Instructor Immediacy and Online Learning

A collection of PDF files for the project:

Instructor Introductions with Media for your Online Class
at Portland Community College

These documents come from the following source URLs:

- Examining Social Presence in Online Courses in Relation to Students’ Perceived Learning and Satisfaction
  http://www.ideals.illinois.edu/bitstream/handle/2142/18713/RichardsonSwan%20JALN7(1).pdf?sequence=2

- Instructor Immediacy and the Seven Principles: Strategies for Facilitating Online Courses:
  http://www.westga.edu/~distance/ojdla/fall63/hutchins63.html

- How Instructor Immediacy Behaviors Affect Student Satisfaction and Learning in Web Based Courses:
  http://200.69.30.1aaa21/archivos/for_downloading/educational_research/DE_the_learner/Immediacy_behaviors_in_We-Courses_arbaugh01.pdf

- Interaction and Immediacy in Online Learning:

Documents have been commented and sections pertinent to the project have been highlighted for your reviewing convenience.
The following are a list of highlights from research collected for this project:

- Research has demonstrated that social presence not only affects outcomes but also student, and possibly instructor, satisfaction with a course.

- Students with high overall perceptions of social presence also scored high in terms of perceived learning and perceived satisfaction with the instructor.

- Students’ perception of social presence overall contributed significantly to the predictor equation for perceived learning overall.

- Teacher immediacy is a measure of the psychological distance that a communicator puts between themselves and the object of their communication.

- It may be the instructors and students involved in asynchronous communication develop a set of immediacy behaviors that “cultures” social presence in online courses.

- Students who perceived more frequent verbal and nonverbal immediacy behaviors in their teachers were more likely to give higher ratings to the overall quality of instruction and value of a course.

- The amount and/or intensity of social presence students’ perceived in their online courses, from both their instructor and/or their peers, was directly related to perceived learning in them.

- The instructors and/or designers of online courses need to take into account the mechanisms and/or behaviors by which social presence is conveyed in this environment and integrate those aspects into all such courses.

- Students perception of increased interaction with the instructor occurred when they interacted with the course, (regardless if they had direct contact with the instructor) on a consistent basis.

- Frequent student-faculty contact both in and outside of the class is an important factor in student motivation and involvement.

- Instruction can include event generated by animate or inanimate events.

- Both verbal and nonverbal immediacy instances are essential for affective learning, or satisfaction toward content and instructor.

- Video (human and avatar) can be used to express nonverbal immediacy behaviors in an online environment.
EXAMINING SOCIAL PRESENCE IN ONLINE COURSES IN RELATION TO STUDENTS' PERCEIVED LEARNING AND SATISFACTION

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ABSTRACT

Research has demonstrated that social presence not only affects outcomes but also student, and possibly instructor, satisfaction with a course [1]. Teacher immediacy behaviors and the presence of others are especially important issues for those involved in delivering online education. This study explored the role of social presence in online learning environments and its relationship to students’ perceptions of learning and satisfaction with the instructor. The participants for this study were students who completed Empire State College’s (ESC) online learning courses in the spring of 2000 and completed the end of semester course survey (n=97). A correlational design was utilized. This study found that students with high overall perceptions of social presence also scored high in terms of perceived learning and perceived satisfaction with the instructor. Students’ perceptions of social presence overall, moreover, contributed significantly to the predictor equation for students’ perceived learning overall. Gender accounted for some of the variability of students’ overall perception of social presence, while age and number of college credits earned did not account for any of the variability.

KEYWORDS

Distance learning, Interaction, Social presence, Learning effectiveness, Student satisfaction, Faculty satisfaction, Perceived learning, Asynchronous learning, Computer-mediated learning, Computer-mediated communications
I. INTRODUCTION

The educational community is finding itself on the edge of a new era of online learning. Online learning has been promoted as being more cost effective and convenient than traditional educational environments as well as providing opportunities for more learners to continue their educations. Online learning has been defined as any class that offers at least part of its curriculum in the online course delivery mode, or as a transmission of information and/or communication via the Internet without instructors and students being connected at the same [2]. Today, however, online learning is defined more clearly as any class that offers its entire curriculum in the online course delivery mode, thereby allowing students to participate regardless of geographic location, independent of time and place [3]. In other words, online education has progressed to the point where students no longer need to be able to meet face-to-face in order to complete a course.

Research in the area of online learning has demonstrated that the advantages offered by this environment are many [4, 5, 6, 7]; especially the convenience and flexibility offered by the “anytime, anywhere” accessibility [8, 9, 10, 3, 11, 12]. This catch phrase, widely used by institutions publicizing their online courses, means that students have access to courses and course materials 24 hours a day (time independent), regardless of location (place-independent), making them far more convenient than the traditional educational experience [5, 8, 11, 12]. Another advantage of asynchronous learning is it allows students to reflect upon the materials and their responses before responding, unlike traditional classrooms [5, 8, 11, 12]. Students also have the ability to work at their own pace, which is especially important for non-native speakers [5, 8]. Moreover, the ability of personal identities to remain concealed means that all students, regardless of race, sex, disability, or appearance are on equal ground [5]. Finally, with the option of multiple representations of a concept embedded in an online course, students can store and retrieve information more effectively [13, 15].

Another characteristic of online learning that may be considered advantageous is that with the altered educational environment, the roles of students and instructors may also be transformed. The role of the instructor can be altered to become more akin to a facilitator than a lecturer, while the role of students can be altered by allowing them to become active learners [3, 5]. This role transformation, however, is not the only issue facing instructors involved in the delivery of online courses; there is also the issue of how teacher immediacy behaviors and social presence are affected by the environmental transformation.

However, as with any learning environment, some disadvantages in comparison to other formats exist as well. Some critics claim that web-based or online learning is not as effective as traditional classroom learning because of its lack of face to face interactions [7, 16]. For example, Bullen conducted a case study examining student participation and critical thinking in a college level undergraduate course utilizing computer-mediated conferencing [16]. The case study showed that some students felt disconnected from others in this type of learning environment, citing lack of facial expressions and other features common to a traditional classroom environment. When considering the challenge of the effectiveness of online learning in comparison to traditional classroom learning, researchers have to ask themselves if it is really the physical presence of the instructor and students that is an essential element of learning; or, if not, then what element are critics denouncing? Perhaps we should really focus on the interactions that take place between students and instructors. Interactions can take place in an online environment as well as in a traditional classroom. Several studies have been conducted demonstrating that the very elements critics refer to as lacking are compensated for or even paralleled by paralanguage activities that occur in successful, interactive learning environments [17, 4, and 18]. Thus, it could be argued that the element that critics descry a diminishing of the social presence of the instructors and students.
Social presence theory, a sub-area of communication theory, postulates that a critical factor of a communication medium is its “social presence,” which is defined as the “degree of salience of the other person in the (mediated) interaction and the consequent salience of the interpersonal relationships” [19]. This is interpreted as the degree to which a person is perceived as “real” in mediated communication. Originally construed as an inherent feature of differing media, social presence may also be explored by examining a variety of issues which may contribute to the social climate of the classroom [20]. Consequently, it has been argued that social presence is a factor of both the medium and the communicators’ perceptions of presence in a sequence of interactions [21]. The construct of social presence in this construction appears to have subsumed that of teacher immediacy by taking into consideration the fact that some media, such as computer, interactive video, audiotape, alter learning environments.

