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SECOND LANGUAGE RESEARCH

Methodology and Design

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ROUTLEDGE



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Preface

This book is designed to be used as a text for introductory courses on research methodology and design, as well as for other courses in second language studies, where there is an emphasis on research. It can also be used as a general resource book by people carrying out second language research.

The first edition was published a decade ago. This new edition provides updates to reflect changes and developments in the field, together with some internal reorganization, and a new chapter on mixed-methods research, reflecting the current state of the art in the field. We have also included some new features to improve its pedagogically friendly nature, including boxed "time to think" and "time to do" suggestions throughout each chapter, to supplement the exercises at the end of each chapter. Throughout the revisions, we retained our primary goal of providing an introductory text for novice researchers. We explain key concepts and provide concrete examples wherever possible for those with little or no research experience. Exercises are provided throughout the text to allow students to think about the concepts introduced and to get hands-on practice at doing the various activities involved in research. We assume that our readers will have some background in the general topic of second language learning. The discussion and data-based questions throughout each chapter and the activities at the end of each chapter are aimed to promote better understanding of the concepts as readers work through the book. We also include a detailed and updated glossary to aid researchers who prefer to use the book more as a resource than a text.

We take a broad and inclusive view of "second language" research. For this reason, our examples reflect concepts from a variety of perspectives in the second language field. The book is designed to address issues important for research in both second and foreign language settings, for child as well as adult

second language learning, for research on bilingual and multilingual learning, as well as the acquisition of third and subsequent languages. We have attempted to cast a similarly wide net in our coverage of topics; for example, we include research design issues that range from the use of highly experimental data elicitation tools, to qualitative concerns, as well as teacher-initiated research in classrooms. We also include topics of recent interest in the field, such as dealing with university, institutional, and school review boards that grant permission for data gathering from human subjects, including recent concerns about the replication of research. Although our goal is to acquaint readers with the basic issues, problems, and solutions involved in conducting second language research, we believe that some of the content of the book is also relevant to a wider applied linguistics context. In other words, some issues of design are common to many areas of applied linguistics research, even though the examples may not always be. We also recognize that some chapters might not be relevant to all courses on second language research. The book is designed so that chapters or parts of chapters can be skipped. The most obvious example is Chapter 2, which deals with obtaining consent and obtaining permission from institutional review boards. Not all countries or research contexts require stringent procedures, and sections of this chapter, while important for research in some parts of the world, are less relevant for research in other countries.

Although the book focuses specifically on issues of research design and methodology, we have included one chapter that focuses on introductory statistics. Because the field of statistics is so broad and has its own specialized texts and courses, we provide only a simple overview of some of the basic concepts in this area. For those who intend to conduct detailed statistical analyses, we recommend coursework, expert consultations, and other comparable means of learning about advanced statistics, including statistics textbooks. We do not include specific recommendations about particular statistics texts because the selection of the text depends on the focus of the research problem. Second language research can focus on educational or pedagogical practice or on theory building; it can address issues from a variety of perspectives, including psychology, sociology, linguistics, and bilingualism. We suggest that users of this book consult one of the many appropriate statistics books available.

It is always difficult to decide on the order in which to present information. One researcher's ordering of material and chapters might not coincide with the preferences of another researcher or reader. We have placed information on data gathering at the beginning of the book due to the fact that our experience in teaching research methods courses over the years has led us to believe that researchers need to think about where data come from at the outset of a project, and to think about how data are gathered before becoming immersed in some

of the more technical issues of design. In this book, then, issues of data gathering serve as an anchor for later chapters. Of course, when using the book as a text, we imagine that instructors will adapt the book and reorder chapters to match their particular syllabus and preference for presentation. For this reason, we have made sure, where possible, that each chapter can work as a stand-alone introduction to the area it covers.

