# BOOK REVIEW

## DIGITAL-BASED LANGUAGE TEACHING AND LEARNING

**Elena Bárcena, Timothy Read, and Jorge Arús (Eds.).** LANGUAGES FOR SPECIFIC PURPOSES IN THE DIGITAL ERA (2014), Series: Educational Linguistics, Vol. 19, Cham, Heidelberg, New York, Dordrecht and London: Springer International Publishing. 348 pp., ISBN 978-3-319-02221-5 (Print), 978-3-319-02222-2 (Online).

The teaching and learning of Languages for Specific Purposes (LSP) has given rise to a vast proliferation of technological applications within the field of Computer Assisted Language Learning (CALL). Given the potential that the application of technology has in a variety of linguistic domains including general or standard languages, this book intends to provide a broad overview of the terminology used by particular communities as well as the syntactic, semantic and pragmatic properties inherent to LSP. The volume is therefore intended for those who come from the field of Language and Linguistics (Applied and Computational) and from related disciplines such as Applied Computing, Second Language Education and Educational Psychology.

Computational applications are presented in different ways in order to facilitate the teaching and learning of LSP as well as other related subjects. A great number of methodological approaches are provided for lecturers and researchers as tools for their own class or research. Thus, there is plenty of room for a variety of principles, models, techniques and strategies to combine LSP and CALL in the computational treatment of languages and linguistic aspects of technology. The present state-of-the-art volume is not only meant for researchers in the field of sublanguages but also for those keen to use them in computational linguistics, CALL and corpora.

The book comprises sixteen chapters divided into four parts. After the editors' preface (pp. v-ix), there follows the first part of the book titled *General Issues About*

*Learning Languages with Computers* (pp. 1-87), containing four chapters. The first chapter, *Information Technology and Languages for Specific Purposes in the EHEA: Options and Challenges for the Knowledge Society* (pp. 3-25) written by Arnó-Macià, introduces a thorough review of the impact of computing technology and LSP on the European Higher Education Area (EHEA) framework. The analysis of the technology that supports LSP learning is done by examining online learning applications, the integration of language and content, the growth of critical academic skills and online communication and collaboration. The project *Quantum LEAP* is shown as an integrated online learning tool among teachers and learners intended to provide them with a source of materials. The second chapter, titled *Fostering Learner Autonomy in Technology-Enhanced ESP Courses* (pp. 27-44) by Gimeno Sanz, is dedicated to computer assisted foreign language learning as an extremely useful aid, which opens new doors to authentic and multimedia materials, as well as to a series of resources and tools. The modern learning setting provides an opportunity for the creation and design of sources such as a pressroom via blogs and wikis, a delivery platform for publishing projects, an auditorium for live presentations, a communications parlour for live videos, audio broadcasts and chats, and a workshop with numerous learning tools. This learning theory, known as scaffolding, treats learners as builders of their cognitive skills. In the third chapter, titled *The I-AGENT Project: Blended Learning Proposal for Professional English Integrating an AI Extended Version of Moodle with Classroom Work for the Practice of Oral Skills* (pp. 45-67), Martín-Monje and Talaván report on the development of the project I-AGENT (Intelligent Adaptative Generic English Tutor), an innovative platform which combines Intelligent Computer Assisted Language Learning (ICALL) with face-to-face (F2F) classroom lessons, where oral skills are fostered in a natural communicative environment. The project is aimed at covering every learner's profile and needs by adapting the materials to a personalised progress profile monitored via Moodle. Furthermore, the instructor can assess the students' open production results, making I-AGENT a system which goes beyond ICALL programmes. The fourth chapter, titled *Student Assessment in the Online Language Learning Materials Developed and Delivered Through the InGenio System* (pp. 69-87) by Sevilla-Pavón, Martínez-Sáez and de Siqueira Rocha, explores the assessment process of the basic skills examined by the *Cambridge ESOL First Certificate in English Examination* (FCE) and how the *InGenio FCE Online Course* and *Tester* can increase the effectiveness of the assessment of reading, writing, listening and speaking skills, in both student self-assessment and tutor assessment. While self-assessment is independent and autonomous, tutor assessment strengthens the students' autonomy and their sense of responsibility.

