BOLD VISIONS IN EDUCATIONAL RESEARCH

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scope
Bold Visions in Educational Research is international in scope and includes books from two areas: teaching and learning to teach and research methods in education. Each area contains multi-authored handbooks of approximately 200,000 words and monographs (authored and edited collections) of approximately 130,000 words. All books are scholarly, written to engage specified readers and catalyze changes in policies and practices.

Defining characteristics of books in the series are their explicit uses of theory and associated methodologies to address important problems. We invite books from across a theoretical and methodological spectrum from scholars employing quantitative, statistical, experimental, ethnographic, semiotic, hermeneutic, historical, ethnmethodological, phenomenological, case studies, action, cultural studies, content analysis, rhetorical, deconstructive, critical, literary, aesthetic and other research methods.

Books on teaching and learning to teach focus on any of the curriculum areas (e.g., literacy, science, mathematics, social science), in and out of school settings, and points along the age continuum (pre K to adult). The purpose of books on research methods in education is not to present generalized and abstract procedures but to show how research is undertaken, highlighting the particulars that pertain to a study. Each book brings to the foreground those details that must be considered at every step on the way to doing a good study. The goal is not to show how generalizable methods are but to present rich descriptions to show how research is enacted. The books focus on methodology, within a context of substantive results so that methods, theory, and the processes leading to empirical analyses and outcomes are juxtaposed. In this way method is not reified, but is explored within well-described contexts and the emergent research outcomes. Three illustrative examples of books are those that allow proponents of particular perspectives to interact and debate, comprehensive handbooks where leading scholars explore particular genres of inquiry in detail, and introductory texts to particular educational research methods/issues of interest to novice researchers.
Doing Qualitative Research

Praxis of Method

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A C.I.P. record for this book is available from the Library of Congress.


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Preface: Toward a Practice of Method

For more than a dozen years, I have taught what is known as qualitative and quantitative research design and methods at different universities. Despite very high student evaluation of my courses, there has been one striking response to every course I have taught: Students complained about any textbooks that I had chosen. These complaints generally were directed at the distance between what is written in a methodology text and the students’ own attempts in doing qualitative research. They complained about the philosophical nature of the text or about the distance between generalized comments of what you do (in any research context there might be) and the concrete research situations in which they inevitably found themselves.

Over these years, I also have been asked frequently, “How do you do your research?” “How do you make sense of so much data?” and “How do you write your research?” Such questions inevitably threw me a loop, for I was not really thinking about how I was doing the research, especially qualitative research. I was simply doing it. But when I took my first university position, I was not only teaching statistics, the area I had trained for, but also how to design qualitative research, the area that I had developed expertise in by doing qualitative research. In my early years of teaching of teaching research design, felt I had to stick to the chosen textbook to assist students in learning what others had written. As far as I was concerned, I was not orienting my research according to methodologies, for other than statistics, I had learned research by doing research—though even statistics, I really learned by doing statistics. I was not employing this or that methodology; rather, I was practicing research and only subsequently articulated what I had done in terms of this or that methodology. My way of planning, doing, and writing research was a practice of method rather than an implementation of a method of practice as articulated in one of the many books on research methodology.
Over the last several years, I came to the point that the students in my research courses learned to do research by doing research just as my own graduate students have been learning to do research by doing it. One summer, there were only seven or eight students in the class, and we ended analyzing a set of materials I had just assembled concerning a controversy in our community over access to water (the context of the entire study provides the examples for Chapters 4 through 6). After sometimes-heated debates, in which the graduate students became so involved that they took sides with one or the other perspective on the controversy, we came to complete a draft manuscript. Although it took several revisions, the manuscript eventually was accepted and published in a renowned, international journal devoted to issues of science, technology and human values. This project clearly showed me that it was possible to integrate the practice of method with teaching classes, not only with teaching one’s own graduate students. I presuppose that we learn to do research only by actual doing it, that is, in the praxis of research. This means that we learn research methods by doing research methods. What we have learned, our practical understanding, can then be enhanced by talking about our practice after the fact.

