

Studies in Computational Intelligence

Volume 1159

Series Editor

Janusz Kacprzyk, Polish Academy of Sciences, Warsaw, Poland

The series “Studies in Computational Intelligence” (SCI) publishes new developments and advances in the various areas of computational intelligence—quickly and with a high quality. The intent is to cover the theory, applications, and design methods of computational intelligence, as embedded in the fields of engineering, computer science, physics and life sciences, as well as the methodologies behind them. The series contains monographs, lecture notes, and edited volumes in computational intelligence spanning the areas of neural networks, connectionist systems, genetic algorithms, evolutionary computation, artificial intelligence, cellular automata, self-organizing systems, soft computing, fuzzy systems, and hybrid intelligent systems. Of particular value to both the contributors and the readership are the short publication timeframe and the world-wide distribution, which enable both wide and rapid dissemination of research output.

Indexed by SCOPUS, DBLP, WTI AG (Switzerland), zbMATH, SCImago.

All books published in the series are submitted for consideration in Web of Science.


Hung Phu Bui · Ehsan Namaziandost
Editors

Innovations in Technologies for Language Teaching and Learning

 Springer

Editors

Hung Phu Bui
School of Foreign Languages
University of Economics Ho Chi Minh City
Ho Chi Minh City, Vietnam

Ehsan Namaziandost 
Department of General Courses
Ahvaz Jundishapur University of Medical
Sciences
Ahvaz, Iran

ISSN 1860-949X

ISSN 1860-9503 (electronic)

Studies in Computational Intelligence

ISBN 978-3-031-63446-8

ISBN 978-3-031-63447-5 (eBook)

<https://doi.org/10.1007/978-3-031-63447-5>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2024

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

If disposing of this product, please recycle the paper.

Preface

The advent of technology is acknowledged to greatly influence applied linguistics and language education, resulting in recently emerging research interests and innovations in integrating technology into language education. Practitioners and researchers have made attempts to retest existing hypotheses, cultivate language learning, contribute to the mosaic of language education, and facilitate distance education. To disseminate the results of this research line, several journals (e.g., *Computer-Assisted Language Learning*, *CALICO*, *Language Learning and Technology*, and *ReCall*) have been introduced by international giant publishers and research institutions. Monographs, co-authored books, and edited books have also been released to disseminate research results and provide guidelines for practitioners and researchers. For instance, socio-cultural theory posits the importance of socialization for knowledge development as external mediation may provide input for internal mediation. That is, knowledge transformation is referred to as a social cognitive process in which humans internalize what they learn from communicating with experts and peers. Intersected between this theory and technology, an emerging strand of studies regards social media as platforms for social interaction for second language learners. It is evident that such interventions may facilitate incidental and intentional learning. Practically, several endeavors have made efforts to ease distance education. Although mixed results can be seen from learners' language development, technology itself is well documented to improve accessibility of materials, mediate language learning through videoconferencing, and be convenient for learners.

It is our pleasure to be invited to edit *Innovations in Technologies for Language Teaching and Learning*. Initially, we were interested in the topic but reluctant due to our heavy schedules and work commitments. Then, motivated by colleagues, we finally accepted the invitation after several weeks of careful consideration. Instead of focusing on sending invitations to renowned scholars in the fields like other editors, we decided to publicize the call for chapters on social media apart from sending invitations to scholars in our networks in order to attract attention of scholars beyond our networks. As a result, more than expected, we received more than 70 chapter proposals. The screening stage resulted in only 40 accepted proposals. We finally accepted only 13 out of 30 submitted full chapters.

It is our honor to select and edit the 13 chapters of this book. They report studies conducted in the past two years and discuss contemporary topics of interest in the intersection between technology and language education. As the authors are from different places around the world, their endeavors contribute to the diversity of perspectives in this book.

The first chapter “[Captioned Viewing for Language Learning: A Cognitive and Affective Model](#)” reports a study conducted in China, using caption-enhanced audiovisual content as a tool for language acquisition in second and foreign language. Results indicate the cognitive progress and emotional enrichment experienced by learners, resulting in a deeper processing of input. The author argues that Multimedia platforms can further expand the range of strategies available to learners, empowering them as active participants in leveraging the benefits offered by captions.

