

## HOMEPAGE MAKING AND INTERACTION: EFFECTS OF TECHNOLOGY-DRIVEN COLLABORATIVE TASKS ON SOCIAL INTERACTION AND L2 WRITING

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### ABSTRACT

Thirty-seven sophomore students at a Japanese university participated in an extensive writing and homepage building task. Three questionnaires were disseminated throughout the study to investigate the students' perceptions about their English writing competence. Their in-class interactions were audio- and video recorded, and their writing samples before and after the task were collected. These writing samples were fed into Nation's (2005) Vocabulary Range Programme to identify the variety in vocabulary use. Focus is made on two groups: the most and the least interactive groups. The questionnaire results indicate that most students perceived collaborative work to be effective in improving their quality of English writing. The video- and audio-recordings revealed how student interaction was largely in L2, but their L2 interaction often reverted to L1 in discussing technology and when a student refused to take part in L2 interactions. The results of the Range Programme showed that both social and non-social groups benefited from the task, suggesting that while interaction is in general beneficial, is not an indispensable factor for those who hold negative perceptions towards group work. Finally, technological component adds extra need for group interaction, but L2 vernacular needs to be introduced first to assure L2 use. (199 words)

### INTRODUCTION

This paper, adopting a socio-cultural perspective (Lantolf, 2000; Lantolf & Thorne, 2006), addresses the following research questions:

- 1) How does group interaction unfold?
- 2) What roles do students play in scaffolding each other's learning
- 3) How does technology intervene and shape the group interaction?

- 4) What are the crucial mediating artifacts students rely on to successfully complete their task?
- 5) How is student affected by group interactions in terms of his/her actual writing, specifically vocabulary use, as well as perception towards writing and L2 in general?

An integral notion in socio-cultural theory is social interaction (Vygotsky, 1981). Furthermore, according to socio-cultural theory, a learner can display two levels of performance, one by the individual alone and

the other is a higher-order performance by the same individual but afforded by assistance, known as scaffolding. By comparing the two, we are able to determine the capacity in which an individual can benefit from interaction and mediation provided. For this reason, a group activity was introduced in this study to investigate the scaffolding effects among students as well as the mediating artifacts students utilize to reach a higher cognitive state (Villamil & Guerrero, 2006), actualized via peer editing (Hyland & Hyland, 2006) and collective problem solving inherent in the nature of the project (i.e., homepage making). Furthermore, a technology-driven *collaborative* writing exercise would give rise to a new transformation of human action (Warschauer, 2005), thus there is a need to investigate how this is actualized and affect language learning.

Thirty-seven EFL sophomore students at a Japanese university participated in a semester-long writing and homepage-building task. Students were divided into groups according to their sub-majors and were to produce a 10-page academic paper based on a topic within their sub-major. They were then instructed to put these papers together to make a 'book'. The final step was to convert their writings into a homepage by using Adobe Dreamweaver.

Three class sessions, audio- and video recorded, were spread over one semester, were devoted to work on the project. During that time, the students worked autonomously without teacher interventions.

Three questionnaires were administered throughout the study to account for perceptual changes towards the project. Students' writing samples before and after the task were also collected and fed into Nation's (2005) Range Program which compared the writings to the General Service List (GSL) and Academic Word List (AWL) to determine the number of word tokens as well as word variability in the actual texts. Baseword 1 (henceforth BW1)

includes the most frequent 1000 words of English, BW2 includes the next 1000 most frequent words, and BW3 includes words not in the first 2000 words of English but which are frequent in upper secondary school and university texts. Words that are not contained in BW 1 through 3 are categorized in the 'Not in the List' (NIL) category. We focused in particular on one group that was most interactive: Group 3B.

Table 1. Profiles of students in Group 3B (All names in pseudonyms).

No.	Name	Gender	Returnee	Period Abroad	Countries
1	Ayumi	F	Yes	15 yrs	HK, SAR, IT, SA, HU
2	Hirota	M	Yes	5 yrs	UK
3	Kanako	F	No	NA	NA
4	Koji	M	No	NA	NA
5	Mariko	F	Yes	2-4 yrs	SI, USA

**Note:** Hong Kong (HK); South Africa (SA); Italy (IT); Saudi Arabia (SAR); Hungary (HU).

We have discovered how one non-returnee student in particular, Koji, adamantly refused to use L2 (i.e., English) in class, despite initiatives made by his fellow group members. As a result, the L2 flow was interrupted and the interaction revert back to L1.