Short, Williams, and Christie, the initial investigators of social presence, hypothesized that users of communication media are in some sense aware of the degree of social presence of each medium and tend to avoid using particular interactions in particular media. Specifically, users avoid interactions requiring a higher sense of social presence in media which lack such capacity. Social presence, they contend, “varies among different media, it affects the nature of the interaction and it interacts with the purpose of the interaction to influence the medium chosen by the individual who wishes to communicate” [19].

Gunawardena and Zittle, researchers in the area of social presence and computer-mediated conferencing, argued that “in reviewing social presence research, it is important to examine whether the actual characteristics of the media are the causal determinants of communication differences or whether users’ perceptions of media alter their behavior” [21]. They found that social presence could ‘be cultured’ among teleconference participants, a position different from the view that social presence is largely an attribute of the communication medium. Their research thus demonstrated that social presence is both a factor of the medium and of the communicators and their presence in a sequence of interactions [21].

Related to the research on social presence is the research conducted on teacher immediacy behaviors. The construct of teacher immediacy, originated by Wiener and Mehrabian’s work, is a measure of the psychological distance that a communicator puts between themselves and the object of their communication [22]. The majority of research in instructional communication related to teacher immediacy behaviors has focused on teachers’ use of verbal and nonverbal immediacy and the impact of those behaviors on students in traditional, face-to-face communication. For example, highly immediate behaviors have been associated with attitudinal changes, such as increases in student motivation to study [23, 24] and student satisfaction [1]. Researchers have investigated the effects of teacher immediacy on affective learning [25, 26, 27] and cognitive learning [25, 28, 29].

Teacher immediacy behaviors seem to take into account the same phenomena as social presence without the intermediating variable of media. Thus it may be that instructors and students involved in asynchronous communication develop a set of immediacy behaviors that “cultures” social presence in online courses as Gunawardena and Zittle suggest [21].

II. METHODOLOGY

A. Purpose of the Study

Although web-based learning is still a new domain, many businesses and educational institutions are
moving forward in the arena and offering online courses, often in place of traditional learning environments. There is, however, little empirical evidence, that supports the design and management of successful web-based courses. Of the empirical evidence that does exist, very little of it examines the social aspects and/or benefits of online learning.

**The purpose of this study** was to explore the role of social presence in online learning environments. More specifically it examined the relationship among students’ perception of social presence in online courses, students’ perceived learning and their satisfaction with the instructor. The following research hypotheses were tested:

- a. Students’ perceptions of social presence in online courses are related to their perceived learning and satisfaction with their instructor.
- b. Students’ perceptions of social presence in online courses are a predictor of their perceived learning.
- c. Course activities perceived by students as having the highest level of social presence also have high levels of students’ perceived learning.
- d. Gender, age, and number of college credits earned are related to students' perceptions of social presence in online courses.

**B. Subjects**
The participants for this study were students who completed Empire State College’s (ESC) online learning courses in the spring of 2000 and completed the end of semester course survey (n=97). Data were not collected from students who enrolled but did not complete the course. The number of students who remained active throughout the semester was 369.

This particular sample was chosen because of the maturity of the online program available at ESC. ESC was a pioneer in the area of online education, being one of the first educational institutions to offer courses entirely via the World Wide Web. As such, the complications and complaints that generally plague newer online programs have been attended to at Empire State College, and thus, do not tend to contaminate students’ perceptions of social presence in online courses. The ESC online course templates are now utilized within the entire SUNY Learning Network of online courses, consisting of over 1200 online courses created by various SUNY (State University of New York) colleges and universities.

The majority of participants reported being in the 36 to 45 age range, with a range of 19 to 63 years of age. Sixty-three percent of participants were female. Fifty-seven percent of participants indicated they were at the junior/senior undergraduate level according to credits earned, with a range of 3 to 260 credits completed. Forty-seven percent of participants reported that this was their first online course, fifteen percent of participants reported taking two online courses including the current course, and thirty-eight percent of students reported taking three or more online courses.

**C. Survey Instrument**
The survey instrument (see Appendix) used for this study is based on a social presence scale originally constructed by Gunawardena and Zittle for their research examining social presence as a predictor of satisfaction within computer-mediated conferencing environments [21]. The social presence scale was modified from the original in several ways. First, the language was modified to correspond with the SLN (SUNY Learning Network) environment rather than the GlobalEd environment it was originally intended for. The independent variables were modified via extension to focus on students’ perceived learning. The scale was also modified so that individual course activities could be examined in view of the fact that the original scale examined the course from an overall perspective.
The first section of the questionnaire consisted of general demographic items. These included gender, age, amount of online experience (one online course, two online courses, three or more online courses), and number of college credits earned.

Section Two of the survey consisted of 16 Likert-type items designed to assess students’ overall perceptions of the course. These items used a six point response scale (1=strongly agree to 6=strongly disagree) and prompted students to indicate the degree to which they agreed with each statement. Three variables were obtained from this section of the survey: students’ satisfaction with their instructor, students’ overall perceived learning, and students’ overall perceived social presence, which was derived from students’ average response to several social presence questions.

Section Three of the survey consisted of indicator statements related to social presence for each of the various types of course activities. Six types of activities were identified for this category, and they were selected based upon their natural occurrence in the SUNY Learning Network course templates. They included:

1. Lectures, Notes, Reading assignments
2. Written assignments
3. Individual projects
4. Group projects
5. Self-tests, module tests, final exam

For each of these course activities students were prompted to indicate the degree to which they agreed with each of the ten indicator statements using a six-point Likert-type scale (1=strongly agree to 6=strongly disagree). Students were allowed to answer “Not Applicable” if the course activity was not present in their online course. Twelve variables were obtained from this section of the survey (a perceived social presence and a perceived learning variable for each of the six course activities). Finally, at the end of Section two, students were also asked to answer two open-ended questions pertaining to their perceptions of benefits related to course activities in terms of their learning and satisfaction with them.

D. Procedures

A complete listing of students enrolled in the online courses and contact information was made available by the Center for Learning and Technology (CLT) at Empire State College. A mail-out, mail-back copy of the final questionnaire was sent to all students enrolled in the participating online courses (n=369). In addition, a message including a quicklink to the online version of the survey was posted in a common area of the courses called the “bulletin board” where students also had the opportunity to fill out the survey online. This dual contingency was utilized to ensure a good return rate. Participants were given approximately two weeks from receipt of the survey to return the survey materials.

Each survey was accompanied by a cover letter that contained instructions to assist students in completing the survey, a statement as to the purpose of the study, and a confidentiality statement informing participants as to how the data would be used and reported. Anonymity of respondents was guaranteed because no individual could be identified regardless of how he or she chose to respond. Since all of the courses demonstrated a low return rate, students were mailed a second copy of the survey and asked again to respond either via the mailed-out survey or the online version of the survey. Students were given three weeks to respond to the survey. After the second mailing the return rate rose from 17% to 26% and the final sample size was 97 students out of a possible 369 students.
E. Research Design

In this research study, a correlational design was utilized [38]. The continuous variables included students’ perceived learning, students' perceived social presence, students' satisfaction with the instructor for the course overall, and students’ perceived learning and perceived social presence for individual course activities. Correlations were also run between students’ overall perceived social presence and demographic variables.