But the problem concerning an appropriate textbook, which students could use as a resource in designing and doing research, was still unresolved. I have tried a variety and diverse set of textbooks, but the graduate students in my classes continued to complain. The fundamental tenor remained, “Not practical enough!” “It doesn’t show you how to do it!” Spurred on by my colleague and friend Kenneth Tobin—who suggested that I ought to write about how I came to practice different research methods, why these were useful, how I did what I did—I came to write the present book. It describes how I have been doing research, the decisions I made, and how my research and the methods practiced evolved over time. To a great extent, therefore, this book offers an account of “the making of research,” accounts are not and cannot be provided in journal articles and even in books concerned with some research results rather than the ways of achieving these results. In this book, I am redressing this imbalance by offering extensive accounts of what I did and only brief descriptions and examples of what I learned from the research described.

Fundamentally, I wrote this book to provide senior undergraduate students, graduate students, and faculty members with concrete examples of research practice, accompanied by advice and commentary about what is being done, access to materials that had led to publications, and some references to relevant publications. Above all, readers will learn how to do research not merely by reading, but through their active engagement with the various materials provided. I am proposing a practice of method, so that readers find the relevance of certain
descriptions of method in their own doing. Scholars of very different brands of scholarship—including the political economist Karl Marx and the hermeneutic philosopher Paul Ricœur—have come to realize that we can only know about a practice that we already know in practice. Concerning our topic here, readers will know about research method only when they have had practical experience in and with method. It is in just this spirit that I have written Doing Qualitative Research.

This book is not intended as a traditional methodology. Methodologies are concerned with establishing a systematic classification of the processes involved in doing research. Methodologies are about method in general, independent of the contextual particulars of actual research. This context independence is both the strength of methodologies—they make sense if you already have done a lot of research—and their weakness—because they do not make sense for those who have not have had research experience and who intend to learn doing research when they read methodological treatises.

In the spirit of making available the practical decision-making processes that researchers face while doing research rather than while thinking about research, I wrote about various topics that a book on methodology also would contain, but would organize in a very different way, following a very different logic. The logic of my presentation is a logic of practice, raising issues as they were salient in a particular context, which I describe in each case to some detail. Readers are encouraged to use the index, glossary, and the topic list at the beginning of each of the six major section as resources in finding relevant topics and therefore in navigating the book.

Projects such as writing a book are not possible without those who surround the author, those who encourage them, and those who provide both direct and indirect assistance in the various aspects. First and foremost I want to thank Kenneth Tobin, who suggested to me that I ought to write a book on how to do research given my considerable experience in very different ways of doing research and in my experience teaching research design and interpretive inquiry. I was ready to work on such a project at about the same time when SENSE Publishers and its Bold Vision series were borne.

Some of the materials I draw on, analyze, and make available were collected while I was a high school teacher and department head at Appleby College. The school administration, my colleagues, and my students all deserve my gratitude for contributing to the research that constituted the foundation of my scholarly career. In subsequent years, my research received continuous funding from the Social Sciences and Humanities Research Council of Canada. In the case of the ethnographic research drawn upon in Section II, the National Science
and Engineering Research Council of Canada also contributed to funding the research. A fellowship in cognitive neurosciences at the Hanse Wissenschaftskolleg (Hanse Institute of Advanced Studies) in Delmenhorst, Germany, allowed me to engage in the research regarding the phenomenology of perception on which Section IV is based; additional materials used in the same chapter derive from a study made possible through a fellowship from the Center for Mathematics and Science Education at the Queensland University of Technology and through a joint grant from the Social Sciences and Humanities Research Council of Canada and the Natural Sciences and Engineering Research Council of Canada.

The funds received from the Canadian sponsoring agencies were used to provide graduate scholarships and to hire research assistants, who contributed to collect research and aid in the rough transcription of materials. Those who directly participated in contributing to the materials in this book are G. Michael Bowen, Sylvie Boutonné, Leanna Boyer, Michelle K. McGinn, Yew Jin Lee, and Dan Peebles. Todd Alexander did some of the interviews for the database on which Section V is based. I also want to thank all the research participants who contributed to the different studies featured in this book.

