

The Research/Teaching Nexus

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Collectively, Canadian universities and colleges encompass a wide range of research activity levels and quality. This is a sign of a healthy post-secondary education system. It has variations that allow all types of institutions to flourish and to fill different niches. At the University of Saskatchewan for instance, we have become progressively more research-intensive over the last decade in order to better serve our fast-growing province, our nation, and the world.

The wide variety of research activity at universities and colleges has led to debate over whether that variation necessarily corresponds to an equally large variation in teaching quality. There are two obvious, complementary hypotheses that invite discussion: 1) that research success relies on many of the same traits that characterize successful teaching (such as good communication skills and the ability to simplify a seemingly complex operation), so high quality teaching should correspond to high research activity, and 2) that time spent on research is necessarily not dedicated to teaching and thus teaching quality suffers when faculty members focus on research. While diametrically opposed, these two proposals seem easy to support.

Fortunately, we have a rich set of studies examining the link between an individual faculty member's research and teaching accomplishments. Indeed, there are so many studies that there are meta-analyses of the studies and even meta-studies of the meta-studies. The results, typified by work by Hattie and Marsh¹ and Halliwell² show a surprising result: there is no significant correlation between the quality of an individual's teaching and the quality of an individual's research. Some of our best researchers are great teachers, but others are truly awful with a class. Some of our best educators are terrific in a laboratory, but others have limited research skills or scant desire to undertake research.

One way to interpret this result is that students ought to experience the same quality of teaching regardless of what post-secondary institution they attend. In terms of teaching courses well, there is nothing inherent in research-intensive universities that distinguishes them from colleges, for instance. And innovation in education abounds across the post-secondary education sector. For instance, one course in soil science at the UofS now requires students to take a field trip and produce a work of art that shows what they see in a forest. In another UofS innovation, students in social sciences are given the chance to participate in the *Taking the Pulse* research project that regularly surveys people in the province to determine their attitudes on various issues.

But there is more to consider in the research/teaching nexus than the correlation of teaching quality and research activity. We should also consider impacts on student learning outcomes. A 1998

¹ J. Hattie and H. W. Marsh, *The Relationship Between Research and Teaching: A Meta-Analysis*, Review of Educational Research 66: 507, 1996.

² J. Halliwell, *The Nexus of Teaching and Research: Evidence and Insights from the Literature*, HEQCO, Toronto, 2008.

report by the Boyer Commission³ is the best known of the summaries of the impact of research on students. The report makes a case for changing undergraduate teaching to incorporate research methodologies into courses in order to engage students better and to produce a deeper, more nuanced understanding of subject matter. This report was largely responsible for the migration from the long-standing “sage on the stage” approach to teaching, to classes that focus on experiential and problem-based learning in interactive environments. There is strong evidence that students who engage with research believe they learn more.

Taken together these results frame the value proposition for research-intensive universities for students who are not directly engaged in research – notably undergraduate students and graduate students in course-based degree programs. Attending university where research activity is high exposes students to the same general level of teaching quality that one would find elsewhere, and taking advantage of opportunities to be exposed to research methods within or outside of the classes improves satisfaction with the learning experience.

³ Boyer Commission on Educating Undergraduates in the Research University produced a report entitled *Reinventing Undergraduate Education: A Blueprint for America's Research Universities*, 1998.