One limitation of this design is that while the correlational method can establish a relationship, it cannot establish a cause-effect relationship between variables that are correlated. As such, a relationship was established between students' perception of social presence and students’ perceived learning. This, in turn, was followed by a direct entry regression of those variables in order to determine if students’ perceptions of social presence was a predictor of students’ perceptions of learning.

III. ANALYSES

A. Students’ overall perception of social presence, students’ overall perceived learning, and students’ overall satisfaction with instructor

Correlations were calculated between three variables: students’ overall perception of social presence, students’ overall perceived learning, and students’ overall satisfaction with instructor. Presented in Table 1 are the means, standard deviations and correlations among the variables. All assumptions of normality, linearity, and homogeneity were met.

<table>
<thead>
<tr>
<th>Variable</th>
<th>X</th>
<th>SD</th>
<th>Overall social presence</th>
<th>Overall perceived learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall social presence</td>
<td>4.39</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall perceived learning</td>
<td>4.70</td>
<td>1.37</td>
<td>.68*</td>
<td></td>
</tr>
<tr>
<td>Overall satisfaction with instructor</td>
<td>4.39</td>
<td>1.74</td>
<td>.60*</td>
<td>.73*</td>
</tr>
</tbody>
</table>

*p < .05.

An examination of Table 1 shows that students’ overall perceived learning yielded a correlation of .68 with students’ overall social presence scores (p<.05; r²=.46); students' overall perceived learning yielded a correlation of .73 (p<.05; r²=.53) with students' satisfaction with the instructor; and students' perception of social presence yielded a correlation of .60 (p<.05; r²=.36) with students' satisfaction with the instructor.

These results have several implications:

1. Students reporting higher perceived social presence scores also perceived they learned more from the course than students with low perceived social presence scores. This indicates a relationship between social presence and perceived learning.

2. Students who were most satisfied with their instructors also believed they learned more from their courses than students who were less satisfied with their instructors. This indicates a relationship between instructor satisfaction and perceived learning.

3. Students with high overall social presence scores also indicated they were highly satisfied with their instructor. This implies that students’ perceptions of social presence were related to the
perceptions of their instructors as having a satisfactory online presence in terms of amount of interaction and/or quality of that interaction.

B. Students’ overall perception of social presence and students’ overall perceived learning

A standard direct entry regression was used to analyze the data. One continuous fixed variable served as the predictor, students’ perception of social presence; the continuous random variable was students’ overall perceived learning. See Table 1 above for the means, standard deviations, and correlations of the variables.

Results of the direct entry regression indicated that a significant predictor equation was established (F=78.83; df=1, 931; p<.05). The correlation established was .68 with an $R^2$ value of .46. An examination of the results demonstrates that students' perceptions of overall social presence were a significant contribution to the equation.

C. Students’ overall perception of social presence and students' gender, age, and/or college credits earned

Students’ perceptions of social presence were also examined in terms of student demographic information obtained via the questionnaires. These items included students' gender, age, and college credits earned. Correlations were calculated for each of the demographic items with students’ overall perception of social presence. The analysis between gender and students’ overall perception of social presence yielded a statistically significant correlation of .219 with an $R^2$ value of .047 (p<.05) indicating that gender accounted for approximately 5% of the variability in students’ overall social presence scores, with women perceiving a higher degree of social presence than men in this sample.

The correlational analysis for age and students’ overall perception of social presence as well as the correlational analysis for college credits earned and students’ overall perception of social presence earned were both statistically insignificant (p<.05); neither age nor number of college credits earned accounted for any of the variability in students’ overall perception of social presence. This finding implies that students’ perceptions of social presence are neither influenced by age or amount of college experience.

D. Students’ perception of social presence for individual course activities and their perceived learning for those activities

Students’ perceptions of social presence were also examined in terms of the types of individual activities available in the SUNY Learning Network (SLN) courses. The activities were divided into six categories based upon their natural occurrence in the SLN courses. The purpose of this exploration was to investigate the relationships between perceptions of social presence and perceived learning in individual course activities. Following in Table 2 are the findings for the individual course activities.
Table 2. Summary of results for correlational analyses on individual course activities

<table>
<thead>
<tr>
<th>Course activities</th>
<th>n</th>
<th>Mean score for Social Presence</th>
<th>Mean score for perceived learning</th>
<th>Correlation between social presence and perceived learning</th>
<th>Coefficient of determination ($r^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class discussions/Q and A areas</td>
<td>94</td>
<td>4.58</td>
<td>4.70</td>
<td>.83*</td>
<td>.69</td>
</tr>
<tr>
<td>Group projects</td>
<td>39</td>
<td>4.63</td>
<td>4.67</td>
<td>.80*</td>
<td>.64</td>
</tr>
<tr>
<td>Individual projects</td>
<td>74</td>
<td>4.19</td>
<td>5.04</td>
<td>.55*</td>
<td>.30</td>
</tr>
<tr>
<td>Self-tests/module tests/final exams</td>
<td>45</td>
<td>3.94</td>
<td>5.02</td>
<td>.50*</td>
<td>.25</td>
</tr>
<tr>
<td>Written assignments</td>
<td>93</td>
<td>4.12</td>
<td>5.06</td>
<td>.46*</td>
<td>.21</td>
</tr>
<tr>
<td>Lectures/notes/readings</td>
<td>86</td>
<td>4.05</td>
<td>4.88</td>
<td>.40*</td>
<td>.16</td>
</tr>
</tbody>
</table>

* $p < .01$

The mean score for social presence in class discussions and/or question areas was 4.58 and the mean score for perceived learning was 4.70 on a six point Likert scale (1=strongly disagree, 6=strongly agree). The analysis yielded a correlation of .83 ($p<.01$, $r^2 = .69$). This indicates that social presence in class discussions and/or question areas accounted for approximately two-thirds of the variability in students’ perceived learning for this activity. **Students with high social presence also perceived high levels of learning in class discussions.**

Similarly, students who perceived a strong social presence in group projects also perceived a high degree of learning from them. The mean score for social presence in group projects was 4.63 and the mean score for perceived learning was 4.67 on the Likert scale. The analysis yielded a correlation of .80 ($p<.01$, $r^2 = .64$). This indicates that social presence in group projects accounted for approximately two-thirds of the variability in students’ perceived learning for this activity.

A correlation of .55 ($p<.01$, $r^2 = .30$) was found between students’ perceived learning and students’ perceptions of social presence in individual projects. The mean score for social presence was 4.19 and the mean score for perceived learning was 5.04 on the Likert scale.

The mean score for social presence in self-tests, module tests, and/or final exams was 3.94, and the mean score for perceived learning was 5.02 on the Likert scale. The analysis yielded a correlation of .50 ($p<.01$, $r^2 = .25$) between the two variables. This indicates that **social presence in self-tests, module tests, and/or final exams accounted for one-quarter of the variability in students’ perceived learning for this activity.**

Considerably lower, yet still statistically significant correlations were also found between perceived learning and perceived social presence for the final two course activity categories. The mean score for social presence in written assignments was 4.12 and the mean score for perceived learning from written assignments was 5.06 on the Likert scale. The analysis yielded a correlation of .46 ($p<.01$; $r^2 = .21$)
between the two variables. This indicates that social presence in written assignments accounted for 21% of the variability in students’ perceived learning for this activity. Students with high perceived learning in written assignments also perceived a strong social presence therein.

