

Book review

Neurolinguistic and Psycholinguistic Perspectives on SLA. Janusz Arabski and Adam Wojtaszek (Eds.) (2010). Bristol: Multilingual Matters, 208 pp., ISBN: 978-1-84769-241-2.

This book edited by Arabski and Wojtaszek presents a selection of neurolinguistic and psycholinguistic perspectives on foreign language learning and second language acquisition (SLA). The aim of this book is to discuss selected aspects of current research, raise interest in both disciplines and suggest directions for future studies. This volume is a collection of twelve chapters and is divided into two sections: *Part one* is devoted to the neurolinguistic perspective and *Part two* addresses the psycholinguistic aspects of foreign language learning and SLA. *Part one* consists of five chapters and *Part two* comprises the remaining seven chapters of the book.

In the opening chapter van den Noort and colleagues discuss the contribution of the non-invasive neuroimaging techniques to research on the Critical Period Hypothesis (CPH). A detailed description of studies is provided and the focus shared between functional and structural magnetic resonance imaging (MRI). Event-related potential studies (ERP) and positron emission tomography (PET) are also mentioned. The authors highlight the inconsistency of functional MRI results and aim to provide the reasons for the existing data discrepancies. The authors present the description of studies relating to tracking structural changes in L2 acquisition (structural MRI), especially between young and old learners; they also present up-to-date research devoted to locating the brain regions responsible for L2 acquisition. The authors suggest combining functional and structural MRI for future studies – stressing that until explicit results are obtained, the CPH cannot be ruled out from a scientific point of view.

In chapter two Reichle discusses information structure (IS) in French in order to possibly offer evidence for the existence of the CPH. The author raises a question of whether there are age-related effects in the processing of IS errors among L2 speakers. Existing definitions of the CPH are presented and differences between them discussed. Reichle describes the Behavioural Study which measures the ability to spot the anomalies of disturbed IS in French sentences. The author summarises the study results and their contribution to the CPH. IS judgement task proficiency is reported to decrease as the age of acquisition increases.

Chapter three is devoted to developmental dyslexia. Nijakowska provides a definition of the key term prior to focusing on neuroanatomical substrates of the disorder. Dyslexic brain anatomy and function are discussed. The existence of functional deficits in phonological processing, as well as certain dysfunctions of the visual and auditory departments, are said to be linked to dyslexia. The Organic Theory is mentioned as providing a possible account for the disorder, so is the existence of subtle developmental abnormalities in dyslexic brains – including the presence

of ectopias and dysplasias. Nijakowska provides a summary of research referring to dyslexic brains anatomy, brain cell size, neural architecture and abnormal structural symmetry connected with the failure of hemispheric specialisation. The Hereditary Hypothesis of dyslexia is also mentioned as a possible cause. The chapter finishes with implications for foreign language acquisition and the issue of how L1 dyslexia may influence L2 learning ability, especially in the light of the observed difficulties in acquiring grapheme-phoneme correspondences and compromised phonemic awareness.

The next chapter by Gabryś-Barker focuses on the importance of affectivity in second language acquisition. Affectivity is said to have a neural basis as neurolinguistic research distinguishes between the “thinking brain” (prefrontal cortex) and the “emotional brain” (amygdala). The two centres undertake two corresponding streams of processing, one serving a purely cognitive function and the other responsible for emotional processing. Existing research into information processing suggests that the information received is first processed by the emotional brain before undergoing cognitive scrutiny. The learning process is therefore said to be emotionally driven. Gabryś-Barker introduces Schumann’s Theory of the Stimulus Appraisal System as the affective undercurrent for motivation in SLA. This theory maintains that all stimuli received from the environment are appraised by an individual according to their internal systems of goals and beliefs. This is said to result in positive emotions triggering appraised benefit and negative emotions triggering appraised harm. Ultimately, the appraisal system is the basis for creating responses of either maintaining the stimuli or denying it, and that triggers the thinking process itself. The author argues that emotion therefore cannot be devoid of cognition. The recommendation to conduct a multidisciplinary study approach in future research is made – in order to seek further evidence for individual variability in L2 acquisition from a neurobiological perspective.

Chapter five is devoted to the paralinguistic strategies applied by advanced users of language. Ślęzak-Świat provides a description of the nature of the limbic system and makes a distinction between strategic competence and paralinguistic strategies. The subcortical regions responsible for communication are discussed and a study of paralinguistic strategies in both successful and unsuccessful language users is presented. Two major theories relating to the subject are mentioned, that is, the Lexical Retrieval Hypothesis and the Information Packaging Hypothesis. The accompaniment of the linguistic strategies by paralinguistic ones is discussed and findings are presented in tables.

Whyatt focuses on the issue of bilingual language control in the act of translation in chapter six. The organisation of the bilingual mental storage and its lexical and conceptual building blocks are discussed. Green’s Translation Inhibitory Control Model is introduced. Whyatt discusses the act of translation in terms of its cognitive effort and mental energy consumption. Gile’s Model of Translation Process is presented and the

model-based Think Aloud Protocol (TAP) study is described. The issue of mental effort management is highlighted and recommendations for further study in the area are made.

