Applying Language Science to Language Pedagogy

Applying Language Science to Language Pedagogy: Contributions of Linguistics and Psycholinguistics to Second Language Teaching

Edited by

Montserrat Sanz and José Manuel Igoa

CAMBRIDGE SCHOLARS PUBLISHING

Applying Language Science to Language Pedagogy:
Contributions of Linguistics and Psycholinguistics to Second Language Teaching,
Edited by Montserrat Sanz and José Manuel Igoa

This book first published 2012

Cambridge Scholars Publishing

12 Back Chapman Street, Newcastle upon Tyne, NE6 2XX, UK

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN (10): 1-4438-3572-2, ISBN (13): 978-1-4438-3572-5

To William and Elena,
from whom we stole many family moments
to produce this book

Table of Contents

List of Figures

List of Tables

Acknowledgements

This book is the result of a conference held in Segovia (Spain) in March of 2010. The conference, entitled *Advances in the Sciences of Language and Their Application to Second Language Teaching*, took place thanks to the collaboration of many people and institutions, in particular the Universidad Autónoma de Madrid, the Universidad Nacional de Educación a Distancia (UNED) in Segovia, the Spanish Ministry of Science and Innovation, and Segovia Municipal Tourism Bureau. We would like to express our deepest gratitude to Dr. Antonio López Peláez, Director of UNED Segovia, for his enthusiastic support in making the conference a reality. Also, this fruitful scientific encounter would have been impossible without the precious help of Claudia de Santos, Segovia's councillor of Tourism and Historical Heritage, Belén Peña González, manager of the Municipal Tourism Bureau, and Raquel Lucía Altance, of the same bureau. We also thank the researchers who kindly traveled from all over the world to participate in the conference, the audience who made it lively and interesting, and the people of Segovia, who in many ways made our stay there a delightful and unforgettable experience.

The book has been formatted with ReadSmart™ by Language Technologies, Inc. This is a special formatting that makes text more readable and leads to a more pleasant experience for the reader (see Chapter 4 of the book for a detailed description). The founder of the company that created the program, Thomas G. Bever, who is also one of our contributors, has generously provided with the opportunity to have this book be in itself a practical application of research in the Language Sciences. We sincerely thank him and the people from Language Technologies, Inc. who have made this possible, Chris Nicholas and Kristen Pruett, for their kindness and hard work. We are sure that the readers will be thankful as well.

And last, but not least, we wish to give our heartfelt thanks to Carol Koulikourdi, Amanda Millar and Soucin Yip-Sou, from Cambridge Scholars Publishing, for accepting our proposal to publish this book and for the help and guidance they have provided all along the process.

Chapter One

Second Language Development Is Not Linear

Montserrat Sanz and José Manuel Igoa

1.1 Introduction

Language teachers would find it difficult to fulfill their obligations merrily if they did not believe that students learn what they are taught. It is therefore understandable that, in spite of evidence that teaching and learning are two different things, teachers and educational systems hold on to this ideal and expect an almost linear progression in the students. Third year students of a language, if studious and motivated, are supposed to perform better than second year students, and so on. They are also expected to have learned the "basics of grammar" that were covered in the beginning stages. However, as any language teacher knows, students in their intermediate-advanced stages do not necessarily show such proficiency, at least with regard to some constructions and certain tasks.

To give an example, we have explored in detail the apparent stage of stagnation that we observe in third-year Japanese university students majoring in Spanish (Sanz and Fukushima 2003; Sanz, Civit, Rodríguez, Fukushima, Nishikawa and Miyamoto 2005; Sanz, Civit and Rodríguez 2005; Sanz and Civit 2007; Sanz, Rodríguez and Ramírez 2007). It was clear to us by observing spontaneous production (written and oral tasks) that third-year students' performance was at best the same as or even worse than that of their second-year peers. The phenomenon could be due to a simple overload of material and to an increase in the task demands that third-year students are expected to satisfy. In fact, that is what most people offered to us as an explanation. Nevertheless, we wanted to explore whether the seeming regression was a systematic process that could be explained on some theoretical basis. To that end, we applied

