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Books on Research Skills and Methods

Ken Friedman

Over the past year, several readers asked us to review and recommend reliable books on research skills and methods. Some requested suggestions for outstanding books for teaching research courses and tutoring doctoral students and masters degree students. Others requested suggestions that will help them to do better design research or art research in an academic system where most books seem to address scholars from other disciplines. We took up the challenge.

Over the past year, we have gathered and read a wide range of books on different aspects of research. In a series of review articles, Design Research News will review books that help people to meet the challenges of 1) writing and publishing research, 2) making an effective live presentation, 3) developing important research skills, and 4) mastering specific research methods.

This series will recommend books that belong in the design research curriculum and in art and design libraries. We will cover old titles as well as new ones, and these will accumulate into a good basic selection of research training titles. Each article in the series will also review a selection of outstanding resources available free on the World Wide Web.

These are the books we feel best suited to research training. We believe that these books will help the active researcher as much as they will help the research student.

Despite our best efforts, it is never possible to cover every possible work. We welcome suggestions for good books we may have missed. After we finish the first series of reviews, we will add reader recommendations to the series.

Writing and publishing research involves two basic issues. One is writing clear, articulate prose. The other is mastering the skills of writing an article for journal publication. This issue of Design Research News covers books on how to write clear, readable prose.

Most research journals are in English including most journals in design research, and in art and design. This review focuses on books that will help authors to write better English, especially scholars for whom English is a second or third language. While an increasingly smaller proportion of the
worlds people use English as their home language or native tongue, English is growing as a second language. It is now the major language of scholarly and scientific communication. Even though this article will focus on English, our experience suggests that those who develop strong writing skills in English also improve their writing skills in other languages.

We hope you find this series useful, and we will welcome your suggestions.

Books and Resources on Writing


Free Online Writing Resources: OWL. 2007. The Purdue University Online Writing Lab. URL: http://owl.english.purdue.edu/ Date accessed: 2007 May 25; Writing Center. 2007. The University of
Why Good Writing Matters

Some scholars believe that writing well is unimportant. They know what they know and they feel that it doesn't matter if others must deciphering badly written articles and book chapters to learn what they know. Those who share that opinion can save time by stopping here. This article is dedicated to good writing.

Writing well is a key to successful publishing. By writing, we share ideas and research results, helping colleagues to build a field. We also help our field to generate knowledge for the design profession and for other research disciplines.

Those who succeed in writing scholarly or scientific articles spend the time it takes to write well. Readers must be able to understand an article and use it in their own work. Research results do not jump out at a reader. Authors must explain their work. One reason that readers often skim through research articles to focus on results is that they cannot understand the text. This is why many articles are never cited.

The problem of poor writing becomes worse as more scholars complete research degrees without learning to write well. As the numbers of universities increase, with more universities requiring researchers to publish as a condition of employment, more researchers than ever before attempt to publish their work. Added to this, we find a new trend, with many universities requiring research students to publish journal articles and conference papers before graduating. This places increasingly great demands on editors, and it requires them to place greater demands on the valuable time of experienced reviewers. Since well written articles are easier to review and edit than poorly written articles, writing quality is more important than it has been in the past.

Improving the editorial process is only one reason for the new importance of good writing. The other is a large and diverse academic audience without the fluent command of English that once made it possible for readers to struggle through dense, poorly written articles. The problem here is that their reading and writing abilities diminish in a second or third language. These writers and readers are intelligent, and they are often skilled researchers and reasonable writers in their own languages. Nevertheless, they face difficulties in a world where English has become the common language of scholarship and
science. As a result, journal editors and conference committees are concerned about language quality to a greater degree than they have been in the past.

If good writing concerns journal editors, book publishers demand it. An author who hopes to publish a book with a leading publisher must write well. Academic publishers could tolerate difficult manuscripts when they could afford to sell only a few dozen copies of a subsidized book and selling a few hundred copies meant an academic best seller. This is no longer the case. Most universities no longer subsidize their university presses. Academic publishers must compete in a competitive book market. To survive, they must sell books. As a result, university presses now demand good writing of their authors. This is even more the case for the commercial publishers of academic books. Good writing is the first rule of a successful monograph.

While many of us need to publish as a condition of employment, there are deeper reasons for good writing. Research only becomes research when we publish it. Before we publish our research, we are learning. We may learn a great deal, but no one else learns what we learn until we publish our findings. Publishing what we learn is the difference between answering our own questions and helping to build the field. A serious research career requires publishing our work.

