PREFACE

At no other time in the history of education have teachers of languages been so knowledgeable about what to do in the classroom, or have had so many advanced tools at their disposal to help their students learn—from expertly-designed textbooks to technologically-sophisticated devices such as CD-ROMs. Yet, despite the many strides that teachers have made over the years, and notwithstanding the many sophisticated tools that they have at hand today, only a small fraction of students eventually achieve native-like proficiency at the end of a course of study. Why?

This question has bothered me throughout my professional life as a teacher of second languages. Disenchanted with existing methodologies, in the mid-1980s I ventured to seek insights from the domain of the neurosciences, thinking at the time that my theoretical adventure would probably turn out to be an unproductive one. To my surprise, it changed my view of learning drastically, allowing me to take charge of my classroom and to turn it into a veritable "field lab." Hence, the reason for this book. I have written it, simply, to communicate to my teacher colleagues the important pedagogical insights that I believe can be gained from an excursion into the neuroscientific domain.

Incidentally, my interest in the neurosciences brought me, in 1986, in contact with neuropsychologists and special education teachers working with brain-damaged children in Italy. From ensuing collaborative research on how to design teaching materials for such children, *Bimodality Theory* emerged—the view that the two primary modes of learning, the experiential and the analytical, must be activated in specific ways for such children (e.g. Danesi 1986 and D'Alfonso, Danesi, De Lellis, and Mastracci 1986). To my surprise, various Italian educators adopted Bimodality Theory shortly thereafter as a general framework for developing teaching curricula for handicapped children in school (D'Alonzo 1993). By the late 1980s, various second language teachers in Italy and North America started assessing the implications of Bimodality Theory critically for second language teaching in general (e.g. Lombardo 1988, Nuessel and Cicogna 1992, Pallotta 1993, Schenone 1994), and a number of doctoral students began investigating its principles empirically as potential constructs for second language acquisition (e.g. Arnò 1993, Curro 1995, Smor Forster 1995). Incidentally, when the term *bimodality* was proposed in 1986, I was not aware of the fact that it had already been in use among neuroscientists as a synonym for *Complementary Hemisphericity Theory* (e.g. Dunn 1985). I was also not cognizant of the fact that the term was employed by Laurence Ridge, a professor of mathematical education at the University of Toronto, five years earlier in 1981. Ridge's use of the term in that year was, to the best of my knowledge, the first time it was so utilized in the educational literature.

Bimodality Theory hardly stands alone as a "neuroscientifically-based proposal" for second language teaching. Interest among practitioners in brain research started, actually, in the late 1960s, right after linguist Eric Lenneberg published his widely-influential 1967 study, *The Biological Foundations of Language*, in which he put forward the hypothesis that there is a biologically-limited period for acquiring language that starts at birth and ends at adolescence. Neuroscientific research on the implications that Lenneberg's hypothesis had for the second language teaching profession at large was started almost immediately. Decades later, the time has come to ask ourselves if the fuss over the neurosciences has been worthwhile. Can knowledge about the brain truly inform not only the way we teach children with learning problems, but also the way we teach normal students in typical classroom situations? And what does it mean to say that a teaching approach is "brain-compatible?" These are the kinds of questions I will address in this book. However, from the outset I must make it clear that I will only *address* them, not attempt to *answer* them, simply because there is no empirical way to demonstrate that a specific teaching procedure is capable of activating a certain part of the brain—unless we put our students through a PET scan as we teach them something! And even if it could be shown that a certain part is activated, in response to a specific instructional stimulus, what would that truly mean, given that surprisingly little is known about the nature of the link between brain physiology and mental functions? Nevertheless, it is my cautious opinion that the foray into the neuroscientific domain on the part of practitioners in the last three decades or so has been a fruitful one. If nothing else, it has forced us to look more attentively and critically at the conditions we create in our classrooms and at the theoretical suppositions underlying new instructional practices or teaching syllabi proposed by educators. Good teaching is largely an art, and thus shaped mainly by hunches about what to do that come essentially from experience. But these hunches can certainly be confirmed or refined greatly by knowledge about how the brain acquires language.

I have used the manuscript of this book with prospective high school teachers of second languages over the last few years. Several of its parts are reworkings of previously-published research, supported by various grants from the Social Sciences and Humanities research Council of Canada, to whom I am very grateful. These have been integrated into the present book without hopefully compromising its coherence. Lacking from the present treatment are the actual data and the analyses of the studies that support Bimodality Theory. Readers can examine these first-hand themselves by consulting the relevant references in the bibliography provided at the back.

This volume has not been designed as a "research monograph," but rather as a "neuroscientific essay" on the principles that in my opinion should form the basis of "informed" second language teaching. I have written it with a particular *view* in mind—a *view* "from the right side of the brain," so to speak. Therefore, although it has all the typical features of other methodology books, such as historical accounts of language teaching trends, synopses of the main learning theories, overviews of suitable techniques, etc., it provides a different framework for *viewing* them.

I must warn readers from the outset about what not to expect from this book. First, they will not find in it an in-depth treatment of *neuroscience* or *neurolinguis-*

tics proper. Relevant introductory manuals in these fields are listed in the bibliography at the back, which contains not only cited works, but also those dealing generally with neuroscience and second language learning and teaching. Second, readers should not expect to find a prescription in it of how to teach a language methodically. Brain research is useful only in providing *insights,* not overarching *solutions*. I will, however, discuss in some detail the implications that Bimodality Theory would seem to hold in store for language teaching practices. Whether readers agree or disagree with any or all of my comments, is beside the point of this book. My only hope is that they will be stimulated by it to know more about brain-compatible second language teaching. That and that alone will have made its writing worthwhile, for I believe that such knowledge can form the basis for developing pedagogy that will lead to enhanced learning outcomes for students today.

I would like to thank my students at the Ontario Institute for Studies in Education, the University of Toronto, the University of Perugia, and the University of Lugano. Their critical responses to Bimodality Theory, along with the many enthusiastic classroom discussions that I have had with them over the years, have encouraged me to write this manual for a broader audience. A special thanks goes out to those teachers and researchers who have become interested in Bimodality Theory, and who have become both its most enthusiastic supporters and its most effective critics. The many suggestions they have made to me over the years have been incorporated into this book. I owe a special debt of gratitude to the late Thomas A. Sebeok and to Professor Albert Valdman of Indiana University for the unwavering support they have always given to my ideas, and for inviting me to synthesize them in book form. Most of the content of this book has, in any case, been inspired by their truly pivotal work in linguistics, education, and semiotics. As a graduate student at the University of Toronto in the late 1960s I came under the spell of their writings. These have left an indelible mark on my own research and writing.

Last but not least, I must thank my family, Alexander, Sarah, Lucia, Danila, Christopher, and Danilo for having been tolerant and patient with me as I worked on this book. I know I have been grumpy and absent-minded in the process. I dedicate this book to them.

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