

**The Effects of Instructor and Student Immediacy Behaviors in Writing Improvement and  
Course Satisfaction in a Web-based Undergraduate Course**

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**Abstract**

A major challenge in Web-based courses is developing an effective learning environment where both instructor and students feel connected and responsible for learning. The literature reveals that one of the most important factors of student motivation and success online is contact with the instructor and interaction with peers. This case study examines the effects of both instructor and student verbal and nonverbal immediacy behaviors in an online undergraduate technical writing course at a medium-sized university. Using both qualitative and quantitative data, results indicated that chronemics (temporal immediacy) and social presence were contributing factors in student achievement and satisfaction in an online learning environment.

## Introduction

The “new students” entering higher education, known as the Millennials, gravitate toward group activity and are comfortable with technology (Oblinger, 2003). For the past decade, the number of distance learning courses has grown rapidly, and the need to improve the effectiveness of teaching with technology continues to be imperative (Horton, 1997). Skeptics remain concerned about instructional quality of online classes and question whether students in such a learning environment achieve as much as in a traditional classroom (Cooper, 2001). The benefits from instructor immediacy behaviors in the face-to-face classroom seem to be highly positive in student achievement and course satisfaction (Ellis, 2000). However, there is less research on the role of student immediacy behaviors since traditional learning has been instructor-centered. For both instructor and student, the lack of face-to-face contact creates new challenges for connecting personally at a distance. Educators need to explore more ways of integrating and modeling a variety of immediacy behaviors with course material to create a highly participatory online learning environment (Hoyt, Thomas-Maddox, & Evans, 2001).

## Immediacy Behaviors

Immediacy behaviors can be defined as verbal and nonverbal actions that communicate warmth, closeness, and availability for communication. These behaviors signal approach rather than avoidance and social closeness rather than distance (Andersen, 1985). Holmberg’s broadened theory of distance education (guided didactic conversation) talked more specifically about the importance of personal relations, study pleasure, and empathy among students and between teacher and student in a virtual environment, emphasizing that these elements are central to effective distance learning (Holmberg, 1995). In an online environment, a key form of immediacy involves chronemics, (called *temporal immediacy* in this paper), which refers to a powerful immediacy behavior in the form of nonverbal communication—the way we structure and use time in a positive way in a Web-based environment. In this study, *temporal immediacy* refers to (1) instructor and student responding to email and editing writing assignments in a timely manner and (2) providing helpful feedback and supportive messages between instructor and student and among student peers within consistent guidelines (Hoyt, Thomas-Maddox & Evans, 2001).

In creating a highly interactive virtual classroom environment, cooperative learning is also necessary and calls for dialogical communication and immediacy. This form of interaction according to Johannsen (1990), means talking *with* people in dialogues and not *at* them in monologue style, a mode of teaching that continues to dominate many traditional classrooms. Monologue is one-dimensional; dialogue is reciprocal, cooperative, flexible, supportive, and encouraging (1990).

### **Purpose of this Case Study**

The purpose of this case study was to determine the extent of student writing improvement and course satisfaction based on both instructor and student immediacy behaviors in a Web-based Technical Communications course. Twenty-four students (12 female and 12 male) participated in the course. All subjects agreed to be a part of this study by signing a consent form, giving permission for analysis of a student course survey, of online interactions between teacher-student and student-student, and of written assignments for the purpose of this research study. The instructor consistently modeled high immediacy behaviors throughout the semester. Student immediacy behaviors with the instructor through email communication and among peers in editing groups were examined and measured.

### **Research Questions**

The following questions guided this study:

1. What were the types and frequency of student immediacy behaviors with instructor and peers in a Web-based Technical Communications writing course?
2. To what extent did students improve their writing process in a Web-based Technical Communications writing class?
3. To what extent students were satisfied with the Web-based Technical Communications writing class?

### **Method**

Subjects in this study were enrolled in an undergraduate writing course, Technical Communications, in a virtual classroom with no face-to-face classes during the semester. Assignments were explained through the instructor's assignment schedule, the use of a technical writing handbook, explanatory Power-points, online material, course calendar, and emails. Subjects interacted in peer-editing groups throughout the entire semester, completed midterm and final self-evaluations of their

course progress and satisfaction, and kept an online class portfolio of all assignments (three drafts of each writing assignment, weekly quizzes, and a usage notebook).