There are many forms of research, and they fall into many flavors and traditions. These include theoretical, empirical, conceptual, qualitative, quantitative, descriptive, interpretive, mathematical, logical, philosophical, historical, textual, exegetical, hermeneutic, positive, normative, phenomenological, practice-led, and expressive. All have one requirement in common: we use words to share our findings.

Despite the growing interest in multiple modes of expression, we need words to share research. There are two reasons for this. The first is that research is a mental activity. It is human, individual, social, and cultural in nature. Because the mental and cultural process of research is invisible, it requires narrative communication.

A serious research contribution generally involves nine elements. 1) It states the research problem. 2) It discusses knowledge in the field to date. 3) It discusses past attempts to examine or solve the problem. 4) It discusses methods and approach. 5) It compares alternative research methods. 6) It discusses problems encountered in the research. 7) It explains how the researcher addresses those problems. 8) It explicitly contributes to the body of knowledge within the field. 9) It
states implications for future research. An article or conference paper uses language for each of these elements.

To report research, an author must describe the subject or object of inquiry, the research methods, and the research process so clearly that the reader understands the project and process fully. This requires articulate narrative description as well as any necessary models, figures, diagrams, illustrations, drawings, or images.

Only a written or spoken text allows us to describe the metanarrative of research. This metanarrative places research in a context. It permits the reader to examine the research process as well as examining the subject or object of investigation. Since the research process takes place in the mind of the researcher, reporting research requires narrating a mental process in addition to reporting the findings.

The need to narrate the research on a metanarrative level is why neither artifacts nor symbolic presentations can serve as research reports. Research takes place in the human mind, and reporting research therefore requires reporting thoughts and experiences. Many research reports require images and illustrations. All research reports require narrative.

A good research report shows and tells enough for the reader to understand the methods and value of the work. It is clear. It is as simple as possible while being as full as it must be. It demonstrates the qualities of process that help each reader to judge the work and the results as research rather than as information.

This last quality involves a particular distinction between a research report and a statement about the research report. A research report is transparent. It permits us to know more than the fact that something is supposedly so. It allows us to ask whether something is so. It allows us to ask how something works and it sometimes allows us to ask why. It permits us to examine the issues to reach our own conclusions. All of this is central to effective design research. Beyond this, however, good writing is central to solving two special problems that concern scholars in design research.

The first problem concerns design research scholars who worry that we borrow ideas, methods, and materials from other disciplines while others fail to borrow ideas, methods, and materials from us. They are concerned about unequal influence. They feel that our lack of influence on the research practice of other fields both leads to and reflects a weak status in the academic environment.
The second problem that concerns many design research scholars is an uncomfortable relationship between theory and practice. They feel that too few research contributions influence design practice, that design research is not sufficiently useful to professional design practice.

Both of these problems have to do with the poor quality of writing that communicates much design research.

To speak across the boundaries of fields, we must speak a common language. We borrow on work from other fields and disciplines because we understand it. We see how to use research concepts and methods from other fields, and we can therefore apply it in our own work. If scholars and scientists in other fields cannot read and understand our work, they will not use it.

Good writing builds bridges that communicate between and among fields. Anyone concerned about being a borrower discipline should be concerned about writing well enough for other disciplines and fields to borrow from us.

Since I am convinced of the value of design research, I am not worried about whether design research borrows from other fields. Nevertheless, I am concerned about the quality of our publications. I want our colleagues in other fields to read and understand them. Equally important, scholars and scientists in design research should be able to read and understand each other. This is not always the case.

This is closely related to the problem of communicating with practicing designers. Some designers do not care about research. They know what they want to do and they do it. They may not do it as well as they might with the benefit of research, but they get work and earn a living. Nevertheless, some designers DO want to learn more and practice better. We owe them our best efforts. We owe them what Andrew van de Ven (2007) calls engaged scholarship.

Engaged scholarship influences professional practice or human affairs while advancing a discipline through scholarship and research. To do both, an author must state a case well, examining issues, reflecting fruitfully on concepts, and developing evidence to communicate ideas effectively. Engaged scholarship requires us to making research useful through conceptual clarity and accessible language.