Chapter seven by Zalewski is devoted to the act of writing which is understood as the process of meaning creation. A historical background of mental representation is addressed and the connectionist and enactivist theories of human cognition are discussed. The complexity of a writing task is brought into the spotlight. Differences between the acts of speaking and writing are highlighted. Also differences between concept-driven and stimulus-driven ways of processing are discussed. The act of conscious construction of explicit representation and the ability to control metacognitive processes are said to be key in completing a writing task.

Chapter eight is an engaging debate devoted to the issue of conceptual transfer in bilinguals. Latkowska introduces the problem of the architecture of bilingual minds and memory, the bilingual mental lexicon and the nature of conceptual representation. Different views on the relationship between concepts, thoughts and language are presented. The degree to which the elements may be connected or merged is discussed. Two opposing views on the issue are discussed. The Distributed Feature Model as well as the Revised Hierarchical Model are presented. The theory of linguistic relativism and the role of pragmatics are mentioned for their contribution to the debate. The hypothesis of bidirectional interaction is considered and conceptual transfer is proposed to be happening at the convergence of thought and language. The issue of multi-competence and the nature of L-neutral cognitive skills are mentioned. Latkowska offers an in-depth presentation of the problem and assures a balanced analysis from different points of view.

Chapter nine by Malec draws our attention to the nature of verb-noun collocations. A definition of a collocation is provided to distinguish it from other multi-word combinations governed by the idiom principle. Verb-noun collocations are analysed from both the psycholinguistic and the syntactic perspectives. The issue of headedness in collocations as well as their symmetry versus asymmetry are addressed. The selection of a target constituent of a collocation is discussed from viewpoints other than the logic of X-bar syntax. Malec presents the study undertaken to test the level of difficulty while recalling head and non-head collocation constituents. Study results have shed light on the link strengths between L1 and L2 collocations.

Chapter ten offers an insight into gender differences as observed in L1 and L2 reading comprehension. Piasecka highlights the importance of gender research suggesting that overgeneralisations tend to appear in areas devoid of scientific data. The author provides a description of the study in which gender is an independent variable and reading score is a dependent variable. Female subjects in the experimental group proved to have higher levels of both language aptitude and reading comprehension in L1 and L2. The question of nature versus nurture is raised in respect to reading comprehension in L1 and L2. The Psychobiosocial Model by

Halpers is introduced as a possible theoretical basis for the debate. Piasecka concludes the chapter by pointing to individual differences in personal attainment in educational settings.

The main focus in chapter eleven is on external and internal language use by multilingual students at Adam Mickiewicz University in Poznan. The question of whether the community of multilingual students can be said to constitute a speech community is raised. Prior to the presentation of the study Ewert provides a definition of an L2 user, as well as the one of a speech community. The study aims at determining whether the sample of multilingual students (Polish-English-Russian) can be referred to as a unique speech community and how this can be described from an emic perspective. Cross-linguistic influences, language choice, borrowings, expression of emotions and selection of target words from available candidates are all addressed for both internal and external language use. Ewert offers a truly interesting insight into the minds of multilingual students with numerous examples of code-switching and unique situational language choices.

In the final chapter Otwinowska-Kasztelanic discusses language awareness in using cognate vocabulary. The Theory of Affordances is defined and language is said to offer affordances/opportunities to its users. It is hypothesized that the level of ability to benefit from these opportunities may account for some individual differences in SLA. The Noticing Hypothesis is mentioned in connection with the discussed ability. The author provides a description of the study based on an experimental group of Polish L1 students with an advanced level of English as L2. Psychotypical distance between English and Polish is addressed as well as the issue of a positive cross-linguistic transfer. Language awareness training and vocabulary acquisition techniques are viewed as opportunities to increase L2 speakers' ability to use cognate vocabulary and therefore to improve their overall performance in L2. The author makes suggestions regarding language awareness training and its possible benefits in foreign language teaching and learning.

This volume is a rich source of bibliography with each chapter having its own exhaustive list of sources presented at the end. References are precise and evenly distributed throughout the book. The authors are clear on the methodology used and explain things well. Primary sources are provided for all models, theories and hypotheses. The figures and tables included in some of the chapters clarify the results.

This book is a rich source of information in the fields of neurolinguistics and psycholinguistics. The scope of issues presented is broad and it offers the reader a unique opportunity to become familiar with a significant range of topics. At the same time the core references to foreign language learning and SLA are present throughout the book. The selection of topics is good, giving the reader a clear understanding of the development of current research. The language used by all contributors is adequate for the topics discussed. While some fragments of text can be characterised as having a high level of information-density, the language

of explanation is skilfully tailored to the complexity of the topics. This volume does present what it states in the title.

This book is a pleasure to read and I would highly recommend it to researchers in applied linguistics and students interested in psycholinguistics and neurolinguistics. Also those who take interest in psychology and philosophy of mind will surely find certain chapters of the book fascinating. It is a well-written, well-edited book – which definitely makes a noteworthy addition to the available literature in the fields of psycholinguistics and neurolinguistics.

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