Conducting Educational Design Research

Educational design research blends scientific investigation with systematic development and implementation of solutions to educational problems. Empirical investigation is conducted in real learning settings - not laboratories - to craft usable and effective solutions. At the same time, the research is carefully structured to produce theoretical understanding that can serve the work of others.

To support graduate students as well as experienced researchers who are new to this approach, Conducting Educational Design Research integrates multiple perspectives of educational design research throughout this three-part book. Part I clarifies the educational design research origins, approach and outcomes. It also presents a generic model portraying the overall process. Part II discusses the constituent elements of the model in detail, these are: analysis & exploration; design & construction; evaluation & reflection; and implementation & spread. Part III offers recommendations for proposing, reporting and advancing educational design research. Through related readings and richly varied examples, Conducting Educational Design Research offers clear and well-documented guidance on how to conceptualize and conduct this stimulating form of inquiry.

For decades, policies for educational research worldwide have swung back and forth between demanding rigor above all other concerns, and increasing emphasis on impact. These two qualities need not be mutually exclusive. This volume supports readers in grasping and realizing the potential of educational design research. It demonstrates how rigorous and relevant investigation can yield both theoretical understanding and solutions to urgent educational problems.

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Acknowledgments

Writing this book has been a learning experience and a privilege. It would not have been possible without the generous support of many people. Though a brief mention here cannot do justice to their contributions, we would like to thank them, nonetheless.

Special thanks go to the University of Twente’s Stimulation Fund and the Faculty of Behavioral Sciences for providing the funding to enable time away from the office for Susan to work on this book. In addition, fellow members of the Department of Curriculum Design and Educational Innovation graciously supported this endeavor through their critical comments and frequent invitations to discuss educational design research issues.

Gratitude is also due to College of Education at The University of Georgia (UGA), especially its Department of Educational Psychology and Instructional Design, who provided Tom with space and support to work on this book, even though he is officially “retired.” Much of our early writing collaboration between took place during the sabbatical that Susan spent at UGA in 2009.

We are extremely grateful to our graduate students, who have questioned us and prompted us to think more deeply about educational design research. Particular recognition goes to the students in UGA’s Educational Psychology and Instructional Technology doctoral program, who helped create the rubric presented in Table 8.1, and to the National Educational Research School (ICO) course participants we have been fortunate to teach together in the Netherlands. In addition, our interactions with several students, who actually applied educational design research during their doctoral studies under our guidance including Ferry Boschman, Amina Cviko, Ying Liu, Eujung Oh, David Porcaro, and Harini Raval, helped develop the ideas presented throughout these pages.

Professor Jan Herrington was a dedicated, critical friend to this project. Collaborating with her helped set the stage for writing several chapters, especially Chapter 8 (Herrington, McKenney, Reeves & Oliver, 2007). She is a true pioneer of educational design research.

Professor Janette Hill and Associate Professor Ike Choi from UGA also deserve special mention for their leadership in organizing the “Educational Design Research: Local Change and Global Impact” conference at the University of Georgia in March 2010. Timely and energizing, this event greatly helped to strengthen our resolve to write this book.
An earlier version of this book was substantially revised, thanks to the extremely
generous and insightful feedback from (in alphabetical order): Jan Jaap Adema,
Jacqueline Barber, Theo Bastiaens, Ferry Boschman, Barbara Bradley, Saskia
Brand-Gruwel, Stan Buis, Hugh Burkhardt, Gemma Corbalan Perez, Petra
Cremer, Christine Cunningham, Huub de Beer, Walter Doyle, Petra Fisser, Kim
Gomez, Koeno Gravemeijer, Adam Handelzalts, Tjark Huizinga, Yael Kali, Paul
Kirschner, Renske Klein, Ard Lazonder, Suzy Loper, Nienke Nieveen, Chandra
Orill, Bart Ormel, Natalie Parcja, Denis Phillips, Jules Pieters, Tjearn Plomp,
Harini Raval, Richard Reeve, David Reinking, Kim Schildkamp, Alan Schoenfeld,
Chris Schunn, Robert-Jan Simons, Pieter Swager, Bettine Taminiau, Annette
Thijs, Jo Tondeur, Joan van Aken, Johan van Braak, Jan van den Akker, Ellen van
den Berg, Ludo van Meeuwen, Irene Visscher-Voerman, Monique Volman, Joke
Voogt, Amber Walraven and Brooklynn Wynveen.

Our families have kindly supported this endeavor in many ways. Pam, Dick
and especially Theresa McKenney as well as Adriana Helder, Jeannette Haveman,
Roel Kok and Ashley Nick took loving care of Susan’s children while much
of this book was written. Skyler, Logan and Mitchell provided highly valuable
grounding and distraction when needed. Most of all, we want to express our
deep and sincere thanks to our spouses, Kevin McKenney and Trisha Reeves, for
understanding why we undertook this project and for supporting us along the
way.

There is one person whose contribution to this book stands out, among all
others. The steps he took to enable and prioritize the time for writing were
instrumental in bringing it to fruition.

We therefore dedicate this book to Professor Jules Pieters.
Introduction

We entered the field of education because of our passion for working with young people and commitment to facilitating their learning as well as our own. We grew into educational research because we enjoy the challenge and wanted to investigate ways to support others in teaching and learning processes. We gravitated to design research because of its naturally close ties with the practice that is dear to us, and in response to disillusionment with too much educational research that does not, in the short or long term, serve to improve practice. Finally, we have taken up the torch of educating and supporting design researchers because of our conviction that this approach, alongside others, can yield valuable results for both theoretical understanding and educational practice. To introduce this book, we briefly discuss our intentions, the book structure, and the limitations of its linearity.