There is a third important reason: design research is interdisciplinary. The organizers of the Design Research Society International Conference in 2006 in Lisbon requested reviewers
to state fields of expertise. Unlike many conferences or journals, they offered no checklist. unprompted replies disclosed over five hundred distinct fields and disciplines. A research group from Australia, India, Norway, and the United States is now developing an inventory and taxonomy of fields and sub-fields, disciplines and sub-disciplines in design and design research. The listing is now over 750 items. If those of us who come from so many backgrounds are to understand each other, we must speak more clearly and better than we have done until now.

scholars who work on the topic of interdisciplinarity and scholars who come together around a topic from the perspectives of different disciplines recognize language as an important framing issue. This is increasingly the case in many of the arts and sciences. Consider the discussion lists at H-Net Discussion Networks (2007). H-Net is a project that hosts more than 100 email discussion lists. Many represent fields that require the talents of many scholars and scientists working in an interdisciplinary way from different perspectives and fields. These include history and legacy of the 1960s, African expressive culture, history and computing, Atlantic history, Spanish/Mexican borderlands of the American Southwest and Northern Mexico, history of childhood and youth, Appalachian history and studies, digital rhetoric, or colonialism and imperialism. These also include fields as intellectual history or memory studies that must function in an interdisciplinary way. The best of these fields offer a literature that enables scholars from different writing traditions to read and understand each other. We should aspire to this approach.

Good writing is not a substitute for robust research. The research of an Albert Einstein does not depend on writing well. Nevertheless, excellent writing helped Einstein to succeed. He understood the value of communicating his work. The importance of Einsteins work was not as clear or obvious as it later became in 1905 when wrote his five great articles. Einsteins theory of relativity is so fundamental to modern physics that we forget the controversial nature of his research for much of the century. When Einstein won the Nobel Prize in 1921, it was not for relativity, but for the photoelectric effect. Despite the enduring controversy over his ideas and work, Einsteins writings helped him to put ideas forward, generating the dialogue and inquiry that would transform modern physics (Stachel 1998).

While design researchers will not reshape the world as Einstein did, the human process of design is reshaping a world in which the vast part of our environment is created by design. This fact alone makes design research an important discipline. In my view, this requires us to achieve and maintain a high standard of
Learning to Write

Even when good writing is a goal, learning to write well is difficult. Writing is an art and a skill, and a writer must learn the craft and practice it to do well. Those who write well take time to master the craft. In this sense, writing resembles any craft: skiing, cooking, carpentry, running. Natural talent is good. Natural talent and practice is better. First comes learning.

Until recently, senior scholars and skilled writers transmitted guidelines for academic writing through oral tradition and a form of apprentice system. These traditions differed from field to field, discipline to discipline. They still differ, even among close sub-disciplines or the same disciplines in different universities and nations, but there are some common basics.

Development work on writing skills generally took place in doctoral programs at a time when there were only a few doctoral programs with limited enrollment. Until recently, doctoral programs might last five to seven years, giving young research scholars the time they needed to acquire and develop their skills. This is no longer the case.

In the late 20th century, universities have grown in size and number both, with an attending explosion of research programs and doctoral programs. This changed the intense and highly selective relationship between doctoral mentors and their candidates, a relationship that has become structured and distant in larger programs. At the same time, the quality of doctoral supervision has gone down. Universities rarely increase the number of supervisors to cover the increase in student numbers, and when they do, they often do so with relatively inexperienced supervisors.

These changes in research education means a loss of the research writing traditions that mentors transmitted by oral tradition. Close relations between apprentice researchers and senior researchers enabled direct mentoring in the craft of research. Today, many doctoral candidates and many beginning faculty members have significant gaps in the writing skills. In some cases, these problems remain visible even among those who attain senior faculty status.

One helpful remedy is the growing literature that explains the craft, guidelines, and traditions of research writing. There are both too many such books and too few. There are too many for
anyone to read. There are too few that cover the broad requirements at a sufficiently high level of expertise to be widely usable. In this review, we identify and recommend a selection of those few.

I have written about some of these books before. Reading a dozen or so books in each category demonstrates why the classics remains classical. Strunk and Whites Elements of Style is a case in point. In other cases, a careful review of available books brought forward titles I have not recommended before. This includes the Little, Brown Handbook and some of the style guides.

The goal of this article is to help readers write better, and to help readers help their research students to write better. Good research is always difficult. Getting good research into print and opening the debate is the key to inquiry and a progressive research program.

The Norwegian scholar Johan Olaisen sums it up nicely when he says, There are only two kinds of research, perfect research and published research. Perfect research is never published and published research is never perfect.

This article is about writing what we publish as well as we can.

How to Write Well


Strunk and Whites Elements of Style has helped authors learn to write for nearly a century. The new fourth edition offers an improved structure and updated examples in the same compact format that made this book an all-time best seller with nearly 5,000,000 copies in print.