*Social Presence Indicators Instrument.*

This research instrument (Gunawardena, C. N. & Zittle, F.J., 1997; Swan, Polhemus, Shih, & Rogers, 2001; Rourke, Anderson, Garrison, & Archer, 2001; Richardson & Swan, 2001) was used for content analysis of online interaction between students and instructor and among student peers (Table 1). Specifically, three categories of student immediacy behaviors-- *affective*, *interactive*, and *cohesive*—were observed through content analysis, an accepted method for analyzing textual data (Silverman, 2006). The *affective* category included expressions of emotion, value, paralanguage, humor, and self-disclosure. The *interactive* category included acknowledgment, agreement and disagreement, appreciation, and invitation. The *cohesive* category included vocatives, greetings and salutations, group reference, social sharing, personal advice, and course reflections. To ensure consistency in coding, three interraters were consulted. According to Creswell (2007), using intercoder agreement based on the use of multiple coders to analyze transcript data ensures “stability of responses.”

*Anonymous Survey.*

At the end of the semester, students completed an anonymous survey about writing improvement, instructor and student immediacy behaviors, and course satisfaction. Data were then analyzed and triangulated using descriptive statistics, ANCOVA, and naturalistic techniques in the form of thick description and excerpts from student written impressions of the course.

Table 1

Social Presence Categories and Indicators

<b>Category</b>	<b>Social Presence Indicators</b>
<i>Affective</i> language	Emotion, value, paralanguage, humor, self-disclosure
<i>Interactive</i> language	Acknowledgement, agreement, disagreement
<i>Cohesive</i> language	Vocatives, greetings, group reference, social sharing, advice, etc.

## Findings

### *Types and Frequency of Immediacy Behaviors*

The first research question of this case study focused on the interactions of students and asked about the types and frequency of student immediacy behaviors with the instructor and peers in a Web-based Technical Communications course. Data analysis suggested that students projected a strong or weak social presence, depending on the immediacy behaviors they used. Social presence indicators were tallied at beginning, middle, and end points of the semester from two sources of data—peer discussions in editing groups and email transcripts to the instructor. The three categories of social presence (*affective, interactive, and cohesive*) included a total of 15 immediacy behaviors from the Social Presence Indicators Instrument that guided this analysis of discussion forum and email transcripts.

### *Student immediacy with Peers*

The indicator that revealed the highest number of individual student immediacy behaviors in the peer discussion forum was that of *appreciation* ( $N = 439$ ) in the *interactive* category. This indicator denotes offering *praise, reinforcement, and encouragement* to others. Peer editors were positive about one another's writing efforts. Constructive criticism in the form of *personal advice* ( $N = 362$ ), the second most common indicator (*cohesive* category), was usually coupled with the *appreciation* indicator mentioned above. For example, students wrote the following types of comments of *advice/praise* to their peers:

- *(Your) resume was very eye-catching--very nice. Only thing again that I suggested was the placement of dates.*
- *This looks great. I like the looks of it and the use of the whole page... One thing that I did notice was the order that you placed the things. Take a look at that. Overall it looks very good. Thanks for your helpful comments on mine.*

Of the three major categories, the strongest student immediacy concentration of tallies was in the *cohesive* category ( $N = 642$ ) with *vocatives, greetings and salutations, and personal advice* the most prevalent. The *affective* category ( $N = 166$ ) was the least used—*emotional language, values and beliefs, humor, self-disclosure, and paralanguage*. Some individual students did use *affective* indicators often, however. For example, these two samples from the discussion forum show use of *self-disclosure and paralanguage*—repetitious punctuation and conspicuous capitalization—both of which convey emotion:

- *Your paper is very good. It sounded very professional and interesting. In fact, I now think that I did my paper wrong!! I should have used for an example and then written it!!!*
- *Hi guys. I am SOOOO sorry that this was not in to you before today. For some reason, I lost my mind and thought it wasn't due until after break.*

Throughout much of the semester, students used their peer-editing groups exclusively for editing each other's documents and did little *social sharing* ( $N = 64$ ) although in the last few weeks of the semester they exhibited richer communication when collaborating for a group grade than through their peer-editing of each other's individual assignments. When working on group assignments, they looked at themselves as a team. For example, peer-group #3 had these interactions:

- *Here's my editing, you guys. I'll try to look over yours right away so we can get the final (draft) posted before Thursday—I'm assuming you all are excited to get home for Easter.*

"You guys" is another *group reference* indicator. The mention of posting early is a chronemic factor, and the comment about Easter is a form of *social sharing*.