The second chapter “[Extended Reality in Computer-Assisted Language Learning](#)” is a systematic review on the use Extended reality (XR), including Augmented, Virtual, and Mixed/Merged Realities. Twenty eight articles published in the leading Q1-ranked CALL journals in Scopus from 2010 to 2022 were selected. Findings highlight the state-of-the-art picture of extended reality aiming at (1) mapping the research trends and (2) determining the affordances of using extended reality as a CALL tool.

The third chapter “[Pedagogical Use of Video Clips During the COVID-19 Pandemic Lockdown: Educators’ Perceptions at a Bilingual Education Preschool in Vietnam](#)” reports a qualitative study conducted in Vietnam, delving into the pedagogical strategies employed by non-professional producers of video clips to engage young learners in online education. Seventeen participants, including teachers, school managers, and team leaders, were invited to participate in interviews. Results show the importance of maintaining direct and indirect communication with young learners through technology, including livestream activities and regular interactions with parents. The authors argue for the roles of educators and curriculum designers in optimizing the use of digital resources in remote areas in Vietnam.

The fourth chapter “[The Role of Supportive Environments in Shaping EFL Teachers’ Adoption of ChatGPT](#)” reports a study on the use of ChatGPT, an emerging technology. The study applied the technology acceptance model (TAM) to explain EFL teachers’ intention to adopt ChatGPT for teaching activities. The results show that Vietnamese teachers regularly used ChatGPT for various purposes, such as creating exercises and questions, planning lessons, engaging in professional development, seeking teaching materials, and addressing students’ issues. It is also evident that teachers’ acceptance of ChatGPT can be predicted by the environment. The authors argue that it might be essential for educators and policymakers to integrate AI tools like ChatGPT into their classrooms and institutions.

The fifth chapter “[EFL Writing Teachers’ Agency in Response to AI Emergence from an Ecological Perspective](#)” reports a qualitative study on EFL teachers’ use of AI in teaching writing. Data were collected from video-assisted interviews with seven Vietnamese experienced teachers. Findings highlight the teachers’ initial hesitation to adopt AI due to their adherence to traditional pedagogies, lack of clear AI integration guidelines, and concerns over AI’s accuracy and potential misuse. From an ecological

perspective, the authors argue that the environment and teacher training may change the teachers' mindsets about the use of AI in teaching second language writing in the context of Vietnam.

The sixth chapter “[EFL Learners' Perceptions of Pronunciation Corrective Feedback: Insights from Synchronous High Variability Phonetic Training](#)” disseminates a study on English as a Foreign Language (EFL) students' perceptions of Pronunciation Corrective Feedback (PCF) in online classrooms. Data were collected from a questionnaire administered to 40 EFL learners and in-depth interviews with a subset of 15 students after a 10-hour virtual pronunciation teaching using High Variability Phonetic Training. The findings highlight the participants' positive perceptions of Pronunciation Corrective Feedback assisted by technology. The study underscored the theoretical and pedagogical implications of incorporating online PCF into EFL instruction.

The seventh chapter “[Mobile-Assisted Language Learning \(MALL\): A Sociocultural Theory \(SCT\) Perspective](#)” critically reviews ten recently published articles on the use of mobile-assisted language learning in the light of sociocultural theory. The data analysis shows two emerging themes: perceptions of MALL via descriptive research and the effects of a certain application or a digital/cultural role on language learning via experimental investigation. The authors argue that mobile devices may be used as tools to mediate learning through social interaction.

The eighth chapter “[Teachers' Experiences with Generative AI as Co-Pilots in High School L2 Writing Instruction: A Case in Vietnam](#)” reports a case study on Vietnamese high school EFL teachers' experiences and viewpoints regarding the use of AI Chatbots in the writing classroom. The analysis of the interviews with twelve teachers shows four main themes: ensuring academic integrity, making pedagogical adjustments, addressing ethical issues related to bias and plagiarism risks, and engaging in continuous professional development for AI literacy. The results suggest useful insights into the effective blending of AI capabilities with traditional writing pedagogy.

The ninth chapter “[Vietnamese Graduate Students' Perspectives on the Use of ChatGPT](#)” discloses an investigation into the perspectives of Vietnamese graduate students of TESOL on the use of ChatGPT. Data were collected from 32 Vietnamese graduate students in a TESOL course. Findings reveal that the graduate students generally perceived ChatGPT to be an effective language tool. This emerging technology was believed to improve language classroom understanding, engagement, and self-confidence, making it ideal for project conception and ideation. The results suggest a harmonic synergy between humans and technological advances in language education.