However, we discovered that the discussion took place largely in L1, despite Koji's absence, when the group faced technical difficulties because the students lacked the L2 vocabulary needed in order to carry an entirely L2 conversation.

The questionnaire results revealed how most students perceived collaborative work to be effective

in improving their quality of English writing. In the case of Group 3B, all students, even Koji, did acknowledge the usefulness of collaborative tasks. Another non-returnee Kanako's lack of confidence in L2 performance, especially that of oral performance, is replaced by the end of the project with a greater confidence in L2 writing:

I came to realize that I can write and tell people what I want to express in English to some extent (Kanako, Questionnaire 3). In this project, this act of "writing for an audience" is endorsed on two different levels: having one's work read by fellow group members, and having one's work read by an authentic online audience. In contrast, another group that interacted the least, Group 1A, did not share this positive outlook: "writing the paper was practically individual work ... Revising our own work is pointless. I think that the teacher should revise" (Kayoko, Q2). The analysis of writings of group 3B and 1A showed the possibility of how different types of interaction affect students' internalization and future application of newly learned vocabulary.

Table 2. Inter-group comparison of vocabulary use (Figures in percentage)

Word Type	Ayumi		Kanako		Mariko	
	Pre-	Post	Pre	Post	Pre	Post
BW1	88.44	87.5	83.75	87.55	82.86	86.17
BW2	6.78	5.53	4.5	6.23	11.5	5.96
BW3	1.76	3.69	5.25	2.33	1.74	4.26
NIL	3.02	3.28	6.5	3.89	3.9	3.62
Total Words	398	488	400	257	461	470

Specifically the use of BW 3 illustrated that Ayumi, Mariko and Hirotaka used more complex terms in their writing *after* the collaboration, while Koji showed

only a small increase in his use of BW 3 and Kanako used less complex words after the activity. It is possible that a certain interaction, peer review or peer feedback within the collaborative activity influence each other, and some students could successfully internalize the learning from peer but not others.

Word Type	Koji		Hirotaka	
	Pre	Post	Pre	Post
BW1	82.03	85.16	84.85	86.83
BW2	7.37	4.35	8.33	5.11
BW3	5.07	5.1	2.53	5.65
NIL	5.53	5.4	4.29	2.42
Total Words	434	667	396	372

Table 3 shows the intra-group differences of vocabulary use in Group 1A. Results show how all members did improve after the task.

While interactive group projects such as web project introduced in this paper seem to induce peer review and through interactions students are motivated to write further, the appropriation of mediating tool is not uniform across all EFL learners.

In fact, some learners made very little use of social interaction to improve L2 writing. This varying degree of benefits accrued from social interaction may be due to the learner's attitude towards group work, but this calls for a further investigation.

It is important to note that L1 in social interaction does disrupt the L2 flow. However, while often regarded as a taboo, L1 use may be conducive in fostering group interaction which in turn creates occasions for collective celebrations of written skills – skills that otherwise remain 'invisible' in EFL class.

Table 3. Pre-treatment writing vs. Post-treatment writing of Group 1A

Word Type	Kayoko		Naomi		Reiko	
	Pre-	Post	Pre	Post	Pre	Post
BW1	NA	88.21	86.82	87.16	87.69	88.92
BW2	NA	4.94	5.72	1.8	7.25	2.15
BW3	NA	3.42	1.24	5.41	4.15	5.23
NIL	NA	3.42	6.22	5.61	6.74	3.69
Total Words	NA	263	402	444	398	325

Word Type	Eri		Yuri	
	Pre	Post	Pre	Post
BW1	86.68	89.87	88.53	89.08
BW2	5.78	3.38	6.23	2.39
BW3	3.52	4.64	0.75	3.75
NIL	4.02	2.11	4.49	4.78
Total Words	398	237	401	293

Finally, technology seems to add one extra layer for the need to communicate among group members, but in order to support and sustain this L2 initiative, L2 vernacular specific to technology should be introduced in advance. Without such explicit instruction, students are unable to make full use of what L2 interactions have to offer.

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