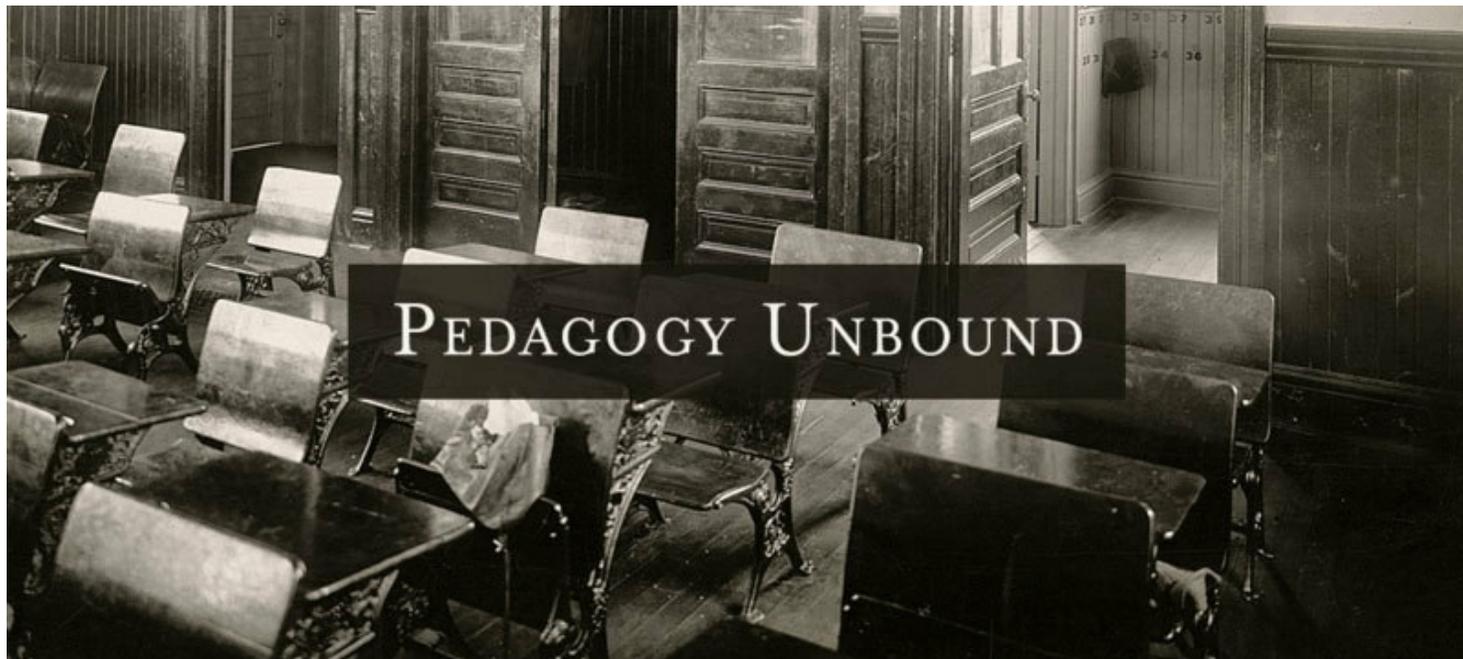


Tests and Writing, Not Tests or Writing

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It sometimes seems like there are two tribes in undergraduate teaching: STEM and the humanities. Despite the growing appeal of interdisciplinarity, and the budding campaign to [turn STEM into STEAM](#), courses in the two realms remain very different.

Nowhere is the gap more noticeable than in methods of assessment. STEM courses still tend to use testing, while those in the humanities rely on student writing. For whatever reason — a tendency to teach the way we were taught, a lack of time to get creative with course design, a belief that students need to learn “the basics” before moving on to anything else — most of us fall into one of those two camps — testing or writing — when it comes to assessing our students. In all the years that I’ve taught English and rhetoric courses, for example, I only ever gave tests when I was required to do so by college or department policy. I’ve always believed that student writing was the best way to measure learning in my classes.

But why should that be? Why should we cut ourselves off from a whole method of assessment? Are STEM and humanities disciplines *really* all that different from each other?

In recent years, much research has been undertaken on the benefits of both testing and writing. In both methods, the focus has shifted from summative to formative assessment. That is to say, both tests and writing aren’t just tools to measure learning — they are valuable learning tools themselves. And that’s why it seems needlessly restrictive to eschew either one.

Writing Assessments in Science Courses

For instructors of STEM courses, [the benefits of asking students to write](#) are numerous. Many of those benefits reflect our contemporary understanding of learning as a constructive process, with facts needing to be integrated into existing systems of understanding in order to be retained for the long term. In a [2012 overview of research on “writing-to-learn” practices](#), Julie A. Reynolds and her co-authors argued that writing assignments in the science classroom “should be reconceptualized to foster within students a shift from ‘knowledge telling’ to ‘knowledge transforming.’” If you want your students to learn more than just facts — to gain conceptual and systematic understanding of complex ideas — you can help them get there by giving them opportunities to write. Writing offers students a chance to think through complex problems, to deliberately work out that thinking on the page, and to gain valuable practice in scientific ways of thinking.

Of course, writing assignments need to be graded. And many STEM instructors, particularly those with large lecture classes, balk at the prospect of marking so many essays. (Believe me, I empathize.) For just that reason, many institutions now use [Calibrated Peer Review \(or CPR\)](#), an online system in which students review one another’s work like academics reviewing articles for publication. In doing so, the hope is that students cement their learning while easing the grading burden of instructors. Although the research findings on CPR [have been mixed](#), there is reason to believe that, done thoughtfully, assignments that use [CPR or other peer-review systems](#) can offer great benefits to students.

Testing in Humanities Courses

As for humanities instructors, integrating tests into your assessment practices should be a no-brainer. I’ve written before about [the benefits of giving tests](#), but I think it’s worth underlining those benefits for the humanities. The “testing effect” — the fact that the act of retrieving information from memory helps to improve the retention of that information — has been shown to be [so convincingly real](#) that it’s a wonder instructors aren’t taking more advantage of it.

Again, the focus here is on using tests formatively — not just to measure learning, but to engender it. Frequent, low-stakes tests can give students the practice they need retrieving information to cement their learning that material in your class. Although many humanities instructors, myself included, focus more on skills than facts in our courses, it’s important to realize that there is a knowledge base we want our students to acquire. Testing that knowledge base should be a part of an active learning regime in any field.

I’m never going to abandon student writing as my main method of assessment. But starting this semester, I’m going to begin giving regular quizzes in the hope of seeing some benefit for students from the testing effect. I want them to know the basic principles of rhetoric and logic, the pros and cons of various writing approaches, the arguments made in our readings. Testing can help them learn those things.

Despite decades of research, learning remains a complex and mysterious process. Relying too much on any one assessment method — especially given how much we know about assessment as a formative tool — seems unwise. It’s time to abandon our tribal thinking and look for new ways to help our students learn.

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