Good or bad collaborative wiki writing: Exploring links between group interactions and writing products

Mimi Li[a,*], Wei Zhu[b]

[a] Department of Writing and Linguistics, Georgia Southern University, Newton Building, Room 1118, P.O. Box 8026, Statesboro, GA, 30460, USA
[b] Department of World Languages, University of South Florida, 4202 E. Fowler Ave., CPR107, Tampa, FL 33620, USA

A R T I C L E I N F O

A B S T R A C T

The wiki has empowered collaborative writing in L2 classes during this decade. Previous studies investigated wiki writing processes, including students' contribution to wiki texts and patterns of interaction, but scarce is the research on the quality of wiki writing products in relation to peer interaction during writing processes. This article reports a case study that examined collaborative wiki writing texts, and explored the links between wiki-mediated interactions and wiki products when four small groups of ESL students performed a research proposal writing task in an English for Academic Purposes course. We examined the qualities of wiki group writing products by analyzing features of rhetorical structure, coherence, and accuracy, supplemented with the scores given by two raters. Based on previously reported results on group interactions (Li, 2014; Li & Kim, 2016), we also explored the connections between writing products and patterns of interaction in the wiki writing task environment. Results revealed that Group 1, which demonstrated a collective pattern, produced the research proposal of the highest writing quality, particularly in the areas of rhetorical structure and coherence, followed by Group 2 that exemplified an expert/novice pattern. Group 3 and Group 4 that exhibited a dominant/defensive pattern and a cooperating-in-parallel pattern respectively produced research proposals of relatively low quality. We explained the links between wiki interactions and products by drawing on scaffolding and co-ownership.

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1. Introduction

Collaborative writing has gained attention in second and foreign language learning contexts during the last three decades. Informed by sociocultural theory, collaborative writing provides a cognitive and social activity in which students pool collective knowledge and co-construct learning through scaffolded interactions (Donato, 1994; Swain, 1995). Ede and Lunsford (1990) described three distinct features of collaborative writing: a) substantive interaction throughout the writing process; b) shared decision-making and responsibility for the text produced; and c) a single written product. Based on this former work, Storch (2013) clarified that collaboration entails individuals' coordinated effort to complete a task together throughout the writing process, including joint contribution to planning, generation of ideas, deliberations about the text structure, revision, and editing. Meanwhile, a collaborative writing product is a jointly produced and shared text that cannot

be easily reduced to the separate input of individuals (Stahl, 2006; Storch, 2013). Collaborative writing product is also co-owned, "with all writers sharing in the ownership of the text produced" (Storch, 2013, p.2).

Previous literature has identified multiple benefits of collaborative writing for second language (L2) writers, ranging from enhancing audience awareness (Storch, 2012), fostering reflective thinking (Keys, 1994), and increasing attention to language forms and discourse (DiCamilla & Anton, 1997; Swain & Lapkin, 1998), to providing opportunities to jointly review the emergent text and apply newly-learned knowledge (Hirvela, 1999).

One prominent research strand in collaborative writing involves writing process, with a focus on patterns of interaction. In Storch's (2002) seminal work on the nature of peer interaction in the face-to-face collaborative writing task environment, she illustrated four types of interaction patterns in English as a Second Language (ESL) pair writing processes: collaborative, dominant/dominant, dominant/passive, and expert/novice. Storch reported that the students in pairs displaying a collaborative orientation (i.e., collaborative pattern and expert/novice pattern), showed evidence of more learning uptake reflected in more transfer of knowledge in subsequent individual work than pairs exhibiting the non-collaborative orientation (i.e., dominant/dominant and dominant/passive patterns). Her study, thus, indicated that patterns of peer interaction influenced students' writing and learning outcome. Watanabe (2008) later reinforced the positive impact of the collaborative stance on face-to-face collaborative writing from the participants' perspectives. Focusing on the interactions of the same ESL student with a higher-proficiency peer and a lower-proficiency peer sequentially during pair writing, Watanabe (2008) found that both the higher- and lower-proficiency peers were perceived to provide opportunities for learning if they displayed a collaborative stance through sharing many ideas and making equal contributions to writing.