We are grateful to many individuals for their support in this project that ended up, like most projects of this sort, having a longer history than we had originally anticipated. For both editions, we first thank the many students we have had in different classes over the years who have not hesitated to provide feedback on our various syllabi and our sequencing of materials, as well as the designs of our own research. The following individuals provided various kinds of invaluable assistance and feedback on the first edition, and we recognize them here: Rebekha Abbuhl, Rebecca Adams, Zoltán Dörnyei, Rod Ellis, Seon Jeon, Kendall King, Patsy Lightbown, Kimberly McDonough, Kara Morgan-Short, Jenefer Philp, Charlene Polio, Rebecca Sachs, Ildikó Svetics, Ian Thornton, and Harriet Wood. In this second edition, we were fortunate, once again, to have the invaluable input and help of our research assistants: Lara Bryfonski and Alex Marsters at Georgetown University, and Lorena Valmori at Michigan State University. Ina Choi of Michigan State University helped with NVivo examples. Luke Plonsky also helped with many parts of this revised edition. His input was essential in helping us to see how to present material better and even to help us better understand particular concepts. After many years of using this book in our own courses and hearing from students (and faculty) around the world, we have made adjustments to this edition based on their comments. Four external reviews of the first edition were commissioned, with extensive comments on the book, some dealing with ways to update the manuscript, some with ways to make things clearer, and some with ordering of material. You know who you are (we do not), and we thank you sincerely for your input. You will undoubtedly see your many helpful suggestions reflected in this edition.

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CHAPTER ONE

Introduction to Research

How do we identify good research questions? How do we answer them? What do we mean by research? These sorts of questions are not always easy to answer, but we anticipate that by the end of this book, you will be in a better position to think about them. The book is practical in nature, aimed at those who are involved in second language studies, second/foreign language instruction and researcher training, and in it, we aim to demystify the research process.

Oxford Dictionaries defines *research* as “*the systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions*” (www.oxforddictionaries.com/us/definition/american_english/research?searchDictCode=all, retrieved January 17, 2015). Thus, in its most basic and simplest form, research is a way of finding out answers to questions.

We are all involved in research every day. Let's think about what probably occurs as part of many of our lives—being stuck in a traffic jam. As we find ourselves not moving on a freeway, we ask why this has happened and come up with a hypothesis (because there is an accident ahead, for example, or because it is 5:00 p.m. on a Friday afternoon). We then seek verification of our hypothesis by waiting patiently (or impatiently) until the traffic starts moving again. If we see an accident, hear a radio report, look at live traffic on our GPS, or if we see the flashing lights of an emergency vehicle, we might be able to confirm or reject our hypothesis. In the absence of an accident, we might conclude that it must be typical rush hour traffic. In other words, every day we ask questions, come up with hypotheses, and seek confirmation of those hypotheses. Research, then, is not something to be wary of; it is not something that is done only in laboratories or controlled conditions. It is something that we do on a small or large scale every day. We can pose and (hopefully) answer questions of deep theoretical significance and we can also pose questions that assist us in our

daily lives. As teachers, research helps us think through problems that we face us with regard to our students and, as a consequence, helps us be more effective.

TIME TO THINK ...

Come up with two to three questions about language learning and/or language teaching that you have been puzzled about. Keep these in mind (or develop new ideas) as you continue to use this book.

In this chapter, we discuss the process of generating research questions and formulating hypotheses, and we outline what readers can expect from a typical research report. We conclude by discussing issues of feasibility and the importance of confirming findings, a process known as replication, in second language research.

1.1 RESEARCH METHODS

Research is not monolithic. That is, there is no single way to go about doing research. The way we approach our understanding of language learning will guide us in how we go about collecting information (data) to answer our questions. For example, there are numerous ways to think about second language learning (for example, there are a number of textbooks that cover the wide field of second language acquisition, such as Gass with Behney and Plonsky, 2013). Some researchers conceptualize language as consisting of a set of linguistic abstractions (mental representations). Learning a second language, then, involves learning a new set of mental representations with the focus being on language forms. These are often called formal approaches. Others view language as a sociocultural phenomenon with language learning based not only on internal linguistic factors, as in formal approaches, but on how language forms interact with external factors (contexts for learning). Still others are concerned with how second languages are processed. Are the mechanisms used when processing a first language the same as those used when processing a second? Each of these approaches (and others) will require different data sets to answer the questions posed. For example, in approaches where the social setting is important, context must be provided. In approaches where only grammatical forms are of concern, context is not a consideration. These general orientations influence the methodologies that are used. In the following section, we outline

two broad approaches to research that have received attention in the second language literature: quantitative and qualitative, and we also discuss mixed-methods studies, which use both. We believe that there is no perfect approach; there are strengths and weaknesses to all. What is important to recognize is that choices (and typically trade-offs) have to be made when conducting research. What is equally important to recognize is that whatever research method we choose, we need to justify using that particular methodology in light of our research question. In other words, the process of conducting research involves theoretical conceptualizations as well as practical considerations. These interrelated notions guide decision-making at all stages of the research process, as will become apparent throughout this book.

