FROM PERIPHERY TO PARTICIPATION: EXAMINING POST-SECONDARY STUDENTS' ONLINE COMMUNICATION IN A COLLABORATIVE WRITING PROJECT USING WIKIS

Nargis Abraham, PhD
Program Head, Professional English Language Development
British Columbia Institute of Technology
Canada

Valia Spiliotopoulos, PhD
Associate Director, Learning and Teaching Centre
University of Victoria
Canada

Abstract

Language and cultural barriers can play a role in inhibiting students who are non-native speakers of English from integrating into the university community, thereby delaying their transition from new arrivals to fully participating citizens. As such, an innovative approach to encouraging student collaboration and communication and developing intercultural competence was implemented in a first-year Communication course at the British Columbia Institute of Technology, Canada, where student teams used a wiki and online forum to write reports collaboratively. This study explores the relationship between students' online participation using the wiki and online forum, and their communication skills and intercultural competence.

Introduction

Online technologies are transforming post-secondary education at rapidly increasing speeds and changing the way students participate, interact, and learn. Online collaboration software that facilitates team projects is one more promise that academics are adopting in their goal to not only teach the course but to also equip students with communication and collaboration skills required in diverse, multicultural settings both in the classroom and in today's work environments.

In classrooms where there are frequently an almost equal number of native speakers (NS) and non-native speakers (NNS) of English, one challenge facing instructors when asking students to work on collaborative writing is to encourage the NS and NNS to work together to ensure both an equal distribution of roles and responsibilities, and mutual respect and understanding. To that end, the purpose of this study was to explore if and/or how online technologies, such as discussion boards and wikis, might not only improve communication skills, but also develop

intercultural competence.[1] More specifically, this research studied the online collaborative process by examining the relationship between students' active online participation in collaborative writing and web-based discussions, and students' communication skills and their intercultural competence. As such, the following questions guided this study:

- How did the students use the wiki portal to work on their reports in ways that promoted the development of communication skills? How often did they visit the portal to compose and edit their reports? What was the nature of the visits?
- How did the students perceive the use of online technology for collaborative writing, with particular reference to the use of wikis and online discussion?
- What was the relationship between online participation and intercultural competence and between online participation and communication skills?

This paper begins by providing an overview of research and practice of wikis in education and a brief outline of relevant studies on intercultural competence. Research methodology is described, along with a description of the project and a profile of the students. Findings are presented on student participation in online collaborative writing, a discourse analysis of students' online discussion, their reflections on the process, and relationships between participation and intercultural competence and communication skills.

Literature Review

Online collaborative writing tools such as wikis and online discussion forums have recently been the topics of much research and discussion in terms of their pedagogical benefits; however, their relationship to intercultural competence and communication skills development, which this research hoped to address, has not yet been fully explored. This section will review some related examples and research studies on wikis in education, and will briefly outline the notion of intercultural competence.

Wikis in Education: Research and Practice

Interest in the use of wikis for collaboration and writing improvement has increased in recent years as collaboration and communication have been perceived

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[1] This study was funded through the BCIT Technology Enabled Knowledge Initiative, a five-year initiative (2005 – 2010) aimed at providing opportunities for faculty, students, and staff to enhance learning and teaching through the innovative use of educational technologies (Beers, 2007).

as keys to success in today's knowledge economy and team-based work environment (Tapscott & Williams, 2006). Driscoll (2007) aptly describes the positive view of using wikis in education: "What if teachers want their students to be able to work together in an online publishing environment, but they need a tool that will not limit students to organizing their work by time?. . .Enter the wiki. . . The freedom to publish and share ideas creates a learning environment that empowers and motivates teachers and students to become active participants in the educational experience."

Over the last few years, wikis have been adopted by teachers to provide more flexible learning environments for their students in collaborative projects. Joe Moxley, a professor of English at the University of South Florida, uses wikis routinely in his courses and outlines their advantages: ". . .wikis provide a low-cost but effective communication and collaboration tool (emphasizing text, not software); wikis. . . (facilitate) 'writing as a process'. . ." (Lamb, 2004). Other instances of academic use include the Wikiversity site, University of Manitoba's Learning Technologies Centre's pilot of wiki software, and PraxisWiki — a wiki for teachers launched by Kairos, an online journal on rhetoric, technology, and pedagogy. The University of British Columbia supports wikis in various academic projects (Lamb, 2004a).

