

# Research Methods in Second Language Psycholinguistics

*Edited by*

**Jill Jegerski and Bill VanPatten**



Second Language Acquisition Research Series

# RESEARCH METHODS IN SECOND LANGUAGE PSYCHOLINGUISTICS

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First published 2014  
by Routledge  
711 Third Avenue, New York, NY 10017

and by Routledge  
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

*Routledge is an imprint of the Taylor & Francis Group, an informa business*

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*Library of Congress Cataloging-in-Publication Data*

Research methods in second language psycholinguistics / Edited by  
Jill Jegerski, Michigan State and Bill VanPatten, University of Illinois at  
Urbana-Champaign.

pages cm. — (Second language acquisition research series)

Includes bibliographical references and index.

1. Second language acquisition. 2. Psycholinguistics. 3. Linguistics—  
Methodology. I. VanPatten, Bill., editor of compilation. II. Jegerski, Jill.,  
editor of compilation.

P118.2.R474 2013

401'.93—dc23

2013025362

ISBN: 978-0-415-51825-3 (hbk)

ISBN: 978-0-415-51826-0 (pbk)

ISBN: 978-0-203-12343-0 (ebk)

Typeset in Bembo  
by Apex CoVantage, LLC

# RESEARCH METHODS IN SECOND LANGUAGE PSYCHOLINGUISTICS

This timely volume provides up-to-date overviews of methods used in psycholinguistic research with second languages. Included are chapters on self-paced reading and listening, textual eye-tracking, visual world eye-tracking, ERPs, fMRI, translation recognition tasks, and cross-modal priming. Each contribution is authored by an expert researcher who offers experienced insight into not only the history of the method, but what is measured, how it is measured, issues in research and stimuli design, and the pros and cons of the method. These contributions are bookended by an introductory chapter on various models and issues that inform psycholinguistic inquiry into second language learning, and a final chapter that offers comments on the various methods described in addition to issues related to research design. Intended as a text to be used with advanced undergraduate and graduate students, *Research Methods in Second Language Psycholinguistics* will be useful to researchers wishing to understand more about the various methods represented and how they are used to investigate psycholinguistic processes in the second language context.

**Jill Jegerski** is Assistant Professor of Spanish and SLATE (Second Language Acquisition and Teacher Education) in the Department of Spanish, Italian, and Portuguese at the University of Illinois at Urbana-Champaign.

**Bill VanPatten** is Professor of Spanish, Second Language Studies, and Cognitive Science at Michigan State University.

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# PREFACE

Although research on outcomes of second language (L2) learning (e.g., generative approaches, ultimate attainment) has made important contributions to the field of second language acquisition (SLA), what was and had been missing for some time is research on underlying processes and processing—that is, the psycholinguistics of L2 learning. The seeds for work on processing have their roots in early L2 research, but the psycholinguistics of SLA didn't really take off until the 1990s. Since then we have seen a steady increase in work related to input processing, sentence processing, output processing, lexical processing/retrieval, explicit/implicit processing, and other related areas. We have seen a steady increase in papers presented at conferences such as the Second Language Research Forum, as well as the emergence of conferences with a sole focus on the psycholinguistics of L2 learning. Journals such as *Studies in Second Language Acquisition*, *Language Learning*, and *Second Language Research* regularly publish papers with a psycholinguistics bent. And in doctoral programs in L2 studies, we have seen both regular courses and specialized seminars focused almost exclusively on the psycholinguistics of L2 learning. There has been, so to speak, a boom in psycholinguistic approaches to L2 learning in the last two decades.

Against this backdrop, the present volume was conceived. Its intent is to offer students of SLA an introduction to the various methods used in psycholinguistic (and neurolinguistic) research. With the exception of Chapter 1—which lays some foundational issues for the field of psycholinguistics in L2 research—and the final chapter—which assesses and comments on the various methods presented in the volume—the chapters in this book present the most current techniques and methods used to conduct psycholinguistic research in the L2 context. Each contribution is authored by a researcher or researchers with expertise in the particular



method under question, who can offer experienced insight into not only the history of the method, but what is measured, how it is measured, issues in research and stimuli design, and the pros and cons of the method. Each chapter follows the same structure and ends with discussion questions and potential research projects, thus offering the student a solid introduction to the field. The book may also be of use to more experienced researchers who are looking at different ways to approach L2 learning or who wish to critique work that uses these newer methods. It is our belief that within L2 research, psycholinguistic approaches will continue to grow and the research generated by them will contribute significantly to understanding L2 learning in its many facets. The present book, then, is one attempt to provide support for these endeavors.

