Assessing How Students Learn
From ‘Carnegie Prospectives’ by Bill Cerbin

In higher education the dominant mode of assessment is to measure what students have learned in a course or program. By measuring what students learn educators can monitor student progress, determine learning gaps and gains, and document achievement.

But measuring what students learn is of limited use if our goal is to improve their future performance. It is akin to taking a person’s temperature. You may learn the individual has a fever but the measurement produces no insight into the cause. Suppose we find that students score in the 60th percentile on a standardized test or that half the students in a course have significant writing problems. What should we do to improve future performance?

Unfortunately, the assessment data provide little direction. The result is a kind of guesswork by which we consider alternative teaching practices or programs without understanding how or why they would work better than standard approaches.

To reduce the guesswork we need assessment that reveals how students learn—how they interpret and make sense of the subject, where they stumble, what they do when they do not understand the material, how they respond to different instructional practices, and so on. Understanding the basis of student performance can help us identify appropriate teaching practices or approaches.

A compelling example of this form of assessment is the Berkeley calculus project which took place more than 25 years ago. At the time there was a large disparity between the performance of African American students and other students in introductory calculus at UC Berkeley. About 40 percent of African American students received grades of D or F in calculus compared to about 5-6 percent of Caucasian and Asian students. Concerned about the disparity, mathematics educator Uri Treisman decided to explore the problem by focusing on how students learn. He wanted to understand . . . how students actually learn calculus. Do they use the textbook? With whom and why do they discuss homework assignments? What do they do when they get stuck on a problem? —The really basic questions about how students learn mathematics. (Uri Treisman’s Dolciani Lecture)

For the full article, click here.
Students with Learning Disabilities

Taking a look at understanding and supporting students with learning disabilities.

WHAT IS A LEARNING DISABILITY?

Learning disabilities (LD) is a generic term that refers to a group of disorders which are manifested by significant difficulties in at least one of the following areas: oral expression, listening comprehension, written expression, basic reading skills, reading comprehension, mathematical calculation, or problem solving. People who have learning disabilities may also have some difficulty with sustained attention, time management, or social skills.

Students with LD have average or above-average intelligence, but are hampered in their demonstration of their capabilities such that there is often a marked discrepancy between achievement and potential in individuals with LD. The effects of learning disabilities on students' academic life are different for different people, even if they have the same type of learning disability. Each individual's experience will be unique, and the severity of his or her learning disability will vary. As a result, students may not realize that they have a learning disability until they are placed in a situation where their coping strategies are no longer effective.

Awareness of some of the characteristics of individuals with LD, therefore, serves two functions for instructors. First, your knowledge about learning disabilities may help you to better understand the needs of your students and make you more sensitive to areas in which they may have difficulty. For instance, although many students with LD are highly articulate, some have severe difficulty in speaking, responding, or reading in front of groups. Thus, it would be beneficial to students if you are aware of this issue and are able to assess their ability to participate in classroom activities. Your knowledge will make you more prepared to accommodate your students with LD and to discuss privately with them any academic difficulties that they may face.

Secondly, your knowledge of the attributes of individuals with LD will provide a basis for referral of undiagnosed students taking your classes who demonstrate these characteristics for testing. It is important to keep in mind, however, that while many students may experience difficulties in some of these following categories at one time or another, students with LD will often have difficulties in several of these areas with varying degrees of severity. In fact, students who have a learning disability are characterized by a pattern of strengths and weaknesses. Thus, individuals may be strong in some areas and significantly weak in others.

Despite their difficulties, students with learning disabilities can and do succeed in the classroom. They can and do meet the same course requirements and performance standards as all other students when allowed to use learning strategies that compensate for their specific deficits. Students with learning disabilities should be expected to perform at a level commensurate with their peers; instructors should not expect less from them.

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