The second part of the book, entitled *Computer-Assisted Experiences for the Development of Language Competences and Skills* (pp. 89-173), also has four chapters. The fifth chapter, titled *Internet Dictionaries for Teaching and Learning Business English in Spanish Universities* (pp. 91-109) by Fuertes-Olivera, focuses on the possibilities that free specialised Internet dictionaries offer for the purpose of

Business English teaching and learning in Spanish universities. The research has two main aims: first, to answer students' cognitive and communicative needs; and second, to facilitate connectivity, thereby promoting the use of language. In the sixth chapter, entitled *Moodle Glossary Tasks for Teaching Legal English* (pp. 111-128), Breeze proposes two cycles of professional research by making use of a Moodle glossary a part of a legal English course at the university level. This author describes tasks which involve the design of the writing activity that has to be finished within set deadlines, individual and collective feedback, and task assessment. Students research by using materials written in English and have to carry out tasks that imply re-working the information they find and avoiding copying from the source materials. The approach complements other courses in the field of English for Specific Purposes (ESP). The seventh chapter, titled *Promoting Specialised Vocabulary Learning Through Computer-Assisted Instruction* (pp. 129-154) by Perea-Barberá and Bocanegra-Valle, looks into the way computer-based instruction can contribute to learners' collaborative work and make them aware of self-direction in ESP courses. The combination of vocabulary learning with computer-assisted reading instruction alongside vocabulary retention fosters the use of electronic glossaries and computer-enhanced ESP courses, aimed at the development of specialised vocabulary. The present project offers a detailed compilation of a glossary of Maritime English terms gathered via Moodle with the participation of students and paying attention to several issues such as context, participants, goals and the three-stage procedure for implementation. In the eighth chapter, *A Practical Application of Wikis for Learning Business English as a Second Language* (pp. 155-173), Rodríguez-Arancón and Calle-Martínez examine an ESP experiment conducted with 100 students from a Bachelor's Degree in Business Administration by Universidad Complutense de Madrid (UCM). The data collection methods include a Business English-oriented test and a personal questionnaire. The innovative teaching approach promotes collaborative work, self-learning and self-evaluation within the classroom, with other groups and by using wikis in mastering listening, speaking, reading and writing.

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The third part of the book, entitled *Corpus-Based Approaches to Applications for Teaching and Processing Languages* (pp. 175-263), encompasses further four chapters. The ninth chapter, *A Genre-Based Approach to the Teaching of Legal and Business English: The GENTT Specialized Corpus in the LSP Classroom* (pp. 177-196) by Borja Albi, Juste Vidal, Ordóñez López and Conde, delves into collaborative work between two groups of teachers (LSP and specialised translation) implementing two LSP courses as part of the degree in Translation and Interpreting at the University Jaume I (Spain). The use of the GENTT Corpus in the classroom has permitted students to work individually or in pairs by following instructions and discussing their tasks. This approach has led to an autonomous and active learning, encouraging students to do critical analysis and to acquire and develop decision-making skills when studying legal and business language of a

dynamic corpus thereby enhancing creativity and innovation in LSP teaching. In the tenth chapter, *Innovative Methods for LSP-Teaching: How We Use Corpora to Teach Business Russian* (pp. 197-222), Wilson, Sharoff, Stephenson and Hartley discuss the benefits that the use of corpora have in the context of LSP learning and teaching and more particularly in the case of business Russian, which compensates for the lack of printed teaching materials. Corpora can help improve LSP skills such as vocabulary acquisition, register recognition and differentiation. It can also provide students with more individualised materials in LSP courses which can fulfil their needs. The authors stress that the benefit of collaborative learning is facilitating language learning and teaching and tutors' work; not only does it support LSP modules, but it also supports other specialised tuition areas. The eleventh chapter, *Automatic Specialized vs. Non-specialized Text Differentiation: The Usability of Grammatical Features in a Latin Multilingual Context* (pp. 223-241) by Cabré, da Cunha, SanJuan, Torres-Moreno and Vivaldi, describes a tool that differentiates specialised from non-specialised texts written in Latin languages by making use of machine learning techniques which relate association rules on the grounds of lexical and grammatical components. Not only can this tool classify texts, but it also allows a search for technical statements inside non-specialised documents and vice versa. Two experiments are reported: the use of rules mixing lemmas and grammatical tags, which is more efficient, and the scrutinising of grammatical sequences, aimed at obtaining better results. The twelfth chapter, entitled *Exploring the Potential of Corpus Use in Translation Training: New Approaches for Incorporating Software in Danish Translation Course Design* (pp. 243-263) by Laursen and Arinas Pellón, explains the integration of comparable corpora, a useful didactic feature, into translation training. The combination of functional translation strategies, corpus and genre analysis increases learners' autonomy in specialised translation. The students have dealt with demonstratives and linking expressions from Spanish and Danish, which have been validated through the use of the corpus and the concordancing software Antconc, allowing them to extrapolate corpus analysis techniques to other genres in their future career.

