
ASSESSMENT, EVALUATION, METACOGNITION, AND GRADING IN POGIL

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I truly believe no matter the level of student, all students can participate and learn in this form. Set your expectations that all students can learn this way and don't underestimate them. By doing POGIL you can actually see your students learning and it is wonderful!

—A POGIL practitioner

How does POGIL fit into grading schemes for assignments, tests, and the course? POGIL activities are not designed to be graded as assessments; rather, they are intended as learning tools. However, one of the principle process skills targeted by POGIL is assessment—specifically self-assessment. Thus, much of the grading and assessment in a POGIL classroom helps students learn how to self-assess (metacognition) and, in turn, self-regulate. The instructor must model how to self-assess and emphasize its importance. Assessment is also more meaningful when it occurs in proximity to the learning. Common tools to accomplish this are enhancing metacognition, creating individual and group accountability via grading group work and peer grading, and frequent formative assessments.

Simply attending class improves quiz and test performance; however, instructors generally want students to not only do well on tests but also later recall and use the content (Shimoff & Catania, 2001). Active learning increases the number of cues that students have to aid information retrieval and helps them learn and/or retain content and concepts (Bransford et al., 2000; Credé, Roch, & Kieszczynka, 2010; Deci, Vallerand, Pelletier, & Ryan, 1991; Doyle, 2008; Karpicke & Roediger, 2008; McDaniel, Roediger, &

McDermott, 2007; Medina, 2008; M.D. Miller, 2011). Using assessments to require repeated retrieval and use of course content is more effective for improving retention than simple repetition (Karpicke & Roediger, 2008; McDaniel et al., 2007). Timely feedback, or correction of knowledge, also aids retention and later performance by aiding metacognition, the understanding of what is known and not known (McDaniel et al., 2007; Thomas & McDaniel, 2007).

Assessment improves retention by focusing the learner's attention on pertinent content and concepts, consolidating learning, and providing practice (Crooks, 2001; Karpicke & Roediger, 2008; McDaniel et al., 2007). However, according to Crooks (2001), it offers other effects: (a) It guides subsequent and/or additional instruction; (b) it influences motivation and self-efficacy; (c) it communicates, reinforces (or undermines) performance criteria and standards; (d) it modulates students' development of learning strategies; and (e) it influences students' decisions about what to (dis)continue to study and pursue as a career. Given these significant effects and the potential for negative outcomes, it is imperative that assessment be appropriate and provide accurate and meaningful results.

If a teacher is lecturing and the students are memorizing, then a standardized multiple-choice test may be the appropriate assessment tool (Gulikers, Bastiaens, & Kirschner, 2004). However, if the educational goal is that students grow as learners, develop the ability to build their own knowledge, and become reflective practitioners, then perhaps the multiple-choice test is not the only tool that should be used, and alternative assessments should be incorporated. Alternative assessments require students be responsible for their learning and for reflecting and collaborating with other students and the facilitator (Gulikers et al., 2004). Multiple assessment formats are used and are built around interesting and real-world problems (Gulikers et al., 2004).

Definitions

Assessment is one of those areas in which several terms are used interchangeably, so it is beneficial to clarify the discussion with agreed-on definitions:

Assessment: As stated in chapter 3, assessment is an activity designed to improve future performance. It is any activity that provides evidence of what the students and teacher are doing; how the students are changing; and what the students are accomplishing, learning, and thinking (Crooks, 2001). Assessment can be of the activity, the learning, and the teaching as it is performed by both the teacher and the students.