

Book & Media Reviews

Peer-Led Team Learning: Evaluation, Dissemination, and Institutionalization of a College Level Initiative

by Leo Gafney and Pratibha Varma-Nelson

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reviewed by Gautam Bhattacharyya

About six years ago, I was collecting papers for the literature review chapter for my Ph.D. dissertation when I came across a 2002 paper in *Journal of Research in Science Teaching* by Tien, Roth, and Kampmeier with the words “organic chemistry” in the title (1). It was not until months later, when I was preparing to write the chapter, that I carefully read the title and the paper. I clearly remember my initial excitement because the paper was about an instructional intervention that seemed perfectly aligned with some of the main results of my research...until it dawned on me that I had just completed two years of research to reinvent the wheel! Since that time, I have gotten to know several of the principals of this project, including Pratibha Varma-Nelson, who helped me set up a pilot peer-led team learning (PLTL) program while I was at the University of Oregon. Narcissism aside, I relate this story to fully disclose my bias to the reader: although I do not use PLTL in my classes, I am definitely a believer.

This report (as the authors call it) is the 16th installation in the Innovations in Science Education and Technology series published by Springer. The book is not about PLTL the teaching technique; rather, the authors' focus is to describe the mechanics of developing an initiative locally, expanding it to a national level, and evaluating its impacts on multiple sets of stakeholders. In short: *This book is a must read for anyone writing their first proposal for NSF's TUES (formerly CCLI) program!* I realize that someone contemplating the first stages of an intervention is not thinking about how to implement the program nationally, but proposals with concrete plans for potential expansion and robust evaluation tend to be viewed favorably. (Please note: I have no official or unofficial connections to NSF.)

Through 10 chapters, Gafney and Varma-Nelson meticulously chronicle the growth of PLTL from the initial attempts at the founding members' institutions to national implementation.

The authors divide this story into its important components, each of which is covered in a chapter. For example, there are chapters on expansion of PLTL through minigrants, effects on peer leaders, and, not surprisingly, student achievement. As such, the authors begin each chapter by offering the rationale, including theoretical frameworks, which guided the conceptualization of that phase. This discussion leads into a description of the types of research studies that were done to address the topic of the chapter, the results of those studies, and the insights gained, both positive and negative.

As an example, Chapter 3 covers the dissemination of the program that followed the initial implementation at the founders' institutions. The authors explain their use of Everett Rogers' framework for diffusion (2) and then proceed to describe how each of the issues in dissemination was studied and the lessons that were learned. The key here is that the authors draw their assertions using data derived from carefully executed *research studies*, not mere conjecture or opinions. As such, there is a robustness and integrity to the insights Gafney and Varma-Nelson offer. An important point to remember, however, is that the goal of this book is to offer a “big picture” account; thus, readers must consult individual papers to get details of the studies. Fortunately, there is a bibliography at the end of the book that makes finding the resources quite simple.

Overall, I believe that this book will become an important resource for science, technology, engineering, and mathematics (STEM) faculty because Gafney and Varma-Nelson offer *insight* in addition to knowledge they have gained. Most importantly, this book should have broad appeal because the authors are able to get their points across with clarity and rigor without getting bogged down with too much jargon.

Literature Cited

1. Tien, L.; Roth, V.; Kampmeier, J. Implementation of a Peer-Led Team Learning Instructional Approach in an Undergraduate Organic Chemistry Course. *J. Res. Sci. Teach.* **2002**, *39*, 606–632.
2. Rogers, E. M. *Diffusion of Innovations*, 5th ed.; Free Press: New York, NY, 2003.

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