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**Paper Title** Embedded Privacy Supports Within Online Discussion Environments

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Embedded Privacy Supports Within Online Discussion Environments

The purpose of the current study is to examine new designs for online conferencing environments that merge public and private communication so that students can move seamlessly between the two in a single shared environment. Using our experimental conferencing environment, students can opportunistically embed private messages – i.e., messages that are only visible to certain people in the class – within a publicly shared asynchronous discussion. The current study examines conference entries and interviews with faculty and students from 12 graduate level online courses to understand how instructors and students made use of this new functionality.

Objectives

Online courses that engage students in asynchronous computer conferencing typically offer a different set of tools, or different virtual spaces, for private communication. A computer conference serves as a shared public artifact in which a group of learners collaboratively solve problems and/or discuss issues relating to the content of the course. When students wish to engage in private communication – for example, with another classmate – they usually turn to another technology (e.g., email, chat, telephone), or they create a separate conference area where they can work privately. Thus, in most online conferencing environments, there is a spatial separation between public and private discourse. The purpose of the current study is to examine new designs for online conferencing environments that merge public and private communication so that students can move seamlessly between the two in a single shared environment. Using our experimental conferencing environment, students can opportunistically embed private messages – i.e., messages that are only visible to certain people in the class – within a publicly shared asynchronous discussion. The current study examines how instructors and students made use of this new functionality in two graduate level courses.

2. Perspectives

Prior research has acknowledged the existence and value of private emails as a source of instructor feedback (e.g. Harasim, 2000; Swan & Shih, 2005; Muelinberg & Berge, 2000), the value of private workspace areas for particular groups within a complex multi-group environment, as well as the importance of messages between course participants (e.g., Lou, Abrami & d’Appolonia, 2001; Vrasidas & McIsaac, 1999). More recently, Forde & O’Neill (2011), have shown the potential of a private “virtual margin” on public threaded discussions. However, research has yet to deeply examine the role of such private communications within the overall online course experience, or how such communications may be best structured and supported.

Lave and Wenger’s (1991) Communities of Practice model provides a theoretical frame for conceptualizing the role of private and public activity through the notion of legitimate peripheral participation. Specifically, learners sometimes need opportunities to try out new practices in private or small group activity contexts before attempting them in larger communities.
3. Methods

We conducted an analysis of private messages used by both instructors and students within 12 graduate-level distance and blended education courses. The courses all utilized an asynchronous discussion environment in which notes can either be public to the community or private to an individual or group. The initial intent of this feature was to provide students with the ability to privately draft a note or co-author a document that would eventually be made public. To the surprise of the researchers, one course was found to contain 367 private notes that were never made public. Further analysis revealed that students were using this facility to hold private group discussions. These students found that they could hold private group discussions by marking their notes as “Private” and then designating one or more of their classmates as coauthors. Such notes were invisible to everyone in the class except the author and coauthors. By creating threaded chains of these “private coauthored” notes, students could then engage in private discussions that the teachers and others in the class were unable to detect. The discovery that students had invented this technique was the inspiration for the current study.

Figure 1 shows a screen shot of the class view compared to the small group view of a conference containing private notes. Group members saw the “Group View” on the right. This list included private notes that were only visible to the group. Other students and the course instructor were shown the “Class View” on the left and were not aware of the content of these notes.

![Figure 1. Class view and group view of a conference containing private notes.](image)

A: Class View  
B: Group View

Participants

The participants included 274 students and 10 instructors from 12 graduate-
level education courses taught fully online using the platform described above. For the preliminary interviews, we interviewed 4 instructors and 4 students.

**Measures**

Frequencies of private note use were calculated across classes. We looked at the proportion of users (faculty or students) using private notes; the overall proportion of private notes used in conferences and the amount that were initially private but that became public, versus those that remained private. In addition, the notes themselves were coded for categories of use, using a grounded approach (Glaser and Strauss, 1967; Strauss and Corbin, 1990). Finally, the most frequent users among both instructors and students were interviewed, and their interview statements also coded in relation to the categories of use established by the analysis of the online notes.

**Results and Discussion**

We offer two types of data. The first are quantitative frequency descriptions of private note activity across the 12 courses and second, reports from selective interviews from faculty and students who used the private function integrated with an initial content analysis to ascertain the range of uses faculty and students developed for private entries.

**Instructors—Frequencies and descriptions of private note use**

Uses of private notes by instructors are summarized in Table 1 (see page 8). One course was co-taught in 2 different terms by the same 2 instructors in each term. Of this group of 10 instructors, all but one made use of private notes. Of the remaining instructors, the frequency of private note use ranged from 5-39 notes. In the rightmost columns of Table 1, the total number of notes written by the instructors is shown next to the column indicating the percentage of the total number of private notes. There is a wide range of instructor differences in percentages as well as in overall contribution levels.

Column 3, Private Co-authored notes, indicates that the bulk of the private notes were collaborative, suggesting that faculty used this feature to communicate with students, rather than as a means to, for example, create drafts of entries to be edited later and finally published. As can be seen from the Formerly Private Co-authored column, most private co-authored notes were not made public and thus were being used for private communication purposes.

