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## Guest Editors' Introduction

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## Guest Editors' Introduction

### Forty Years of PBL Scholarship: A Tribute to Howard Barrows

*Cindy E. Hmelo-Silver, Andrew Walker, and Heather Leary*

We organized this special issue of *IJPBL* in Dr. Howard Barrows' memory because it is important to honor the person who gave birth to the field of PBL. Howard would have told you that he didn't invent PBL (personal communication to Cindy Hmelo-Silver, repeated many times) but he was certainly the central figure in promoting and disseminating a model of PBL (Barrows, 1986; 1996; 1998). His central role can be seen within past issues of *IJPBL*. Barrows' legacy continues to affect contemporary definitions of what PBL is and how it can be accomplished (see volume 1, issue 1), in helping to scope and shape review efforts (see volume 3, issue 1), and in examinations of how PBL is utilized in varied ways around the world today (see volume 6, issue 1). It was also the right thing for this particular group to co-edit this issue. When Howard Barrows passed away in 2011, Cindy and Andrew discussed the issue at AERA. Cindy knew this needed to be done, but was short on bandwidth and Andrew agreed that honoring Barrows' legacy was important. We recruited Heather and a collaborative effort was born.

What is exciting about this collaboration is that it brought the three of us together to work on this important project at our very different career stages. And that in itself is a testament to Dr. Barrows' legacy. His work has influenced the PBL community for more than 40 years, and as our collaboration shows, it is continuing to do so. Our collaboration on this special issue has provided us with the opportunity to be touched by the PBL community in a unique way. We have communicated with and read the works of many people passionate about PBL who also want to show their respect for Dr. Barrows through their scholarly efforts. We feel that through this issue—and the excellent papers in it—we are able to continue his legacy and continue moving PBL forward.

As noted in the commentary from Peg Ertmer (this issue), we are particularly pleased with the breadth of responses represented by the set of articles. Barrows was not the first advocate for taking PBL to other disciplines, but like PBL itself, he quickly took on a central role (see Barrows, 1996) in doing so. The content breadth mirrors the origins of PBL in medical education and expands to social sciences, sciences, mathematics, humanities, and

teacher education as well as review efforts that include all of the many and varied subjects in between. Methodologically, the articles represent approaches to scholarship that are as varied as the current PBL community including qualitative constant-comparative and discourse analyses, as well as several statistical and even a scientometric analysis. Finally, the articles represent some of the breadth of target populations that PBL has been applied to, from elementary schools all the way through professional degrees. The rich variety of research questions, meaningful variations, learners, research methods, outcomes, and even methods of delivery are testament to the impact of Barrows' efforts.

The response to the call for the special issue was overwhelming—we received 23 proposals, of which we could accept only 7 manuscripts. Many of the papers that we could not accept were excellent pieces of scholarship. We will follow up this special issue with an edited volume, and we expect to include some of these high quality papers in addition to selections from previous issues of *IJPBL*. As editors we will decline all royalties from the proposed book, and Purdue Press has generously agreed to contribute 50% of the royalties to support *IJPBL* as an open access journal and recognize excellence in PBL scholarship.

We hope that this memorial issue does justice to Dr. Barrows' legacy and memory. If not for him, many of our careers would not be where they are today—or where we hope they will be going. More importantly, if not for him, many students might still be reading about the history of medicine instead of investigating it to explore critical concepts in social science, epidemiology, and medicine, or they may have continued learning content as diverse as mathematics, science, social sciences, and language arts in isolation. In the spirit of PBL and in memory of Howard, we hope this issue raises as many new learning issues for the PBL community as it provides resources for improving our understanding of PBL.

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**Cindy E. Hmelo-Silver** is a professor of educational psychology at Rutgers University. She studies how people engage in collaborative knowledge building as they learn in complex domains. She has published numerous articles on problem-based learning and she is president-elect of the International Society of the Learning Sciences and was a founding editorial board member of *IJPBL*. She is outgoing co-editor in chief of the *Journal of the Learning Sciences*. She had the privilege of working with Dr. Barrows in her research studying facilitation in problem-based learning.

**Andrew Walker** is an associate professor in the Department of Instructional Technology and Learning Sciences at Utah State University. His research interests include collaborative information filtering for educational resources, technology professional development for in-service teachers, meta-analysis, and problem-based learning. He has collaborated on several mixed methods research projects but his own methodological expertise is quantitative.

**Heather Leary** is a research associate in the Institute of Cognitive Science at the University of Colorado at Boulder. She earned her doctoral degree in the Department of Instructional Technology and Learning Sciences at Utah State University in 2012. Her dissertation was a meta-analysis focused on self-directed learning in problem-based learning. Leary's research interests include problem-based learning, teacher professional development, teacher assessment, open education, 21st-century skills, meta-analysis, and machine learning algorithms.