Intentions

Design research is a multi-faceted, complex endeavor and, while we do attempt to present some useful ideas about how it can be undertaken in this book, we recognize that this resource cannot speak to every researcher’s needs. In fact, given the rich variation with which educational design research is conducted, we stress that this book is not an attempt to provide “the” authoritative guide to this type of inquiry. In fact, we are not convinced that educational design research has evolved to the point that a definitive guide could be written.

Instead, we share our experiences and views of educational design research in this book, and have made an effort to show where they converge with others in the field. In working with researchers, especially doctoral students, we have grown accustomed to the kinds of questions people often ask about design research. As laid out in the following chapters, we have also found our ways of answering them.

We view undertaking the enterprise of design research, particularly for the first time, as a kind of educational intervention in itself. We know from our own research and experience that sustainable use of new ideas does not come when an intervention focuses on using fancy new resources or changing overt behaviors. Real change can come when we do not only focus on what and how things can
be done, but also when we work to understand why. For a new idea to be taken up and used – in a form that is true to its intent – people need to see and identify with the rationale behind it. This is also true when that new idea is conducting educational design research. In keeping with an audience of practicing researchers and especially doctoral students, this book endeavors to offer accessible, usable guidance which does not compromise clarity and depth in the portrayal of the theoretical underpinnings from which these ideas grew.

This volume was written to support graduate students as well as experienced researchers who are new to educational design research. We also relish the notion that the ideas presented in this book spark dialogue between graduate researchers and their mentors. Finally, we hope that the issues raised and the perspectives offered here provide useful fodder for continuing discussion among the educational design research community and for moving this exciting genre of inquiry forward.

**Three parts**

This book is divided into three main parts. Part I, “Foundations,” lays the groundwork for the rest of the book and contains three chapters. Chapter 1, “About educational design research,” defines and describes educational design research. Chapter 2, “Contributions to theory and practice: concepts and examples,” discusses the dual outcomes of design research and gives several – very different – examples of how these dual outcomes were achieved through brief portraits of four actual studies. Chapter 3, “Toward a generic model for educational design research,” illustrates how core ideas from the fields of instructional design and curriculum development, as well as different models for educational design research, shape our view of the process; it then presents a generic model of educational design research. That model forms the backbone of the next part of the book.

Part II, “Core processes,” describes each main process depicted in the generic model. Chapter 4, “Analysis and exploration,” concerns the establishment of a research focus and centers on understanding the problem to be addressed, with inputs from both theory and practice. Chapter 5, “Design and construction,” describes the process of mapping and actually building creative solutions that are informed by theory, empirical findings and craft wisdom. Chapter 6, “Evaluation and reflection,” describes ways to consider and shape the field testing of interventions, from early design ideas to full scale tryouts. Chapter 7, “Implementation and spread,” discusses the interaction with practice that is present from the very start and tends to increase throughout the entire design research endeavor.

Part III, “Moving forward,” builds on the discussions throughout Parts I and II to offer recommendations for proposing, reporting, and advancing educational design research. Chapter 8, “Writing proposals for educational design research,” offers guidelines for addressing the same basic elements of any strong research proposal, but from the perspective of integration with an iterative design process. Chapter 9, “Reporting educational design research,” presents some practical
guidelines for tackling the daunting task of reporting on design studies. Chapter 10, “Looking back and looking ahead,” reflects on the chapters of this book, discusses new directions for educational design research, and issues a call to action to existing and new members of the educational design research community.

The impetus for this book came primarily from the needs of the many doctoral students we have worked with over many years. For this reason, we anticipate that all chapters will be relevant to them. For masters students, we suspect that Part I will be of interest; and for those actually conducting design research for their thesis work, Part II may also be useful. For experienced researchers new to educational design research, Parts I and II are likely to be of greatest interest. This is especially the case for experienced researchers who are mentoring graduate students interested in this kind of inquiry. Part I may also be valuable to anyone concerned with knowing about design research but not actually conducting it themselves, such as research program officers. In terms of advancing discussion among the existing educational design research community, Chapter 3, Part II, and Chapter 10 may be the most relevant.

Books are linear, educational design research is not

There are many ways to put the generic model (Chapter 3) to use, and the sequence of chapters in this book shows but one. As stated earlier and illustrated throughout this book, educational design research is a genre of inquiry – not a method. As such, there are myriad approaches to conducting the enterprise. We cannot provide a comprehensive picture of that variation, but do explicitly attempt to demonstrate it by way of examples. The differences in problems being tackled and the contexts in which solutions are to be implemented require a repertoire of approaches, not one. Such a repertoire is influenced by experience, as well as methodological preferences, domain-specific traditions, and areas of expertise. Though our rational hindsight descriptions may suggest otherwise, serendipity often plays a role in the pathways studies actually take. Very often, different design research processes are concurrent. While greater scales of intention and larger project teams can expand the orchestration required, even small projects often require that researchers juggle multiple demands at once. We thus stress here that the ideas, and especially the sequence in which they are presented in this book, are offered as springboards to assembling useful pathways for design research projects and not as ready-made formulae.