

## Book review

# Technology in second language writing: Advances in composing, translation, writing pedagogy and data-driven learning

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Advanced technology has brought about great changes to language teaching and learning, such as significant shifts and requirements in the field of writing, which is considered as a complex ability to acquire, especially for second language (L2) learners (Hyland, 2021). Writing in this digital era has been shaped by various new technologies, resulting in more attention paid to technology use in L2 writing instruction and research. A new collection of papers titled *Technology in second language writing: Advances in composing, translation, writing pedagogy and data-driven learning* has been timely published to illustrate how the L2 writing field embraces the integration of technology in teaching and researching students with various cultural backgrounds. This fascinating book was edited by Jingjing Qin and Paul Stapleton who gathered scholars with different pedagogical experiences to provide a comprehensive detour from original research orientations to pedagogical applications.



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The book consists of 11 chapters that provide multiple perspectives of technology tools used in L2 writing and highlight the burgeoning trend of employing cutting-edge technology tools in L2 writing. The book starts with a general introduction to the evolution of various language modes, provides an overview of the book, and implications for the future. The subsequent chapters investigate how L2 writing has been taught and researched from the perspectives of machine translation (MT) in writing, electronic written feedback, Wiki-writing, writing under multimodal resemiotization, writing through social network, corpora of written texts, automatic recognition of handwriting, and keystroke logging (KSL). In ten contributions, researchers have explored the specific applications and the effectiveness of using technology tools in L2 writing. Their findings have strong implications for future research and further advancement of technology use not only in L2 writing but also in broader contexts.

### **Contents**

In Chapter 1, Paul Stapleton, one of the co-editors, leads off the volume with an introductory chapter. He first discusses the changes of writing modes affected by the evolution of cognitive and social transitions of human beings. Stapleton then provides an overview of the major outcomes of the next 10 chapters of the book, covering the multiple aspects of how writing processes have been affected and enhanced by advanced technology. More recent tools like Smart Compose and artificial intelligence OpenAI are also mentioned as future orientations of L2 writing research.

Chapters 2-4 investigate the use of Google Translation (GT) in L2 writing with different scopes of research. In Chapter 2, Shu-Chiao Tsai analyzes the effect of using GT on both writing processes and revised texts by English as a Foreign Language (EFL) students. Findings show that GT-translated versions are significantly better than self-written versions, and students' revisions show significant improvements by referring to GT-translated versions. In a similar vein, Chapter 3 presents the use of GT and other digital tools during the process of Chinese students' Catalan writing and Chapter 4 turns to a relatively original method of scoping review, showing substantive and methodological features of the existing studies on the use of machine translation (MT) in EFL writing studies.

In Chapter 5, the author compares the effect of synchronous and asynchronous written corrective feedback (WCF) through digital platforms on the complexity, accuracy, fluency, and argumentative structure of writing. Results indicate that the synchronous WCF group exhibits significant improvement and maintenance in accuracy and complexity compared to the asynchronous WCF group, although fluency and argumentative structure elements remain unaffected.

Given the extensive use of Wikipedia for both common and professional knowledge, Chapter 6 introduces a wiki-writing project which is targeted at guiding medical students to write specialized entries for Wikipedia. Students' perceptions and the process of writing, peer reviewing and revising are explored. The findings indicate the advantages of wiki-writing to the improvement of students' L2 writing skills and competence of thinking.

Chapter 7 and Chapter 8 pay special attention to the influences of multimodal or semiotic factors on L2 writers' writing practice. A case study in Chapter 7 shows how understanding and identification of various modes, aided by audio-visual methods, raises the participant's awareness of issues concerned with the linguistic marginalization and inequity. Similarly, Chapter 8 offers empirical evidence concerning the use of social networking sites (SNS) on the telecollaboration between Russian beginning learners and native speakers. Findings reveal that the SNS-based writing can facilitate the rise of syntactic and communicative complexity in the writing of L2 learners at a low proficiency level. Chapter 9 introduces corpora and corpus tools in language studies. Adopting a data-driven approach, the authors of this chapter build three corpora of English essays by learners in Iraq and in the US, and English native speakers. They compare the use of markers of directness and indirectness, revealing that English learners in Iraq use more amplifiers and emphatics but less downtoners and hedges than the other two groups.

Lastly, Chapter 10 and Chapter 11 address two types of digital writing. Chapter 10 reviews relevant studies in handwriting, technology tools and techniques of handwriting recognition, and case studies of handwriting on Arabic and Chinese languages. This chapter contributes to instructors' and researchers' acquittance of the basic knowledge of automatic recognition of handwriting. Chapter 11 clarifies the feasibility and the implementation of KSL in L2 writing, exploring how it can enhance L2 learners' writing skills through teaching and learning scenarios.

### Remarks

On the whole, *Technology in second language writing: Advances in composing, translation, writing pedagogy and data-driven learning* offers a comprehensive and insightful collection of original work on the use of technology tools in L2 writing instruction and research. The book's distinctive features lie in its cutting-edge perspectives, diverse forms of methodologies, cross-disciplinary orientations, and the writing-to-learn point of view.