I am also indebted to my research group CHAT@UVic, who read and reacted to some of the materials. I also learned to articulate how I am doing research while responding to their questions or while attempting to explain why to take one decision over another. During the writing of this book the group included Diego Ardenghi, Leanna Boyer, Damien Givry, Maria Inês Mafra Goulart, JaeYung Han, Michael Hoffmann, SungWon Hwang, Yew Jin Lee, Lilian Pozzer-Ardenghi, Giuliano dos Reis, and Jin Yoon.
Introduction

In a fundamental way, this book is about articulating the concrete ways in which research on knowing and learning is realized, exemplified in my own ways of researching in several large projects. Doing Qualitative Research therefore is not about idealistic ways of doing research, as it is found in textbooks on qualitative research methodology, but about how I planned, implemented, and wrote qualitative research given the numerous contingencies I faced throughout the research process.

One question students of research methods often ask goes like this: “I have my observations and interview transcriptions, but what is there to see?” “Where are the patterns?” “What should I write about?” The problem these students experience is a typical gestalt psychological phenomenon, finding structure that becomes figure against some ground. In interpretive research, the possible figures (patterns, categories) depend on the grain size one chooses to look at the data sources. But which grain size one chooses depends on the theoretical frameworks one brings, which in turn will interact with the particular interpretive method one needs to bring to the data sources to make a figure emerge.

At the same time, students who do their graduate work with me as supervisor stood out in the universities where I taught because of their understanding of research design, collection of data, interpretations of data, and publications. Their high levels of competence derived from an early participation in research with me, where they found themselves next to me in the field, facing the same situations where we had to make a decision about this or that problem. These students learned how to do get into the field by getting in the field with me, they learned to do interviews by doing interviews with me, and they learned to make sense of data sources by making sense of data sources together with me.

Over the years I recognized that there lies tremendous strength in learning environments that provide opportunities for students to see me in the concrete decision-making moments that researchers face in the moment-to-moment en-
gagement with the field, data collection and interpretation, and writing of research. I saw how graduate students became competent interviewers when they accompanied my doing interviews, then began asking questions in subsequent interviews, until they conducted the interviews entirely on their own. I also saw how graduate students developed tremendous expertise in writing research for publication—even at the MA level—by participating in writing for publication. In his Paris Workshop on the practice of reflexive sociology, the French sociologist Pierre Bourdieu provided an explanation for the fact that graduate students learn research design and methods best when they work at the elbow of their professor:

Given that what is to be communicated consists essentially of a modus operandi, a mode of scientific production which presupposes a definite mode of perception, a set of principles of vision and di-vision, there is no way to acquire it other than make people see it in practical operation or to observe how this scientific habitus (we might as well call it by its name) “reacts” in the face of practical choices—a type of sampling, a questionnaire, a coding dilemma, etc.—without necessarily explication them in the form of formal concepts. (Bourdieu, 1992, p. 222)

That is, what students of scientific research methods need are not generalized descriptions—according to the philosopher G.W.F. Hegel they constitute the worst form of thinking—but concrete details of decision making concerning this or that aspect of research. They need to see how a researcher, faced with this or that problem during a research project, does this or that based on his or her deep understanding of research. Then, once students have seen that a researcher can do this or that they are ready for explanations why the researcher might do this—for example, because of a methodological prescription or because of a theoretical commitment—rather than that—which is consistent with a different methodological description associated with a different theoretical commitment.

In this book I take you, the reader, on a journey of exploring actual data, and putting you face to face with problems that I actually or possibly encountered, and what I have done or possibly could have done. You will subsequently see the results in the different analyses provided. I refer to some of the different articles that I have written using the same data sources, which allows interested readers to deepen their understanding of what the praxis referred to here ultimately led to when it was published. Given that my research has been published in very different disciplines, including science education, mathematics education, teacher education, curriculum, applied cognitive science, linguistics, social studies of science, and epistemology, there exists a range of very different examples of research results. Furthermore, my writing represents a wide variety of genres,
which allows me to exemplify how the writing of research itself is adapted to the
particular audiences one chooses, itself a consequence of the themes identified
in the data—that is, theory and method. To expose the difference between
method of practice and practice of method, I use a typical situation that re-
searchers face: coding data.