TIME TO THINK ...

If you have taken a course on second language acquisition (SLA), what theoretical approach do you align with to the greatest extent?

If you have taught language, what learning approach is most helpful to you in understanding how your students are learning?

1.2 DIFFERENT TYPES OF RESEARCH

As mentioned above, there are many approaches to dealing with research. Two of the most common are known as quantitative and qualitative, although this distinction is somewhat simplistic as the relationship is best thought of as a continuum of research types, and mixed-methods research involves elements of both. Quantitative research generally starts with an experimental design in which a specific hypothesis precedes the quantification of data with follow-up numerical analyses (e.g., a study comparing student test results before and after an instructional treatment). Qualitative studies, on the other hand, generally are not set up as experiments; the data cannot be easily quantified (e.g., a diary study in which a student keeps track of his or her attitudes during a year-long Japanese language course), and the analysis is interpretive rather than statistical. As mentioned above, this is rather a simplistic view because one can imagine a number of variations on this theme. In general, though, quantitative and qualitative research can be characterized as in Table 1.1 (see Reichardt & Cook, 1979).

In this book, we attempt to be as inclusive as possible and cover a variety of research orientations. In particular, we show in Chapter 9 how the types

TABLE 1.1 Characteristics of quantitative and qualitative research

<i>Quantitative Research</i>	<i>Qualitative Research</i>
• obtrusive, involving controlled measurement	• naturalistic and controlled observation
• objective and removed from the data	• subjective
• verification-oriented, confirmatory	• discovery-oriented
• outcome-oriented	• process-oriented
• reliable, involving "hard" and replicable data	• "soft" data
• generalizable	• ungeneralizable, single case studies
• assuming a stable reality	• assuming a dynamic reality
	• close to the data

represented in Table 1.1 are combined; in other words, these represent "pure" forms of these two research types.

Grotjahn (1987) points out that there are many parameters that can be used to distinguish between research types, including the type of data (quantitative or qualitative), the method of analysis (interpretative or statistical), and the manner of data collection (experimental or non-experimental [naturalistic]). He outlines six "mixed" forms (see Table 1.2).

TABLE 1.2 Six mixed forms of research

<i>Type of Research</i>	<i>Form of Data</i>		<i>Method of Analysis</i>		<i>Manner of Data Collection</i>	
	<i>Quantitative</i>	<i>Qualitative</i>	<i>Statistical</i>	<i>Interpretative</i>	<i>Experimental/ Quasi-Experimental</i>	<i>Non-Experimental</i>
Experimental-qualitative-interpretative		✓		✓	✓	
Experimental-qualitative-statistical		✓	✓		✓	
Experimental-quantitative-interpretative	✓			✓	✓	
Exploratory-qualitative-statistical		✓	✓			✓
Exploratory-quantitative-statistical	✓		✓			✓
Exploratory-quantitative-interpretative	✓			✓		✓

TIME TO DO ...

Part 1

Read the following abstract from Philp (2003, p. 99).

Interaction has been argued to promote noticing of L2 form in a context crucial to learning—when there is a mismatch between the input and the learner’s interlanguage (IL) grammar (Gass & Varonis, 1994; Long, 1996; Pica, 1994). This paper investigates the extent to which learners may notice native speakers’ reformulations of their IL grammar in the context of dyadic interaction. Thirty-three adult ESL learners worked on oral communication tasks in NS-NNS pairs. During each of the five sessions of dyadic task-based interaction, learners received recasts of their nontargetlike question forms. Accurate immediate recall of recasts was taken as evidence of noticing of recasts by learners. Results indicate that learners noticed over 60–70 percent of recasts. However, accurate recall was constrained by the level of the learner and by the length and number of changes in the recast. The effect of these variables on noticing is discussed in terms of processing biases. It is suggested that attentional resources and processing biases of the learner may modulate the extent to which learners “notice the gap” between their nontargetlike utterances and recasts.

Does this abstract seem more part of a quantitative or a qualitative study? In thinking about this, consider the following:

- Does the study have quantitative data?
- How are data analyzed?
- Were data collected experimentally?

Part 2

Read the following abstract from Willett (1995, p. 473).