- *It looks really good, you guys. Thanks for all of your hard work. I know I haven't been the best group member – it's been a busy few weeks and I haven't been in town much. Thanks a lot!*

Above, the group member uses the indicators of *appreciation*, *group reference*, *self-disclosure*, and *social sharing*.

#### *Student Immediacy Behaviors with the Instructor*

Social presence indicators in email transcripts from students to the instructor were also tallied at beginning, middle, and end points of the semester. The highest indicator of student immediacy in these samples was that of *social sharing* ( $N = 94$ ) in the cohesive category (sharing information unrelated to the course content, yet with the purpose of enhancing communication). For instance,

- *The sooner the semester is over, the closer my wedding date gets! So much to do, and I think I will be gone for an entire month this summer (which I think my fiancée may want to kill me for.) Anyway, thanks for the info.*
- *Mississippi was wonderful!! I was able to visit Faulkner's home, so that was very exciting for me. I have seen the group assignment and posted some corrections for my group. I'm going to email our group leader, so he will know that I've posted. It's good to be home!*

The second highest student immediacy indicator with the instructor was that of *self-disclosure* ( $N = 62$ ) in the *affective* category (sharing personal information expressing vulnerability). Students were not reluctant to express concerns, worries, insecurities, or other personal information. For example:

- *I have a stress and anxiety problem, which leads me to get stressed and overwhelmed very easily.*
- *I am a perfectionist, so school really stresses me out!!!*

*Invitation* ( $N = 58$ ) in the *interactive* category (asking questions or making statements that invited response) was also often used by students with the instructor for clarification of assignments and procedures. For example,

- *Hello, again...I was just wondering why I got 9 points (out of 10) for participation on the Trip Report assignment – I'd like to know so I can avoid the same problem with upcoming assignments. Thanks again!*
- *I think I am still a little confused about this whole "passive voice" thing. I have a funny feeling I tend to use it a lot. Can you explain it a little more to me?*

Finally, students also often used *expressions of emotion* ( $N = 57$ ) in the *affective* category in communication with the instructor:

- *I am deeply sorry, but my usage notebook is going to be a little late. I have a huge test on Thursday and am extremely overwhelmed with everything that I have due up until then... I thought I'd let you know that it will be late. Sorry about this...I just need to learn to breathe before freaking out!!*

To summarize the use of student immediacy behaviors, students used *interactive* and *cohesive* categories with their peers, mostly in the form of editing advice and encouragement; however, different indicators were prevalent for interaction with the instructor. Social presence indicators used with the instructor were more personal, including the *affective* category.

Once these social presence indicators were tallied, students were then put into two categories—high and low levels of immediacy. The individual tallies of immediacy indicators ranged from a low of 35 to a high of 166 ( $N = 24$ ) in the samples coded. Those students whose immediacy counts ranged from 71-166 ( $N = 13$ ) were put into the *high immediacy* category; those between counts of 35-62 ( $N = 11$ ) were put into the *low immediacy* category. A high-immediate peer made these comments to a low-immediate peer:

- *You really worked hard on this, J. Thank you. I caught a few more thing and changed only one thing back. I also put the corrections in complete sentences. There were a couple of things that seemed strange to me, but I can't think of a specific way that they're wrong. I highlighted those in green. I'm really glad we can do this together—you picked up on I would have looked right over. Hopefully, the rest of you will find more.*

In this exchange, the group peer editor uses indicators of *appreciation*, *advice*, and *invitation*. High-immediate group members gave detailed *advice* and *praise*.

