Epilogue: Second language writing in the age of computer-mediated communication

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A R T I C L E   I N F O

A B S T R A C T

The emergence of digital technologies has significantly transformed the forms, genres, and purposes of writing both inside and outside the classroom. This special issue focuses on writing in computer-mediated environments to provide important insights for educators, researchers, and instructors in this area. We summarize the findings from the special issue in light of other recent research, and point to implications for pedagogy and research.

1. Bridging the gap

Digital technologies have dramatically reshaped the forms, genres, and purposes of writing (Chun, Kern, & Smith, 2016). In the digital era, students are actively engaged in a wide range of technology-facilitated literacy practices in their out-of-school environment, such as text-messaging, emailing, playing online games, and chatting through social network sites. These out-of-school literacy practices, covering topics of interest to students and mediated by multiple modalities (Reinhardt & Thorne, 2011), all involve certain forms of reading and writing. However, a strong disconnect exists between students' out-of-school and in-school literacy practices. On the one hand, teachers may be unaware of the digital competences students gain from out-of-school literacy practices or be uncertain about how to bring these competences into classrooms. On the other hand, students often do not consider the reading and writing activities they engage in everyday life as connected to language learning (Williams, 2005).

The special issue papers all address the gap between in-school and out-of-school digital literacy practices, a common theme of prior scholarship on this topic (see, e.g., Black, 2005; Jenkins, 2009; Lam, 2004; Weinstein, 2002; Williams, 2005). Elola and Oskoz (current issue) discuss using the "bridging activities" framework (Thorne & Reinhardt, 2008) to facilitate technology-mediated L2 teaching and learning. This framework, oriented by multiliteracies pedagogy (The New London Group, 1996) and focusing on learner awareness, argues that bridging the experiences and practices students gain from their everyday life with the affordances of schooling could improve L2 learners' linguistic awareness and further facilitate their meaning-making process through social and cultural practices. Reinhardt and Thorne (2011) further proposed a three-stage model of *observation* and *collection*, *exploration* and *analysis*, and *creation* and *participation* (p. 271) to facilitate the implementation of the "bridging activities" framework into technology-facilitated L2 literacy activities.

The three empirical articles in this special issue echo the importance of the bridging activities framework and apply it to their studies, providing evidentiary support for the affordances of digital technologies in the teaching and learning of L2 writing.

To be specific, Smith, Pacheco, and de Almeida's study investigated bilingual students' multimodal composition in a formal learning context – a middle school writing classroom. The task was for students to complete a presentation about the life of a personal hero using multimodal representations, including a recorded interview with the person they chose and a PowerPoint presentation

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elaborating on the topic. The implementation of this technology-facilitated classroom activity aligns with Reinhardt and Thorne's (2011) three-stage model that students first *observed* sample multimodal projects, then *explored* different digital technologies and modes for use in their project, and further *created* their own multimodal product using different tools, modes and languages.

(Cho (current issue) investigated how three L2 learners collaboratively wrote on Google Docs and used Skype to facilitate their discussion in an in-school but informal context – an English debate club in a university. In her study, Cho specifically examined the interaction patterns among those three L2 learners in the synchronous L2 collaborative writing, and factors contributing to the degree of interaction. The task was for students to write a summary report for a debate meeting in the group. As stated by Cho, the advantage of collaborative writing in an informal setting was that the participants were usually highly motivated and self-regulated, and "the tasks involved authentic, naturally motivated topics and contexts rather than collaborative writing prescribed by teachers as a language learning exercise" ("this volume").

While the aforementioned two studies took place in either formal or informal in-school environments, Vandommele, Van den Branden, Van Gorp, and De Maeyer further compared how adolescent L2 students' multimodal composition affect their writing development in both in- and out-of school interventions with a comparison group working on traditional writing assignments. In both intervention groups, a particular task of designing a website incorporating multimodal composition was adopted, with the exception that learners in the out-of-school group were given more autonomy regarding content selection, mode selection, and working with people from other professions (e.g., free-lance artists) rather than teachers.

To conclude, all three empirical studies included in the special issue tend to close the gap between in-school and out-of-school literacy practices, either by investigating students' writing processes through using different technologies, modes, or languages to facilitate their composition and interaction, or examining the different effects in- and out-of-school multimodal composition could have on students' L2 writing development. One similarity across these three studies is that they focus on the informal nature and genre of written communication that represents a shift away from the highly structured teacher-directed writing environment (Sun, 2010). In all the cases, teachers often do not provide detailed formal instructions or specific rubrics regarding the expectations. Instead, teachers or sometimes other professionals play the role as facilitator to provide instant support and offer constructive feedback. Previous research has suggested that the informal style that computer-mediated communication (CMC) fosters could help students express their personal voice and ideas more freely than in traditional classrooms, where students' thoughts are often restricted and limited by rigid standards and fixed formats of writing (see discussion in Warschauer & Grimes, 2007). Furthermore, when providing learners opportunities to gain an authorial voice and have authentic audience, students tend to be highly motivated, deeply engaged and more thoughtful when constructing texts (Wheeler, Yeomans, & Wheeler, 2008).

In the next section, we will discuss the potential benefits CMC could provide for L2 writing processes and outcomes, based on the findings from the special issue articles and previous literature. After that we will discuss the implications for L2 writing pedagogy and future research.

2. Major themes and contributions from this special issue

2.1. Writing processes

A social-cultural perspective regards reading and writing as "communicative conventions and resources provided by the culture" (Kern, 2000, p. 34). From this view, literacy involves not only linguistic and cognitive processes, but also social practices that integrate reading, writing, and meaning-making (Knobel & Lankshear, 2007). In the present issue, both Cho's and Smith et al.'s studies take this perspective to examine students' multimodal composition in computer-mediated environments. While Cho's study focused on exploring the social interactions among participants, Smith et al.'s study closely examined the meaning-making process of L2 learners through negotiation with contextual factors such as modes, tools, and languages.

2.1.1. Facilitating interaction and collaboration in writing

Compared to traditional classroom writing that is typically individual, text-based, and written for the teacher, technology-enhanced writing tends to be more collaborative and interactive, multimodal, and written for a wider audience (Godwin-Jones, 2015; Kurek & Hauck, 2014). A number of studies suggest that computer-mediated communication (CMC) can potentially increase participation and interaction among students and peers, which is crucial for students' language development. Zheng and Warschauer (2015) examined the interaction pattern change in a microblogging environment in fifth-grade classrooms among diverse learners throughout a school year. Using social network analysis, it was revealed that student interactions with teachers and peers became denser and more dynamic throughout time, and the learning community developed from a teacher-dominated network in the first two months to a student-centered network in the last two months of the activity.

In the special issue, Cho's empirical study investigated linguistic adoption and language functions of interaction patterns among three L2 learners in collaborative writing activities in Google Docs, and further explored factors affecting their interactions. When learners collaborated on Google Docs together with the embedded text chat feature, the interaction among these three participants tended to be a facilitator/participant pattern involving high mutuality but low equality. In contrast, while they collaborated on Google Docs but using Skype for voice-chat, the interaction pattern tended to be collaborative involving high mutuality and high equality. This finding suggests that, compared to text-chat mode, voice-chat mode of communication helped enhance participants' interaction and collaboration, mostly due to the instant and more interactive nature of voice-chat. Oskoz and Elola (2014) also compared L2 students' collaborative writing via voice-chats and text-based wiki. Their study indicated that the different impact on students' writing is mostly due to the inherent affordances of chats and text-based communication. While the synchronous nature of