several tasks and techniques to gather data. We reasoned that, if the explanation rested on a simple saturation of information and demands, the errors should be mostly random and would probably differ depending on the task. On the contrary, what we found was that errors are consistent and systematic throughout subjects and tasks. For instance, students in their second year perform pretty accurately in their use of the copulas *ser* and *estar*. However, by their fifth semester (third year), the aspectual use of *estar* (*María está cansada*, "Mary is tired") virtually disappears from their written and oral production, whether spontaneous or elicited. It is precisely at that time that they start using the imperfect past tense.[1] The system of aspect is what seems to be at stake in this stage of learning. We hypothesized that students reorganize their internal system when new constructions bearing the same features appear in the input. The copula *estar* is incorporated first, and when the imperfect and other related aspectual structures[2] come into the picture, the learner must accommodate them into a coherent system, which may be the cause of the temporal regression stage. Even if this interpretation of the data is not accepted, the fact is that the learning process does not appear as clean as it should if what is covered in the beginning stages had been internalized and remained stable.

This is only one of many examples of lack of success at fulfilling teachers' and learners' expectations. Years of study are not a guarantee that mistakes will not be made on verb inflection, agreement features, use of articles, particles, prepositions, and so on. Unfortunately, practice does not make perfect in all cases: fossilization of grammatical features seems to be an almost unavoidable phenomenon in the process of acquiring a second language (see Han and Odlin 2006, for references and a collection of papers on fossilization). Furthermore, students who achieve fluency by living abroad oftentimes show stagnation of structural aspects or lack of acquisition of new grammatical knowledge (Nishikawa 2008; Wright 2010, 2012). At the same time, it is clear that progress

[1] Although this coincides with a clear avoidance of the past (they tend to stop using the past and produce sentences in the present or without conjugation), when they use the past, they are better than second-year students at using both past forms in Spanish, the imperfective and the preterite.

[2] For instance, the use of aspectual "se" (*Se le cayó*, "He dropped something", *Se lo comió todo*, "He ate everything up"), also shows a decline in accuracy in third-year students' production.

in the mastery of the language is not proportional to the length of the stay: a person who, after studying the language formally, stays in a target language country for one year, does not necessarily speak twice as well as one who has only spent six months, for instance. Likewise, long-term foreign residents' performance often leaves a lot to be desired. In sum, the truth is that, although most people communicate pretty well after a few years of learning a language seriously, the linguistic code is rarely completely broken. Most learners' second language discourse betrays their being foreigners through small grammatical mistakes that persist throughout the years.

On a brighter side, students do seem to acquire properties that are not in the input in an obvious way or that have not been explicitly taught (Nick Ellis 1994; DeKeyser 2003; Cook 2008, among others), and at times they show "spurts of learning" that appear to place them suddenly at a much more advanced stage than before. These phenomena reveal the existence of mental processes internal to students that occur in a parallel but independent fashion to the efforts of teachers.

In conclusion, learning a language, although idealized as a steady progress from a null state of knowledge to a certain level of mastery, is not a linear process, in contrast to teaching, which proceeds in a straightforward fashion: learning involves mental processes that are not currently reflected in teaching approaches. Overlooking this fact makes us puzzled or annoyed when a student in the advanced stages makes mistakes in structures that are covered in class in the beginning courses. A good way to explore and understand the non-linearity of the process is by turning to the Sciences of Language for deep insights about natural language grammars and about the human mind.

Most debates in teacher training courses concern teaching methods. For decades, the virtues or shortcomings of traditional *vs.* direct/audiolingual *vs.* communicative methods have dominated discussions in the field. Ironically, even though it is claimed that modern methods shift attention from the teacher to the student, these debates concern *teaching* and therefore are about the teacher. They are about how to maximize class time so that students' attention remains alive, hopefully leading to more learning. What seems to be missing in most of them, however, is a serious reference to the mental processes that occur during language comprehension and production in the learners.