In searching for research studies on the use of wikis for collaborative student writing, it was found that several researchers have experimented with wikis and other socially interactive online programs in student team assignments. Lamb (2004) noted that "perhaps the most common pedagogical application of wikis in education is to support writing instruction." Marsh (2007) reported that students in Dennis Becker's writing-intensive course on Natural Resource and Environmental Policy at the University of Minnesota appreciated how the wiki enabled them to share materials outside of the classroom and develop them asynchronously; the teacher appreciated access to successive archived student drafts.

A blended learning model was used by Cubric (2007) at the University of Hertfordshire, UK, who found that overall, motivation and quality of student contributions increased, and students appreciated the opportunity to work online and integrate. However, the lack of assessment standards for evaluating online student work and additional instructor workload were issues.

While wikis have been welcomed as efficient tools for collaborative online writing, they have not been without challenges. Lawley (2003) declared that she ". . .respond(s) better to web pages that are well designed and pleasant to look at. And wiki pages aren't. . .It's about the visualization of . . .(software-enabled) connections, the personalization of those connections." A study in ReCALL (2008) on AbstractWikis claimed that the potential for online collaboration

"challenges language production practices in school where the individual learner's output is often the focus of attention." Thus "learners work in and across activity types that create tensions between individual and collective, institutional and novel practices." Despite these tensions, the wiki has potential for the advancement of collective knowledge advancement and for language development (ReCALL, 2008).

Studies on Intercultural competence

A brief review of some studies on intercultural competence and communication skills was also conducted to help better understand how students' collaborative online participation could also help with the development of communication and intercultural competence.

Intercultural competence research suggests that individuals who have strategies for interaction are better equipped to function and improve on their communication skills in a multi-cultural setting such as the Canadian campus. "Intercultural competence" has been cited as an imperative for effective communication skills in multi-cultural communities (Lustig & Koester, 1996). Although language proficiency is mentioned often as a significant variable (Leibowitz, 2005; Yeh & Yang, 2003), researchers such as Jongewaard (2001) also list cross-cultural adaptability and trans-cultural awareness as characteristics of a 'universal citizen' that is an equally important goal in today's multicultural society. Thus, the present study wished to look at communication not only from an educational perspective, but also from a socio-cultural perspective.

The increased use of wikis in the education and the reported advantages of this tool for collaboration and communication encouraged the implementation of the wiki tool in a Communication course at BCIT and a research of its impact on achieving the main learning outcomes of the course — improved communication skills in a multicultural environment.

Research Methodology

In the present study, quantitative methods like frequency analysis were combined with qualitative methods such as process analysis and discourse analysis. For the purpose of this study, 'amount' of participation was measured as the number of 'visits' each student made to the wiki portal. A 'visit' is documented as the number of days (by date) a student used the wiki portal to compose or edit the report. Students entered the wiki portal more than once a day, and edited varying lengths of text. Student participation in the online discussion was measured by the number of items each student posted on the WebCT site. The discourse analysis of the online discussion was based on the works of Blum-Kulka et al. (1989) and

Biesenbach-Lucas (2006). Types of "speech acts" were identified, and students' responses categorized accordingly. To measure "Communication skills", students' marks in the COMM 1100 course were used as indicators. The marks were categorized as high (75% and above), medium (60–74%), and low (59% and below). In order to examine whether communication skills changed over the period of online participation in collaborative writing, differences between marks on the first assignment and final marks were identified.

To determine "intercultural competence (IC)," students were administered an intercultural competence strategies inventory (ICSI) (modeled on Paige et al.'s Culture-Learning Strategies Inventory, 2004). Thirty-five statements about strategies for intercultural communication were formulated, and a four-point scale was constructed for responses. Because the 4-point scale started with a statement that indicated high intercultural competence (1 = I use this strategy and like it) and went to a statement that indicated low intercultural competence (4 = I have never used this strategy), high ICSI scores indicated low intercultural competence, and low ICSI scores indicated high intercultural competence. The minimum total score participants could achieve on the ICSI was 35, and the maximum total score was 140. Total scores were categorised as high IC (35–70), medium IC (71–105), and low IC (106–140).

The data analysis consisted of reporting frequencies of students' online participation on the wiki and online discussion forum, and comparing these frequencies with communication skills' scores and intercultural competence (IC) scores.

Description of the Project

To enable collaborative student participation in the online wiki writing project, an assignment was designed for the COMM 1100 Introduction to Business Communication course which required students to work in teams to research and produce informational reports on facilities available to students at BCIT and in Metro Vancouver. To ensure that teams were appropriately mixed in terms of English skills, the instructor assigned students to 2–3 member teams. Students worked on the draft online on the wiki portal; the instructor accessed the portal to review the drafts and provide feedback to students at two stages. Students then revised the drafts and posted the final version of their reports on the wiki portal. The type of wiki used for this study, pbwiki, did not have an asynchronous chat feature, so a WebCT online discussion board was used to enable students to discuss each others' wiki reports and reflect on the process. Students also did oral presentations where they reflected on the collaborative process of writing online reports.