Another important research strand concerns the comparison of the collaborative writing product with individual writing. A number of key scholars in the field have found that collaboration leads to more accurate writing performance. For instance, Storch and Wigglesworth (2007) compared pair writing and individual writing of advanced ESL students on two writing tasks, namely data commentary and argumentative essay, by analyzing T-units of writing. They found a significant difference between the two groups in the area of grammatical accuracy, despite little difference in fluency and complexity. Fernández Dobao (2012) further examined collaborative writing in a Spanish as a Foreign Language classroom by comparing group, pair, and individual texts on a picture-cued narrative writing task. Results revealed that although no difference in complexity was detected among group, pair, and individual texts, small groups produced the most accurate texts. The highest writing accuracy was attributed to the frequency and accuracy of Language-Related Episodes (LREs) in group talk: small groups produced the greatest number of LREs and correctly resolved LREs. Fernández Dobao (2012) explained that small group work provides more opportunities for students to pool their linguistic resources together to address the language problems encountered.

A more recent collaborative writing research strand examined learner interactions in face-to-face versus computer-mediated contexts. For example, Rouhshad and Storch (2016) compared patterns of interaction in the face-to-face collaborative writing context with those in Google-doc writing task environment. Their study indicated that the mode of interaction may affect the pattern of interaction, drawing on their findings that most pairs in the face-to-face mode demonstrated the collaborative pattern while cooperation and dominant/passive patterns constituted the main patterns in the Google-doc writing environment. Another study (Rouhshad, Wigglesworth, & Storch, 2016) reported that the communication mode influenced both the type and quality of student negotiations. For example, significantly fewer negotiations of meaning were observed for the synchronous computer-mediated communication mode than for the face-to-face mode when a group of English language learners at the intermediate language proficiency level performed two decision-making tasks in pairs.

Since computer-mediated collaborative writing may involve a range of possible technological tools, research has examined student interactions in different technological environments in order to better understand the affordances of technologies for learner interaction during the writing process. One type of technology that has received increasing attention is the wiki. The wiki, due to its perceived "intensive collaborative" nature (Godwin-Jones, 2003; p. 15), featured with user editability, asynchronous communication, and detailed page history, is increasingly incorporated into L2 writing tasks. One feature of the wiki that may be especially conducive to writer collaboration is that each version of the wiki written document is transparent to co-writers and the transparency encourages continual refining of the shared written texts (Lee, 2010). Further, the asynchronous posts also allow co-writers to develop a thoughtful response to one another's contribution (Storch, 2012). Given its potential to support writing collaboration and its increasing role in the L2 writing classroom, the wiki has attracted researchers' attention in the L2 context.

Previous studies on wiki writing (e.g., Arnold, Ducate, & Kost, 2012; Bradley et al., 2010; Li & Zhu, 2013; Li, 2014) have revealed that students demonstrate different patterns of interaction (not uniformly collaborative) in the wiki writing environment, as in the face-to-face collaborative writing task environment. For instance, Bradley, Lindström, and Rystedt (2010) and Kost (2011) reported both a collaborative approach in which students jointly refined writing ideas and co-constructed the wiki page, and a cooperative approach in which individual students contributed to consecutive texts or merely completed the divided workload with no evidence of collective efforts in text construction.

Although much less research has investigated collaboratively produced wiki texts compared to research on face-to-face collaborative writing, a few studies (e.g., Alyousef & Picard, 2011; Elola & Oskoz, 2010; Kost, 2011; Kuteeva, 2011) have addressed textual and discourse features of wiki texts that groups/pairs produced. For instance, Kuteeva (2011) conducted a wiki-based collaborative writing project in an English for Academic Purposes (EAP) course, and focused on the discourse features of wiki writing, particularly students' use of interpersonal metadiscourse, such as engagement markers, hedges, and