Strunk and White explain how to write clear, informative English prose in 105 compact, concise pages. Three chapters cover usage, composition, and style. Two chapters cover specific common problems in English. Depending on English reading skills, it takes between two and four hours to read the book carefully. The new, fourth edition is restructured to offer significant improvements over earlier editions. We recommend it.

The Elements of Style is a guide for beginning writers and an inspiring, informative reminder for experienced writers. Anyone with an academic job or a research position owes it to himself
or herself to buy the fourth edition. The investment will repay itself many times over.

Buy it. Read it. Use it.

Those few students who cannot afford a copy of this short, useful book will find the 1918 edition available free on the Web (Strunk 1999).

Advanced Writing Advice


Many books advise authors on how to write. There are thousands. Adding in the books that address special challenges in thinking and writing, such as philosophy of science, research methodology, or rhetoric, the number expands to tens of thousands. Not only is it impossible to read them all, it is hardly worth the effort.

We recommend a helpful book by Ursula K. Le Guin, a best-selling author of science fiction and fantasy. The choice may seem unusual in a review dedicated to scholarly and scientific writing, but there is a purpose to this recommendation. Le Guin’s fiction sets her characters in plausible cultures, and she builds her plots around the consequences of those cultures in the lives of her characters. Her books help an author to consider the ways that skilled writers narrate the consequences of culture. She also helps an author to understand the nature of a personal voice, and her exercises help an author to find it.

Le Guin was born to this. Le Guin’s mother, Theodora Kroeber, was a distinguished writer on culture and anthropology. Alfred Kroeber, her father, helped to establish anthropology as a discipline after graduating from Columbia University in 1901 as the first American to earn a PhD in anthropology at an American university.

Le Guin’s books are designed to help writers who meet to discuss the art of writing, learning from each other in workshops. This is an effective way for research writers at universities to improve their skills while helping each other. That makes Le Guin a logical choice.

Those who would become writers while carrying on a career in research and reaching cannot read everything on writing. Ursula Le Guin is our recommendation for a writer whose sensitivities
and style will help academic authors to find a voice.

**Writing Handbook**


A writing handbook is a desk reference that helps an author to master the elements of writing. A good writing handbook should be large, comprehensive, and complete, with clear, detailed solutions to the problems a writer is likely to meet. The Little, Brown Handbook is such a book. At nearly 1,000 pages, it is comprehensive, yet compact, with clear, readable advice.

Fowler and Aaron cover all the key questions a writer might ask about writing and the writing process, grammar and mechanics, clear and effective sentences, choosing words, writing research, writing in the disciplines and the special kinds of writing that are now common.

Few authors will read this book from cover to cover. It contains useful essays and informative sections that an author will use when facing specific challenges. One of the most valuable features of The Little, Brown Handbook is the explicit help it gives to authors who are writing in English as a second language.

**Reference Books: Dictionaries**


A good dictionary is a reference book containing words usually alphabetically arranged along with information about their forms, pronunciations, functions, etymologies, meanings, and syntactical and idiomatic uses (Merriam-Websters 1993: 322).

The best English dictionaries do not prescribe definitions. They describe usage based on published examples drawn from exemplars.

The main Merriam-Websters dictionaries follow these principles. These are the Third International and the Collegiate. So do the main Oxford English Dictionary series, the OED and the Shorter OED. The principle of lexicography they follow is to document the development and growth of the language, and to offer concise definitions describing and illustrating usage.
A good dictionary helps an author or a reader to understand words both in the clarity of the definition and in the way that good definitions illustrate how to use a word.

It is possible to treat definitions as prescriptions in the same way that a physician may choose among medical treatments in any specific case. An author can treat definitions as postulates, clarifying intended usage in the context of a specific article. An author may also use definitions and etymology to clarify and deepen an understanding of words and their meaning before postulating or prescribing the intended usage.

Merriam-Websters Collegiate Dictionary is the desk dictionary in use at the vast majority of academic publishers and journals. We recommend it. Those who have access to the Encyclopedia Britannica Online will find it bundled with the encyclopedia (Britannica Websters 2007).


We advise against using the paperback dictionaries and short dictionaries published by Merriam-Websters and Oxford. A serious desk dictionary is an indispensable tool for good scholarly writing. Merriam-Websters Collegiate Dictionary is that tool.

Reference Books: Style Guides

General


General Academic


Specific Academic

A style guide is a reference book that helps an author to navigate the reefs and shoals of writing style. There are three kinds of style guides. The first is a general style guide to effective writing and writing practice. The second is a style guide covering academic publishing, mark-up, editorial practice, and related issues. The third covers the specific requirements in a field or a journal. Every author should have one of each.