There is an extensive literature on L2 acquisition and processing phenomena that has led to important insights and to a variety of models,

some inspired in linguistics and some in psycholinguistic facts, to explain the acquisition process (see Gass and Selinker 2001, and Saville-Troike 2006, for a review of these models; VanPatten and Williams 2007, for interesting discussions on how much each of them explains about the process; Johnson 2004, for an overview of the philosophies behind models of second language acquisition; and VanPatten 2003, for an excellent explanation of how to implement psycholinguistic research in language teaching and how to understand the SLA process as a dynamic one, consistent with what we argue for in this book). Many language teachers are familiar with these models, which are attempts to link theory and practice. However, the reality is that textbooks and pedagogical approaches do not usually incorporate these theories directly. Furthermore, language teachers in general are less familiar with linguistic and psycholinguistic discoveries that are not directly related to L2 acquisition but that could be of help in understanding the process and in designing better materials and approaches. In sum, more than half a century of theoretical linguistics and psycholinguistics studies that have given us an understanding of some of the features of human languages and the way they are processed, seems to have had little bearing on language teaching approaches or debates.

To name only one problem, debates about if and how to teach grammar usually leave the term "grammar" undefined and ignore what linguists know about the grammar of human languages. Most methods, if they include grammar, adhere to two trends: a) a descriptive style that refers to the final form and meaning of the sentence but ignores the real nature of the syntax/semantics interface; and b) a choice of structures based on functionalist criteria. This betrays other misconceptions pervasive in language teaching: 1) that the grammar of a language is what is visible in the utterances of that language; and 2) that carefully graded exposure to descriptive explanations about the form and function of utterances results in usable (*i.e.*, functional) knowledge of the rules that underlie the sentences of the target language.

Furthermore, most teachers endorse a method or another based on their intuitions. If the classroom is the realm of the teacher, it is natural to be constantly searching for activities that catch the students' attention and make the class time enjoyable. It is also easy to fall into an illusion of progress: our students seem to advance well because they appear to follow, and interact with, teachers in classes conducted in the L2. It is common to overlook that between the teacher and the students a "class

dialect" is created. Language teachers are used to filling in the discourse of the students. We forget that a successful communicative lesson can be successful for many reasons, and not necessarily because of the accuracy and richness of students' production. The unconditional nature of the teacher, who understands the students' discourse in spite of structural mistakes, is quite moving and works to keep the class going, but does not resemble the perception of the learner that society holds: mistakes by second language learners tend to be forgiven by native speakers and even found charming up to a point, but fossilization of certain grammatical features after a while is perceived by everyone as a failure on the part of the student.

This book and the conference that originated it (*Advances in the Sciences of Language and their Application to Second Language Teaching*, held in Segovia, Spain, in March of 2010), grew out of the conviction that the true concern of the teacher should not only be the classroom, but also—and foremost—the students' mind. Needless to say, the approach that teachers adopt, the interactions that they create in class, the organization of the material—factors that will be discussed in Part III of this book—are all the teacher's responsibility and affect the degree of success of the students. However, learning also involves mental processes that may follow a different course from that of the instruction provided to the learner. People seem to undergo stages of stagnation and regression as well as stages of great progress, suggesting that learning is affected by many factors. What the teacher teaches is only one of them.

The guiding idea of this book is that studying what is known to date about human languages and the mind is a necessary part of the education of language teachers. Furthermore, the future of successful language teaching lies in the realization that learning is not only a social activity that depends on the relationship between teacher and student, although this aspect of language pedagogy is essential. Learning is a mental process that can be described and understood, and therefore manipulated, by teachers to the benefit of the learner. Linguistics goes beyond the visible and explains the features that underlie human languages. Psycholinguistics unveils the processes that occur while humans process languages and explores which ones are language dependent and which ones are universal. The powerful combination of these sciences should allow us to devise a method of teaching second languages that maximizes effort and time. This book introduces some of the discoveries of these disciplines in an easy and pedagogical way, in order to encourage language

teachers to become researchers and transcend the visible. We do not boast of offering a comprehensive view or having answers to all problems that teachers face. Our modest objective is to point at a few places where reflection and research is needed in order to start applying the advances of the language sciences to the classroom.