Four of the six peer groups had two high-immediate members and two low-immediate ones. Of the remaining two groups, one had three low-immediate members and one high; the remaining group had four high-immediate members. All six groups worked well together and met deadlines, but some groups were more *cohesive*.

### Writing Improvement

The second research question of the study asked to what extent students improved their writing process in a Web-based Technical Communications writing class. Two sources of data were used to evaluate writing improvement. First, the difference between scores of students' pre-post writing assessments were calculated and means reported. Second, items 1-4 about writing improvement in the student survey of 29 Likert-type items were analyzed and means reported.

For pre-post assessments, the instructor evaluated the first and last reports in the Web-based writing class based on a rubric that focused on four areas: format, content, mechanics, and wordiness. Each area was equally weighted to meet the goals of achieving *clear, concise, correct, complete, and considerate* writing. The differences between the pre-post assessments showed that 20 of the 24 students had gained between 5 and 17.5 points.

Minimum and maximum scores were reported with means and standard deviations of the pre-post written assessments (Table 2). Scores showed improvement between pre-post written assessments, with a range from 45.0% to 65.0% for students who scored lowest, and from 90.0% to 97.5% for those who scored highest. The difference in the mean score for the pre-post assessments was almost 10 points, 76.8% and 86.1%.

Minimum and maximum scores showed improvement between pre-post written assessments. The difference between the mean scores was approximately 10 points but was not statistically significant ( $p > 0.05$ ). Some students started out with high scores; therefore, their ceiling of improvement was not as high as those students who scored lower on the pre-assessment.

In analyzing the differences in points between pre-post written assessments, 20 of the 24 students showed improvement between the two written assignments; however, qualitative analysis indicated that all students felt they had improved in their writing and editing skills, overall, throughout the semester. The second source of data to analyze writing improvement included reported means from Likert-type items (5 = *strongly*

agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree) in the anonymous student survey (Table 3). Students agreed strongly ( $M = 4.62$ ) that as a result of the class, they were able to create a variety of documents for the workplace since their weekly writing assignments included a variety of short reports. Students also agreed strongly ( $M = 4.54$ ) that they could better recognize grammar and usage errors.

Students made weekly entries in usage notebooks of most commonly misused words and most common grammatical errors. Furthermore, students agreed ( $M = 4.42$ ) that they were able to effectively edit peer documents. Finally, they agreed ( $M = 4.38$ ) they were able to write more clearly, correctly, and concisely.

#### *Instructor Immediacy Behaviors and Writing Improvement*

The final self-evaluations at the end of the semester indicated that all 24 students felt they had improved in their writing and connected one of the factors for their improvement to the instructor's detailed editing. The instructor indicated every writing error on each student's assignment by naming it, explaining it, and then correcting it. The chronemic factor (temporal immediacy) of sustained duration of time on each student assignment was a strong nonverbal cue indicating to students the importance of writing improvement. The students felt they learned to improve writing skills from this consistent weekly feedback from the instructor. For example:

- *I feel as though I am learning a great deal more through the detailed instructor edits...I am learning more about technical writing through this online course than others who are in the (traditional) classroom.*
- *I feel I am learning a lot more in this class than any other English class, even in high school when we had class every day...the instructor edits are really helpful.*
- *I have grown a lot from this course. I realize not only in my writing but in my speaking...from the beginning of the year, I have noticed definite improvement. I really enjoy this class and am excited about learning.*

#### *Peer Immediacy Behaviors and Writing Improvement*

In analyzing the role of peer immediacy behaviors and writing improvement, qualitative data showed that every student felt obligated and responsible to their peer groups and indicated that they helped each other improve in their writing skills. Students interacted with the same peer group throughout the semester and when asked what contributed most to their learning, over half of the class ( $N$

=15) responded that cooperative learning in the form of peer-editing groups was the major factor in their writing improvement. Students comment,

- *I like the way we interact within our group...I definitely like this way better than a traditional classroom because I think it is easier to be more candid with your responses.*
- *I personally feel that I interact more with my peers in an online setting because I am not concerned about appearances and worrying about what people will think of me. We are all on "equal ground," so to speak, and I feel it is easier to communicate more openly than in a traditional classroom.*
- *I feel I interact more being online. It is easier for me to communicate and gives me a chance to say more.*
- *I feel that my involvement in the peer editing process has been valuable for both myself and other students...I believe I interact more with the students in this class than in more traditional classes.*

