One wiki, two groups: Dynamic interactions across ESL collaborative writing tasks

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ABSTRACT

With the growing importance of Web 2.0 tools for communication and collaboration, small group writing using one such tool—the wiki—has been increasingly implemented in second language classes. A few researchers have examined group interactions during wiki-based collaborative writing, but little research has explored changes in interaction patterns that occur when students perform multiple wiki writing tasks. This study investigates two ESL groups' interactions during two collaborative writing tasks that used a Wikispaces site in an English for Academic Purposes (EAP) course at an American university. We examined the dynamics of peer interaction across writing tasks for each group by inspecting (1) language functions performed during task negotiation, (2) writing change functions performed during text co-construction, (3) scaffolding strategies, and (4) changes in patterns of interaction across tasks. Data included wiki modules, interviews, and reflection papers. Our analyses show that two ESL groups working on identical tasks in the same wiki space enacted strikingly different patterns of interaction and that those patterns changed within each group across two tasks. We discuss these dynamics with reference to the fluidity of scaffolding occurring within small groups. This study fills a gap in computer-mediated collaborative writing research and also sheds new light on networked writing pedagogy.

Published by Elsevier Inc.

1. Introduction

Interaction within a small group writing task environment has captured the attention of second language (L2) teachers and researchers over the past decades (Donato, 1994, 2004; Storch, 2002, 2004; Swain & Lapkin, 1998). Collaborative writing as an instructional activity that encourages interaction during the writing process has been increasingly implemented in L2 classes. Swain (1995, 2000) posits that the need to produce written output encourages students to process language deeply, to reflect on language use, and to collaborate in the solution of linguistic problems. In the process of co-authoring, students contribute to decision making in various aspects of writing (Storch, 2005) and take into account not only grammar and lexis but also discourse (DiCamilla & Anton, 1997; Storch, 2002; Swain & Lapkin, 1998). Collaborative writing tasks also provide L2 students with more opportunities to review and apply the content knowledge they have learned (Hirvela, 1999).

Research on face-to-face collaborative writing (e.g., Storch, 2002; Watanabe, 2008) shows how interaction patterns influence students' writing performance and their learning outcomes. Storch (2002) conducted a collaborative writing project with ESL college students and examined patterns of interaction in pair writing in terms of *equality* (i.e., the degree of

contribution to writing and the extent of control over the direction of writing) and *mutuality* (i.e., the degree of engagement with each other's contribution). She identified four interaction patterns: *collaborative*, *dominant/dominant*, *dominant/passive*, and *expert/novice*, and reported that the pairs displaying a collaborative stance (i.e., *collaborative* and *expert/novice*) showed evidence of more uptake indicating more transfer of knowledge in subsequent individual work than the pairs exhibiting the remaining two patterns (i.e., *dominant/dominant* and *dominant/passive*). Watanabe (2008) demonstrated the important role of interaction, in contrast to language proficiency, in students' writing performance. Both higher- and lower-proficiency peers can provide opportunities for learning if they display a collaborative stance, sharing reciprocal ideas and making equal writing contributions.

Due to the increasing accessibility of Web 2.0 technologies, online collaborative writing has become more common in L2 teaching and research. In particular, with wikis' multiple functions, e.g., "Discussion," "Comment," and "History,"[1] which afford opportunities for collaborative writing, students' interaction during collaborative wiki tasks has become an emerging research topic. One line of inquiry has examined students' wiki writing and revising behaviors. Mak and Coniam (2008) identified four types of *writing change functions* that small groups of secondary ESL students were engaged in when jointly producing a school brochure: adding ideas, expanding ideas, reorganizing ideas, and correcting errors. In a study on German-as-a-foreign-language college students' collaborative writing in pairs, Kost (2011) found both meaning changes (e.g., additions, deletions, and substitutions) and form changes (e.g., edits on spelling, punctuation, and nominal endings). More recently, Li (2013) examined the collaborative writing process of a small group of Chinese EFL students and identified five types of writing change functions: addition, deletion, rephrasing, reordering, and correction. This study illustrated group members' mutual engagement in the collaborative wiki writing process, by analyzing each type of writing change functions in terms of two subtypes: *self* writing change functions (i.e., writing changes made to the texts composed by the member himself/herself) and *other* writing change functions (i.e., writing changes made to the texts composed by other group members).