1.2 Some L2 Development Issues In Relation To The Language Sciences

In what sense is the study of language a science? Traditionally, language studies were part of the Humanities. Grammars of particular languages have been described for two millennia. Sentence form, word morphology, phonemic distinctions, language genealogies and diachronic changes were the focus of study. This and the relation of languages with their literatures and culture constitute the Philological Studies. From the mid 20th century on, however, the focus shifted: the realization that language acquisition follows roughly the same steps independently of the language to be learned and that it happens in spite of biased and incomplete experience with the structures of the language led researchers like Chomsky to adopt a mentalist approach to the study of language.

From this perspective, language is seen as a faculty of the mind-brain or, as Chomsky likes to say, a "mental organ" or cognitive system that is instantiated in the brain of every speaker and designed to perform computations that relate sound to meaning (Chomsky 1986, 1998, 2006). This computational system follows a set of basic combinatorial operations that are thought to be universal (*i.e.*, the same across languages) and interfaces with other cognitive systems: that in charge of sound structure and pronunciation (the perceptual-articulatory apparatus), and a second one involved in inferential and reasoning activities (the conceptual-intentional system). From this division of labor among the three major cognitive systems involved in language, a very simple and elegant design of language emerges in which grammar, the computational apparatus that combines words and features into well-formed structures, assumes a central role. From this standpoint, the major aims of linguistics are to explain how this computational system is developed in the individual, especially with regard to the first language, and how it is put to use in understanding and speaking a language under real-time constraints.

As a consequence of this "biocognitive" shift in the focus of linguistics, long standing problems that have captured the interest of

researchers in the study of second language acquisition and processing have begun to be seen in a different light, and also a host of new problems have emerged. We will briefly enumerate some of the most significant ones in this section.

First and foremost, advances in the acquisition of a second language are now conceptualized in terms of the evolution of the learners' grammatical knowledge in the form of an "interlanguage" (IL), a construct intended to characterize the dynamical cognitive state of the L2 learner's grammar at particular stages of the learning process (Selinker 1972). A number of interesting issues in L2 research stem from the study of IL. First, it provides the opportunity to tell apart those elements of the learner's competencies in L2 that originate in the grammar of L1 from those that reflect general design properties of the language faculty that are not language-dependent. Also, asymmetries that are usually found between comprehension and production skills in L2 learners, with production lagging behind in most cases, may be understood in different ways within this framework: either as a result of an unequal development of, or access to, particular components of the IL across different linguistic tasks, or as a consequence of the dissimilar degree of the automaticity of L2 skills at specific processing levels (*e.g.*, speech perception, sentence parsing, lexical access in auditory comprehension, grammatical encoding in sentence production, lexical search in word production, and so on). A very important issue in this regard is the need to monitor and train the allocation of attention and memory resources during learners' performance of language tasks.

In addition, a crucial reason for the language teacher to assess the state of the students' IL at different stages of development is to find out the real impact of consciously represented knowledge about the L2 grammar (the so-called "metalinguistic abilities") in the shape of their IL, and the benefits and limitations of using these abilities in order to modify it (Bialystok 2004). What is at issue here is whether, or to what extent, conscious knowledge about the L2 grammar can be turned into effective procedures for language learning and processing. In this regard, it is of utmost importance to ascertain what explicit knowledge about the grammar of L2 should be taught and when it should be imparted. As we comment elsewhere in this book (see chapter two), we tend to teach grammar through rules of thumb, which more often than not are simplifications of the reality underlying the constructions. But even if it could be granted that the grammatical rules or principles

that are given to students are truly encoded in their knowledge of the L2 (of which there is abundant evidence to the contrary), it is very unlikely that they could be straightforwardly incorporated into their IL and smoothly and automatically applied in their performance by sheer practice. In this sense, it is important to consider the conception of grammar as a technical system of knowledge that functions in L2 development similarly to how scientific concepts work in other disciplines, as a semiotic mediation tool that shapes the mental growth of the learner. Chapters ten and eleven will delve in these issues.