This ethnographic report “thickly describes” (Geertz, 1973) the participation of ESL children in the daily classroom events of a mainstream first-grade classroom. Data for this paper come from a year-long study of one classroom in an international school on a college campus in the U.S. Using a language socialization and micropolitical orientation, the report describes how, through socially significant interactional routines, the children and other members of the classroom jointly constructed the ESL children’s identities, social relations, and ideologies as well as their communicative competence

in that setting. The sociocultural ecology of the community, school and classroom shaped the kinds of microinteractions that occurred and thus the nature of their language learning over the course of the year.

Does this abstract seem to describe a quantitative or a qualitative study? Consider the following:

- Does the study use naturalistic data?
- If so, of what sort?
- Does it provide an interpretative or a statistical analysis?
- Is there an experimental design?

Part 3

Look at a recent issue of one of the journals listed below. Consider the abstracts for two to three of the articles and determine whether they seem to be more quantitative or qualitative.

- *Studies in Second Language Acquisition*
- *TESOL Quarterly*
- *Language Learning*

What led you to that conclusion?

1.3 WHAT IS A RESEARCH REPORT?

In this section, we provide a guide for readers as to what to expect in a typical article in the field of SLA, focusing primarily on quantitatively oriented research articles. Unlike quantitative research reports where there is a relatively standard format for reporting, qualitative research articles are more wide-ranging in terms of organization (see Chapter 7, where we discuss qualitative research). Our goal is to give an idea of what to expect in a research report. To that end, below we present a basic skeleton of a research paper. Chapter 11 provides detailed information for researchers concerning the *writing* and *reporting* of their own research based on all of the areas covered in this book.

We now consider in more detail what might be included in each of these parts.

Typical research paper format

TITLE PAGE

ABSTRACT

BODY

I. Introduction

- A. Statement of topic area
- B. Statement of general issues
- C. General goal of paper
- D. Literature review
 1. Historical overview
 2. Major contributions to this research area
 3. Statement of purpose including identification of gaps
 4. Hypotheses

II. Method

- A. Participants
 1. How many?
 2. Characteristics (male/female, proficiency level, native language, etc.)
- B. Materials
 1. What instruments?
 2. What sort of test? What sort of task?
- C. Procedures
 1. How is the treatment to be administered?
 2. How/when is the testing to be done?
- D. Analysis
How will the results be analyzed?

III. Results

Charts, tables, and/or figures accompanied by verbal descriptions

IV. Discussion/Conclusion (often two separate sections)

Common features:

- Restatement of the main idea of the study
- Summary of the findings
- Interpretation of the findings in light of the research questions
- Proposed explanation of the findings, usually including information about any findings that were contrary to expectations
- Limitations of the study
- Suggestions for future research

NOTES

REFERENCES

APPENDICES

"The second edition of Mackey and Gass' *Second Language Research* is very welcome. The first edition was an excellent introduction for novice researchers. It was encompassing, theoretically-sound and full of practical examples. The second edition is even better. Like the first, it is extremely readable, but it is pleasing to see the additions to this edition, including the new chapter on mixed methods, which now figure increasingly in second language studies, and the 'time to think' and 'time and do' boxes, which encourage reflection on key points and suggestions for conducting actual research. This book will continue to be the obvious choice for an introductory research methods course in second language studies."

Rod Ellis, *University of Auckland, New Zealand*

"This revised volume, co-authored by two of the most prolific scholars in the field, provides an excellent foundation in SLA research methods. In addition to its coverage of various qualitative and quantitative approaches to research, it offers a substantial and timely discussion of mixed methods research and important ethical dimensions of scholarly inquiry."

Patricia A. Duff, *University of British Columbia, Canada*

In this second edition of the best-selling *Second Language Research*, Alison Mackey and Susan M. Gass continue to guide students step by step through conducting the second language research process with a clear and comprehensive overview of the core issues in second language research. Supported by a wealth of data examples from published studies, the book examines questions of what is meant by research and what defines good research questions, covering such topics as basic research principles and data collection methods, designing a quantitative research study, and concluding and reporting research findings. Supplementary materials, including an extensive glossary and appendices with helpful materials that students can use in conducting their own studies, serve as useful reference tools, with suggestions on how to get research published re-emphasizing the book's practical how-to approach. This second edition of *Second Language Research* is the ideal resource for understanding the second language research process for advanced undergraduates, graduate students, and professionals in Second Language Acquisition and Applied Linguistics.

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SECOND LANGUAGE ACQUISITION/APPLIED LINGUISTICS

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