

Real Problems, Real Research, Real Students: Authentic Research with Undergraduates as a Win-Win-Win Collaboration

Carl-Georg (Charly) Bank
University of Toronto

Anne Marie Ryan
Dalhousie University

Authentic research, in which students pose original questions and attempt to find the unknown answers, addresses principles of undergraduate education in an ideal way. With careful planning and reasoned considerations it will benefit students, faculty, and institutions.

Introduction

“Undergraduate research is defined broadly to include scientific inquiry, creative activity, and scholarship....The key is that the project produces some original work” (Kinkead, 2003). It is generally accepted that engaging students in undergraduate research provides them with an enriched and positive learning experience (Boyer, 1998; Laursen et al., 2006). In field- and laboratory-based activities – traditionally an important component of undergraduate education, especially in the sciences (Holt, Abramhoff, Wilcox, & Abell, 1969) – students are often asked to re-create data and tackle questions with a predetermined solution. In contrast, undergradu-

ate research is based on original questions with open answers. Such authentic research requires that all involved have some say in the direction of the research and develop self-efficacy through shared communication (Desai et al., 2008). Authentic research experiences on a variety of scales and over varying lengths of time thus provide avenues for students to create new knowledge and understanding, even at the early stages in their university careers. In such inquiry-based activities students learn by doing research (see Jenkins, Healey, & Zeiter, 2007). In the following, we summarize benefits, discuss considerations, and examine a number of models from our own work.