The Scientist-Practitioner: A Boulder Model for Education

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ABSTRACT

The purpose of the current work is to present a case for the need to train all graduate students in the field of education in quantitative methodology. The premise for this position is that practitioners like researchers benefit from such training. Through an understanding of research design and statistics, teachers, school leaders, counselors, etc. may become scientist-educators who engage in evidence-based practice, engage in strong educator-researcher collaborations, and possibly join the professoriate and prepare the next generation of scientist-educators. The underlying theme of the article is the extension of the Boulder Model from psychology, the scientist-clinician model, to education in order to benefit all educational practitioners and those with whom they work.

Keywords: Boulder Model, Education, Graduate Students, Practitioners

INTRODUCTION

For this special issue, I was asked to provide my perspective as an academic who trains many practitioners, engages in research, and supports the training of all future education researchers and practitioners in quantitative research methodology. My nomination for authoring this piece was related to my position as an educational psychology applied theorist, primarily trained in quantitative research methodology that engages in both quantitative and qualitative research, but also understands the singular difference between my level of understanding of research methodology and that of a research methodologist. In other words, I know enough to know what I do not know, with what I need help, and to have a solid grasp on the level of understanding an educational practitioner may need to reach optimal success.

In addition, I have taught introductory research methods and statistics to graduate students enrolled in a variety of graduate education programs (e.g., work force development, counseling, higher education, leadership), and I have also taught required coursework for teacher preparation that touches on test development and interpretation as well as other facets of evidence-based practice in the K-12 classroom. In addition, I have worked with practicing teachers and school leaders to grapple with how best to engage in data-driven or evidence-based decision-making. This situates me in a unique position to understand to some degree what educators know, what they do not know, and what they need to know to achieve optimal success in practice.

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First, I would like to note that this conversation is not unique to education, and the conversation regarding the need for practitioners to be trained as researchers is by no means new. In fact, a parallel debate has existed in the field of psychology when World War I caused a tremendous rise in the need of clinical psychologists and led to a movement to establish national standards to meet the subsequent needs for psychologists after World War II. This discussion culminated in a conference regarding graduate training programs for clinical psychologists at the Boulder campus of the University of Colorado, resulting in the inception of the Boulder Model or the scientist-practitioner model in 1949 (Baker & Benjamin, 2000). In addition to reviewing the Boulder Model and transferring its key tenets to the scientist-educator, I will also discuss the importance of including quantitative methodology course work in graduate education programs to improve future educator-researcher collaborations and to prepare future academicians.

The Boulder Model

The essence of the Boulder Model is that psychologists, whether academic researchers, teachers, or clinicians, should be trained and equipped with research and clinical skills (Frank, 1987). Rainy (1950) captured the difficulty in coming to this conclusion as follows:

_There was much honest doubt whether all graduate students could be trained in both areas [research and practice]. Such doubts and questioning continued, for many, throughout most of the Conference. At the end, however, the original chasm seemed to have largely disappeared, and recognition of the importance of including research training in the preparation of all clinical psychologists was generally accepted._ (as cited in Baker & Benjamin, 2000, p. 245)

While the Boulder Model still dominates preparation of clinical psychologists today, members of the education community often argue against such a model for graduate preparation of educational practitioners. In 2008, a meeting of members of the American Psychological Association resulted in the recommendation of the use of the Boulder Model for those who teach undergraduate psychology especially for the training Graduate Teaching Assistants (GTA), where in the GTA utilizes evidence-based instructional strategies and subsequently evaluates their teaching and learning outcomes (Bernstein et al., 2010; Prieto & Meyers, 2009). The key tenets of the scientist-educator version of the Boulder Model are as follows:

_A scientist-educator treats professional work as an inquiry into the effectiveness of practice. It is critical to be familiar with evidence-based practice in the teaching of psychology, identifying those methods that are appropriate to one’s own teaching. Central to this enterprise is the systematic collection of evidence regarding the effectiveness of teaching and the use of these data to guide the development and refinement of both the conceptual understanding of teaching and its practice in an iterative, recursive fashion. The scientist-educator reflects on the results of the instruction, makes that work visible to peers, and redesigns course conception, measures, and activities accordingly._ (p. 30)

In other words, the process of education whether as a school leader, counselor, or teacher is not a static process, and an empirical approach should be used in order to create a cyclical process that results in continuous improvement whereby outcomes are examined in order to refine the subsequent cycle in a meaningful fashion, in lieu of an intuition or guesswork-based model of practice.

While Prieto and Meyers (2009) also argue for the inclusion of core psychology training for psychology GTAs, a point upon which I agree and would suggest for educators in general, my purpose here is to support and extend to all educators the adjacent recommendation for requi-
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