Profile of Students

The population studied was first-year students in the International Trade & Transportation program at the British Columbia Institute of Technology (BCIT). Thirty-five students participated in the project and were assigned into 12 teams for the online assignment. Of these, 28 students (80%) completed the ICSI survey questionnaire.

More than half of the students (64%) were 18–25 years old; the others were 26+ years old. Half the students were ethnically Chinese (50%), five (17.8%) were ethnically Indian/Pakistani, three (10.7%) were ethnic Europeans, and a couple each said their ethnic background was Latin American and Middle Eastern. More than half (60.7%) were born outside Canada. Of these, ten students (35%) had lived in Canada for five years or less, and 14.2% (4) had lived in Canada for 16 years or more. A little more than half (53.5%) said English was their first language, and a little less than half (46.4%) said their first language was other than English.

Findings

In order to determine the extent to which students participated in online collaborative writing, this section analyses intercultural competence scores and communication skills scores, followed by descriptions and analysis of online participation in wikis and the WebCT site. A discussion of discourse analysis of the online student discussion is included, and an attempt is made to examine whether participation was related to intercultural competence and communication skills.

Intercultural competence scores: Language and cultural backgrounds play a part in the extent to which students interact with each other. Canadian post-secondary students likely have varying past experiences of interacting with persons from cultural and language backgrounds different from their own. The ICSI (intercultural competence strategies inventory) questionnaire elicited students' use of strategies to interact with persons from other cultures. The total scores indicate levels of intercultural competence(IC), with high scores indicating low intercultural competence, and low scores indicating high intercultural competence. Most (19, or 67.8%) of the students' scores fell in the medium category of IC. Four (14%) demonstrated high IC, and five (17.8%) demonstrated low IC.

Communication skills: Communication skills' indicators are reported for 34 students. In the first assignment of the course, 38.2% (13) earned low marks, 55.8% (19) achieved medium marks, and 5.8% (2) achieved high marks. For the final mark, 8.8% (3) earned low marks, 70.5% (24) earned medium marks, and

23.5% (8) earned high marks. There was considerable improvement in students' marks between the first assignment and the final mark. Eleven students (32.3%) improved from low to medium marks, 17.6% (6) improved from medium to high marks, one student (2.9%) stayed in the high marks category, 35.2% (12) stayed in the medium marks category, 5.8% (2) stayed in the low marks category, and one student each declined from high to medium and from medium to low respectively.

Participation in Collaborative Writing — Use of the Wiki Portal

The following section examines the amount and type of participation that occurred using the wiki and attempts to answer the questions "How did the students use the wiki portal? How often did they visit the portal to compose and edit their reports? What was the nature of the visits?"

For the collaborative writing assignment, all students in the course were assigned to teams of 2–3 students. Most (94%, or 32 of 34) students participated online, likely because it contributed towards their final course marks. One team's strategy was that all three students contributed in face-to-face meetings and then one student input the composition online.

The total number of days that students used the wiki portal was 143. The average number of each student's visits to the wiki portal was 3.79 days. Eight students visited the portal on 4 days. Six students visited the portal on 5 days, six visited on 3 days, four on 6 days, three on 2 days, and one each on 9 days and 7 days. One student edited the report on 13 days, and two students visited the wiki portal only one day each, while two students did not visit the portal at all.

Within teams, students participated variously. In some teams, there was near-equal participation — for example, students in teams 4 and 11 visited the wiki portal on 4, 5, and 6 days, and students in team 5 visited on 3, 4, and 6 days. In other teams, one student visited the portal more than the others, for example, in team one, the students visited 3, 5, and 9 days, and team 2 students visited 6 and 13 days respectively.

"Nature of participation" refers to the types of edits made by students (i.e., text revisions and formatting revisions). Text revisions were made to add information, to correct errors in sentence structure and grammar, and to use the 'you' view in order to direct the information to the principal audience, i.e., BCIT students. Formatting revisions were made to use graphic highlighting, like bold face for headings, capitalization of the first letter of a sentence, bulleted lists, etc. Some of the formatting revisions converted the font type from the original text that the students had copied from another site to fonts compatible with their report.

Within their teams, sections of the assigned report topics were allocated to team members, who did the research and composition and added their sections to the online report. For example, for the report on BCIT's libraries, stores and cafeterias, student #22 worked on cafeterias, student #24 worked on stores, and student #26 worked on libraries. Each student made changes to their own sections. The final edit was done by student #22.