Exposing the Problem: Doing Coding

Most textbooks on research methodology do not acknowledge the gap that exists
between the description of an action and the action itself, or between the plan of
doing something and actually doing it. Newcomers are always caught in this gap,
complain about it, and get frustrated. Let us take a look at the example of learn-
ing to code. Someone interested in learning to code research data may pull some
book on research methodology from the shelves of the library, where he or she
will be advised to:

- Make codes exhaustive of the response range but mutually exclusive so that a given
  response will always carry the same code.
- Check consistency of coding across coders and over time. Determine the desired co-
ding of certain sheets and slip them in the batch at random intervals to provide a cod-
ing audit.
- Provide each coder with a coding manual, and keep all manuals up-to-date as resol-
 utions of coding problems are agreed on. (Krathwohl, 1993, p. 388)

Directions such as these make it look as if coding is simply a matter of con-
verting instructions or coding categories to the data sources at hand. When you
read such instruction for a first time, you are probably confused—and rightly so.
I, too, have been confused with many instructional books, including cookbooks,
garden books, pruning books, and school and university textbooks. We are con-
fused, because understanding what such instructions suggest presupposes that
you already have the practical knowledge of doing what the instructions de-
scribe. To better understand what is involved in following these instructions, let
us distinguish first between actually doing something and describing what we
are doing.

Successfully following the first instruction means acting such that the
“making codes exhaustive of the range but mutually exclusive so that a given re-
sponse will always carry the same code” is an appropriate a posteriori descrip-
tion. As anyone who tried following instructions—a recipe in a cookbook, using
a computer program, programming a VCR, or doing a science experiment—
knows, we cannot know whether we are following an instruction in the way it is
meant until we have produced some results that tell us whether what we have done is what we were supposed to do. Doing a recipe for the first time, we often only know at the very end, when our dish does not look anything like what we expected, that something along the line has gone awry. Similarly, we know we have done something wrong in putting together some “home-assembly-required” furniture when we realize that there is a problem—when there are no leftover screws and pieces lying on the floor next to the artifact we thought to have correctly assembled.

Coming back to the quoted coding instructions, there is therefore a difference between the description of an action and actually doing what the description says, that is, the lived work of coding—i.e., its praxis. We can therefore write the work involved in the first instruction as “doing [making codes exhaustive of the range but mutually exclusive so that a given response will always carry the same code]” (e.g., Garfinkel & Sacks, 1986). Textbooks and prescriptions constitute listings and discussions of the second part of this work, the one in square brackets. They are not about the competencies involved in the doing itself, which is something that can be acquired only by doing. These competencies, which usually are invisible in everyday practice, are exactly that which we learn by working at the elbow of a more experienced practitioner.

Learning to code, therefore, cannot be done in general, for example, by reading a textbook section on coding. Learning (memorizing) what the textbook says only gives you competence in memorizing instructions. They do not allow you to become competent in the doing of coding. This requires doing coding while situated in the domain-specific practices of the relevant community.

Garfinkel (1967) and his colleagues observed coders of actual patient files to answer the question, “By what criteria are an outpatient clinic’s applicants selected for treatment?” Their work showed that “coders were assuming knowledge of the very organized ways of the clinic that their coding procedures were intended to produce descriptions of” (p. 20). This knowledge appeared to be necessary to decide what really happened, regardless of whether they had encountered ambiguous file contents. Garfinkel concluded:

No matter how definitely and elaborately instructions had been written, and despite the fact that strict actuarial coding rules could be formulated for every item, and with which folder contents could be mapped into the coding sheet, insofar as the claim had to be advanced that Coding Sheet entries reported real events of the clinic’s activities, then in every instance, and for every item, “et cetera,” “unless,” “let it pass” and “factum valet” accompanied the coder’s grasp of the coding instructions as ways of analyzing actual folder contents. (Garfinkel, 1967, p. 21)
Ad hoc considerations in coding are irremediable and essential features of the act of coding. It makes little sense to treat ad hoc features of the coding work as if they were nuisance or, from the coders’ perspectives, to treat these features as grounds for complaints about the incompleteness of coding instructions.

