The Effectiveness and Benefits of an Undergraduate Research Experience: A Review of Literature

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Introduction
It has been conventional wisdom for many years that research opportunities for undergraduate students are important to the academic and professional growth of young scientists. With increases in funding for Undergraduate Research Experiences (UREs) comes demand for quantitative and qualitative assessments of URE effectiveness. This literature review makes the current research on the effect of UREs on participants available to researchers interested in expanding on the known body of knowledge. Several aspects were considered in this review: benefits for student researchers, benefits for mentors, the effectiveness of UREs in preparing students for graduate school, and deficiencies in the current body of knowledge.

Methodology
Scholarly articles relevant to the evaluation of UREs were analyzed for their methodology and findings.

Results
The literature indicated that UREs provide a number of benefits for undergraduate researchers and their mentors. • Graduate and postdoctoral mentors benefit from improved personal and professional gains (Bauer and Bennett 2003).

• Undergraduate researchers benefit from clarification or confirmation of career goals, increased independence, and increases in self-efficacy, the belief that one can produce a certain action successfully (Dolan and Johnson 2009).

• A positive correlation between magnitude of benefits experienced with duration of URE (Bauer and Bennett 2003, Russell, Hancock et al. 2007, Zdyney, Bennett et al. 2002).

Seven Categories of Student Gains:
• Personal and professional gains
• “Thinking and working like a scientist”
• Skill gains
• Clarification and confirmation of future plans
• Enhanced career or graduate school preparation
• Changes in attitudes toward working as a researcher
• Other benefits (Seymour, Hunter et al. 2007)

Acknowledgement
This work was supported by the National Science Foundation's REU program under grant number AGS-115709

References


