

## PSYCHOLINGUISTICS: IMPLICATIONS FOR THE CLASSROOM

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Between 2016 and 2018, Augusto Buchweitz and I were in charge of the Psycholinguistics Working Group, one of the largest working groups of the Brazilian National Association for Graduate Studies and Research on Letters and Linguistics (ANPOLL)<sup>1</sup>. Working groups of ANPOLL are responsible for promoting the development of thematic lines of research within the field of knowledge to which the working group is related. Based on a two-year plan, the members of a working group implement a series of initiatives with the ultimate aim of fostering research on a theme that is considered relevant to the development of the field. In the period we served as coordinators of the Psycholinguistics Working Group, the theme addressed was Psycholinguistics and Education, and our aim was to reflect on how our science could contribute more directly to the resolution of educational problems, especially those related to language learning and development. The idea to edit this thematic volume originated in that context.

The present issue of *Ilha do Desterro* is one of the many outputs of our engagement with the belief that knowledge about the cognitive and neurocognitive underpinnings of language acquisition and processing can contribute in important ways to the work of teachers and other agents who, within the school context, aim at the development of linguistic competence. This thematic issue of *Ilha do Desterro* attracted a good number of submissions and, after a meticulous process of selection, we are proud to present 19 articles which, on sound psycholinguistic theoretical and empirical grounds, address topics that are immediately relevant to language teaching and learning and provide significant implications for the classroom.

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The issue opens with the article Mother-tongue education, linguistic variation and language processing, in which Mercedes Marcilese, Cristina Name, Marina Augusto, Daniele Molina and Raiane Armando tackle the issue of language processing in sociolinguistic variation. Based on evidence from experiments testing the comprehension and production of verbal agreement and anaphoric forms in direct object position--two linguistic aspects that show high variation in Brazilian Portuguese--the authors show that exposure to formal education is an important factor in speakers' degree of awareness of the rules of the standard dialect.

The intersection between sociolinguistic variation and early reading instruction is the main topic of the paper titled Reading aloud: linguistic variation and the success in reading early learning, contributed by Raquel Meister Ko. Freitag and José Junior de Santana Sá. Reporting the results of a study in which they describe the reading profile of 3rd graders, Freitag and Sá claim that children who present variable features of speech when reading aloud cannot be considered unsuccessful readers. In their study, features of speech were present only in proficient and word-to-word types of reading, and were produced only by students who reached high levels in the reading aloud task. Freitag and Sá suggest that teachers can use reading aloud tasks to detect cues regarding the development of decoding skills in children.

In Learning to read and write in light of genetic psycholinguistics, Maria da Graça L.C. Pinto introduces the fundamentals of genetic psycholinguistics to discuss the acquisition of literacy. In the perspective of genetic psycholinguistics, special emphasis is given to the cognitive development that underpins oral and written language. Pinto presents a battery of tests designed to determine whether a child is ready to start learning how to read and write, and based on the notion that an understanding of how children become literate requires knowledge of the cognitive, neurocognitive and social foundations of this process, she claims that successful acquisition of reading depends on sound policies directed to pre-school learning as well as on the interaction between families and school.

With clear recommendations for educational policies, the article The effects of cognitive training on executive functions and reading in typically developing children with varied socioeconomic status in Brazil, contributed by Weissheimer, Fujii and Souza, offers psycholinguistic-based evidence of a general effect of low socioeconomic status (SES) on children's executive functions and reading performance. Their results show, in addition, a positive effect of near-transfer in the case of executive functions, and a positive effect of far-transfer in reading speed, which indicates that systematic training of cognitive processes can affect performance of complex tasks positively.

The influence of SES and academic performance in the language production of 6th graders is explored in the study Variation under a psycholinguistic perspective: number agreement in Brazilian Portuguese and the impact of schooling, carried out by Ana Paula S. P. Jakubów and Letícia M. Sicuro Corrêa, on number agreement in Brazilian Portuguese (BP). Their results show that

sensitivity to standard and nonstandard varieties of number agreement in BP increases as a function of academic performance and that schooling may attenuate SES differences found during preschool.

