Investigating Effects
of Academic Notes in Asynchronous Computer Conferencing Courses

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Abstract: Asynchronous computer-mediated conferencing (CMC) courses rely on sustained threaded discourse to encourage student learning. We are interested in the extent to which notes written in an academic style (as opposed to a casual style) influence the development of and attention to threads. Previous qualitative evidence suggests that students prefer a conversational style; but to what extent does this preference present in practice? Using our CMC, which allows access to detailed data about online sessions, we seek to explore possible relationships between the academic nature of notes, the number of replies those notes receive, the amount of time students spend reading those notes, and the extent to which students recommend that others read those notes.

1 Introduction
Asynchronous Computer-mediated conferencing (CMC) is a popular option for distance education courses. Its communication structure has been described as a hybrid of traditional informal classroom communication and formal written communication (Ho & Swan, 2007). Typical student activity involves reading others’ notes, and replying to some of those notes at a convenient time. Our focus here is on the extent to which the more formal, academic-sounding notes influence subsequent discussion.

In their mixed-methods study, Peters and Hewitt (Peters & Hewitt, 2010) provide some evidence that academic-sounding notes may negatively impact the interest in and development of discussion. These authors interviewed six students in order to catalog a number of practices of students in CMC courses. To assess prevalence of these practices, they then administered a questionnaire to students in six graduate-level CMC courses, and received 57 replies. When students were asked about the characteristics of notes that reduce their likelihood to reply, “formal or academic writing style” was the third most frequently-cited option at 14%. When asked whether they prefer an academic or a conversational style, 59.7% responded that they prefer a conversational style.

2 Purpose
While the general attitude of students toward academic-sounding messages is clear, we would like to triangulate this perceptual data with analyses from actual CMC courses. We are interested in the extent to which attitudes play out in practice, and whether there is a significant effect on thread development caused by academic-sounding messages. Our three central research questions are as follows:

• (1) Are academic-sounding messages more likely than other messages to cause the death of a thread?
• (2) Are students more likely to quickly scan academic-sounding messages than other more conversational messages?
• (3) Do students preferentially recommend that their peers read academic-sounding notes?

3 Methods
Our research questions all depend on our ability to classify the tone of notes along a continuum from conversational to academic-sounding. To do so, we will use the Academic Word List (AWL) (Coxhead, 2000), a collection of the most frequently-occurring words in academic texts.

3.1 Reply Counts
To determine the relationship between academic-sounding messages and thread development, we will compute an AWL score for each note, and tally the number of direct replies to each note. A similar technique was used by Ho and Swan (Ho & Swan, 2007) in their work on the relationship between several textual criteria and the number of replies to notes. They found, for example, that the quality of a note (defined as the level to which the note contributes a new idea and supports that idea with evidence) is highly correlated with the number of replies to that note.
We are interested in the number of replies to notes to the extent that this determines whether a thread will continue or die. If, for example, academic-sounding notes are associated with low levels of replying, we will have substantiated claims from Peters and Hewitt about the fact that academic notes deter conversation. If academic notes are associated with average or above-average levels of replying, we must try to remedy differences between student action and student perception.

### 3.2 Scan Rate

Hewitt et al. (Hewitt, Brett, & Peters, 2007) developed the scan rate metric as a means to describe the rate at which students read notes. Scanning is operationally defined as reading a note at 8 words per second or more. When scan rate is very high, we have evidence that the student is not spending very much time reading notes, and is therefore often quickly skimming. These authors found, for example, that the amount of scanning increases with message size; that students more often scan peers’ notes than the teacher’s notes; and that students more often scan when enrolled in ungrouped large classes than when enrolled in large classes subdivided into small groups.

We will use AWL and scan rate metrics to investigate the relationship between the academic-sounding nature of notes and students’ reading speeds. We are interested in this relationship because high scan rates may be indicative of coping behavior used to quickly skim difficult notes, whereas low scan rates would suggest that students spend more time digesting notes with high academic word content.

### 3.3 Recommendations

Our CMC allows the flagging of certain notes as “recommended”, to encourage students to draw the attention of others to notes that they found particularly helpful or meaningful. When viewing the list of notes, students see the number of “recommendations” on each note. While it is presumed that students will favor the reading of notes that have been frequently “recommended”, we are more interested in whether AWL content has an effect on the notes that get “recommended” in the first place. Perhaps students more frequently “recommend” academic-sounding notes because such notes have an authoritative tone? Or, perhaps they “recommend” notes written in a casual style for the very reason that they are easier to read?

### 4 Data Sources

We have been using a custom-built asynchronous discussion forum for several years to run many of our education-related distance education courses. More recently, we have created a data extractor tool that can access the log information from many courses at once to aggregate and report several different types of data (scan rates, AWL counts, time online, etc.). For the analyses in this study, we will use the data from at least 20 graduate-level distance education courses.

### 5 Results

Initial data analyses present mixed results. To this point, we have begun analyzing data from 22 graduate-level distance education courses comprising the contributions of 552 participants (instructors and students) who produced a total of 25738 notes. In this sample, we have found no correlation between the number of replies to a note and the percentage of AWL words constituting that note. Yet, dividing notes into two groups — low AWL content and high AWL content — we find a statistically significantly greater number of replies to high-AWL-content notes than low-AWL-content notes (t-test; $p < 0.01$).

We have additionally found in one database that students are more likely to flag as “recommended” those notes that have high AWL content as opposed to low AWL content (t-test; $p < 0.01$). If this finding holds widely, we will be left with the interesting question of why students recommend such notes in spite of attitudes that indicate a preference for conversational notes.

We are in the process of extracting the scan rate analyses from the course databases, and such analyses and interpretations are forthcoming.

### 6 Educational Importance

Much research on CMC collaboration focuses on identifying the factors that contribute to sustained conversation. For example, the ultimate aim of the study by Ho and Swan (Ho & Swan, 2007) was to determine the extent to which textual qualities of messages advance or hinder the discourse. Hewitt (Hewitt, 2005), by contrast, attributed the death of threads to the common practice of focusing only on unread notes on each visit to the CMC course. Whatever the factors involved, Peters and Hewitt (Peters & Hewitt, 2010) suggest that the premature termination of threads can undermine the process of sustained inquiry. The importance of our current work is in uncovering whether academic-sounding notes are yet another stopping point for the inquiry process.
References