The mean score for social presence in lectures, notes, and/or reading assignments was 4.05, and the mean score for perceived learning for those activities was 4.88 on the Likert scale. The analysis yielded a correlation of .40 (p<.01, r^2 = .16). This indicates that social presence in lectures, notes, and/or reading assignments accounted for 16% of the variability in students’ perceived learning for these activities.

The fact that significant correlations were demonstrated between social presence and perceived learning for each of the six individual activities for which students were asked to provide such scores indicates that the social presence of the instructor and/or other students was perceived by students as an integral aspect of their educational experience. It also indicates that social presence permeates those activities usually designated as individual activities. One possible explanation for this finding may be that students were asked to discuss individual projects and/or written assignments with their instructor or other students prior to completing the assignments, and this factor may account for students’ perception of social presence during these activities.

E. Qualitative Data

The qualitative data collected from the open-ended questions reinforces the findings of the quantitative data. The open-ended questions followed section two of the survey and queried students about which activities they found most beneficial to their learning and why. Following are the frequencies and percentages collected from the open-ended questions, with students' (n=82) indications of the activities they found most beneficial in Table 3 and the reasons for their selections in Table 4.

| Table 3. Frequencies and percentages of students’ responses to open-ended questions regarding beneficial activities of online courses (number of responses=157) |
|-------------------------------------------------|----------|------------|----------------|
| Activities                                      | Frequencies | Percentage Identifying |
| Written assignments                              | 49        | 31         |
| Class discussions/question areas                  | 39        | 25         |
| Readings                                        | 24        | 15         |
| Lectures and notes                               | 17        | 11         |
| Individual projects                              | 14        | 9          |
| Self-tests/module tests/final exams              | 8         | 5          |
| Group projects                                   | 5         | 3          |
| Totals                                          | 157*      | 100        |

*Students had the option of entering more than one selection; thus, percentages may not add up to 100%.

Table 3 shows the activities students stated were most beneficial to their learning in online courses. Written assignments accounted for about one-third of these. Written assignments are the activities that allow students to apply or practice what they have learned in a course. Written assignments are also the activities in which students receive feedback from their instructors as to their degree of learning or understanding of a topic or concept. Table 4 below, which lists students’ reasons for indicating particular
activities as beneficial to their learning, gives feedback as the most frequently cited reason for perceiving activities as beneficial. Class discussions/question and answer activities in the courses accounted for 25% of students’ selections for the most beneficial activity in their learning experience. This indicates, as does the quantitative data above, that students perceive the presence of others in their learning experience as an essential part of that experience. It should also be noted that less than 1% of students indicated that none of the class activities were beneficial.

Table 4. Frequencies and percentages of students’ responses to open-ended questions regarding their reasons for choosing particular activities as most beneficial (number of responses=126)

<table>
<thead>
<tr>
<th>Reason for selecting activity</th>
<th>Frequencies</th>
<th>Percentage Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other students perspectives/feedback and/or interaction</td>
<td>37</td>
<td>32</td>
</tr>
<tr>
<td>Increased or expanded knowledge or understanding and/or application of material</td>
<td>34</td>
<td>30</td>
</tr>
<tr>
<td>Instructor feedback/ guidance/facilitation</td>
<td>25</td>
<td>13</td>
</tr>
<tr>
<td>Clarification and/or reinforcement of material or expectations from others</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Could work independently/did not have to rely on anyone else/self-pacing allowed for students</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Participants’ point of view acknowledged</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Totals</td>
<td>126*</td>
<td>100</td>
</tr>
</tbody>
</table>

*Students had the option of entering more than one selection

Table 4 shows students’ stated reasons for selecting the activities listed in Table 3 as beneficial. Fifty-nine percent of participants indicated interaction, feedback, and other students’ perspectives and/or acknowledgement as their reasons for selecting the activities they did as being the most beneficial to their learning. All of the aforementioned reasons relate to the presence of others, which corresponds with the quantitative findings.

IV. DISCUSSION

This section discusses each of the findings of the analyses in the order of the hypotheses advanced.

A. Hypothesis 1: Students’ perceptions of social presence in online courses are related to their perceived learning and satisfaction with their instructor.

Correlational analyses clearly showed a relationship between students’ perceived social presence and students’ perceived learning. This supports the hypothesized relationship between social presence and perceived learning, as well as providing indirect support for the notion that social presence is in some sense cultured, such as differences in social presence indicate something more than media effects. Such findings link the “culturing” of social presence in online courses to increased student perceptions of learning, a first step, at least, toward actual learning.

More problematic, perhaps, are correlations between overall social presence and overall instructor...
satisfaction, and between overall instructor satisfaction and overall perceived learning. Indeed, this latter correlation was slightly stronger than the correlation between perceived social presence and perceived learning, indicating that satisfaction with instructors factored at least as heavily in students’ perceived learning. In fact, there was a relatively strong correlation between perceived social presence and instructor satisfaction.

Students’ overall perception of social presence scores accounted for 35% of the variability in students’ overall satisfaction with the instructor. 

Students with high overall satisfaction with the instructor also had high overall social presence scores. These findings suggest that while students’ perception of online presence of others was a good indicator of their satisfaction with the instructor, it was by no means the only indicator.

There is the possibility, however, that since this survey was not geared specifically to examine students’ satisfaction with the instructor, there may have been some problem with isolating this concept. On the student survey there was only one question on students’ satisfaction with the instructor versus multiple questions designed to generate a score for social presence, including two questions about interactions with the instructor. Thus, the social presence construct operationalized in the survey may have included some of the construct of instructor satisfaction. Qualitative data collected from open-ended questions at the end of the survey, indeed, indicated that students related their satisfaction with the instructors to the instructor’s involvement with them in terms of guidance with course materials and assignments and/or feedback on assignments.

Another possibility is that the constructs of students’ perceived social presence and students’ satisfaction with the instructor might theoretically be related. Thus, it is necessary to determine if the overlap between these constructs is, in fact, theoretical in nature, or if it is a result of the design of the study and/or the instruments used to measure these constructs.

This finding, however, does correspond with the sociocognitive literature that states that learning is a social activity and that individuals learn more from their interactions with others than from reading materials alone [11, 30, 31, 32]. It also relates to the literature on teacher immediacy behaviors. Moore, Masterson, Christophel and Shea’s study, for example, found significant positive correlations between teacher immediacy behaviors and students’ ratings of instruction [1]. Students who perceived more frequent verbal and nonverbal immediacy behaviors in their teachers were more likely to give higher ratings to the overall quality of instruction and value of a course. More specifically, verbal and nonverbal immediacy behaviors were strong predictors of students’ ratings of faculty/student interactions, lectures, and general communication. Hackman and Zane found that instructors who engaged in immediate behaviors such as encouraging involvement and offering individual feedback were viewed more favorably [33].