# ACKNOWLEDGMENTS

Volumes of this sort require the talents and efforts of a number of people. To be sure, such a volume could not exist without the contributions made by the various experts who wrote the chapters. Enthusiastic about the proposal and its aims, they tackled their chapters dutifully and worked diligently to help us achieve a uniform and cohesive set of chapters that are related by structure and scope, but unique in content. They deserve the first thanks for the publication of this volume. We are of course indebted to the folks at Routledge, beginning with Ivy Ip (who has since left Routledge, but initially approached us about doing a book such as this one), and continuing with Elyse Preposi and Leah Babb-Rosenfeld, who saw the book through to the end. We also offer thanks to those “behind-the-scenes” people, who work on cover design, page setting, and all the other stuff that turns a manuscript into a book. They do important work. Finally, we thank our loved ones and those who have supported us not just during this project, but in our careers more generally. You know who you are.

# CONTRIBUTORS

**Nikos Amvrazis** (Ph.D., Aristotle University of Thessaloniki) is a teacher of Greek at the School of Modern Greek Language of Aristotle University of Thessaloniki. His main research interests are second/foreign language acquisition, research methods, and syntax. He is currently focusing on the role of formal features and interfaces in SLA.

**Paola (Giuli) E. Dussias** (Ph.D., University of Arizona) is Professor of Spanish, Linguistics and Psychology and Associate Director, Center for Language Science, at Pennsylvania State University. The research that she and her students conduct concerns bilingual sentence processing. Together with her students, she examines whether language-specific information is largely kept independent when bilinguals compute or *parse* an initial syntactic structure for the sentences they read, or whether information from one language influences parsing decisions in the other language. Her work, using sophisticated behavioral methods such as eye-tracking and more recently event-related potentials, has been supported by grants from the National Science Foundation (NSF) and the National Institutes of Health (NIH).

**Chip Gerfen** (Ph.D., University of Arizona) is Professor of Spanish and Linguistics and Chair of the Department of World Languages and Cultures at American University in Washington, DC. His monograph *Phonology and Phonetics in Coatzacoatzpan Mixtec* was published in the Studies in Natural Language and Linguistic Theory series, and his research has appeared in a range of journals, including *Language*, *Studies in Second Language Acquisition*, *Bilingualism: Language and Cognition*, *The Mental Lexicon*, *Language and Cognitive Processes*, as well as a number of

edited volumes. Broadly speaking, he is interested in cross-disciplinary research that bridges theoretical and experimental approaches to issues in language science.

**Jill Jegerski** (Ph.D., University of Illinois at Chicago) is Assistant Professor of Spanish and SLATE (Second Language Acquisition and Teacher Education) in the Department of Spanish, Italian, and Portuguese at the University of Illinois at Urbana-Champaign. Her primary research interests include non-native sentence processing, bilingual sentence processing, psycholinguistic research methods, near-nativeness in adult SLA, and heritage language instruction.

**Gregory D. Keating** (Ph.D., University of Illinois at Chicago) is Associate Professor of Linguistics and Second Language Acquisition in the Department of Linguistics and Asian/Middle Eastern Languages at San Diego State University. His research focuses on sentence processing in monolingual and bilingual speakers of Spanish and English.

**Michael J. Leeser** (Ph.D., University of Illinois at Urbana-Champaign) is Associate Professor of Spanish in the Department of Modern Languages and Linguistics at Florida State University. His research interests include input processing in second language acquisition, sentence processing in second language learners and bilinguals, and instructed SLA.

**Kara Morgan-Short** (Ph.D., Georgetown University) is an Associate Professor at the University of Illinois at Chicago. She holds a joint appointment in the Department of Hispanic and Italian Studies and the Department of Psychology and directs the Cognition of Second Language Acquisition laboratory. Informed by the fields of linguistics, cognitive psychology, and neuroscience, her research takes a multidimensional approach to elucidating the cognitive and neurocognitive processes underlying late-learned second language acquisition and use.

**Aaron J. Newman** (Ph.D., University of Oregon) is an Associate Professor in the departments of Psychology & Neuroscience, Psychiatry, Surgery, and Pediatrics at Dalhousie University in Halifax, Nova Scotia, Canada. His research interests surround neuroplasticity in the brain systems supporting language and hearing, including second language acquisition, sign language, aphasia, and cochlear implants. In his research he employs numerous techniques including fMRI, ERP, MEG, and behavioral methods.

**Despina Papadopoulou** (Ph.D., University of Essex) is Assistant Professor at the Department of Linguistics of the Aristotle University of Thessaloniki. Her research interests include language processing, second language acquisition, bilingualism, and language disorders.

**Leah Roberts** (Ph.D., University of Essex) is Professor and Leader of the Centre for Language Learning Research at the University of York. Her research focuses on second language learning and processing at the word, sentence, and discourse levels.

**Gretchen Sunderman** (Ph.D., The Pennsylvania State University) is Associate Professor of Spanish at Florida State University. Her research focuses on the bilingual lexicon, individual differences in lexical processing, and psycholinguistic approaches to second language acquisition.

