

Undergraduate Research as the Next Great Faculty Divide

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One of the most dramatic transformations at liberal arts colleges and comprehensive universities during the past twenty-five years has been the increased expectation for faculty to generate original scholarship with publishable results. We have reached the point where many of us have difficulty remembering a time when faculty did not embrace the “teacher-scholar” model. But of course this was not always the case. University priorities clearly have evolved since John Henry Newman wrote in 1852 that

a University . . . is a place of teaching universal knowledge. This implies that its object is . . . the diffusion and extension of knowledge rather than the advancement. If its object were scientific and philosophical discovery, I do not see why a University should have students. (Newman 1996)

The trend among faculty to expand their involvement in research is accelerating as faculty at four-year and even two-year colleges have increasingly embraced this approach. To support these efforts, there has been a substantial shift in how faculty spend their time, in the allocation of resources, in facilities, and in teaching loads. In addition, the increased involvement in faculty research has resulted in the formation of grants and sponsored programs, offices of graduate and undergraduate research, and technology transfer agreements.

There was a time not so long ago when the great faculty divide was between faculty who performed research and faculty who did not. Now, however, with

most faculty engaged in research, the new line of demarcation is instead between faculty who engage students in their research and those who do not. Faculty scholarship tends to fall into one of two approaches: a results-oriented approach or a collaborative, process-oriented approach, with both methods including an expectation of publishable results. The results-oriented approach is taken in many disciplines where a more individual approach to scholarship is the norm. Although there may be some loose collaborations under this approach, faculty typically work singularly and publish single author papers. Students are rarely part of these efforts. A second and very different model is one in which faculty collaborate with others and the work is performed as a joint effort. This type of collaborative research frequently involves students, and when the work is published, students are coauthors of the papers. As the focus on research continues to increase among faculty, I think it is time for us to step back and ask fundamental questions about the type of research being conducted on our campuses and the impact this new priority is having on undergraduate students and student learning.

My basic premise is that there is a cultural divide springing up around how groups of faculty spend their time. Based upon the goals of their research activities, the fundamental purpose of research is quite different between these two models. In the natural sciences and the experimentally-oriented social sciences, one of the main goals of faculty research is to enhance student learning and student outcomes. For example, many

private and federal funding agencies (such as the National Science Foundation) consider the impact on student learning as one of the criteria for funding. Let me be clear that I believe that all research should be of such quality that it can be, and should be, publishable, and that publication should be one of the goals of faculty scholarship, but what distinguishes this scholarship is the involvement of students.

While faculty at PhD-granting institutions have long realized the importance of faculty research on graduate students, for many faculty at predominately undergraduate institutions (PUIs), enhancing student outcomes is not one of the explicit goals of their research work. Some would argue that faculty research is beneficial for students even when that is not the stated goal, since the results of faculty research can be shared with students. This is true. Yet, it is my belief that student learning is negatively affected by faculty who take a research-oriented approach to their professional lives rather than a student-oriented one. This belief is supported by Alexander Astin (1993), who has shown that the faculty's orientation toward research and toward students reflect not only how they spend their time, but also their personal goals and values, and their interest in and accessibility to students. Astin and others have shown that the extent to which faculty are student-oriented has tremendous impact on student satisfaction, learning outcomes, and affective development. In contrast, when faculty are primarily research-oriented, student outcomes are

negatively affected. For example, the divide between teaching and research at PhD-granting institutions has led the faculty to substantially distance themselves from undergraduates and undergraduate education, and this has been detrimental to student learning. Could those of us at PUIs be moving too far and too fast in

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this direction, and could our institutions become the functional equivalents of research universities without graduate students?

I have written elsewhere of the importance of student-centered approaches to scholarship (Malachowski 2003). Is this approach time-consuming? You bet. Is it frequently frustrating? Yes. Does it slow down results? Possibly. Is it worth doing? Without a doubt. By its

very nature, undergraduate research involves both teaching and research and it plays nicely into the needs of our students for contact with faculty and the interests of the faculty to engage in scholarship.

So it is time to ask ourselves, "Do we really believe that faculty can dedicate more and more time and effort to research work that does not include students and does not explicitly seek to improve student learning and yet somehow avoid the negative outcomes enumerated by Astin and others?" I believe it is time to own up to the risks involved in our teacher-scholar models and conduct an open discussion of this issue. My call, then, is for us to reflect not only on the impact our research is having on our disciplines, departments, institutions, and careers, but also to consider the impact our research is having on our students and on student learning. We owe this to them. ■

References

- Astin, A. 1993. *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.
- Malachowski, M. 2003. A research-across-curriculum movement. In *Valuing and supporting undergraduate research*, ed. J. Kinkead. San Francisco: Jossey-Bass, 55–68.
- Newman, J. H. 1996. *The idea of a university*. New Haven: Yale University Press.