Similarly, Christophel also found that both students’ perceptions of teacher immediacy and students’ perceptions of trait and state motivation were positively associated with students’ learning [24]. Kelley and Gorham [29], likewise found a positive relationship between teacher immediacy and cognitive learning at the short-term recall level, and Gorham and Zakahi [28] reported a positive relationship between students’ and teachers’ perceptions of teacher use of immediacy behaviors and of student learning outcomes.

All of the aforementioned literature relates to the presence of others, which corresponds with the quantitative findings of this study. This indicates that students perceive the presence of others in their
learning experience as an essential part of it and that students’ perceptions of satisfaction with an instructor are related to their perceptions of social presence.

B. Hypothesis 2: Students’ perceptions of social presence in online courses are a predictor of their perceived learning.

While the correlational results tell us that there was a relationship between students’ overall social presence and students’ overall perceived learning, the standard direct entry regression analysis tells us that students’ perceptions of social presence are a predictor of students’ perceived learning in online courses. This indicates that the amount and/or intensity of social presence students’ perceived in their online courses, from both their instructor and/or their peers, was directly related to their perceived learning in them.

This finding corresponds with the results of Gunawardena and Zittle’s study that examined the possibility of social presence as a predictor of satisfaction within a computer-mediated conferencing environment [21]. Their study demonstrated that approximately 58% of the variance in student satisfaction with the CMC environment was contributed by social presence, suggesting that social presence was a strong predictor of satisfaction in a text-based computer conference. Analogously, Boverie, Nagel, McGee, and Garcia conducted a study to examine elements of learning styles, emotional intelligence, and social presence as predictors of distance education students’ satisfaction needs [34]. The results showed that, of the three constructs, only social presence was a significant predictor of satisfaction.

These findings imply that instructors and designers of online courses need to take into account the mechanisms and/or behaviors by which social presence is conveyed in this environment and integrate those aspects into all such courses.

C. Hypothesis 3: Gender, age, and number of college credits earned are related to students’ perceptions of social presence in online courses.

A significant correlation was found between gender and students’ overall perception of social presence while correlations between both age and number of college credits earned were not statistically significant. The correlational analysis between gender and students’ overall perception of social presence indicated that gender could account for 5% of the variability that occurred in the variable of students’ overall perception of social presence, with women perceiving a higher degree of social presence than men in this study. This can indicate one of several possibilities which include: (1) the social presence scales used in this research may in some way be biased according to gender, (2) this finding may be specific to this particular sample, or 3) the reasoning for this finding may be related in some way to the larger literature base on gender that says that gender plays a role in our educational experiences [35, 36, 37]. Further research needs to be done on students’ perceptions of social presence and gender in order to determine the reasons behind this finding.

D. Hypothesis 4: Students’ perceptions of social presence for individual course activities are related to their perceived learning for those activities.

Significant correlations were demonstrated between social presence and perceived learning for each of the six individual activities for which students were asked to provide such scores, indicating that the social presence of the instructor and/or other students was perceived by students as an important factor in their educational experience.

When students were queried via open-ended questions as to the types of course activities that they perceived as being most beneficial to their learning, about one-third of students indicated written
assignments while one-quarter of students indicated class discussions/question and answer activities. While class discussions/question and answer activities corresponds with the nature of social presence and its place in the online educational environment as discussed earlier, written assignments initially appears to oppose the findings of this research. Further inquiries into students’ reasons for choosing the course activities, however, indicated otherwise. Fifty-nine percent of the survey participants indicated interaction, feedback, and other students’ perspectives and/or acknowledgement as their reasons for selecting the activities they did as being the most beneficial to their learning.

These findings indicate that social presence permeates not only the activities generally designated as social activities but also those activities usually designated as individual activities. Several possible explanations for this finding emerged via the open-ended questions. These included: students being asked to discuss individual projects and/or written assignments with their instructor or other students prior to completing the assignments, and students perceiving the feedback they received for course assignments as part of that course activity.

These findings, moreover, coincide with the literature on online learning which states the “many-to-many” communication tool supports and facilitates active learning and collaboration, which, in turn, can increase motivation and satisfaction in online courses [11]. The literature also identifies interaction among students as critical in learning and cognitive development [31, 32]. Moreover, some theorists characterize learning as an interactive group process in which the learners actively construct knowledge and then build upon that knowledge through the exchange of ideas with others and the responses/feedback of others [11, 30].

As such, these findings need to be acknowledged and incorporated into the design and instruction of online courses. In other words, instructional designers and course instructors need to be made aware of these findings and then take appropriate measures to incorporate immediacy behaviors via discussions and/or activities in the online courses. As previously mentioned in Gorham's work, there are some immediacy behaviors that have been found in traditional classrooms which affected students' cognitive and affective outcomes; whether the same behaviors, however, would be effective in online courses is still another area of research which needs to be explored [25].

E. Benefits and Limitations of the Study

The major limitation of this study was that it only took into consideration the perceptions of the students who responded to the survey. There is currently no accountability for the perceptions of learning experiences and interactions with others in the online learning environment from the viewpoint of the students who did not respond to the survey or officially withdrew from the course before the end of the semester. Other limitations include the lack of randomization, manipulation, and control that characterize experimental studies. The randomization process in this case was beyond the researcher’s control, as is customarily the case in educational settings, since the participants belong to an “intact group” and are administratively defined [38].

In addition, the sample used for this study was chosen for its ability to represent nontraditional students returning to school, rather than the traditional, undergraduate population. This point should be kept in mind when researchers or educators look to this body of research for indications of what to expect from their students or for its implications in their own educational environment. While online learning is becoming a popular mode of education particularly among returning students, a great number of students at Empire State College and other educational institutions also fall into the “traditional” category.
F. Significance of the Study

Research has demonstrated that social presence not only affects outcomes but also student, and possibly instructor, satisfaction with a course [1]. Teacher immediacy behaviors and the presence of others are especially important issues for those involved in delivering online education. Instructors need to be aware of the impact that their immediacy behaviors and social presence or lack thereof may have on their students’ satisfaction, motivation, and learning. The limited amount of empirical research in the area of social presence, the limited amount of empirical research in the area of online learning, and the lack of empirical research in the area of social presence related to online learning makes this study one of particular importance to the literature.

V. CONCLUSIONS

As the literature presented in this study demonstrates, interaction among participants is critical in learning and cognitive development [31, 32]. Sociocognitive theorists describe learning as an interactive group process in which learners actively construct knowledge and then build upon that knowledge through the exchange of ideas with others [11, 30]. These theories combined with the findings of this study indicate that there is a “better” model for online courses. The model should not only present the information and materials to students but also incorporate the social aspects of learning in both the design and instruction of online courses.

The immediate implications of this research extend into the realms of both research and practice. To begin with, more research needs to be conducted in the area of social presence, in both online educational environments and traditional educational environments. Research is needed to determine the extent that perceptions of social presence influence student satisfaction, student motivation and other attitudinal factors as well as students’ actual cognitive and affective learning. From the instructors’ perspective, research needs to be conducted to determine the extent of the influence of social presence on teacher effectiveness ratings and instructor satisfaction with courses taught.

