

Chapter i

Physics Education Research Conference, 1998, Proceedings

Introduction

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A snapshot of the research in physics education community in the USA; that is what we wanted to compile when we started to work on the tape recorded transcripts of the presentations made at the Physics Education Research Conference in August, 1998, in Lincoln, Nebraska.

The community dates back to the late 1960s, to the activities of Robert Karplus, Alan Portis and Frederick Reif at the University of California–Berkeley and of Arnold Arons, Ronald Geballe and Lillian McDermott at the University of Washington.

This conference in 1998 is the third time that members of the community have assembled as a group. The first meeting, hosted by John Risley and Robert Beichner, was in the fall of 1994 at North Carolina State University. The second meeting was organized by Dean Zollman in Denver, Colorado, in the summer of 1997 just before the summer meeting of the American Association of Physics Teachers at Denver University.

We felt it was time to create a printed record of the current activities of this community in the USA. We recorded nearly all of the sessions of the conference and had the tapes professionally transcribed. After some editing by us, they were returned to their original presenters for corrections. Finally, we compiled the documents which make up this book.

These are not formal proceedings. We have made no serious effort to change these informal presentations into formal papers. Where appropriate we have added references to works mentioned in the oral presentations. Otherwise, we have not intended to eliminate informal comments made by the presenters. We have, in general, eliminated informal comments made by the audience to the presenters. We have also eliminated the names of the people asking questions during the question and answer sections. Some presenters chose not to correct the edited versions of the transcripts that we returned to them. We take responsibility for any mistakes or omissions that have made it through to this final version of the proceedings.

Of course, this compilation reflects our own commitments. We see the research in physics education community as a viable and dynamic community. In the last twenty years it has grown from two active programs to the dozen or so Ph.D. granting programs in existence in the summer of 1998. The number of programs continues to increase, and we advocate this new subfield of physics research to all physics Ph.D. departments in the USA.

We believe our nation's physics knowledge is at risk. We also believe that research into the teaching and learning of physics, performed by physicists, is essential to a healthy future for physics in the USA. We hope this book will further this goal.

The editors would like to thank several people, without whose efforts these proceedings would not exist. First, of course, are the many people who made presentations at the PERC conference and who spent time preparing and editing materials for this book. The fall 1998 meetings of the Physics Education Research seminar at the University of Nebraska were largely devoted to reading and discussing the presentations, as well as to making suggestions for editing. Among those who participated were: Vicki L. Plano Clark, V. S. Rao and Diandra Leslie-Pelecky. The administrative assistance of Marilyn T. McDowell has been essential. Finally, we are pleased to acknowledge the financial assistance, for both the conference and these proceedings, of: Nebraska EPSCoR, the University of Nebraska-Lincoln Math/Science Area of Strength of the College of Arts and Sciences, the Nebraska Technology Development Corporation and the University of Nebraska-Lincoln Department of Physics and Astronomy.

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