

Learning to Learn

The world of the 21st century demands continuous learning. As workplaces become more complex, demanding a wider range of higher-order skills, and as communities become more connected through technology and other media, individuals must be able to develop their own skills to keep pace with their environment. Helping students control and manage their own learning is the ultimate goal of education. The *Assessing Projects* library contains a wide variety of assessments that students can use to assess their own learning.

Self- and Peer-Feedback

Research supports the powerful role that self-assessment can play in learning (Kitsantas, Reisner and Doster, 2004). Providing students with opportunities to assess their thinking and that of their peers gives them practice in the skills they need to become independent and self-directed learners.

Self-assessment helps students internalize the standards by which their products and performances will be judged (Wiggins, 1990). Assessments, such as rubrics, which are often used for final products can be used by students as they work on a project to determine how their work measures up to expectations. When students participate in the development of rubrics, they also must think about what excellence looks like in the field in which the product is created. They then learn to identify the discrepancies between their thinking and the thinking of experts in the field. This practice helps them develop the skills necessary to assess their own progress.

When students assess their own thinking processes and the products they create, they are doing more than just looking for errors. They are “making explicit what is normally implicit” (Noonan and Duncan, 2005). This is especially important when assessing mental processes, such as higher-order thinking and other 21st century skills that cannot be observed directly without careful planning.

Making self-assessment part of a daily classroom routine is critical for producing confident, independent learners, but it requires careful planning and consistency in instruction. Black and his colleagues (2003) suggest the following guidelines for successful implementation of student self-assessment:

1. The criteria for evaluating any learning achievements must be made transparent to students to enable them to have a clear overview both of the aims of their work and of what it means to complete it successfully. Such criteria may well be abstract—concrete examples should be used in modeling exercises to develop understandings.
2. Students should be taught the habits and skills of collaboration in peer-feedback, both because these are of intrinsic value and because peer-assessment can help develop the objectivity required for effective self-assessment.
3. Students should be encouraged to bear in mind the aims of their work and to assess their own progress to meet these aims as they proceed (p. 52-53).

In student-centered classrooms, teachers assess students, students assess each other, but, ultimately students assess themselves. Considerable research shows that asking students to think metacognitively about their thinking and their learning results in greater achievement. Marzano (1998) found that interventions that asked students to reflect on their learning had a greater impact on student achievement

than any other method. When students assess themselves honestly, they can no longer see themselves as passive recipients of knowledge and skills instruction. They are, in very important ways, responsible for their own learning, for their response to instruction, and for their engagement in meaningful learning tasks.

One factor that increases the effectiveness of self-assessment is a focus on process rather than on product goals (Schunk & Zimmerman, 1998). For example, students who can assess their ability to form hypotheses, to draw conclusions from data, or to incorporate new learning into old, are far more likely to benefit from self-assessment than a student who focuses merely on writing a good lab report. Langer points out that thinking of outcomes often inhibits students in problem solving. With a process orientation, thinking about "How do I do it?" instead of "Can I do it?" helps them think actively of different ways in which a problem might be solved instead of focusing on the many possibilities for failure (Langer, 1989, p. 34). Evidence shows that students who assess their own learning in terms of outcomes suffer a negative effect from infrequent self-assessment while frequent self-assessment benefits all kinds of learners (Kitsantas, Reiser, & Doster, 2004).

For students who have become accustomed to being "taught" instead of "learning," the change in classroom culture to one where students are in control of their learning can be uncomfortable. The teachers in Black's (2003) project in southern England found that their older students sometimes did not respond positively to the role they were expected to play in classrooms where formative assessment was frequent and ongoing. While following their own progress in learning can be motivating for some, for others, it can require a level of commitment that is uncomfortable. Teachers need to be aware of this when they begin implementing formative self-assessment. As Black and his colleagues explain, "To overcome this pattern of passive reception requires hard and sustained work."

The value of self-assessment cannot be overstated. When this kind of thinking becomes an integral part of daily classroom activities, students learn more, are more intrinsically motivated, persist in challenging tasks, and attain higher levels of confidence in their ability to learn (Kitsantas, Reiser, & Doster, 2004).