Another point of concern for L2 language researchers is the state of activation of the L1 grammar and vocabulary in different tasks performed in L2 at different moments during L2 processing. It is widely known in the literature on language processing in bilinguals that even in communicative situations involving only one language—what is usually referred to as the "monolingual mode" in bilinguals—the bilingual's unattended language (be it L1 or L2) remains active and may eventually interfere (but also help, in some instances) in the subject's performance (Grosjean 1982, 2001; see also chapter five). This effect has been found to occur even in highly proficient bilinguals. It is important to bear in mind that, contrary to the usual expectation, the interference shows up in both directions between languages (*i.e.*, also from L2 to L1), and may come about at different levels or within different components of language (pronunciation, vocabulary, lexicon, syntax) (Gass and Selinker 2001). One obvious implication of this phenomenon for L2 teaching is that the teacher should not be too confident that only the L2 is engaged when using an L2 monolingual speech mode in the language classroom. This also stresses the need to seriously consider whether the same teaching method can be applied with the same results to speakers of different L1s, given that the L1 is always active and each particular L1 departs from the target language in different ways.

An old and also practical problem in L2 research and teaching is the question of how should individual differences be accounted for in theory and handled in practice (Segalowitz 1997). For practical reasons, language students are commonly classified in proficiency levels according to a number of measures. Over and above the adequacy of such measures, what matters for our present purposes is to determine whether there are significant commonalities across language learners at different stages in terms of learning strategies, processing routines and general patterns of IL competence, individual differences notwithstanding. Most importantly,

the concern is to find out what are the relevant dimensions of variation across individuals learning a foreign language that will enable researchers in L2 to draw meaningful generalizations. We are persuaded that linguistic and psycholinguistic theories and empirical studies will provide more helpful insights and reliable conclusions in this regard than commonsense intuitions and assumptions about these matters.

We will now turn our attention to a couple of issues that bear a more theoretical flavor, but which are nonetheless important for the explanation of language learning and the practice of language teaching. The first issue is concerned with the comparison of monolinguals and bilinguals (which includes foreign language learners at various levels of proficiency) in terms of the neurocognitive architecture that they possess subserving language processing in either language. By "neurocognitive architecture" we mean the set of cognitive resources and processes, and the arrangement of these processes in language comprehension and production tasks, as well as the neural substrates in which these tasks take place (Brown and Hagoort 2000). The assumption shared by most researchers is that the basic design of psycholinguistic processes devoted to understanding and producing speech is the same in monolinguals and bilinguals, which means that the basic comprehension operations of speech perception, word recognition, sentence parsing and syntax-to-semantics mapping on the one hand, and grammatical encoding, lexical selection and phonological encoding in production on the other, are similarly arranged and interrelated in both cases.

However, as we mentioned previously, there surely are differences in terms of the allocation of attention and memory resources, and thus in the degree of relative automaticity of these processes. These differences also show up in the relative involvement of neural structures from both cerebral hemispheres in linguistic tasks. A much debated subject in this connection is the hypothesis that the right (non-dominant) hemisphere is more involved in linguistic tasks performed in a second language in bilinguals, when compared to monolinguals in their native tongue, especially if they are late learners, not highly proficient in the second language or tested at early stages of L2 acquisition (Paradis 2004).The involvement of the right hemisphere also appears to be greater in people learning in natural—as opposed to formal or instructional—settings.

Strange as it may seem, the role of language processing in second language learning has been largely neglected in the studies of second language acquisition. In some of the chapters of this book, we have

attempted to amend this trend by underscoring the importance of processing issues in achieving a better understanding of how a non-native language is acquired.