Frequencies and Discourse Analysis of Online (WebCT) Discussion

This study also examined how students structured their online statements about the collaborative reports, i.e., what discourse patterns they used to express their opinions. As part of the project, students were asked to read each others' reports and to post online discussion items about the report content. In total, 38 discussion items were posted by 16 students on the WebCT discussion portal. In contrast to the 143 visits that 32 students made to the wiki portal to compose and edit their reports, the 'amount' of postings to the WebCT discussion forum was far smaller. However, students may have visited the WebCT site to read others' postings but not have contributed postings of their own.

Of students who posted discussion items, eight posted 1 item each, four posted 2 items each, two posted 4 items each, one student posted 5 items, and one student posted 9 items.

In order to determine what types of discourse were used by students to interact with each other about their online reports, their discussion postings were studied to identify meaning patterns in terms of words, phrases, and sentences. Based on the work of Blum-Kulka et al. (1989) and Biesenbach-Lucas (2006), the following discourse categories of discourse were identified:

Complimenting = 19
Complimenting and suggesting = 6
Responding to compliments and suggestions = 9
Complimenting and Enquiring – asking questions about report content = 1
Responding to enquiries = 2
Garbled = 1

Complimenting and Suggesting: Several postings consisted of congratulatory remarks about the reports. Postings were variously titled. Some of the titles used colloquial compliments, like "good job guys!", "Great job!", "Well done!", "Good Work!" and "Awesome." Other titles used more straightforward language, like "A well organized informational report" and "very useful information." Examples of general phrases that were used in the body of these postings are ". . .is helpful. . .", ". . .is rather successful. . .", "very good organization report", "very informative". Some postings contained more descriptive statements. For example,

> Before I read your report, I don't understand what is BCITSA. However, you make me clear what is BCIT Student Association (BCITSA). Althought [sic] your report is short, your report is readable and clear. That is the information what I want to know.

Some postings combined compliments with suggestions for improving the wiki reports. A couple referred to using the 'you' view, which was emphasized by in the course as a technique the students needed to incorporate in their reports. For example,

> This is a perfect report because the authors use "You" view all the way. I like it. However, if the authors can introduce themselves to the readers, then it will be better.

Responding to compliments and suggestions: Many of postings were responded to by the authors of the respective reports. "Thanks" was used most often, sometimes accompanied with expressions of appreciation; for example, "We appreciate your encouragement", "I'm glad you find it helpful." The responses reiterated offers to provide more information if asked for: "If you need more detailed information, please feel free to ask." Other responses reinforced statements made in the complimentary posting, for example,

> Thanks. Yes, we use "You" view all the ways because our team believes that this is a good idea to let readers feel friendly and like to read it.

Enquiring and responding to enquiries: One posting asked for more information, and this was responded to by two postings. Although there was just this one query based on report information, the two responses could represent students' eagerness to establish that their report was of practical use.

Students' Reflections on Process

How did the students perceive the process of online technology for collaborative writing? To find out students' opinions about using wikis and WebCT portals, the triangulation research method was employed to analyze data collected from oral presentations and online postings.

Collaborative writing efficiencies: With regard to facilitating student-to-student interactions, students reported that the wiki portal saved time, as the team did not have to meet as often as if they had to work on paper; helped with language issues; gave access to other teams' documents — "to be able to see what other groups were doing"; made students help each other to learn how to use wikis and WebCT; facilitated interaction with other students, and gave them the freedom to reach all

students. One student found the wiki portal ". . .is kind like an erasable blackboard, every team member can put new ideas freely in it and other team members can get the newest version timely. . .In our team report, we used Wikis from the beginning. . .We didn't need to send the updated version to everyone whenever we made an alteration. It saved us lots of time and recourses" (Student #27). Student #25 wrote that ". . .As BCIT students, most of us are very busy on our studying. Therefore, we don't have so much time to often meet and discuss our report. WIKI supply us a good chance to meet in net. We can collect and edit information in it. In addition, we can share and read other teams's good articles." Student #26 stated that because the Internet is "a part of my life. . .Wiki make business writing fun. . .When I open the website, I can image [sic] what my team member do on Wiki. Business writing is not boring no longer. . ."

Collaborative writing challenges: Students found that they had to meet face-to-face for the first meeting, to discuss who did what; it was difficult to match schedules; they had to meet outside BCIT, outside class hours; (but) ideas and thoughts were better exchanged in face-to-face meetings; they had to use e-mail to contact each other, e.g., hotmail; they also used MSN Chat; wiki was impersonal and did not help with intercultural interactions.

