Link Me Up: Exploring the Ways Linking Notes Reshape Students’ Online Participation

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Abstract: This paper describes the findings of a pilot study involving a graduate class that used a linking notes feature in the online learning environment, Pepper. Quantitative data from the Pepper database was collected along with an online questionnaire distributed to students in the discussion forum. Findings indicate that students linked to each other’s notes to synthesize ideas as well as challenge or support others. More so, there seemed to be affective factors involved, as students felt happy when others linked to their notes but felt ignored when their notes were not linked. This study serves as a pilot for a larger-scale project focusing on the behavioral changes in online participation through linking student notes in graduate courses.

Introduction and Purpose:

Online discussion forums have been referred to as the places where a class-wide learning community develops (Arend, 2009). It is within the discussion forum where students interact with the content, instructor, and peers in order to further develop their knowledge (Song & McNary, 2011; Swan, 2009). Interaction in online learning environments has been identified as an important factor influencing student’s learning experiences (Song & McNary, 2011), and more importantly, “it is a necessary and fundamental process for knowledge acquisition and cognitive development” (Barker as cited in Song & McNary, 2011, p.1). However, there is a concern that “the reduced variety of social cues, overemphasis of textual cues, visual anonymity, and resulting deindividuation, can stimulate less self-reflective communication and more stereotypically biased interpretations of other CMC participants” (Sherblom, 2010, p. 501). As a result of these limited social cues, students often become strategic in their communication and interaction. Specifically, they “strategically manipulate the remaining cues to optimize self-presentations and facilitate a socially desirable relationship” (Duthler as cited in Sherblom, 2010, p. 501). Linking is a cue that some students seem to use to enhance their post; the purpose of this study aims to explore the ways linking notes can reshape how students participate in online discussion forums.

Theoretical Framework:

This study employed distributed cognition (dcog) as a theoretical framework. Hollan et al. (2000) emphasize that this theory “is specifically tailored to understanding the interactions among people and technologies” (p. 174). Furthermore, dcog focuses on whole environments, including what people do and how
they coordinate their activity within these environments. Here, cognition is extended beyond the boundaries of the individual to include “interactions between people and with resources and materials in the environment” (p. 175). With regard to linking notes, students use this feature to draw associations between ideas and create “pathways” through the environment that other people can follow. Linking notes allows students interact with others by affirming and building on their work, and it is through this activity that knowledge and information is transformed.

**Methods and Data Sources:**

The first part of the study was quantitative in nature, utilizing independent sample t-tests. Quantitative data was collected from the logs of an online graduate course to examine the behaviours of students who linked notes (i.e. linkers) and the behaviours of those who received a notification that they had been linked (i.e. linkees). In the second part of the study, an online questionnaire was distributed in the online graduate course to gain a better understanding of why and how students used the linking notes feature.

**Results and Conclusions:**

The results suggest that linking notes was associated with the size of students’ discussion forum posts. For example, notes with links had an average size of 357 words while notes without links had an average of 202 words, a difference which is statistically significant (p<0.05). Also measured was whether notes with links were easier or more difficult to read. Our findings revealed that notes without links were written at a grade 8/9 level, whereas notes with links were written at a grade 12 level, a difference which is also statistically significant.

Interestingly, students clicked on the “Like” button an average of 0.842 times when notes contained links, but only 0.453 times when notes did not contain links (p<0.05). Finally, notes with links were read significantly more often with an average of 31.52 times read, whereas notes without links were read 23.42 times on average (p<0.05).

Collectively, the results of the t-test analyses illustrate that notes with links, on average, were longer, were written at a higher grade level, and seemed to be more difficult to read, yet they drew in more readers and ‘Likes’ from students. From a dcog perspective, it is proposed that the linking interface (i.e., the interactions between students and the technology) facilitated interaction between students by allowing them to distribute their knowledge beyond their individual selves to others. These sorts of interactions help transform knowledge.

The results from the questionnaire revealed that all students in the graduate online course used the linking notes feature, which was not a course requirement. To analyze the open-ended questions, a thematic analysis
approach was adopted, revealing various themes. Four themes capture the reasons students used this feature: to challenge an idea; to support one’s own view; to give a classmate credit for their contributions; and, to synthesize ideas. Two themes revealed an emotional impact associated with being linked, or not linked. Students indicated that it felt good to be linked in notes because it made them feel valued; however, when their notes were not linked students felt their contribution was less valued. Additionally, student participation appeared to be affected by linking as some students said it motivated them to participate more, whereas others said it did not influence their participation because it was not a course requirement. Three themes explored why students were attracted to the linked notes feature: it allowed them to build on their peer’s ideas, it fostered collaboration, and allowed the posts to have more flow because you could easily access an idea that the note author was referring to. The linking feature was also thought to enhance learning because students believed that this feature helped them clarify ideas and have a better understanding of the course readings.

The questionnaire responses revealed that students used the linking notes feature because it helped synthesize ideas, as well as challenge or support others. This finding is consistent with Sherblom’s (2010) claims that, due to the limited social cues, students become strategic in their communication and interaction. However, students revealed that they enjoyed it when their notes were linked because it made them feel that their knowledge was valued but felt ignored or left out when their notes were not linked. Students enjoyed the linking notes feature because it allowed them to easily build on and connect with their peer’s ideas, which improved their posts.

**Educational Importance:**

This study is important because it allows educators to have a better understanding of how students interact and communicate in online learning environments with limited social cues. More importantly, it highlights how students can manipulate and use a specific feature in an online environment, such as the linking notes feature, to distribute their knowledge, as well as build on their peers’ knowledge or ideas.

**References:**


