

POINT OF VIEW
Not Knowing Thyself
By DAVID DUNNING

From the time of the ancient Greeks, the simple dictum "know thyself" has been considered an essential key to success, happiness, and the good life. Those who misjudge their competence, talent, or character may meet with disaster. Lawyers, doctors, business executives, military leaders, and airline pilots are among those in particular need of knowledge about where their expertise ends and the need for caution, advice, or research begins.

The same is true for students learning to be lawyers, doctors, business executives, and the like. To the extent that they misjudge their knowledge and learning, they may not perform to the best of their potential or reach the goals they set for themselves — in the classroom as well as in the transition to clinic, conference room, or corporation.

Therefore, psychological research over the past several decades about people's self-knowledge paints a rather disquieting picture: People often prove to be poor judges of their knowledge and ability, and students are no better at that important skill than anybody else.

For example, in the late 1980s, Donald A. Risucci and colleagues at North Shore University Hospital, in Manhasset, N.Y., asked residents on a surgical rotation to rate their clinical competence just before they took the standard in-training exam administered by the American Board of Surgery. Although ratings provided by their supervisors — as well as those by their peers — strongly predicted how well the residents performed on the test, their self-ratings were completely unrelated to their performance.

Although extreme, that study's conclusion is not an isolated finding. Students' evaluations of their own work commonly bear only a modest resemblance to the evaluations provided by their instructors.

Students also experience other pervasive difficulties in self-assessment. For instance, they typically are poor judges of how well they understand the material in their reading assignments. Indeed, students often claim that they perfectly understand material they have just read, even though the material contains explicit contradictions that they have missed.

Furthermore, research suggests that self-evaluations tend to err in one direction: Students overrate themselves, their talents, and their expertise. They overestimate their performance on tests and clinical tasks. They hold unrealistic views about their future career prospects.

Consider a recent study — also from the domain of medical education — by Les Barnsley, of the University of Sydney, and colleagues. The researchers asked interns about their competence in performing common medical procedures. All the interns claimed that they no longer needed supervision in inserting a catheter into the bladder of a male patient — but supervisors grading their performance disagreed 50 percent of the time. When the researchers asked the interns whether they were competent enough to teach the procedure to others, 80 percent reported that they were. None of their supervisors agreed.

One central point must be made about students' overestimation of their expertise. The most intuitive assumption is that students simply want to think well of themselves. They do not want accurate views of themselves — rather, they want positive ones. Thus, they are willing to bend any evidence they have about themselves in a self-congratulatory direction.

However, research suggests that students are likely to overestimate themselves even if they are trying hard to evaluate themselves honestly and correctly. Knowing thyself is a very

difficult task, and we really should not expect people, left to their own devices, to gain accurate self-views. People often do not have all the information and skills they need to form accurate self-impressions.

Take as one example work we have done in my laboratory on the plight of the incompetent. In many intellectual and social domains, such people suffer a double curse. First, because they lack knowledge and skill, they make many mistakes. And second, because of those same deficits, they cannot recognize the inferiority of their decisions and the superiority of the decisions made by others — so they do not even realize that they should seek advice before acting.

Evidence points out just how unaware incompetent people are of their shortcomings. When we give students tests of logic, grammar, and interpreting others' body language, those performing at the bottom usually think they are doing better than a majority of their peers. Similarly, students who have done badly on a college exam typically think they did well. And members of college debate teams that are winning less than a quarter of their matches in a regional tournament estimate that they are winning over half.

Given the common disconnect between self-perception and reality, what is an educator to do? The psychological literature suggests four possible approaches to take.

The first is to discontinue common educational practices that may promote overconfidence. One customary way to teach students a skill is through massed training — a process of drilling students over and over again in one or a few intense training sessions. Massed training appears to be a successful instructional strategy: Students learn quickly, and at the end of the training, they tend to be very competent in the skill they have been drilled on.

Unfortunately, although massed training promotes the rapid acquisition of a skill, it does little to promote the retention of that skill. As soon as the last intense session ends, any skill or knowledge the student has gained begins to decay rapidly — and can often be gone at that critical moment in some future situation when the student needs to call upon it.

That might explain why studies of driver's education find that students tend to experience more rather than fewer accidents after formal training in driving under adverse conditions. Massed training in how to handle skids on an icy surface, for example, leaves students confident that they can handle icy roads. But months later, when they actually encounter icy conditions, their skill has often evaporated.

Instead of massed training, Robert A. Bjork, a psychologist at the University of California at Los Angeles, and his collaborators recommend what they call distributed training, in which students receive instruction in several short sessions spaced out over time. The researchers also suggest introducing so-called desirable difficulties into training sessions, which essentially make the sessions more like the haphazard circumstances people typically face in the real world. Desirable difficulties include reducing feedback from instructors, varying the circumstances of training, and providing "contextual interference" (such as training students according to a random schedule rather than a systematic one).

Distributed training with desirable difficulties makes learning more difficult for students and leads them to feel less confident about their skills. But it leads to greater retention of the skills when students actually need to use them in the future.

The second approach that educators can adopt is providing explicit opportunities for students to test themselves. Students could take a quiz about their learning, estimate how well they think they have done on the quiz, and then compare that estimate with the reality of their performance. Such self-tests could alert students to weaknesses in their expertise and knowledge that they may not know they possess.

The third approach is to ask students to compare how they handle a task with how other people handle the same task. Doing that can often inform people about their true level of skill, as well as show them how they could handle the task differently — and better.

For example, in the late 1990s, Dawn Martin and colleagues at the University of Toronto had family-practice residents interview women suspected of abusing their children. The residents then watched videotapes of four of their peers' interviews. After seeing the tapes, the students' evaluations of their own performance correlated more closely with their supervisors' assessment of it than before.

The fourth approach would require students to solicit feedback from their peers. Research suggests that peer evaluations tend to conform more closely to teachers' evaluations than self-evaluations do. Studies also show that students earn higher marks when peers evaluate their work — marks comparable to those gained by students who received feedback from their instructors before handing their work in.

It is possible, though neither easy nor inevitable, for people to gain insight into their competence. The key, however, may be more hard work, constant effort, and guidance than our students — or we — initially suspect.

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