The second issue we want to address builds on these observations concerning language processing. At the same time, it will help understand the rationale underlying the division of this book into its three major sections. One of the bedrocks of modern thinking in Psycholinguistics is the distinction between the lexicon and the grammar, conceived both as a major divide between two components of our linguistic competence (*i.e.*, the lexicon being the repository of representations about our conceptual knowledge and the syntax being the set of rules and procedures for combining those representations to form complex symbols bearing truth-conditional content), and as two distinct kinds of processes in language performance. Even though in linguistic theory the boundaries between the lexicon and grammar have become more and more blurry in the last decades (see chapter six), the point is that the difference between lexical and grammatical (or syntactic) knowledge and processing lies not only in the kinds of information contained in these two components of language, but most principally in the kinds of *operations* that are performed in each component and the psychological reality that may be ascribed to them. In other words, the literature on processing has kept these two components of language separate, since they may involve different processing systems. Thus, it has been claimed that the lexicon works under associative operations that retrieve symbols from memory, while syntax follows combinatorial operations that put together these symbols in order to build complex structures. We adhere to that division in this book for clarity of exposition.

There is ample psychological evidence of this separation of associative *vs*. combinatorial processes both within and outside the domain of language. In fact, each of these processes forms the basis of two different memory systems with separate and partially overlapping neural structures (Ullman 2004). The *declarative* system is responsible for explicit associative learning of various types, and rests in neural circuits located in the superior temporal lobe (including Wernicke's area in the left hemisphere) and extending subcortically to the medial temporal lobe (hippocampus). Its major function is the storage of information about facts and events, including word-meaning pairings. The *procedural* system, in turn, is engaged in implicit learning of motor and cognitive skills involving sequences (as in phonology and syntax in the language domain), and lies in neural

pathways connecting the subcortical structures of the basal ganglia with areas of the left inferior frontal lobe (Broca's area), the left superior temporal lobe (where it overlaps with the declarative memory circuit), and parts of the parietal lobe and the cerebellum. This system is also involved in the selection and mapping of information of various kinds in working memory.

A most outstanding fact about these two memory systems with regard to language acquisition is that each one follows a different developmental timing: the declarative system shows an early and rather abrupt onset and a steady evolution in life, which concurs with the fact that word learning begins relatively soon in ontogenetic development and progresses steadily through adulthood, while the procedural system is characterized by a later and more gradual development, being restricted to a relatively narrow time-window. This accounts for the well-known evidence of a slower pace of development of syntactic abilities in first language acquisition and a reduced capability of developing phonological and (to a lesser extent) syntactic skills when learning asecond language beyond a sensitive period in childhood (Harley and Wang 1997). These differing developmental patterns may also account for the tendency observed in some late second language learners to use more declarative-like strategies in performing grammatical tasks, whereby they resort to the retrieval of ready-made linguistic units from memory (*i.e.*, overlearned expressions composed by large chunks of unanalyzed material), instead of constructing complex linguistic expressions online by means of combinatorial processes, as more skilled learners and native speakers regularly do (Robinson and Ellis 2008).

It is important to bear in mind that the division of linguistic labor between the retrieval of lexical forms or meanings from memory and the construction of phrases, clauses and sentences by means of syntactic processes does not correspond neatly to the distinction between the lexicon and syntax as traditionally described in linguistics textbooks. In the chapters included in parts I and II of this book, the reader will often find that lexical representation and processing on many occasions involve combinatorial operations, and conversely, that syntactic encoding operations also include the retrieval of phrasal templates directly from memory. This only attests to the fact that the boundaries between language components as seen from the outside do not necessarily correspond to the inner, non-visible arrangement of these components in the mind-brain of language users.

