A Social Network Analysis (SNA) of Weblogs in College Writing

Han Kook Kim (Kamall University)

I. INTRODUCTION

This paper seek to analyze the relationship between the linguistic aspect (writing performance and written interaction) and the affective aspect (writers' familiarity among group members) in producing better writing performance on weblogs using Social Network Analysis (SNA). SNA shows and calculates writers' written interactions and familiarity among group members in blogging that enables collaborative online weblog writing.

The affective aspect of peer familiarity has not been studied thoroughly until now but many researchers claim that this factor is important and has a crucial role in performing collaborative tasks (Plough & Gass,1993; Bruffee,1984; Zuengler, 1993). This result matches with the research about interlocutor familiarity performed by Ellis (2003).

It is tempting to assume that peer familiarity produces more written interactions and enhances writing but the relationships between peer familiarity and writing performance are not clear. Therefore, there is a need for research to address the relationships between them.

II. LITERATURE REVIEW

The use of weblogs in the language learning has been increasing in significance and popularity. Many researchers and teachers who use weblogs as a writing tool to encourage collaborative language learning have the goal of learning how to improve writing performance in computer-assisted language learning (CALL) contexts. Although blogging in a collaborative learning setting among writers includes social and affective domains, the improvement of writing outcomes in blogging have mainly focused on the linguistic aspect.

However, there are complicated and profound factors in facilitating and improving electronic online discussions and writing performance beyond just linguistic factors. It is not surprising to note that one of the most important social and affective aspects in collaborative tasks which is largely

disregarded is learners' familiarity.

Ellis (2003) discussed the problem in investigating collaborative tasks as follows:

> It should come as no surprise, then, to find that the nature of the interaction varies according to whether the interlocutors are familiar with each other (p. 178).

Ellis (2003) emphasized the importance of the interlocutor's familiarity during interaction which happened between peers in collaborative language learning. Plough and Gass (1993) observed something important about the interlocutor's familiarity. They found the same results regarding the influence of familiarity on interaction. Familiar dyads adopted more clarifying requests and confirmation checks than unfamiliar dyads because students with closer relationships showed a strong preference to be in the same group thereby encouraging peer support and cooperation.

Based on the claims of Kim (2007), Ellis (2003), Liu and Hansen (2002), Nelson and Murphy (1993), and Plough and Gass (1993), this study investigates whether peer familiarity relates to written interactions and examines the relationships between peer familiarity, written interactions, and writing performance.

III. Method

1. Research Questions

1) How does peer familiarity relate to written interactions in weblogs?
2) What are the relationships between peer familiarity, writing performance, and written interactions?

2. Participants

The participants for the experiment were 13 Korean university students majoring in English. All participants were enrolled in an elective multimedia course.

3. Materials

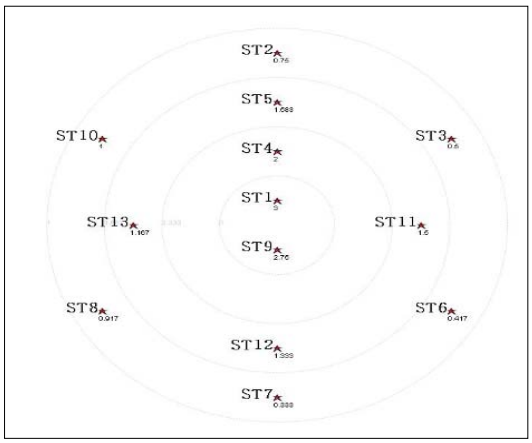
Three data collection instruments were used in this research: a peer familiarity survey and two unobtrusive data, writing scores. Web-based articles contained both text and pictures used to motivate and comprehend the writing topic of cosmetic surgery.

4. Data Analysis

To analyze whether peer familiarity is related to written interactions and writing performance in weblogs, a software package for SNA, NetMiner is used. 'NetMiner for Windows' is a tool for exploratory network data analysis and visualization for intangible aspects such as peer familiarity. SNA delineates the amount and the degree of the students' written interactions and familiarity as a whole along with the amount and the degree of the individual writer's familiarity in relation with the whole group to which they belong.