The tenth chapter “[Generative AI and Second/Foreign Language Education from Vygotsky's Cultural-Historical Perspective](#)” is a conceptual chapter reviewing the use of ChatGPT in second and foreign language learning from a sociocultural perspective. The authors outline three main principles of sociocultural theory for understanding L2 acquisition: (1) the environment as a source of the ideal forms of the target language, (2) internalization through active and meaningful social interactions, and (3) optimal L2 acquisition when effectively scaffolded in the ZPD of

the individual. The authors highlight the significance of ChatGPT's capabilities to provide target language input, simulate authentic conversations, answer questions on diverse topics, and offer feedback as crucial functions for facilitating the second and foreign language learning.

Identifying the significant impacts of corpus on language use, communication, and the supply of authentic materials collected by digital devices, the author of the eleventh chapter "[Building a Corpus for Teaching and Learning a Second Language by Using Sketch Engine](#)" argues for the use of corpus in second and foreign language education. The chapter gives guidelines for building a corpus for the purpose of learning and teaching a second language in the digital technology era. Practically, it provides practical tasks of building and applying a corpus in English learning and teaching.

The authors of the twelfth chapter "[Using Corpora in Translation Studies and Translation Education](#)" are interested in a different tenet of corpus. This chapter outlines the essence of using corpora in translation studies in second and foreign language contexts. It initially reviews the changes in theoretical perspectives on the development of corpus. The chapter then presents different corpus-based approaches to Translation Studies and characterizes types of corpora used for research purposes. It also discusses the strengths and weaknesses of using corpora as data sources and for data analyses. The chapter ends with recommendations on possible application of corpus-based approaches to research in Translation Studies.

The thirteen chapter "[Technological Advancements and L2 Motivational Self System](#)" provides a view of the intersection between technological advancements and the second language motivational self system in second language acquisition. The three main components: (1) the ideal L2 self, (2) the ought-to L2 self, and (3) the L2 learning experience of the L2 motivational self system are first reviewed. The author then argues that technology-enhanced language learning presents a transformative paradigm, fostering personalized, inclusive, and engaging learning environments for the generation of learning motivation. To conclude, the authors call for more research into the use of emerging technologies to enhance second language motivation to broaden the agenda of second language education.

Ho Chi Minh City, Vietnam
Ahvaz, Iran

Hung Phu Bui
Ehsan Namaziandost

About This Book

The advent of technology has changed the landscape of language education. This edited book discusses the current issues and reports research conducted around the world. The chapter topics are quite diverse, targeting the needs of undergraduate and graduate students and researchers. It views the mosaic of the field from cognitive, affective, educational, and educational perspectives. All the chapters give implications for further advances in technology and education.

Contents

Captioned Viewing for Language Learning: A Cognitive and Affective Model	1
Mark Feng Teng	
Extended Reality in Computer-Assisted Language Learning	17
Dara Tafazoli	
Pedagogical Use of Video Clips During the COVID-19 Pandemic Lockdown: Educators' Perceptions at a Bilingual Education Preschool in Vietnam	35
Duy-Bao Thai and Ngoc-Tai Huynh	
The Role of Supportive Environments in Shaping EFL Teachers' Adoption of ChatGPT	55
Nguyen Hoang Mai Tram and Vu Tran-Thanh	
EFL Writing Teachers' Agency in Response to AI Emergence from an Ecological Perspective	79
Hoang Le-Khanh, Khoa Do, and Vu Tran-Thanh	
EFL Learners' Perceptions of Pronunciation Corrective Feedback: Insights from Synchronous High Variability Phonetic Training	95
Rizgar Qasim Mahmood and Hung Phu Bui	
Mobile-Assisted Language Learning (MALL): A Sociocultural Theory (SCT) Perspective	121
Le Pham Hoai Huong and Tran Thi Thanh Thuong	
Teachers' Experiences with Generative AI as Co-Pilots in High School L2 Writing Instruction: A Case in Vietnam	135
Nghi Tin Tran	
Vietnamese Graduate Students' Perspectives on the Use of ChatGPT	159
Pham Vu Phi Ho	

Generative AI and Second/Foreign Language Education from Vygotsky’s Cultural-Historical Perspective	175
Ngo Cong-Lem and Samran Daneshfar	
Building a Corpus for Teaching and Learning a Second Language by Using Sketch Engine	189
Phan Thi Thanh Thao	
Using Corpora in Translation Studies and Translation Education	219
Lien-Huong Vo and Thuy-Minh B. Nguyen	
Technological Advancements and L2 Motivational Self System	235
Viet Quoc Hoang	