As a corollary, it is nowadays unquestioned that the goal of language teaching is achieving communicative mastery and grammatical accuracy in the performance of learners. To this, we would like to add two important objectives: shortening the length of the process and lessening the hardship of learning a language. In the immediate future, most world citizens will need to master several languages throughout their lives while pursuing other professional careers. They will not have the time or resources to undertake long learning processes that more often than not lead to unsatisfying results. Luckily, the mind and the structure of natural languages have been and continue to be explored from a scientific point of view, and hence it is possible to draw on such knowledge to accomplish efficiency. So far, most teaching methods have been shaped according to their objectives: accuracy in direct and audiolingual methods (leading to repetition of decontextualized correct examples), fluency and communicative competence in communicative approaches (leading to engaging activities in which the L2 is used as a tool). From now on, different perspectives can be applied. Even though debates continue in all aspects of human language research, defining the features of language, describing the L1 and L2 at an abstract level, understanding processing mechanisms, and identifying personal traits are now available to us to a reasonable degree of practical application. In this book we suggest a few places where careful study and more empirical research could lead to a better use of the teachers' and the students' efforts and time.

1.3 Structure Of The Book

The book is divided into three parts, each of which starts with a chapter by the editors explaining the major themes at issue and describing briefly the chapters by contributors. Contributors have made an effort to link their data to second language teaching, but it is mostly in the editors' chapters that this is done explicitly. Parts I and II deal with learning as a mental process in which non-visible parts of grammar play a role. They present issues in linguistic and psycholinguistic research that are of relevance to L2 teaching. Part I, in particular, deals with syntax and sentence processing, and consists of four chapters. Chapter two by the editors gives some examples that serve to introduce the other three chapters in this part of the book, all of which lead the reader to the realization that some important aspects of languages are not always visible in constructions. It is important to note that sentences and discourses are

the final product of the combination of several factors, features and mental mechanisms that lie behind**.**

Part II of the book presents issues related to the linguistics and psycholinguistics of the lexical component. After the chapter by the editors, three chapters discuss theoretical and practical issues concerning the structure and the acquisition of vocabulary. As in part I, the goal is to get the reader to realize that lexical items are in themselves complex pieces of syntactic knowledge and that much more than basic meanings must be acquired by language students if they want to avoid persistent syntactic problems.

Finally, Part III, also consisting of four chapters, deals with the institutional and social aspects of learning a second language. This part tries to unite the contents of Parts I and II, devoted to reviewing relevant facts about the mental processes related to language, with actual teaching in a classroom. This is carried out by discussing Socio Cultural Theory, analyzing the Communicative Language Teaching approach and by pointing out the new multilingual character of the world cities, which has changed the reality of what is usually termed "foreign language learning".

Our overall objective is to spark the curiosity of language teachers towards fields that cannot continue to be ignored when teaching languages. While we cannot claim to have solutions for the current challenges that concern and often overwhelm teachers, we would like to start a fruitful dialogue with our readers about the important aspects of human languages and the human mind that might lead to better teaching practices in the future.

References

Bialystok, Ellen. 2004. *Bilingualism in development: Language, literacy and cognition.* Cambridge: Cambridge University Press.

Brown, Colin M. and Peter Hagoort. 2000. *The neurocognition of language.* Oxford: Oxford University Press.

Chomsky, Noam. 1986. *Knowledge of language*. New York: Praeger.

—. 1998. *On language: Chomsky's classic works, Language and responsibility and Reflections on language in one volume.* New York: New Press.

—. 2006. *Language and mind*. 3rd ed. Cambridge: Cambridge University Press.

Cook, Vivian. 2008. *Second language learning and language teaching*. 4th ed. New York: Oxford University Press.

DeKeyser, Robert. 2003. Implicit and explicit learning. In Catherine J. Doughty and Michael H. Long (eds.), *The handbook of second language acquisition*, 313-348. Oxford: Blackwell.

Ellis, Nick C. (ed.). 1994. *Implicit and explicit language learning*. San Diego, CA: Academic Press.

Gass, Susan M. and Larry Selinker. 2001. *Second language acquisition. An introductory course*. London: Lawrence Erlbaum.

Grosjean, François. 1982. *Life with two languages: An introduction to bilingualism*. Cambridge, MA: Harvard University Press.

—. 2001. The bilingual's language modes. In Janet Nicol (ed.), *One mind, two languages*, 1-22. Oxford: Blackwell.