One strength to be noted is that this book focuses on multiple frontier topics in L2 writing teaching and research enabled by advanced technological tools. Machine translation exhibits clear strengths in designing writing tasks, and both synchronous and asynchronous WCF in L2 writing pedagogy (Elola & Oskoz, 2017) are benefited by the development of technology tools. They promote L2 learner's

autonomy in writing and even in learning. As proved by research findings, L2 writing with digital sources can boost critical writing competence. Moreover, social networks, marked by timeliness and multimodality (Chun et al., 2016), enable learners to relate their writing to social aspects, making digital writing feasible even for L2 beginners. In addition, learner corpora can benefit L2 learners' writing through concordance-based data, digital techniques for handwriting recognition can facilitate the development of automated writing evaluation, and software like Scriptlog (Strömquist et al., 2006) and Inputlog (Leijten & Van Waes, 2013) can record details like keystrokes, deletions, and mouse movements.

This volume presents a wide range of types of research methodologies. The volume's contributions do not restrict to one or two methods but refer to a combination of methods like quantitative, qualitative, mixed methods, case study and even scoping review to examine the integration of technology tools into the learning and teaching of L2 writing. For example, in Chapter 2, Tsai draws on quantitative and qualitative data from different sources to gain insights from multiple perspectives, while Gokgoz-Kurt - although focusing on a similar topic to Tsai's study- adopts the method of scoping review to synthesize previous research related to the use of MT in L2 writing. In contrast to the more commonly used systematic review, a scoping review tends to provide "a type of evidence synthesis" (Peters et al., 2021: 2) by exploring uncultivated or complex fields of research. In other chapters of the book, specific methods like interviews, textual analysis, and conversational analysis are also employed to better validate research processes and to triangulate research outcomes.

In most chapters of this volume, interdisciplinary features are also prominent in both the selection of research subject matters and tools. In the introduction part, Stapleton first describes the evolvement of human communicative ways through an archeological perspective and then turns to analyze the cognitive aspects of the composing process through the lens of neurological sciences. Chapter 4 adopts a rather original design in language studies with a scoping review study, a methodology which was mainly employed in disciplines like healthcare, nursing, and education (Tulloch & Ortega, 2017). Such an interdisciplinary perspective helps to provide a concise view on the status quo of the use of MT in L2 writing. Additionally, Chapter 6 provides an overview of an English-in-the-Discipline (ED) course, in which they design wiki-writing projects for medical students to practice professional or academic writing skills by composing entries for their subject-related topics on online platforms.

Whereas learning-to-write has attracted much attention in previous research of writing (Hyland, 2021), a writing-to-learn perspective distinguishes this cutting-edge volume from many other studies on using technological tools in L2 writing research. Chapter 2, focused on the MT-aided writing process, reveals that non-English major L2 students acquire positive progress in academic communication

and critical thinking, as indicated by post-writing questionnaires. Such an approach can have the function of “enhancing student learning about content subjects, prompting learning and critical thinking” (Hyland, 2021: 129), corresponding to principles suggested for writing-to-learn contexts. Chapter 7 shows that critical thinking and idea development are fostered through the integration of semiotic models and socio-cultural written tasks when the writer interacts with videos on topics about social and language inequality during the L2 writing process.

It should be noted that, despite its timely contributions to technology use in L2 writing, this book does not sufficiently discuss the impact of most recent technology advancements like ChatGPT on L2 writing issues. Except for a brief mention of new functions of GT in L2 writing, no particular topics of this volume deal with the application of emerging AI tools and their impact on L2 writing teaching and research. With the rapid emergence and fast development of artificial intelligence (AI), there is a growing potential for these newly-developed tools to be widely applied in educational scenarios of language learning (Ji et al., 2023). In this sense, emerging AI tools like the chatbot ChatGPT will have powerful impact on both L1 and L2 writing, for both instruction and research (Zawacki-Richter et al., 2019). It is predictable that exploring how to embrace and integrate this new-generation AI technology in L2 writing will become a worldwide hot topic to explore in the foreseeable future.

It would have been helpful if the book had shed more light on the implications of technology use for L2 writing instruction and research. As mentioned in Chapter 2 and Chapter 5, time efficiency and synchronous feedback featured by technological devices contribute significantly to the improvement of writing competence in a long run. The general description of several tools or approaches like Wikipedia, multimodal writing, and SNS can be used as suitable guidance for learning both linguistics basics and specialized knowledge. In addition to the implications of specific studies as mentioned in each chapter, a more overarching view of what the technology shift means to L2 writing would provide valuable insights for teachers, students, researchers, and policy makers in educational contexts.

In conclusion, writing is deeply embedded in the application of modern technology (Chun et al., 2016), and as digital tools are rapidly evolving, there is an urgent need to advance and adapt L2 writing research to align it with the technology shift of this new digital era. It is clear that *Technology in second language writing: Advances in composing, translation, writing pedagogy and data-driven learning* has seized the tide of today's novel and imperative topic of the current writing research. Luckily, teachers and researchers in the L2 writing field have the chance to get access to the pioneer work on the use of advanced technology tools in L2 writing instruction and research. This cutting-edge book

has the potential to pave the road for further explorations of the use of digital tools in writing and in pedagogy in a broader way.

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