**Darren Tanner** (Ph.D., University of Washington) is an Assistant Professor of Linguistics at the University of Illinois at Urbana-Champaign, where he directs the UIUC Electrophysiology and Language Processing Laboratory. His research uses behavioral and electrophysiological methods to study the cognitive processes underlying language comprehension in native speakers, L2 learners, and bilinguals.

**Ianthi Tsimpli** (Ph.D., University College London) is Professor of Multilingualism and Cognition at the School of Psychology and Clinical Language Sciences at the University of Reading, and Professor of Psycholinguistics and Director of the Language Development Lab at the Department of Theoretical and Applied Linguistics at Aristotle University of Thessaloniki. She teaches and researches in first and second language acquisition, bilingualism, psycholinguistics, and theoretical syntax.

**Jorge Valdés Kroff** (Ph.D., Pennsylvania State University) earned his Ph.D. in Hispanic Linguistics and Language Science at Pennsylvania State University. He is currently an NSF Minority Research Postdoctoral Fellow at the University of Pennsylvania. His research focuses on the cognitive and neural processes that support code-switching in comprehension and production.

**Bill VanPatten** (Ph.D., University of Texas) is Professor of Spanish, Second Language Studies, and Cognitive Science at Michigan State University. His research interests include second language morphosyntax, input processing, and instructed second language acquisition.

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# THE PSYCHOLINGUISTICS OF SLA

*Bill VanPatten*

## What is Psycholinguistics?

Psycholinguistics, as classically defined, is concerned with a broad array of issues involving language acquisition, language comprehension and production, and the processing of language in the mind/brain (Fernández & Cairns, 2011). This emphasis on use or process stands in contrast to linguistic theory, which is largely concerned with the characterization of language itself, including internal constraints on the nature of language (e.g., Universal Grammar [UG]) and how language is represented in the mind/brain of the individual (i.e., the nature of mental representation). If we take the case of null subjects in a language like Spanish, we can see the difference between the foci of linguistic theory and psycholinguistics. Languages like Spanish have both null and overt subject pronouns, such that both (1a) and (1b) are possible and acceptable as grammatical sentences, whereas languages like English only allow overt subject pronouns in the same context (2a) and (2b).

- (1)
  - a. Ella habla inglés.
  - b. *pro* habla inglés.
- (2)
  - a. She speaks English.
  - b. \**pro* speaks English.

Within linguistic theory, researchers are concerned with the properties of null and non-null-subject languages. They are interested in how the syntax licenses null subjects (e.g., the relationship between null subjects and verbal morphology),



universal constraints that govern the interpretation of pronouns (e.g., the Overt Pronoun Constraint), as well as possible relationships between null subjects and other parts of the grammar (e.g., subject-verb inversion). In short, linguists are interested in how a null subject such as *pro* operates in the grammar and what allows it to be there to begin with. Within psycholinguistics, researchers are not interested in the properties per se, but rather, for example, how null and overt subjects are interpreted during comprehension. In the examples that follow, both (3a) and (3b) are possible, but what do speakers of Spanish take as the antecedent of each pronoun (bolded for convenience here), given that there are two possible choices?

(3)

- a. Roberto llamó a Pablo después que ***pro*** regresó de México.
- b. Roberto llamó a Pablo después que ***él*** regresó de México.

“Robert called Paul after he returned from Mexico.”

There is nothing in the “linguistics” of null and overt subject pronouns that dictates to a speaker of Spanish whether Roberto or Pablo is the antecedent of either the null subject (*pro*) or the overt subject (*él*).<sup>1</sup> The field of psycholinguistics researches whether people have preferences for the interpretation of null and overt subject pronouns and what might be the reasons for these preferences.

We can take another example related to the lexicon. A speaker of English has the verb *die* encoded somewhere in the lexicon, and in the realm of linguistic theory researchers are concerned with the properties of that verb: its meaning (semantics), the relationship of semantics to structure (arguments such as whether the verb takes an agent, a patient, an experiencer, and so on), and how that structure projects into the syntax. In psycholinguistics, researchers might be concerned with how that verb gets accessed in real time comprehension or production; and if we are dealing with bilinguals, we might be concerned with the extent to which the two languages are activated during lexical retrieval. As a bilingual speaker of Spanish and English since my childhood, do I automatically activate both *die* and *morir* when speaking either language? At any given time, are both languages active? Does activation depend on language dominance? These are sample questions that those working within the psycholinguistics of the lexicon might ask.

In short, whereas linguistic theory is centered on representation, psycholinguistics is centered on processes and processing. But the division between representation and processes/processing is not always so neat. Clearly, when one is processing language, one has access to a mental representation of language (Gorrell, 1995; Pritchett, 1992). One of the hallmarks of theories on language comprehension is that as we understand a sentence, we automatically build syntactic structure during real time in order to comprehend that sentence. We also access the mental lexicon, which in turn is interfaced with the grammar of the language as suggested above. Let's suppose we hear or read the verb *examined*. The lexicon tells