Writing three drafts weekly—first draft, peer-edited draft, and student-corrected draft of the graded document—gave students opportunities to understand their writing problems and old habits they had developed over the years. Using the instructor's detailed editing style and the editing rubric as a model, students learned what to look for in peer documents in the editing groups and gradually learned how to correct a variety of errors in their own writing assignments. All postings had specific deadlines that students consistently met each week, overall. The instructor noted the impact of modeling specific editing behaviors that students emulated in their peer groups, resulting in writing improvement and engagement in the writing process.

Only two students felt minimal progress in their writing skills at midterm, yet by the end of the semester, they indicated improvement and credited the group editing process to their progress. They stated:

- *I feel that my technical writing has improved greatly...one key to these improvements is the group editing.*
- *I feel that I have become a lot better at editing other people's writing as well as my own. My writing is getting better, but there is always room for improvement.*

### **Course Satisfaction**

The third research question asked to what extent students were satisfied with the Web-based Technical Communications writing class. For this analysis, Likert-type items from the survey instrument were examined and group means reported (Table 4).

Students strongly agreed ( $M = 4.50$ ) that the course had met their expectations. They also strongly agreed ( $M = 4.83$ ) that they enjoyed the freedom allowed them by a Web-based course. They agreed ( $M = 4.46$ ) that they enjoyed collaborative learning in their peer-editing groups. Students also strongly agreed ( $M = 4.79$ ) that they would recommend taking this Web-based course to other students.

Students disagreed ( $M = 1.83$ ) with the statement, "The technology involved with a Web-based course frustrated me." They also disagreed ( $M = 2.21$ ) with the statement, "I miss the face-to-face classroom." Finally, they agreed ( $M = 4.46$ ) that they would take another Web-based course.

Qualitative analysis of the midterm and final self-evaluations revealed that students felt they had more interactions with their peers and the instructor than in their traditional classes. As shown in the survey, their self-evaluations also indicated they did not miss the face-to-face experience for this particular course and were not frustrated by the technology. Also, many of them mentioned how smoothly the course progressed because of few, if any, technical problems.

#### *Instructor Immediacy Behaviors and Course Satisfaction*

In analyzing student course satisfaction based on instructor immediacy behaviors, both quantitative and qualitative data triangulated to indicate that the high frequency of instructor emails and quick response to questions (temporal immediacy) were factors in their course satisfaction.

To evaluate instructor immediacy behavior, response data from the Likert-type items about instructor immediacy on the student survey were analyzed and means reported (Table 5). Also, comments from students' final self-evaluations about interactions with the instructor were reported.

Attention to chronemics or *temporal immediacy* (timely response to student emails, duration of response, and frequency of messaging) was a key to student course satisfaction. On the student survey, students agreed strongly ( $M = 4.92$ ) that the instructor answered student emails within a reasonable amount of time. They also agreed strongly ( $M = 4.67$ ) that the instructor offered specific advice on written documents and quizzes (duration of response).

Furthermore, in reference to frequent messaging, students agreed strongly ( $M = 4.75$ ) that the instructor communicated through email, the discussion forum, and chat. In addition to timely response to student emails, assignments were graded within 24 hours or less each week. For students to learn from

their errors in previous assignments before starting the next weekly assignment, prompt feedback was required.

The emergent theme that came through when triangulating results of the student survey with student self-evaluations was the instructor's management of the temporal aspects of the course. Students indicated in their self-evaluations that prompt feedback, frequency of interactions, and instructor availability affected them positively, leading to course satisfaction. For example:

- *I have had much interaction with the instructor. She is always available to answer questions and seems extremely enthusiastic about this course...I interact more with her than with traditional teachers.*
- *I definitely interact more with my online professor than I would in a traditional classroom situation. I love being able to email my professor about certain questions and getting a very quick response.*
- *One thing I like about asking questions is that the reply was so quick...I believe that I interact more with the instructor in this online class than I would (if) this same class (were) taught in a traditional classroom...my interaction with the instructor has been positive.*