Research also needs to be conducted in the vein of Gorham’s study that looked at immediacy behaviors in traditional educational classrooms [25]. Perhaps if we can determine through observations, interviews, and analyses of online course documents what constitutes positive social presence behaviors, then more institutions and instructors can incorporate these behaviors into their courses. This, in turn, leads to the training of course instructors in methods that allow them to project positive social presence/immediacy behaviors as well as to incorporate or “culture” social presence among the participants/students in their courses [20].
VI. REFERENCES


**VII. ABOUT THE AUTHORS**

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VIII. ACKNOWLEDGEMENTS

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IX. APPENDIX

Name ______________________________________________________________ (*Optional)

Course Name _____________________________________________________________________ (*Required)

Course Instructor ___________________________________________________________________ (*Required)

Age_____ Gender_________ Approximate number of college credits completed______________

Online Experience:

___ This is my first online course

___ I have taken two online courses including this course.

___ I have taken more than two online courses including this course.

Part I. Your responses to the following questions should reflect your online experience overall for this particular course. For the following questions please circle the number which best reflects your opinion in the answer column to the left of the question.

(1=strongly agree, 2=agree, 3=somewhat agree, 4=somewhat disagree, 5=disagree, 6=strongly disagree)

<table>
<thead>
<tr>
<th>Questions</th>
<th>SA</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online or web-based education is an excellent medium for social interaction.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>I felt comfortable conversing through this medium.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>I felt comfortable introducing myself in this course.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>The introductions enabled me to form a sense of online community.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>The instructor created a feeling of an online community.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>I felt comfortable participating in course discussions.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>The instructor facilitated discussions in the course.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>I felt comfortable interacting with other participants in the course.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>I felt that my point of view was acknowledged by other participants in the course.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>I was able to form distinct individual impressions of some course participants.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>My level of learning that took place in this course was of the highest quality.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Overall this course met my learning expectations.</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Overall the instructor for this course met my expectations.</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>
Part II. The questions in the following two tables examine the specific activities within your course. Table 1 includes: Meet Your Classmates and Bulletin Board, Class Discussions and Question and Answer Areas, and Lectures/Notes/Readings. Table 2 includes: Written Assignments, Individual Projects, Group Projects, and Self-Tests/Module Tests/ Final Exams. For each of the following statements please type the number which best reflects your experience for this course in the box that corresponds with each activity and indicator. Please note that if your course does not contain a particular activity then you should respond with an “NA” for not applicable.

Table 1

1=strongly agree, 2=agree, 3=somewhat agree, 4=somewhat disagree, 5=disagree, 6=strongly disagree, NA=not applicable

<table>
<thead>
<tr>
<th>Indicator Statements</th>
<th>Meet Your Classmates, Bulletin Board</th>
<th>Class Discussions, Question Areas</th>
<th>Lectures, Notes, Reading Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>The quality of learning for this activity was excellent.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt comfortable conversing through this medium for this activity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online or web-based education is an excellent medium for social interaction as demonstrated by this activity.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This activity enabled me to form a sense of online community.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The instructor created a feeling of online community during this activity.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt comfortable participating in this activity.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This activity was facilitated by the instructor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt comfortable interacting with other participants in this activity.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My point of view was acknowledged by other participants during this activity.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was able to form distinct individual impressions of some course participants during this activity.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2

1=strongly agree, 2=agree, 3=somewhat agree, 4=somewhat disagree, 5=disagree, 6=strongly disagree, NA=not applicable

<table>
<thead>
<tr>
<th>Indicator Statements</th>
<th>Written Assignments</th>
<th>Individual Projects</th>
<th>Group Projects</th>
<th>Self-Tests, Module Tests, Final Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>The quality of learning for this activity was excellent.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt comfortable conversing through this medium for this activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online or web-based education is an excellent medium for social interaction as demonstrated by this activity.</td>
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<td></td>
</tr>
<tr>
<td>This activity enabled me to form a sense of online community.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The instructor created a feeling of online community during this activity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt comfortable participating in this activity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This activity was facilitated by the instructor.</td>
<td></td>
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<tr>
<td>I felt comfortable interacting with other participants in this activity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My point of view was acknowledged by other participants during this activity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was able to form distinct individual impressions of some course participants during this activity</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Which of the activities listed in Tables 1 and 2 was most beneficial to your learning and why?

Which of the activities listed in Tables 1 and 2 was most satisfying to you and why?
Part III: Please answer the following questions.

1. How satisfied were you with this course? For example, were your goals and/or expectations met? Please explain (e.g. were the course activities and assignments appropriate, was content well-organized, etc.).

2. What was your reason for taking the course in the online delivery format (e.g. like to interact with fellow students online, only offered online, etc.)?

3. Which aspect of this course was most beneficial to you and why? (This can include different types of course activities, types of interactions, etc.)

4. How much interaction have you had with your instructor (e.g. moderate, sufficient, lacking)? Please describe.

5. In relation to student-to-student interaction, would you say the type and amount of student participation was adequate for this course? Based on these observations, are there any recommendations you would make to the SUNY Learning Network?

6. Additional Comments:
Instructional Immediacy and the Seven Principles: Strategies for Facilitating Online Courses

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A Framework for Expanding Pedagogical Approaches to Enhancing Web-Based Instruction

Much has been made of assessing web-based classes over the past 20 years. In many research circles, the overwhelming concern has been whether traditional (face-face) classes and those taught via the web (web-based classes) fare the same in terms of student achievement and satisfaction. Others have focused on which technology is best for web-based classes, while still others are concerned with instructional design issues and determining which design features are essential for web-based courses in terms of clarity, consistency, and in ease of use. While important areas of inquiry and subsequent development, concern with instructional effectiveness, or how an instructor can best direct, facilitate, and support students toward certain academic ends (i.e., student achievement, student satisfaction) in web-based classes has received considerably less attention.

One approach is research in the area of instructional immediacy. Immediacy is a well-defined and researched construct in the instructional communication discipline and has recently been gaining momentum as an area of note in several studies concerning instructional effectiveness in web-based classes. Another approach is Chickering and Gamson’s (1987) seminal work, Seven Principles of Good Practice in Undergraduate Education and its subsequent applications of instructional strategies used in web-based classes. Given attention primarily in educational journals and in practitioner literature, a discussion of such has been lacking in instructional research. This may be due to the lack of empirical research utilizing the Seven Principles as a variable of interest or, perhaps, because the principles are fairly simple and rather obvious to those concerned with effective teaching. The author will describe the current state of research on web-based instruction and posit new directions to expand the current paradigm. Issues of faculty attitude and support toward distance education, instructional immediacy, and the Seven Principles relative to web-based instruction will also be presented as variables in need of further attention in distance education research. Finally, the author describes how the constructs of immediacy and the Seven Principles could expand the current framework of research to include strategies that could better enable instructors to better achieve desired student outcomes in web-based courses.