Han, ZhaoHong and Terence Odlin (eds). 2006. *Studies of fossilization in second language acquisition*. Clevedon: Multilingual Matters.

Harley, Birgit and Wenxia Wang. 1997. The Critical Period Hypothesis: where are we now? In Annette M.B. De Groot and Judith F. Kroll (eds), *Tutorials in bilingualism: Psycholinguistic perspectives*, 19-52. Mahwah, NJ: Lawrence Erlbaum.

Johnson, Marysia. 2004. *A philosophy of second language acquisition*. New Haven, CT: Yale University Press.

Nishikawa, Naoko. 2008. *Problemas persistentes en la producción oral de los estudiantes avanzados de español: Un estudio experimental sobre universitarios habantes de japonés*. Unpublished thesis, Kobe City University of Foreign Studies.

Paradis, Michel. 2004. *A neurolinguistic theory of bilingualism*. Amsterdam: John Benjamins.

Robinson, Peter and Nick C. Ellis. 2008. Conclusion. Cognitive linguistics, second language acquisition and L2 instruction –issues for research. In Peter Robinson and Nick C. Ellis (eds.), *Handbook of cognitive linguistics and second language acquisition*, 489-545. New York: Routledge.

Sanz, Montserrat, Roger Civit, Santiago Rodríguez, Noritaka Fukushima, Takashi Nishikawa and Masami Miyamoto. 2005. *Hacia un método más eficaz del español para hablantes de japonés* (Yori yoi Supeingo kyouiku-wo mezashite). Kobe City University of Foreign Studies. *Annals of Foreign Studies* 65.

Sanz, Montserrat, Roger Civit and Santiago Rodríguez. 2005. The "Spiral Effect" in the L2 acquisition process: a study of Japanese native

speakers learning Spanish. Poster presented at the 5th International Symposium on Bilingualism, Barcelona.

Sanz, Montserrat and Roger Civit. 2007. The *Poverty of the Stimulus* in L2 acquisition or the struggle between (implicit) hypothesis-making and (explicit) reasoning. Talk delivered at the Japanese Society for the Language Sciences Conference.

Sanz, Montserrat and Noritaka Fukushima. 2003. *Studies on the acquisition of Spanish by native speakers of Japanese*. Kobe City University of Foreign Studies. *Annals of Foreign Studies* 57.

Sanz, Montserrat, Santiago Rodríguez and Danya Ramírez. 2007. Top-down and bottom-up knowledge in L2 acquisition. A case study of Japanese speakers learning Spanish. Talk delivered at the Japan Second Language Association Conference.

Saville-Troike, Muriel. 2006. *Introducing second language acquisition*. Cambridge: Cambridge University Press.

Segalowitz, Norman. 1997. Individual differences in second language acquisition. In Annette de Groot and Judith Kroll (eds.), *Tutorials in bilingualism: Psycholinguistic perspectives*, 85-112. Hillsdale, NJ: Lawrence Erlbaum.

Selinker, Larry. 1972. Interlanguage. *International Review of Applied Linguistics* 10: 209-241.

Ullman, Michael T. 2004. Contributions of memory circuits to language: The declarative-procedural model. *Cognition* 92: 231-270.

VanPatten, Bill. 2003. *From input to output. A teacher's guide to second language acquisition*. New York: McGraw Hill.

VanPatten, Bill and Jessica Williams. 2007. *Theories in second language acquisition. An introduction*. New York: Routledge.

Wright Clare. 2010. Variation, asymmetry and working memory in the process of second language acquisition. In Kate M. Franich, Katie Iserman and Lauren L. Keil (eds.), *Proceedings of the 34th Annual Boston University Conference on Language Development*, 468-479. Boston, MA: Cascadilla Press.

—. 2012 (Submitted). Why I still can't questions? –An investigation of formal and cognitive factors in L2 English question formation. In Melinda Whong, Kook Hee Gill and Heather Marsden (eds.), *Universal grammar and the second language classroom*. New York/Berlin: Springer.

Part I:

Syntax and Syntax Processing