Table 2

## Survey Responses about Course Satisfaction

Question	Mean Response	SD
This course met my expectations.	4.50	.590
I enjoyed the freedom allowed me by taking a Web-based course	4.83	.381
I enjoyed the collaborative learning (peer-editing groups).	4.46	.658
I would recommend taking this Web-based course to other students.	4.79	.415
I would recommend taking this Web-based course to other students.	4.79	.415
The technology involved with a Web-based course frustrated me.	1.83	1.007
I really missed the face-to-face contact in this course.	2.21	1.062
I would take another Web-based course.	4.46	.779

Note: 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

Qualitative data from the study showed a high level of satisfaction with interaction in the peer groups. To triangulate this finding, quantitative data from the student survey gave information about specific peer immediacy behaviors in the form of social presence indicators. Students agreed ( $M=4.04$ ) that *greetings* and *closures* were factors in communication. They also agreed ( $M=4.08$ ) that *vocatives* were often used. Furthermore, students agreed they received *peer advice* ( $M=4.42$ ), and also agreed ( $M=4.17$ ) they collaborated with their peers. There was agreement that the *appreciation* ( $M=4.08$ ) social presence indicator (using *praise*, *encouragement*, *reinforcement*) was part of peer immediacy.

Table 3

Survey Responses to Course Satisfaction Based on Instructor Immediacy Behaviors

Question	Mean Responses	SD
For the most part, my instructor interacted with me online by:		
Using greetings and closures	4.46	.658
Addressing or referring to me by name	4.50	.511
Communicating through email discussion forum, or chat	4.75	.442
Answering my emails within a reasonable amount of time	4.92	.282
Offering specific advice to me on my written documents and quizzes	4.67	.482
Inviting me to ask questions	4.62	.495
Projecting enthusiasm	4.79	.415
Using features of language to convey emotions, such as all caps, emotions ☺, and repetitious punctuation !!!!!	4.54	.588
Offering praise, reinforcement, and encouragement	4.71	.464

Note: 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree, 5=Strongly Agree

Since 11 of the 24 students were in the low-immediacy category, *group reference* ( $M=3.83$ ) was a lower social presence indicator. Finally, *humor* ( $M=3.63$ ) and *social sharing* ( $M=3.08$ ) were not as high as some of the other social presence indicators since the peer groups were task-oriented and not social-emotional oriented. Just a few students consistently used paralinguistic language ( $M=3.42$ ).

Table 4

Survey Responses to Course Satisfaction Based on Peer Immediacy Behaviors

Question	Mean Responses	SD
For the most part, my peer group members Interacted with me online by:		
Using greetings and closures	4.04	.359
Addressing or referring to me by name	4.08	.504
Referring to the group as "we," "us"	3.83	.702
Sharing personal and non-course Information to enhance communication	3.08	.929
Offering specific advice to me on my written documents and quizzes	4.42	.654
Collaborating on assignments	4.17	.761
Using humor	3.63	.824
Using features of language to convey emotions, such as all caps, emoticons ☺, and repetitious punctuation !!!!!	3.42	.881
Offering praise, reinforcement, and encouragement	4.08	.584

Note: 1=Strongly Disagree, 2=Disagree, 3=Neutral, Agree=4, Strongly Agree=5

### Discussion and Conclusion

Most immediacy research has focused on teacher immediacy; however, in student-centered interactive Web-based learning, the role of peer immediacy behaviors is, also, key to a successful learning experience. Chickering & Ehrmann (1996) emphasize the importance of (1) contact between students and faculty, (2) prompt instructor feedback, and (3) cooperation among students when learning takes place online. These three factors were strengths of the Web-based writing class in this study. In addition to verbal immediacy (social presence indicators), the researcher found from qualitative and quantitative data that the nonverbal role of chronemics in the form of high *temporal immediacy* practiced by *both* instructor and students was the underlying cohesive key to learning in all three aspects

mentioned above. Student log-ins ranged from 127 and 836, with an average of 384 log-ins during the semester.