Sabrina Lopes dos Santos, Daniela Cid de Garcia and Marcus Maia report the results of a study titled Logical-inferential relations in the use of connectives *porque* and *já que*: a comparative study between Elementary and Undergraduate Education, in which they investigate the use of the connectives *já que* and *porque* in sentences with inferential causal relations established through inductive and deductive logical reasoning in two groups of participants: undergraduates and 9th graders from a public school. Their results show that in indirect cause relationships, individuals with experience in reading tend to choose *já que*, whereas those with less experience tend to choose *porque* both in direct and indirect cause relations. Santos and collaborators claim that reading experience has an effect on our ability to interpret sentences.

In the article Reading prediction and textual awareness: a study with primary school students, Danielle Baretta and Vera Wannmacher Pereira investigate the role of prediction and textual awareness in reading comprehension in a group of 6th grade students at a public school. Based on their results, Baretta and Pereira claim that L1 reading comprehension strategies must be a permanent topic in teachers' reading class plans, given that the effective use of these strategies is hard to detect even in more advanced learners.

Iconicity as a provisional reading strategy used by children during the pre-literacy phase is the subject addressed in the article The effects of iconicity on pre-literacy: a psycholinguistic study of written word-figure matching, by Isadora Rodrigues de Andrade, Ana Luiza H. Tinoco Machado and Anieli Improta França. Their study shows that the use of iconicity as a mechanism to establish relationships between words and their referents persists even after formal exposure to literacy. This finding has important implications for the selection of methods of early reading instruction.

Moving the focus from learners to teachers, in The role of question formulation during the shared reading of books in childhood education, Aline E. Pereira, Rosângela Gabriel and Laura M. Justice investigate the use of questions by preschool teachers during shared reading of books with their students. Pereira et al. show that teachers tend to prefer basic questions over complex questions in this reading activity. Given that complex questions contribute to the cognitive and linguistic development of children, the authors highlight the importance of controlling the distribution and frequency of types of question in a shared reading activity with preschoolers.

In A study of diacritical marks in writing acquisition: orthography and phonology, Luanda Alvariza Gomes Ney and Ana Ruth Moresco Miranda investigate the criteria adopted by public school 3rd and 5th graders as regards the function of diacritical marks in the Brazilian Portuguese writing system. Their results indicate that children draw on their linguistic knowledge, rather than on knowledge of the writing system, as the main source of information regarding

the use of diacritical marks. Children's criteria include acoustic as well as graphic aspects of the words. Ney and Miranda suggest that in early reading instruction, more attention should be given to the functional aspects of these signs.

Atypical language development is addressed in the paper *Developmental dyslexia: a condensed review of literature*, presented by Belavina-Kuerten, Mota and Segaert, who present a condensed review of literature on developmental dyslexia. The review highlights historical aspects of the research on this language-based reading disorder, discusses criteria that are crucial for a valid and operational definition of developmental dyslexia and presents four major theories that offer explanations for the disorder.

In *Public early literacy policies*, Leonor Scliar-Cabral offers a critical analysis of two Brazilian national documents on early literacy public policies—the Common National Curricular Base (BRAZIL, MEC 2017) and the decree 9.765 of April 11, 2019, which establishes the National Literacy Policy. Drawing on the results of a successful experience in early reading instruction based on the Scliar Early Literacy System, the author [she] explains why the lack of knowledge about advances in sciences such as linguistics, psycholinguistics, and cognitive neuroscience leads to failure in early literacy instruction.

The next group of studies address L2 learning. Elena Ortiz-Preuss, in the article *Psycholinguistics of bilingualism: implications in formal processes of language acquisition*, discusses the interaction between contextual and individual variables in the acquisition and use of L2, focusing particularly on formal contexts of acquisition and on associations between attention and working memory systems and the performance of bilinguals in their L2. Preuss argues that cognitive individual differences can affect pedagogical approaches and, therefore, should be taken into account in the study of L2 learning in instructional contexts. Also in a conceptual perspective, Felipe Flores Kupske, in *The impact of language attrition on language teaching: the dynamics of linguistic knowledge retention and maintenance in multilingualism*, draws on the Dynamic Model of Multilingualism and the Threshold Hypothesis to explore the implications of L2 attrition research for language teaching and thus contribute to better informed language practices and policies.