IV. Results and Discussion

In this section, the peer familiarity of each student was analyzed respectively. To reflect the familiarity of each student, a SNA graph and a table were created based upon the data of the students' familiarity survey. The data was calculated and visualized in Figure 1. In this research, SNA graph was presented based on "in-degree" and "out-degree"scores of peer familiarity. "In-degree" could be used to measure the degree of familiarity between each student. The term "in-degree" means that one student is selected by his peers. The term "out-degree" reflects the frequency with which one student selects one of his peers.

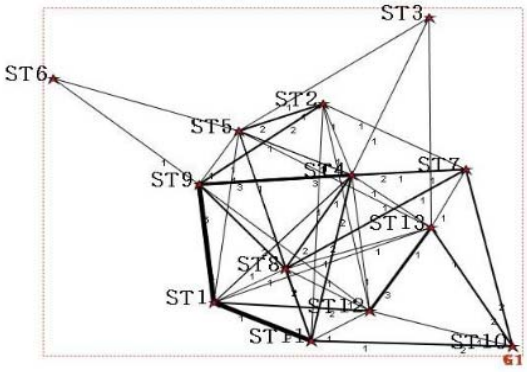


[Figure 1] SNA Graph on Peer Familiarity

Therefore, if a student has a high in-degree score, that means he is popular as the partner among group members. In Figure 1, ST1 was the center student who received high in-degree scores. Like ST3,

6, and 7, if students have low in-degree scores, it might mean that the students were isolated from the other students and thus lacked popularity within the group.

Also ST1,4,9, and 11 have higher in-degree scores of familiarity and are positioned relatively in the center of the circle in Figure 2. They were selected from many other students and were relatively popular as discussion partners.



[Figure 2] SNA Graph on Written Interactions

In terms of peer familiarity and written interactions, Table 1 clearly shows that a correlation exists between the score (r= .793) for peer familiarity and the score for written interactions. If peer familiarity is higher, the written interactions are higher. Correlations were found between the scores for peer familiarity and writing performance (r= .706) and for written interactions and writing performance (r= .836). If peer familiarity is higher, writing performance is higher and if written interactions are higher, writing performance is higher.

<Table 1> Correlations among Peer Familiarity, Written Interactions and Writing Performance

	Peer Familiarity	Written Interactions	Writing Performance
Peer Familiarity	1.00		
Written Interactions	.793**	1.00	
Writing Performance	.706*	.836**	1.00

V. CONCLUSION

The purpose of the study was to analyze the relationships between writing performance and

written interaction and writers' familiarity among group members in producing better writing performance on weblogs using SNA.

The number of written interactions tended to increase and writing performance improve when peer familiarity was higher. This result indicates that peer familiarity, written interactions, and writing performance had strong correlations. Thus, one can say that peer familiarity between the students in an online weblog discussion is a crucial factor in doing collaborative activity. This result confirms the research about familiarity performed by Kim (2007), Ellis (2003), and Plough and Gass (1993).

In conclusion, the results of this research suggest that the interpersonal factor of peer familiarity plays an important role in fostering written interactions and improving writing ability. Therefore, L2 writing researchers and teachers should consider the affective aspect of peer familiarity when grouping students in an online discussion in order to motivate students to produce more written interactions and improve writing.

V. Reference

Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.

Kim, J. K. (2009). A social network analysis of weblogs in collaborative college writing. *English Teaching*, *64*(2), 77-102.

Liu, J., & Hansen, J. (2002). *Peer response*. Michigan: University Michigan Press.

Nelson, G. L., & Murphy, J. M. (1993). Peer response groups: Do L2 writers use peer comments in revising their drafts? *TESOL Quarterly*, *27*, 135-141.

Palonen, T., & Hakkarainen, K. (2000). Patterns of interaction in computer-supported learning: A social network analysis. *Proceedings of ICLS' 2000*, 334-339. Ann Arbor, MI: Lawrence Erlbaum Associates.

Papa, M. J., & Tracy, K. (1988). Communicative indices of employee performance with new technology. *Communication Research*, *15*(5), 524-544.

Plough, I., & Gass, S. M. (1993). Interlocutor and task familiarity: Effects on interactional structure. In G. Crookes, & S. M. Gass (Eds.), *Tasks and language learning* (pp. 35-56). Clevedon: Multilingual Matters.

Scott, J. (2001). *Social network analysis*. London: Sage.

Author(s): Kim, Jae Kyung (Pai Chai University); jkkim@pcu.ac.kr