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Subject: Teaching Toolbox: Should You Adopt "Evidence-Based" Teaching Strategies?
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Should You Adopt “Evidence-Based” Teaching Strategies? It Depends on the Evidence

By David B. Daniel

“Evidence-based practice” is a great term. It makes our teaching efforts sound credible. More importantly, it sells ideas. But, what exactly is “evidence-based” practice and why do I urge other instructors to be skeptical of it? In the realm of teaching, as in others, “evidenced-based” implies that, at some point in a chain of reasoning, the associated recommendation is supported by research. It does not imply, however, that the suggestion has ever been demonstrated to work in the context in which it is being recommended. For example, the evidence-based recommendation for adult humans to take a particular dietary supplement can be based upon studies of rats consuming very high doses of the compound over the course of their entire life-span while on a very specialized diet. Although the research is from rats under specialized conditions, the suggestion for use in humans is, technically, “evidence-based.”

The current crop of teaching recommendations from the “Science of Learning” are similar in nature. Books like *Making It Stick* (2014) and *Small Teaching* (2016) base their recommendations upon evidence from rather controlled contexts and the vast majority of their suggestions for practice have never been responsibly deployed in more complex, representative classroom contexts in higher education. Although “evidence-based,” this sort of evidence provides nothing but a hypothesis that some particular technique could or should work in your classroom. The field does not have a careful process to translate promising findings in the lab to recommendations for ubiquitous teaching practice. We should, therefore, be no more confident in the sort of recommendations in books for instructors claiming “evidence-based” practices than suggestions for dietary supplements based on rat studies until we can be confident that they show promise to work in classrooms like the ones we teach.

Teaching is a practical pursuit. An idea for more effective teaching can come from the literature, a colleague, inspiration, or by mistake. But we cannot assume it is effective unless it works for us in our own teaching context. Until the field begins to develop mechanisms for responsible translation of science to practice, it is imperative that we ourselves, as instructors, develop strategies to translate and adapt new ideas into high-quality pedagogy. Further, we need to ensure that each of us develops meaningful evidence of desirable impact before personally committing to these practices. Metaphorically, science can provide us with ingredients around which to develop teaching practice. But it cannot provide an exact recipe. For now, that is our job.

Below are some suggestions for developing evidence to guide your own teaching practice:

1. Articulate the desired impact of your intervention
2. Decide how you will measure success
3. Select potential solution
4. Synthesize related literature

5. Design the intervention for your context, style, students, and content
6. Don't commit; explore
7. Develop evidence (not "just" anecdotes)
8. Pay attention for potential side effects of other important variables (e.g., motivation, learning, pushing out other important learning goals/topics)
9. Engage in a cost-benefit analysis before committing (e.g., impact vs. side effects)
10. Refine, adopt, or discard
11. Be developmental and iterative
12. Repeat

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