In *The negative evidence hypothesis: the acquisition of the double-object construction by Brazilian-Portuguese English bilinguals*, Candido Samuel Fonseca de Oliveira and Alberto Gallo Araújo Penzin test the Negative Evidence Hypothesis by investigating bilinguals' sensitivity to restrictions of the double-object construction in English as L2. In two experiments, they show that bilinguals tend to gain greater sensitivity to licensed and unlicensed sentences as their proficiency in the L2 increases but, even at high proficiency, late bilinguals are not as sensitive as native speakers to violations that result from the overgeneralization of an L2-specific rule. In *When knowing a grammar rule makes L2 users non-native-like*, Clarice Fernandes dos Santos, Ricardo Augusto de Souza and Larissa Santos Ciríaco investigate the effects of transfer of training in late Brazilian Portuguese-English bilinguals, compared to native speakers, in

relation to their processing of the English causative-have construction. The results of two experiments indicate that the grammatical rule learned by bilinguals is transferred only when there is time to implement the rule—in the case of the experiments carried out, the rule of causative-have was not automatized or implicitly learned. Together, these two articles provide psycholinguistic-based evidence that the quality of representation and processing of syntactic structures in late L2 learners differs from that of native speakers in substantial ways, which poses challenges to pedagogical practices in the classroom context.

In the article Long-term effects of perceptual training on the perception and production of word-initial voiceless stops by Brazilian learners: implications for pronunciation teaching, Ubiratã Kickhöfel Alves and Felipe Rodrigues Kampff discuss L2 phonological acquisition by showing, based on experimental evidence, that besides awareness-raising tasks on phonetic-phonological aspects of the L2, adult learners also need to be given perceptual training and that a combination of these two elements in addition to continuous exposure to target forms can foster development of pronunciation skills.

Also addressing L2 learning and drawing on the conceptual framework of task-based teaching and learning, in “Hang on a sec, teacher”: collaborative and individual strategic planning as a means to perform L2 oral tasks at a public school, Rafael Zaccaron, Donesca Cristina Puntel Xhafaj and Raquel Carolina Ferraz D’Ely focus on the effects of strategic planning on L2 speech production of high school learners in the public school context. Zaccaron and collaborators show that this young population can benefit from strategic planning to improve L2 speaking and, therefore, they recommend the adoption of oral tasks that include this metacognitive strategy as a means to modulate the attentional demands of speech production in the L2.

The section on L2 learning and processing closes with a study of Hunsrückisch, a German-origin minority language spoken in Brazil. In Phonemic awareness in an oral German-origin Brazilian Language: A study of Hunsrückisch and German bilinguals, Bernardo K. Limberger, Aline Fay de Azevedo, Evelyn C. Ferstl and Augusto Buchweitz investigate the role of phonemic awareness in German and its association with Hunsrückisch, a predominantly spoken language. Their results show faster, more accurate performance in the phonemic awareness task among participants who spoke Hunsrückisch and German, relative to those who spoke Hunsrückisch only. Limberger and collaborators, therefore, provide further evidence in favor of the notion that the development of phonemic awareness is associated with literacy in the specific language.

Together, the articles in this collection enhance the visibility of the various research areas within psycholinguistics and highlight the potential of this field of knowledge to interact with educators. *Ilha do Desterro* is a journal primarily dedicated to studies on English Language, Literatures in English, and Cultural Studies. Strictly speaking, various articles in the present volume do not fit into this description of the journal. Therefore, we would like to express our gratitude to the editorial team for their generosity and wisdom in allowing *Ilha do Desterro*

to serve as a vehicle for the dissemination of scientific knowledge in ways that, at first sight, extrapolate the mission of the journal. We believe, however, that the intellectual exercise of demonstrating the social impact of the research one does is worth the costs, especially in an era of attacks on science and expertise sidelining. We are also very grateful to the authors of the selected articles for their rich contribution to this volume. As editors in charge of this thematic issue, we wish the audience a pleasant reading experience. As scientists, we hope the insights offered here can inspire and encourage further research on the contributions of psycholinguistic evidence to education.

#### Note

1. Associação Nacional de Pós-Graduação e Pesquisa em Letras e Linguística (<http://anpoll.org.br/>).