A quarter century after Garfinkel's work was published, Alan Schoenfeld (1992), who had worked for quite some time from a cognitive science perspective to mathematics education with assumptions not unlike Krathwohl (the author of the research methods text cited above), came to conclusions that were remarkably similar to Garfinkel’s. In the context of achieving reliability in coding mathematical problem solving, two or more coders need to see the world in very much the same way. This, however, is not achievable by means of written procedures and specifications. Schoenfeld realized that some experience coding tapes of mathematical problem solving jointly was necessary to achieve the consensus that produced consistency. That is, written descriptions of coding did not suffice to define just how to get the “grain size” of a particular mathematical problem-solving episode. Coders made distinctions on the basis of “feel” rather than on specified, clean objective criteria (Schoenfeld, 1992). Much of the mathematical and analytic knowledge it took to code the tapes in a consistent way was not expressed in the coding protocols, despite the researchers’ efforts to make them as explicit as possible. Much of the knowledge it took to code the tapes resided as practical knowledge within Schoenfeld’s research group and was embodied in each member. Schoenfeld concluded that this knowledge is not communicable by means of descriptions:

Employing the [coding] method is a matter of skilled practice, probably best learned in apprenticeship. That practice is rationalizable and its results are defensible after the fact, but is not easily conveyed in a user’s manual. (Schoenfeld, 1992, p. 208)

The fact that inter-rater reliabilities are lower between different research teams than within a research team arises from the gap that exists between any description and the event it describes. Thus, researchers who want to replicate an experiment are frequently unable to achieve the correspondence, previously achieved by the original investigator, between what was actually observed and the intended event for which the observation is treated as evidence. There are numerous studies about the natural and social sciences that exemplify the impossibility to transmit essential competencies through explicit and written modes of pedagogy.

Coding is but one example of the many aspects of research as practice. To be able to do educational research, a graduate student in mathematics and sci-
enence education may be expected to learn how to design, test, and validate a questionnaire; plan and conduct an open-ended and unstructured interview; collect videotaped episodes from a science laboratory and conduct a discourse analysis; and engage many other aspects of quantitative and/or qualitative research. Central to the present book is the idea that the best way for learning to do research is by participating in varied aspects of research with one or more experienced practitioners. Learning is then a trajectory from legitimate peripheral to core participation in a community that practices educational research.

**Toward a Praxis of Qualitative Method**

In publishing this book, I do not pretend to escape and transcend the gap that exists between descriptions of actions and the actions as they have sprung forth in and through our lived experiences. However, whereas other books on research methods or research design attempt to provide generalized descriptions about what to do and how to do it independent of any practical situation, this book is all about how I did research, the kinds of decisions I had to make, the resources and constraints that I faced, and so forth. In this sense, this book consists of descriptions of concrete realizations of research methodology. I present the practical choices that I made given certain contextual features or that I was forced to make given this or that constraint.

An innocent reader might ask, “So what can I learn from this book if it only presents contextual decisions and research practices?” My response would be that a book of methodology describes idealized practices, which we do not know whether they constitute possibilities in the real lived-in world. The mundane, everyday distinction between actions possible only theoretically—i.e., ideally, in thought—and the actions possibilities available to real people is a case in point. That is, in this book I present descriptions of concrete realizations of action possibilities that were apparent to me; this book describes methods as lived praxis. These were not idealized but real action possibilities, among which I made choices as described. In this way, what I describe constitute not only particular ways of how I did research but also—in that they are concrete realizations of possibilities—ways in which research is done generally. Research as presented in this book is both particular and general, both concrete and abstract, and both special and universal.