**Students—Frequencies and descriptions of private note use**

As with the instructors, there was tremendous variation in how much students used this function within and between classes. Table 2 (see page 8), column 2 shows the percentage of students in each class who used private notes. In only two classes 1 & 4) did all students use private notes. The right 2 columns show the number of private coauthored notes and the number of private coauthored notes that were eventually made public. We see from even a cursory scan of the Private Co-authored column and the Formerly Private Co-authored column that, with the exception of one course, 8.1, most private co-authored
notes remained that way, suggesting that students, like instructors were using this feature for private communications (as opposed to privately co-editing a note that would eventually be made public).

Selected interview and note analysis summary

Instructors and students were both interviewed in an effort to better understand their motivation for using private coauthored notes. The categories emerging from the initial analyses are described in the following section.

Instructor and Students two-way communications

• A number of instructors used the private note facility to provide confidential feedback to individual students. Instructors considered them to be equally useful for positive comments, providing encouragement and feedback. One also suggested that using private notes for communication purposes was advantageous because it maintained a contextual link with the student’s online work. A private email message, by contrast, is separated from the online coursework.

• Students who received instructor feedback via private notes also used it to give personal feedback about note entries to other classmates, and in this way the process spread through a class. Students experiencing this in one course tended to continue the process in other online courses that offered this functionality.

• Private notes also allowed the sharing of knowledge unrelated to actual class content, but relevant to particular individuals.

• Individual students in some classes used private notes as a means of submitting assignments to the instructor—a kind of web-based dropbox.

• Collaborative uses of the Private facility

The advantages of collaborative uses of private notes mentioned during student interviews included the following:

• Private messages allowed group members to safely ask questions within a smaller committed, and trusted group.

• These messages were also viewed as a means to offer support and thanks to individuals and / or group members without “cluttering up” the larger course environment.

• Private messages provided a location for groups to plan and negotiate aspects of collaborative assignments, for example: “Yep - "assessment" is my biggest qualm about KB [knowledge building], too. How do you measure something that doesn’t have predetermined outcomes? Do you have a baseline and measure growth..... Other may wish to build on this idea further, too (Jane and I have talked about
evaluating KB classrooms a couple times in the past, too).

- Students used private notes to explain their absence from group work thus being able to both use informal language and to avoid the type of misunderstandings that often arise in collaborative projects, particularly in online classes, where the larger context of student’s lives is less visible. For example, “I really love the questions people have posted. I should rework and revise mine and I will attend more carefully this week (with the case study [from hell], moderating this week and a crazy work life, i have been remiss.”

**Discussion**

Overall, having private functionality appears to offer students and instructors a number of advantages. One is the embeddedness that comes from being able to keep all commentary within the course environment. This is valuable for instructors and can help students by maintaining coherence.

Private notes also appear to be advantageous in terms of providing a safe medium for providing personal expressions of support and praise. These are important in online communities; receiving such messages can increase a sense of belonging and reduce doubts and insecurities regarding the value of one’s work for the recipient. However, such messages have less value for others. Reading compliments that are directed to a fellow student may heighten insecurity (Peters & Hewitt, 2010). Moreover, a conference containing many such messages can add unnecessarily to students’ reading load and confuse the idea thread of the discourse. Thus, the use of “Private Notes” for complimentary feedback appeared to be useful for facilitating a supportive online culture without diluting the intellectual richness of public discourse.

A related advantage of private notes is that they offer an opportunity for opportunistic, small-group collaboration. In completely open environments, by contrast, learners may be reluctant to publicly share nascent ideas for fear that they will be criticized. Students working privately in small groups could be more honest and open with one another, knowing that their messages were visible only to a small number of people.

**Conclusions and Educational Implications**

Researchers have yet to investigate deeply the potential social and cognitive benefits of embedded private communication. Consequently, less attention has been paid to how private messaging might be effectively utilized in courses. While there appear to be superficial similarities between the private uses of notes described in this paper and small group work using multiple technologies (such as chat or email and a discussion board), we would argue that the integrated and seamless nature of embedded private notes allows flexibility that could also be used in any online small group work—with the models we observed students spontaneously use here, both private group notes involving a linear discussion within a single note or a private
threaded discussion—or possibly other models.

The next phase of this research will investigate this issue further by examining tracking data on timing of public and private entries by specific participants and gathering more detailed interview data on student perceptions of the value of private notes versus separate text chat.

References


Peters, V., & Author (2010). An investigation of student practices in asynchronous


Table 1: Instructor use of Private notes across 12 courses

<table>
<thead>
<tr>
<th>Instructor ID #</th>
<th>Private notes</th>
<th>Private Coauth</th>
<th>Formerly Private Coauth</th>
<th>Other notes</th>
<th>% Private notes</th>
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<td>1</td>
<td>100</td>
<td>39</td>
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<td>2</td>
<td>1</td>
<td>0</td>
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<tr>
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Table 2. Student aggregate use of private notes in 12 courses

<table>
<thead>
<tr>
<th>Instr ID #</th>
<th>% students per course using Priv. Nts.</th>
<th>Private Note Average</th>
<th>Private Co-authored</th>
<th>Formerly Priv Co-authored</th>
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<tbody>
<tr>
<td>1</td>
<td>20%</td>
<td>5</td>
<td>14</td>
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<tr>
<td>2</td>
<td>100%</td>
<td>5.67</td>
<td>207</td>
<td>3</td>
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<tr>
<td>3</td>
<td>19%</td>
<td>2.14</td>
<td>11</td>
<td>0</td>
</tr>
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<td>1</td>
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<td>2.25</td>
<td>1</td>
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<td>40%</td>
<td>3.27</td>
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<td>7</td>
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