Reflections on the Process and its Impact on Language Learning

In their overall assessment of how this process impacted their language learning, students reported only efficiencies (no negative statements were made). Students reported that the online collaborative writing process improved writing subconsciously; because of the wider audience; improved report writing abilities; helped learn that online writing is targeted to different (wider) audience. Student #2 said ". . .It's an interesting feeling to know that your efforts are exposing to a large audience. Moreover, it's improving our communication skills." Student #27 reported "(I) thought my writing improved through the process of writing, editing, discussing and revising. Through discussing with others, I got different pointviews about my team report. Then, I could keep revising it to get better. Thus, my writing skills improved." Student #34 liked the face-to-face aspect, because ". . . We help each other out. . .I like face to face because it help me better understanding and expressing myself." Overall, students were positive about their experience with online collaborative writing, and provided useful feedback about the challenges in using such technology.

Relationships

To find out whether there was a relationship between students' online participation and their communication skills, frequencies were noted against the score categories (high, medium, low) for these two variables. Of the eight students who scored high communication skills' scores, three worked on the wiki report for 6 days each, and four students worked on the report for 5, 4, 3 and 2 days each

respectively. One student worked on the report on 13 days. Of the three students who scored low communication skills' scores, one worked on the wiki report for 9 days, and two did not work on the wiki at all. Students who scored medium communication skills scores worked on the wiki report for various numbers of days. Therefore, frequency of participation did not seem related to communication skills' score.

What was the relationship between students' online participation and their intercultural competence (IC)? Of the four students who worked on the wiki report for 6 days each, two had low IC scores, one had a medium score, and one did not complete the IC. Of seven students who worked on the wiki on 5 days each, one had a low IC score, one had a medium score, and two had high score, and three did not do the IC. Of eight students who worked on the wiki for 4 days each, five had low IC scores, one had a medium score, and two had high scores. Of five students who worked for 3 days each, two had low scores, one each had medium and high scores. Three students who worked on the wiki report for 7, 9, and 13 days had low IC scores.

A similar variety of WebCT discussion item postings was noted in relation to students' IC scores. This data indicates that IC scores did not make much difference to students' online participation; it could be postulated that some of the students who had a low IC score worked on the wiki report for more number of days.

Conclusions and Recommendations

Based on the data, it can be inferred that students participated actively in collaborative online writing on the wiki portal. They were enthusiastic about the project, as is evident in their comments about the use of wikis for collaborative writing. Students did not participate as actively on the WebCT portal as they did on the wiki portal. One possible reason for this could be that the wiki portal was used to compose reports, which constituted 22.5% of their final COMM mark, whereas the WebCT postings constituted 2.5% of their COMM mark. Another could be that the WebCT discussion was at the end of the term, when students are typically pressured with course work, whereas the wiki participation was during the middle of the term.

Some negative statements were based on the formatting limitations of the technology. Students' frustrations at not being able to format their online reports on the wiki portal are an echo of Lawley (2003) who articulated the increasingly demanding expectations of today's internet users, who expect online information to be delivered in visually sophisticated formats.

Though students' communication skills improved over the period of the project, the results of this study showed that participation in online writing assignments is not necessarily related to communication skills nor to intercultural competence skills. Other reasons need to be investigated to explain why students participate in collaborative online writing assignments.

Instructors considering the use of wikis in their communication/writing course should introduce the assignment early in the term, to give both teacher and students adequate time to work on planning the report and on familiarizing themselves with the technology. Because of varying levels of familiarity with computers and online technology among students, teachers need to provide training in the technologies and adequate time for online writing and editing, and give students feedback on their writing and on their collaboration techniques. In the BCIT project, the instructor provided feedback to students two times before the final report. A longer period for the online discussion forum to be open to students will encourage more participation. To simulate face-to-face teamwork, instructors could encourage students to work on the wiki synchronously, i.e., like a 'chat' function, at mutually agreed times, so that they can post items or edit items and have these immediately (almost) edited by their teammate/s.

This study was based on the assumption from previous research that cultural competencies have an impact on collaborative learning. To be able to determine intercultural competence more clearly, future studies could conduct a before/after survey to measure any differences/gains/losses in intercultural competence before and after the online collaborative writing assignment.

Although this research is limited to one Communication class that used wikis and online discussion tools to complete a collaboratively written report, it helped to better understand both the affordances and limitations that come with the use of these tools as educators seek innovative ways to improve communication and understanding between culturally and socially diverse students. This study showed that not only can the technology tools themselves motivate students to develop collaborative writing skills (as reported by the students), but also that the guided tasks and activities that the technology facilitates can lead students to improve on these skills.

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