We recommend The Economist Style Guide for basic writing style. There are many good style guides. This is one of the best. It is also available online (Economist 2007).

For academic publishing practice, The Chicago Manual of Style is the standard tool. Authors who must work with academic writing, editing, and publishing should use this book. For beginning writers and article authors, this may require too great an investment in time and money. When an author joins an editorial board or begins to write a book, this book is a necessity.

There are two major style guides for the disciplines. APA style is most common in psychology and social science journals. MLA style is most common in the arts and humanities. An author should choose the style guide best suited to his or her field. Most journals in different fields of design research use formats based on one or the other of these two guides. They are important tools for successful academic writing.

Some readers may not be ready to invest in the APA 5th edition, the APA concise guide, or the MLA 6th edition. For these readers, Abel Scribe (2007) offers a free, handy crib sheet. Scribe covers many of the general cases that authors will confront. While the APA and MLA guides give all answers in detail, Scribe covers much of what most authors will need.

In contrast, reviewers and editors need these books, and they need the Chicago Manual of Style. A scholar who takes on the responsibilities of editorial work and reviewing requires the tools of the trade.

**Free Online Resources**

**How to Write**
Many universities maintain writing centers and on-line collections of writing information and resources.

The Purdue University Online Writing Lab (OWL) and the University of Wisconsin Writing Center are two of the best. These free sites deserve careful exploration.

**A Twenty-First Century Writing Tool**

We close this review by recommending a twenty-first century writing tool, the international English edition of Microsoft Word.

Microsoft Word contains several useful writing tools. This includes the spell-check feature. In addition, there are several useful spelling and grammar features. The skilled author uses these as a final heuristic check that enables a writer to identify potential problems and choose among alternative solutions.

To use these features, the writer must open the Microsoft Word Preferences file to section on spelling and grammar. The feature allows writers to set a writing style. We recommend standard or formal. After setting the style, the author should call up the settings option. It is best to check every available box.

When this is done, running the language check will flag potential problems. Microsoft Word does not make choices for the author, nor should it. It flags problems, prompting the author to correct mistakes and improve awkward passages. If Microsoft Word identifies a problem repeatedly, even as we rewrite, it is our habit to recast the problem sentence until it passes inspection.

While Microsoft Word is not an editor, it helps an author to catch many of the problems that an editor would notice. Using the Microsoft Word spelling and grammar features, an author can do much to improve the quality of a manuscript before sending it to a journal or conference. This means that the editors and reviewers who work with the manuscript can make a greater contribution to the author by working with concepts, theories,
and empirical data rather than struggling with language issues.

After Microsoft Word finishes a passage, it produces a small summary of readability statistics. We suggest that authors pay close attention to these statistics, especially to the averages and readability. The Microsoft Word help feature explains these statistics clearly.

Nearly every scholar or scientist reading this book uses Microsoft Word to write English. This allows a writer to complete a great deal of work before sending an article or paper on to the next stage in the publishing process. Writers who have this helpful tool should master these simple, flexible editorial features and use them. (A modest warning is in order here. Microsoft Word does not always serve the Queens English as well as it might. Those who use the international version of American English will find it a wonderful help. It will also help those Britons, Australians, and Canadians who can bring themselves to struggle with the common language that sometimes divides the English-speaking peoples.)

Writing is Important

Just as writing is important for building the field, it is important for those of us who build understanding and knowledge in our research. Robert Amsler (2007) suggests research results seem to be incomplete until they are written up, and in the writing comes new insights into the work that you didn't have when you were performing it. Language structures thought through rhetorical conventions which stimulate additional thought. Research activity proceeds in a fairly linear fashion, whereas language poses problems of explanatory necessity to complete its statements.

You can often DO something immediately following a prior action, but you often cannot SAY something following a previous statement without setting the background for its understanding. I suppose the missing component is that when writing you understand that you cannot assume the reader had your same state of mind, whereas as the actor DOING things, you knew your state of mind.

Writing helps us to fill in the gaps and it helps us to develop the research metanarrative through which we shape our understanding, our methodological sensitivity, and our reflective skill. The old joke that we don't know what we think until we write it down is half-true, and the true half is important.
Future articles will cover the specific skills involved in writing a research article, live presentations, research skills, and specific research methods. Those who intend to publish, and to present their research should begin with good writing.


Strunk, William, Jr. 1999 [1918]. The Elements of Style. New