Editors and Contributors

About the Editors

Hung Phu Bui works as a lecturer and researcher at School of Foreign Languages, University of Economics Ho Chi Minh City (UEH University), Vietnam. He holds a Ph.D. in Language Education. His research interests span across different aspects of applied linguistics and language education. His publications mainly center around applications of cognitive linguistics in L2 acquisition, sociocultural theory in L2 acquisition, teacher and student cognition, social interaction in L2 classrooms, L2 classroom assessment, teaching English for specific purposes, and computer-assisted language teaching and learning. Influenced by educational, linguistic, and psychological perspectives, his endeavors, mainly published in leading journals in the fields of language education, applied linguistics, and educational psychology, have been stimulating interesting discussions. Serving as the keynote and plenary speaker in many national and international conferences in the world, Hung has had opportunities to spread his knowledge and research interests to students, colleagues, and novice researchers.

Ehsan Namaziandost is currently a lecturer at Ahvaz Jundishapur University of Medical Sciences and Islamic Azad University of Ahvaz, Ahvaz, Iran. He holds an M.A. degree in TEFL from Islamic Azad University of Ahvaz. He got his Ph.D. in TEFL at Islamic Azad University, Shahrekord, Iran. His main interests of research are CALL, TEFL, Second Language Acquisition, Educational Psychology, Motivation and Anxiety, EFL Teaching and Learning, Language Learning and Technology, Teaching Language Skills, and Language Learning Strategies. His research papers and articles have been published in different international journals. He is a member of editorial boards of many international journals such as *Journal of Psycholinguistic Research*, *Journal of Language and Education*, *International Journal of Language Education*, *Studies in English Language and Education* (SIELE), *BMC psychology*, *PLOS ONE*, and *CALL-EJ*. Ehsan is an Associate Editor in *PLOS ONE*, *BMC Psychology*, *Social Sciences and Humanities Open* (SSHO), and *CALL-EJ*.

Contributors

Hung Phu Bui University of Economics Ho Chi Minh City, Ho Chi Minh City, Vietnam

Ngo Cong-Lem Faculty of Foreign Languages, Dalat University, Da Lat, Vietnam;
Faculty of Education, Monash University, Melbourne, Australia;
BehaviourWorks, Australia, Monash University, Melbourne, Australia

Samran Daneshfar Faculty of Education, Monash University, Melbourne, Australia

Khoa Do The National College of Education Ho Chi Minh City, Ho Chi Minh City, Vietnam

Viet Quoc Hoang University of Economics Ho Chi Minh City (UEH University), Ho Chi Minh City, Vietnam

Le Pham Hoai Huong English Department, University of Foreign Languages and International Studies, Hue University, Hue City, Vietnam

Ngoc-Tai Huynh Tra Vinh University, Tra Vinh, Vietnam

Hoang Le-Khanh Independent Researcher, Ho Chi Minh City, Vietnam

Rizgar Qasim Mahmood The University of Wollongong, Wollongong, Australia

Thuy-Minh B. Nguyen HUFLIS, Hue University, Hue, Vietnam

Vu Phi Ho Pham Faculty of Foreign Languages, Van Lang University, Ho Chi Minh City, Vietnam

Dara Tafazoli School of Education, The University of Newcastle, Callaghan, NSW, Australia

Mark Feng Teng Faculty of Languages and Translation, Macao Polytechnic University, Macau SAR, China

Duy-Bao Thai Australian National University, Canberra, ACT, Australia

Phan Thi Thanh Thao University of Foreign Languages and International Studies, Hue University, Hue, Vietnam

Tran Thi Thanh Thuong Ho Chi Minh College of Foreign Economic Relations, Ho Chi Minh City, Vietnam

Nguyen Hoang Mai Tram Faculty of Business Administration, Ho Chi Minh City University of Foreign Languages–Information Technology, Ho Chi Minh City, Vietnam

Nghi Tin Tran Faculty of Foreign Languages, Ho Chi Minh City University of Industry and Trade, Ho Chi Minh City, Vietnam

Vu Tran-Thanh School of Education, Durham University, Durham City, UK

Lien-Huong Vo HUFLIS, Hue University, Hue, Vietnam