Web-based Instructional Research

Countless studies (Clark & Jones 2001; Dobrin 1999; Keogh & Smeaton 1999) have found student achievement in web-based classes as comparable or better than that found in face-face instructional settings. Still others, when looking at both achievement and student satisfaction in web-based classes (Carrell & Menzel 2001; Swann 2001; Arbaugh 2000a, b; Comeaux 1995), found similar results. This
line of inquiry formidably known as the “no significant difference” genre is quickly falling behind other research pursuits within the web-based instruction discipline. As researchers are less concerned with the comparative value of offering a web-based class, their concern with specific learner characteristics, learning models, and curriculum restructuring (Congressional Web-based Education Commission 2000) indicate a shift in the research paradigm. Further, a report from the Institute for Higher Education (IHEP) commissioned by the National Education Association (NEA), the nation’s largest professional association of higher education faculty, and Blackboard, Inc., a widely used platform provider for online education, also pointed to current needs in research concerning web-based instruction. The IHEP (2000) report, a sequel to the widely cited 1999 report that identified “gaps in the literature” of web-based learning, cited 24 benchmarks considered essential for ensuring quality and excellence in web-based courses. Of these, the teaching/learning process, course development, and course structure topic areas (each with subsequent benchmarks) received considerable attention. The issues specified in both reports suggest that researchers should expand their focus to include issues that help students achieve certain outcomes, rather than whether they did or not, when assessing the effectiveness of web-based instruction.

A second dominant trend in web-based research concerns which technologies are best to use in web-based courses. Ehrmann (1995), Director of Flashlight Project, a three-year project to develop and share evaluation tools for educational technology, reviewed current research on educational technology. He concluded that educators should focus on how they are using the technology to improve learning outcomes. Ehrmann (1995) encouraged researchers to focus on (a) which teaching and learning strategies are best (regardless of technology used) for the specific content and audience, and (b) which technologies are best for supporting those strategies (p. 4). Worley (2000), who cited Ehrmann (1995) and the IHEP (1999) report in her discussion of distance education pedagogy within the business communication discipline, argued that current research neglects the learner as the focal point in research on web-based learning. She encouraged researchers to examine the relationship between faculty and student and what learning strategies are employed, rather just the impact of the technology in isolation. The technology media, as Clark (1983) explained, are just “vehicles that deliver instruction but do not influence student achievement any more than the truck that delivers our groceries causes change in our nutrition” (p. 445). This is not to say that the technology used is irrelevant to a learner’s experience and subsequent outcomes in web-based classes (cf., Comeaux 1995; Brindle & Levesque 2000; Witt & Wheeless 2001), but that research has not readily considered the other variables—specifically those related to instructional strategies—in studies on the effectiveness of web-based learning.

Instructor Role in Web-based Instruction

One significant difference between face-face classes and web-based instruction is in the role of the instructor. Knowlton (2000) argued for a student-centered approach to teaching web-based classes by suggesting that faculty use collaborative learning where students guide discussions and work in cohorts on assignments. The instructor, Knowlton explained, must take on the role of facilitator or coach rather than the sole “giver of knowledge” (p. 7). He presented a student-centered approach model to the online classroom that bridges traditional resources (textbooks and library research) with web resources, interactive activities, and unique student learning attributes (job, gender, culture). Additionally, Shrivastava (1999) proposed the creation of online learning communities as a framework for developing and facilitating business management classes. He described learning communities as “knowledge ecosystems “ where groups of people are engaged in collective inquiry to enhance their personal knowledge and application of the knowledge to work situations” (p. 694). Co-learners, as Shrivastava (1999) called them, include class peers, teachers, managers, experts, and outside experts operating as a network of information. Such a networked learning community extends the more
traditional norms of the instructor as expert to the instructor as the facilitator of resources, knowledge, and student learning.

Bernice McCarthy (2000) also advocated a change in the traditional, linear instructor-student relationship. Recognized mostly in secondary education and in corporate training circles, McCarthy (2000) traced how the learner and instructor roles change when moving through each of the four quadrants of the 4MAT curriculum model: direct experience, reflection, abstract concepts, and action. As students move through the different quadrants when learning a lesson, the teacher’s role changes from content expert (quadrants 1, 2) to facilitator and coach (quadrants 3, 4). The 4MAT cycle of learning centers on teaching to the learner where they are by considering their learning styles, left-right brain processing, and multiple intelligences (cf. Gardner 1999). The 4MAT model has been adapted to distance education by offering web-based educator training that mirrors the core principles of the 4MAT model.

While the suggestions offered in the cited reports and subsequent research will likely still be measured in terms of the learner (i.e., student satisfaction and achievement outcomes), the author proposes more research be directed toward discovering which instructor attributes and strategies best influence these outcomes. Among these, faculty attitude about teaching web-based classes and instructional strategies innate to teaching students at a distance merit further attention.

Faculty Attitude

Before faculty can get excited about increasing their use of strategies that may increase student achievement and satisfaction in their instructional foray, they must first be open to the idea of teaching a web-based class. In a survey of higher education faculty attitudes concerning distance learning, the NEA (1999) found that both traditional and distance learning faculty held positive attitudes of distance learning (72% of distance learning faculty; 51% of traditional faculty with 28% of traditional faculty remaining undecided). This finding supports much of what Allison and Scott (1998) found in their research that explored current attempts by institutions to directly and indirectly compensate faculty for adopting instructional technologies. Direct compensation may include stipends and assigned time (i.e. course release time); indirect compensation may include awards/recognition and staff development (i.e. attending related conferences). While both incentives are important, Allison and Scott (1998) argued that direct compensation works best to facilitate what others (Shrivastava 1999; Knowlton 2000) see as the changing role and obligation of faculty members from traditional lecturers to subject matter experts, courseware designer, instructional resource manager, and learning systems manager.

An additional concern of faculty toward web-based instruction is in course quality and training. Ross and Klug (1999), in their research concerning factors that influenced attitudes of business college faculty toward distance education, found that faculty were generally receptive to and supportive of teaching web-based courses, but that they perceived difficulty in realizing course goals in teaching using technology as the medium. Schifter (2000) also found that faculty perceived poor course quality and a lack of adequate faculty training to prepare faculty for teaching web-based courses as two of the top five issues inhibiting faculty participation in web-based classes. As evidenced, the concern then is not whether technology is used; rather, how does an instructor ensure quality and achieve learning goals when teaching via a different medium. Ross and Klug (1999) suggested that institutions take specific steps to increase faculty knowledge of and experience of distance learning options, whether in web-based or videoconference instruction, or as a supplement to face-face courses. Additional suggestions include sharing reports and articles, training and resources, and testimonies from faculty who have taught web-based courses (both in undergraduate and graduate programs), to enhance support among faculty interested in developing and/or teaching a distance education class. Administrators may also use surveys to gauge faculty perceptions and include distance education goals and incentives within their institutional or program mission statements for further support.
Instructional Immediacy

Research in instructional immediacy has received considerable attention as a component of eliciting student satisfaction and learning in web-based classes. First described by Mehrabian (1969) as behaviors that enhance closeness and nonverbal interaction with another, the definition was extended by Gorham (1988) to include verbal interaction that increased psychological closeness between teachers and students. Verbal immediacy includes the use of humor, frequent use of student name, encouragement of discussion and following up on student-initiated comments, encouraging future contact with students, and sharing of personal examples; nonverbal immediacy includes smiling, eye contact, vocal expressiveness, open gestures and body movement behaviors by the instructor. Immediate teachers often encourage students to appreciate or value the learning task, which in turn, has been found to enhance cognitive learning (Rodriquez, Plax & Kearney 1996).

