large classes effectively? This chapter will review some of the unique challenges and opportunities presented by classes with large enrollments and provide suggestions about how to use POGIL within these courses.

Students walk into the classroom and meet others near their seats. They catch up quickly and compare notes from their last class meeting. An announcement on the screen directs them to pick up their team's whiteboards and markers stationed at the 4 corners of the room. About 10 minutes before class begins, the room is packed with over 200 students discussing a mix of plans for the weekend, assignments to be completed, and chemistry concepts uncovered in the class before.

Class begins with the instructor providing about five minutes of directions. Once students start working in their teams, the noise level in the room escalates, matching the volume from before class. But now, the pitch is lower—much more serious. The instructor looks at students' written work and fires questions at the teams. The instructor then prompts the class to "click" their answer to the question on the screen. The room quiets

as the instructor positions herself at the front and says, "Five more seconds; get your answers in." When the time runs out, you can hear a pin drop, the screen changes, and the entire class yells, "Oh!" It seems that two of the four multiple-choice responses were equally popular. "Time to go back to your models and discuss in your teams," says the instructor.

Theoretical Considerations

This scenario visualizes the implementation of POGIL in a large class. What guidance can be provided to help an instructor make decisions that support learning under this condition? Chapter 1 describes the theoretical underpinnings of POGIL as a classroom instructional model, and it is useful to review them here. POGIL is grounded in a constructivist epistemology and implemented explicitly and purposefully through application of modern cognitive theories of learning and theories of social interaction that place the learner at the center of the intellectual action. In this regard, the development of disciplinary understanding and of soft, or process, skills is a consequence of implementing pedagogic structures and practices that can be causally linked with these theories. A POGIL implementation includes three major features:

1. Students work in cooperative teams with assigned roles and autonomy.
2. Through discussion students make sense of a model-based activity that develops their disciplinary understanding.
3. The instructor monitors and facilitates the functioning of the teams and the progress toward understanding, intervening as needed.

These features require certain principles be applied to sustain a strong link between theory and practice and thus to have a chance of realizing the benefits for students. Table 9.1 lists these principles.

Yezierski and colleagues (2008) described large class challenges based on limited large-class experiences. A class of 40 students (with a single instructor) was designated as the number above which adjustments or compromises might be required or when the number of teams starts to become "large." In a large class, the instructor's labor and time is so divided that contact with each team is less frequent and effective; thus, a different process for facilitation is required, along with stronger facilitation prompts within students' written materials. Ignoring these issues creates a weakness in the link between theory and outcomes. Table 9.2 highlights a suite of challenges addressed or worked around.