The instructor had a total of 2,919 log-ins to correct assignments and to answer emails. The duration of time the instructor spent on each document involved detailed editing, explanations, and examples for a total of 800 documents. Many times instructor-corrected drafts were posted before the deadline since all students had posted early. Furthermore, the instructor wrote all-class emails weekly and answered numerous individual student emails within the hour received or within minutes. Students appreciated (course satisfaction) this contact and attention online, and they felt motivated to meet the high expectations of the course.

Lui & Ginther (2001) considered the role of chronemics, in the form of prompt feedback in email messaging and correcting of documents, as very important non-verbal cues to build confidence in the course and the instructor, as well as reducing student frustrations. Both the instructor and the students in this course knew that they could depend on each other and, therefore, had mutual confidence in each other.

The second major factor in this study that led to writing improvement and course satisfaction involved the role of student immediacy in the form of peer cooperation and interaction. Van Dusen (1997) pointed out that active and cooperative learning are suited for any type of classroom but especially for the virtual classroom. He cited the activities of writing, small group discussion, and peer teaching as forms of active learning (1997). Instructor observations of interactions in peer-editing groups, recorded in a researcher's journal, showed that students learned well from each other by playing the role of peer teachers. They felt on "equal footing" with their peers and could be more honest in their editing comments.

The instructor also observed that students were responsible and dependable, meeting deadlines for writing drafts, for editing peer documents, and for posting edited drafts to the instructor. Usually two-thirds ( $N = 16$ ) of the students posted before the deadline, and one-third ( $N = 8$ ) right on time at the deadline. Occasionally, a few posted within an hour or two after the deadline, but this later posting was rare. Only one student needed an extension on a paper right at the end of the semester. It was also

observed that those with higher immediacy indicators brought more *cohesive* elements to the group, along with some *humor* and some emotion.

Other qualitative data showed that all students ( $N=24$ ) felt responsible for their peers' writing improvement and would post regularly because of a sense of "duty." If they had not met these deadlines, they would have not had the benefit of peer editing and would have forfeited participation points; therefore, the writing process and writing improvement would have been affected negatively. Also, peers depended on each member's feedback. They had four deadlines to meet each week: written assignment, quiz, posting of the first draft of the written assignment, and posting of their peer edits with discussion for each of their three fellow group members.

Studies have shown that an instructor's use of immediacy makes a direct impact on students' motivation to learn (Frymier, 1993; Pelletier, Sequin-Levesque, & Legault, 2002), and the quality of these social interactions directly influences students in the classroom (Wang, Haertel, & Walberg, 1993). Furthermore, students who observe frequent verbal and nonverbal immediacy behaviors in their instructors indicate course satisfaction and tend to give higher ratings in course evaluations to the overall quality of instruction (Moore, Masterson, Christophel, & Shea, 1996). Because students in this study received the benefits of consistent instructor feedback, they practiced the same high temporal immediacy in their peer groups, despite their varying ability to project their social presence online. Since high instructor immediacy in a traditional classroom is strongly correlated to student achievement (Ellis, 2000), projecting high immediacy online would seem to be even more crucial to influence student achievement in a Web-based course without direct face-to-face contact between instructor and student.

In reflecting on this study, the researcher found that an online writing course involves an inordinate amount of time on the part of the instructor to ensure that students make tangible progress in developing better writing skills. Other courses that do not require detailed editing of numerous written drafts would be much more manageable for online instructors; they would be able to integrate high immediacy behaviors with content without the intense time commitment this study demanded.

The researcher of this case study was able to dedicate full-time to this course whereas most instructors would not have that option. This time factor brings up the question of reduced course load for those instructors who want to create an effective online course. Time management is central to teaching

online. The “new students” (Millennials) in this age of technology expect high *temporal immediacy* from their instructors; however, this study also revealed the importance of student immediacy behaviors and indicated that the responsibility for an effective online course does not rest just with the instructor but that the instructor has to model *temporal immediacy*.

Although the research in this case study showed that students can be just as satisfied with Web-based courses as with traditional face-to-face classes, similar studies should be replicated but with different types of courses (other than writing classes) using online cooperative learning. Furthermore, if instructor/student temporal immediacy skills are keys to effective online learning, another recommendation would be to develop a personality profile to predict compatibility with online teaching/learning that look at such factors.

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