Another research strand has focused on patterns of interaction in collaborative wiki writing. Drawing on the archived wiki History records, Bradley, Linström, and Rystedt (2010) detected three distinct patterns of interaction when pairs of students co-constructed writing in an ESP course: *a lack of visible interaction*, where only one individual posted a full piece of text; *cooperation*, where individuals worked in a parallel fashion; and *collaboration*, where individuals engaged with each other's ideas and jointly wrote the essay. In a German-as-a-foreign-language context, Arnold, Ducate, and Kost (2012) identified more collaboration patterns when students made formal revisions, but more cooperation patterns when they made content changes. Following Storch's (2002) account of interaction patterns with respect to "equality" and "mutuality," Li and Zhu (2013) examined wiki Discussion records supplemented with wiki Page and History records, and derived three distinct patterns of interaction in EFL group wiki writing: *collectively contributing/mutually supportive*, *authoritative/ responsive*, and *dominant/withdrawn*. Just as in the face-to-face setting, Li and Zhu (2013) indicated that wiki-mediated interaction influenced students' writing performance and learning experience: The groups exhibiting the first two patterns reported in the interviews more learning opportunities than the group demonstrating the third pattern.

Despite such research on students' interactions using wikis, "there is still a lack of clarity of the nature of wiki collaboration" (Storch, 2011, p. 285), in particular, on how students negotiate writing tasks and jointly produce wiki texts. We attribute such gap partly to the lack of systematic coding frameworks for analyzing wiki interactions. Previous research (e.g., Arnold et al., 2012; Bradley et al., 2010; Mak & Coniam, 2008) has been limited to students' text construction behaviors (i.e., how wiki texts are jointly constructed), and existing coding schemes have not been unified. To provide a comprehensive picture of the collaborative writing process, we need to examine how students first negotiate writing tasks and then construct wiki texts together. Wikis' affordances for collaboration through the three distinctive features (i.e., Discussion, Comment, and History) have rarely been examined in previous research, and tracking students' use of them allows us to examine the writing process more adequately, including joint task negotiation, joint text construction, and continual revision. Furthermore, little research on collaborative writing, in either face-to-face or computer-mediated settings, has explored changing patterns of peer interaction across writing tasks. The present study fills these research gaps by investigating the dynamics of interaction when small groups of ESL students perform two collaborative wiki writing tasks using Wikispaces in a university EAP course.

We take a sociocultural theory perspective to explore the small groups' wiki writing interaction. Sociocultural theory describes how human cognitive development is a socially mediated process in which language, as a mediating tool, plays an essential role (Donato, 1994; Lantolf, 2000; Vygotsky, 1978). Language allows people to plan, coordinate, and reflect on their actions (Wells, 1999). In pair or group work, language allows learners to co-construct knowledge and solve problems during interaction (Antón & DiCamilla, 1998; Swain, 2000; van Lier, 2002; Villamil & de Guerrero, 1996). Learners negotiate meaning and social relationships as they speak, with linguistic tools becoming essential components of the systems in which problem solving and cognitive development occur (van Lier, 2002). In peer response activities, scholars have examined participants' approaches to critiquing peer writing by analyzing the language functions of their utterances, namely the purposes in which language is used to communicate, such as suggesting, eliciting, justifying, and questioning (e.g., Lockhart

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[1] Wiki "Discussion" allows students to communicate and negotiate page contents and revisions via asynchronous messaging; "Edit" enables students to freely change or revise texts, images, or hyperlinks; "History" reveals all the changes the page has gone through with color-coded deleted and inserted texts; and "Comment," a newly established feature in the editor toolbar, allows students to raise questions about specific texts and provide comments by posting in pop-up boxes.