Chapter 79
Technology and Second Language Writing:
A Framework–Based Synthesis of Research

Soobin Yim
University of California – Irvine, USA

Mark Warschauer
University of California – Irvine, USA

ABSTRACT

This chapter aims to synthesize research on technology and second language writing through the lenses of three common and broad discourses surrounding literacy and technology: achievement, change, and power (modified from Warschauer & Ware, 2008). The authors discuss the meaning and relationship of each perspective to the field of technology and second language writing as well as provide an overview of recent research under each category. This framework-based analysis sheds new light on current research, offering researchers and teachers an opportunity to consider the weaknesses and strengths of each research focus as well as the gaps in the literature. Through examining the interwoven relationship between tech-nology and second language writing under different perspectives, the authors ultimately aim to explore the ways we can maximize the educational benefits of technology use for non-native speakers of English.

INTRODUCTION

The ubiquitous presence of new technology has brought great changes in writing practices and instruction. Technology can have a powerful influence on students' writing; in turn, writing can maximize the potential benefits of digital media for education. One group of students who can benefit greatly from a strong connection between technology and writing is non-native English speakers. Since such students must increasingly demonstrate written communication skills in English as well as technology skills in order to participate and compete in a globalized economy, combining English and technology can provide students real-life purposes for writing and increase motivation and efficiency in learning. Furthermore, for tech-savvy students in countries such as Japan, Korea, or China, where access to broadband is widespread (Bleha, 2005; Kelly,

Gray, & Minges, 2003; Reardon, 2005), English writing with technology can be both empowering and synergizing; students can build their second language writing skills upon their already advanced technology skills.

Such synergistic relationships between technology and second language writing can also be explained in terms of a cultural modeling approach. In cultural modeling, students learn to consider their own cultural practices as valuable for learning classroom practices (Hull & Schultz, 2001). As technology-based activities such as online communication and Web searching become common cultural practices for students, second language learners find English not as a forced-to-learn core subject, but as a universal language in online spaces. In this context, English writing using technology becomes a more interest-driven, purposeful, and natural activity for second language learners.

The potential of technology to support second language writing has been illustrated in many studies over the past two decades. There has been fruitful research on diverse ways of incorporating technology in writing (e.g., Bruce, 2009), characteristics of second language writing with digital media (e.g., Schultz, 2000), and the challenges and benefits of technology use in second language writing (e.g., Bloch, 2007). Most recently, complex issues of culture, identity, and audience surrounding the use of technology and second language writing have also been explored (e.g., Lam, 2000; Black, 2009; Forte & Bruckman, 2010). In this era of fast- emerging research in technology and second language writing, scholars and practitioners may benefit from a review of research under a conceptual framework that facilitates interpretation of different perspectives and offers insight into how to maximize the benefits of technology use for non-native speakers of English.

In this chapter, we analyze research on technology and second language writing through the lenses of three common and broad discourses surrounding literacy and technology: *achievement*, *change*, and *power* (Warschauer & Ware, 2008).

We begin the chapter by providing definitions of the three perspectives, whose emphases are respectively on technology's teaching effectiveness, transformative power, and mission for socio-economic equality, and later discuss the meaning and relationship of each perspective to the field of technology and second language writing. Then we provide an overview of recent research on second language writing and technology under each category, drawing on both quantitative and qualitative research, as well as interventions and naturalistic studies of the field. This framework-based analysis will shed new light on current research, offering researchers and teachers an opportunity to consider the weaknesses and strengths of each research focus as well as the gaps in the literature. Through examining the interwoven relationship between technology and second language writing under different perspectives, we ultimately aim to explore the ways we can maximize educational benefits of technology use for non-native speakers of English.

FRAMEWORKS FOR TECHNOLOGY AND SECOND LANGUAGE WRITING

The relationship between technology and second language writing can be interpreted using broader discourses surrounding technology and literacy. Developing Warschauer and Ware's (2008) original framework that defined the three most common research themes in the field of technology and literacy, we put forward the achievement, change, and power frameworks, each with their own epistemological assumptions, set of practices, and evidence bases. In the *achievement* frame, the emphasis is typically on raising test scores on standardized measures of reading and writing, while in the *change* framework, the emphasis is on how literacy itself is transforming in radical ways because of revolutions in Information and Communications Technology (ICT). Lastly, the *power* framework focuses on relationships be-

Related Content

Robustness Analysis of Patchwork Watermarking Schemes
Hyoung-Joong Kim, Shijun Xiangand In-Kwon Yeo (2008). *Digital Audio Watermarking Techniques and Technologies: Applications and Benchmarks (pp. 172-186).*
www.irma-international.org/chapter/robustness-analysis-patchwork-watermarking-schemes/8331

Semantic Medical Image Analysis: An Alternative to Cross-Domain Transfer Learning
Joy Nkechinyere Olawuyi, Bernard Ijesunor Akhigbe, Babajide Samuel Afolabiand Attoh Okine (2021). *Advanced Concepts, Methods, and Applications in Semantic Computing (pp. 128-146).*
www.irma-international.org/chapter/semantic-medical-image-analysis/271125

Data Hiding for Text and Binary Files
Hioki Hirohisa (2014). *Computational Linguistics: Concepts, Methodologies, Tools, and Applications (pp. 1495-1514).*
www.irma-international.org/chapter/data-hiding-for-text-and-binary-files/108790

Introduction to Speech Recognition
Sergio Suárez-Guerraand Jose Luis Oropeza-Rodriguez (2007). *Advances in Audio and Speech Signal Processing: Technologies and Applications (pp. 325-348).*
www.irma-international.org/chapter/introduction-speech-recognition/4691

An Overview and Technological Background of Semantic Technologies
Reinaldo Padilha França, Ana Carolina Borges Monteiro, Rangel Arthurand Yuzo Iano (2021). *Advanced Concepts, Methods, and Applications in Semantic Computing (pp. 1-21).*
www.irma-international.org/chapter/an-overview-and-technological-background-of-semantic-technologies/271118