

Yes, Creativity Can Predict Academic Success!

Robert J. Sternberg

Cornell University, USA

E-mail address: robert.sternberg@gmail.com

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ABSTRACT

Tests of creativity can meaningfully predict academic and other outcomes in schooling, over and above the prediction provided by standardized tests. However, for such prediction to occur, the tests must measure creativity in a meaningful way and success in school must in some way be linked to creative performance. We should change our tests and schooling to require the creativity that is so important for a world in which rapid change is the norm rather than the exception.

If creativity does not much predict academic success (Kaufman, 2018), then we know one or both of two things: Something is wrong with the way we teach and evaluate students, or something is wrong with the tests we are using to assess creativity. Probably, both are true in many if not most cases.

First, schools do not much, if at all, reward creativity. I have had 5 children go through a variety of school systems, but I would not have needed any children to know what, at least in the United States, the reward system is. The reward system is focused on students doing well on standardized tests, usually provided by the states. The United States is not alone in its obsession with tests: More and more countries are using them to provide supposedly “objective” measures of student learning outcomes. The standardized tests provide no meaningful assessment of creativity. On the contrary, being creative on a multiple-choice or fill-in-the-blank test of academic knowledge and skills is probably a recipe for disaster. Simply put, the tests do not measure creativity in any meaningful way and probably penalize it. Testing companies are now even using automated essay graders that look for features of “good essays.” As you can imagine, creativity is not one of them and it is not even clear how an automated essay grader would know what creativity is.

Second, with regard to tests of creativity, the tests mostly measure pretty basic divergent thinking, abstracted from any interesting context in students' experience or context that is related to academic work. The tests do not predict academic work well because they are too abstracted from the contexts in which students find themselves in school settings.

In our own work, we have tried to assess creativity in contexts meaningful to students. In one study (Sternberg and the Rainbow Project Collaborators, 2006), my collaborators and I had students do things like produce creative stories, either in writing or orally (the latter given that some students are creative but not necessarily good writers). The study was done with students across the United States who varied greatly in levels of academic knowledge and skills. Essays were scored for novelty and quality of the stories. Mechanics of writing or speech did not enter into the scoring at all. My collaborators and I found that, in predicting college grades, our measures roughly doubled prediction of freshman-year success in college above that obtained just with standardized tests used for college admissions in the United States. When high school grades were considered as well, our increase in prediction was 50%. Part of our greater predictive success than average may be that we used more meaningful measures of creativity and part of it may have been that adapting to the first year of college requires more creativity than does succeeding in the more familiar environment of the grade school, middle school, or high school.

In follow-up work in a single university (Sternberg, 2010; Sternberg et al., 2012), we used a broader array of creativity measures-creative stories again, but also designing science experiments, imagining future history (e.g., what would the world be like today if a particular event in history had come out differently), and even drawing creative artworks. We found that creativity measures incrementally predicted, over the prediction provided by standardized tests, not only academic but also extracurricular success as well. Thus, creativity again mattered, incrementally over standardized test scores, for college success.

In our more recent work (Sternberg & Sternberg, 2017; Sternberg, Sternberg, & Todhunter, 2017), we looked in particular at scientific creativity, mixed also with analytic and practical skills. In particular, we asked undergraduate students at a single university in the East of the United States to generate alternative hypotheses, generate experiments, and draw conclusions from psychological-scientific work. In particular, students were presented with scenarios of scientific experiments, and they had to think the way scientists do in processing information from these experiments. Additionally, in one study in the group, students had to review a scientific article and comment on its strengths and

weaknesses. In yet another study, they had to comment on a review of a scientific article. In a further study, they viewed college teachers (purposely) teaching poorly, and they had to comment on what was wrong with the teaching. In these studies, participants were asked to think creatively, analytically, and practically the way scientists actually do, not just, say, to think of unusual uses of paperclips.

In all of these studies, scores on the tests of scientific thinking were moderately correlated with each other and generally formed either a single factor or two factors. Standardized tests used in schools as proxies for intelligence-number series, letter sets, and the SAT and ACT (two college-admissions tests made in the United States and measuring cognitive readiness for college), in every case, failed to correlate meaningfully with our scientific tests and in some cases actually correlated negatively. The standardized tests formed a separate factor. Thus, our tests measured a meaningful construct of scientific thinking that was distinct from the general intelligence (g) factor that is so important for success on standardized tests. We have not yet, however, correlated our tests with school grades.

What is to be concluded? First, creativity tests, if they are to predict success in school (and probably beyond the school) need to be meaningful to the students who take them and relevant to the experiences they will have in school. Second, in schools where adapting to a novel academic or other environment is required, carefully chosen tests of creative thinking can predict success largely independently of the g factor. Third, creativity can and should matter in schooling, and all of us in the education establishment should do what we can to make that happen.

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Corresponding author at: Robert J. Sternberg, Department of Human Development
College of Human Ecology, Ithaca, NY 14853, USA.
E-mail: robert.sternberg@gmail.com