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The fourth part of the book, entitled *Processing Natural Languages* (pp. 265-348), is composed of four final chapters. Chapter thirteen, *Representing Environmental Knowledge in EcoLexicon* (pp. 267-301) by Faber, León-Araúz and Reimerink, puts forward a multilingual terminological knowledge base (TKB) called EcoLexicon, available in Spanish, English, German (with the inclusion of Modern Greek, Russian, French and Dutch) intended for a variety of professionals such as translators, technical writers, environmental experts, etc. EcoLexicon has the advantages of a relational database, which allows for a quick distribution and growth of the platform and of an ontology for enhancing users' queries. Reconceptualization in accordance with human conceptual systems defines the dynamic and multidimensional nature of concepts and terms. In chapter fourteen*, New Approaches to Audiovisual Translation: The Usefulness of Corpus-Based Studies for the Teaching of Dubbing and Subtitling* (pp. 303-322), Rica Peromingo, Albarrán

Martín and García Riaza bring to light an empirical methodology which incorporates the potential of corpus-based studies in order to deal with audiovisual discourse. The authors present CORSUBIL, a bilingual corpus which contains subtitles in English and their corresponding Spanish subtitles (around nine million words) extracted from some of the most important films in the history of American filmography. This study will facilitate the observation of inconsistencies in register/style in both versions, thereby shedding some light on language evolution, correctness in the translation of terms, discussion on the omission of lexical units, and description of the strategies employed when translating texts for both dubbing and subtitling. Chapter fifteen, *The Pragmatic Level of OntoLingAnnot's Ontologies and Their Use in Pragmatic Annotation for Language Teaching* (pp. 323-344) by Pareja-Lora, introduces the formalisation of the pragmatic level embedded in the OntoLingAnnot annotation framework. The author illustrates six pragmatic categories which can be used to annotate texts and dialogues using the present framework. Being the first ontological conceptualisation of pragmatics so far, this framework is an important contribution to Ontological Engineering, Pragmatics and Linguistic Annotation, which, together with an (I)CALL system, can currently be incorporated into English/Spanish (under)graduate courses. In chapter sixteen, *Reflections on the Future of Technology-Mediated LSP Research and Education* (pp. 345-348), Arús, Bárcena and Read, the editors of the present book, foresee new approaches which will shape the future research, teaching and learning the CALL and LSP combination. A number of references not addressed in the chapters are given in the related areas, such as the Web 2.0, open educational resources, such as MOOCs, gamification and MALL.

The authors of this volume have been motivated by the need to cover modern CALL as well as other aspects of natural language processing, from a theoretical and practical perspective. Considering the demand for formal language education and training on specific professional domains at an international level, this state-of-the-art monograph arouses general interest of a myriad of readers. *Languages for Specific Purposes in the Digital Era* is likely to be one of the first volumes which combines a variety of principles, models, techniques and strategies within the particular types of CALL systems dealing with the treatment of languages and/or linguistic aspects, thereby constituting a paramount reading material for teachers and researchers interested in computers and domain-specific languages. Given that technology is future and future is innovation, the scope of technology is therefore expected to bring to the fore new contributions to the topics tackled here.

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