In its approach, this book is situated in my own biography of doing research, articulating the ways in which research questions came into focus as a result of a variety of factors including, for example, the present state of the discipline, my understanding of theory and research, my interests, the concrete situations I re-
searched, and so on. The book therefore does not provide a generalized description for doing qualitative research but articulates how research has actually been and can be conducted in the world as my fellow researchers and I lived it. I am not providing prescriptions for doing qualitative research in every situation that you might face, but describe different facets of research in the way I experience as a real human being actually doing research rather than talking about doing research.

Structure of the Book

The book is organized into two parts containing two and four sections, respectively. The parts and sections follow dominant themes of research, but do not treat research practices in a neatly categorized and context independent way. Any attempt to present the doing of research in a completely structured way would have been inconsistent with my project of presenting research as lived work. Thus, although Part A is entitled Collecting Data Sources, the collection of data sources is described for each of the projects that serves as the example for a major section. Similarly, although Part B is entitled Analyzing Data Sources, the analysis of data sources also features in Part A. But it is not the dominant focus. I have organized the book in this way because I thought that presenting the doing of research by means of how a number of research projects were actually conducted would better present the research process as it is lived.

The structure of the book therefore emerged from my choice of six major studies that I conducted. Each study provides the context for showing what I have done or not done and some of the rationales for doing this or that. I distributed salient research issues across these six studies. For example, in the context of ethnographic research designs (Section II), I also present issues of requesting ethics approval, negotiating access to research sites, or getting informed consent. To provide another example, although I describe, discuss, and articulate findings ultimately published from the research, I made the choosing of an audience, the writing of research, and the author|text and reader|text, relations the topic of Chapter 6, the last one in the section on ethnographic designs.

To assist readers in navigating the book, I provide a list of salient topics treated in a particular section at the very beginning. This list of topics is followed by a brief overview, which introduces the section and each of the three chapters that constitute it.

To further assist readers in their sense-making efforts, I wrote a glossary containing brief descriptions for some important concepts. Readers will find additional glossary-type entries in “hint boxes” that I spread throughout the book.
These hint boxes always pertain to issues discussed on the same or an adjacent page. I strongly encourage readers to use the index for looking up or finding again relevant concepts and research issues.

Finally, I provide a word regarding the peculiar writing of some concepts using a vertical bar, such as author|text, agency|structure, or production|reproduction. The sign “|” separating pairs of terms is called the Sheffer stroke. It is a well-known truth-functional connective equivalent to the operation NAND (not and). Any expression p|q is true if and only if not both p and q are true. In other words, the total expression is true only if it contains a contradiction. In a materialist dialectical approach, such inner contradictions better represent cultural-historical processes and entities and, in fact, constitute the driving forces underlying individual|cultural development.
Glossary

In this glossary, italicized words that appear as part of one entry also have an entry of their own.

**Activity theory** is one among a range of theories that focuses on concrete observable events rather than on presumed (unobservable) structures in an individual’s mind. At its core, activity theory is dialectical, as it is based on the subject/object unit. Thus, when activity theorists study action, they understand that knowing what the object is that is being acted upon presupposes knowing who the subject is; and knowing who the acting subject is presupposes the nature of the object being acted upon.

**Affordance** is a technical term introduced by ecological psychologists to denote the kinds of things some material object allows us to do. For example, a doorknob affords turning, whereas a door handle affords pressing down.

**Agency** is one of two terms in the agency/structure dialectic used to explain the patterns in human actions (practices). There is no agency without structure (resources, schemas) and no structure without agency—agency and structure presuppose each other, forming an identity of non-identical entities.

**Anonymity** In respect to human research ethics, this concept means that the identity of a research participant is entirely unknown, including to the researcher.

**Anthropology** is the science or study of humankind.

**Apprenticeship** is, among other things, a form of participation that allows anthropologists and ethnographically oriented educators to study a culture by apprenticing to a particular practice, for example, when individual researches environmentalism by learning to do the job of someone in an environmentalist group.