While nonverbal immediacy is important, verbal immediacy may be more relevant to web-based instructional settings as the instructor is not physically apparent to provide nonverbal cues. Research by Freitas, Myers, and Avtgis (1998) strengthens this assertion. They found that students enrolled in conventional, face-to-face classes and those enrolled in a web-based, synchronous course perceived differences in the amount and quality of (instructor) nonverbal immediacy, but not in verbal immediate behaviors. While Freitas, et al. (1998) viewed such a result as surprising, the stability of verbal immediacy over different instructional mediums may lend itself as better variable to study as compared to nonverbal immediacy. For example, Arbaugh (2001) investigated the extent to which instructor verbal immediacy behaviors are (statistically) significantly associated with student learning and satisfaction in web-based MBA courses. A factor analysis produced two factors (a) classroom demeanor, which reflected the instructor’s use of personal examples, humor, and openness toward and encouragement of student ideas and discussion; and (b) name recognition, referring to the extent to which the instructor was addressed by name by students and vice versa. Arbaugh (2001) reasoned that instructors who readily used verbally immediate behaviors in a face-to-face classroom, should find it fairly easy to do such in an online format as many strategies should be the same.

For instructors unaware of or simply not using verbally immediate behaviors, Jensen (1999) demonstrated that faculty could successfully learn to use such after participating in an immediacy training program. Faculty participating in such training increased their use of verbal immediacy behaviors by 42 percent and, consequently, experienced a 59 percent increase in student participation in class compared to those in the control group. While Jenson’s (1999) results were for faculty teaching face-to-face classes, she reasoned that verbal immediacy was more relevant from a faculty training perspective because it was more easily controlled and was not bound by physical proximity as with nonverbal immediacy behaviors. The same characteristics extend to web-based learning formats, and especially web-based instruction. Further, the specific examples of verbal immediacy that increased the most (i.e., name recognition and encouraged discussion) in the experimental group were the same as those found by Arbaugh (2001).

Immediacy also relates to course design, or how a teacher deliberately arranges a set of external events to support the (learner’s) internal learning process (Gagne? 1992). Gagne? (1992) distinguished between teaching and instruction by stating that instruction can include events generated by animate or inanimate events (television, book, picture, etc.) and that teaching may play an essential role in arranging such events thus, “teaching may be considered as only one form of instruction, albeit a signally important one” (p. 3). LaRose and Whitten (2000) found that adapting the computer’s response to students can contribute to verbal immediacy. The authors suggested programming the computer to issue personal greetings when a user logs on, issuing quirky or helpful error messages rather than the “404 not found” when problems arise, and customizing a personal tutor that can help students with
navigating the course site as ways to enhance student perceptions of verbal immediate behaviors in web-based classes.

Swan (2001) examined how instructional factors affect student satisfaction and perceived learning from asynchronous online learning. She found design clarity, interaction with instructors, and active discussion among course participants significantly influenced student’s satisfaction and perceived learning of the course material. Swann (2001) cited Rourke, Anderson, Garrison, and Archer’s (2001) idea of a creating a “community of inquiry” as a way to understand the interaction between student, instructor and course content. Cognitive presence occurs through frequent interaction with the material, teaching presence through frequent and effective interaction with the instructor, and social presence occurs through frequent and effective interaction with other students. Swan (2001) found cognitive presence positively correlated with student satisfaction and (perceived) learning when classes were kept small (11-20), student contact with instructor and/or other students was required on a consistent basis, content was easy to access and consistent design features (colors, headings, images, links) were used among lessons. In addition, perceived usefulness of the course software and flexible course access has also been found to be strongly associated with student satisfaction in web-based classes (Arbaugh 2000b).

Perhaps the most compelling result implicit in Swann’s research (2001) was how students’ perception of increased interaction with the instructor occurred when they interacted with the course (regardless if they had direct contact with the instructor) on a consistent basis. Her finding supports both Gagne et al.’s (1992) perspective on the teacher as being only one aspect of instruction and LaRose and Whitten’s (2000) description of the computer as a “social actor” (p. 326) that possible functions as an instructional object and thus affects overall satisfaction and (perceived) learning.

Chickering & Gamson’s Seven Principles of Good Practice

The Seven Principles for Good Practice in Undergraduate Education arose out faculty concern over student apathy and incompetent teaching. The American Association for Higher Education (AAHE) and the Johnson Foundation co-sponsored the report and it continues to be a model for good teaching practices in higher education as well as certain administrative settings. A summary of the Seven Principles (Chickering & Gamson 1987) is described in Table 1.

Table 1. Seven Principles of Good Practice in Undergraduate Education, Chickering and Gamson (1986)

1. **Encourage contact between students and faculty:** Frequent student-faculty contact both in and outside of class is an important factor in student motivation and involvement.

2. **Develop reciprocity and cooperation among students:** Faculty should create and encourage opportunities for collaborative learning among students.

3. **Encourages active learning:** Faculty should require students to apply their learning in oral and written forms.

4. **Give prompt feedback:** Faculty should provide appropriate and prompt feedback on performance. Students need help assessing their current competence and performance, and need frequent opportunities to perform and receive suggestions for improvement. Such feedback should be an ongoing process in collegiate settings.
5. **Emphasize time on task**: Faculty should create opportunities for students to practice good time management. This includes setting realistic time for students to complete assignments as well as using class time for learning opportunities.

6. **Communicate high expectations**: Faculty should set and communicate high expectations for students. Such becomes a self-fulfilling prophecy for students and they often will rise to meet the challenge.

7. **Respect diverse talents and ways of learning**: Faculty should create learning opportunities that appeal to the different ways students will process and attend to information. Varying presentation style and assignment requirement will allow students to showcase their unique talents and learn in ways that work for them.

In 1999, Chickering and Gamson reflected on the current applications of the Seven Principles since their initial release by discussing the extensions of their original work found in student learning assessments (ex. College Student Experiences Questionnaire), professional development workshops, personnel effectiveness assessments (ex. Seven Principles for Good Practice in Student Affairs; Learning Process Inventory and Assessment), and student evaluations of academic programs. The authors also discussed research lines using the Seven Principles as predictors of student satisfaction and faculty involvement in college courses.

As an additional extension of the Seven Principles, several authors have applied the instructional practices to distance learning formats. Chizmar, Walbert, and Hurd (1999) demonstrated the direct application of the Seven Principles to three undergraduate web-based classes. They cited specific examples of how instructors can use technology to successfully support each of the Seven Principles including (a) encouraging student use of the communication technologies for sharing ideas, critiques, and review of assignments and to work on group projects with other students and the instructor(s); (b) providing prompt feedback to student questions and assignments and giving online quizzes that provide immediate feedback as to performance; and (c) choosing diverse learning tools (interactive simulations vs. a checklist of ideas) based on their preferred way of interacting with the material (individually or as a part of a group). Chickering and Ehrmann (1996) and Lemke and Ritter (2000) found similar experiences when using technology (e-mail, computer conferencing, World Wide Web resources, video-conferencing, and simulation software) to support the application of the Seven Principles. In a survey of 236 students over two years, Lemke and Ritter (2000) found that students perceived that the use of technology did support Chickering and Gamson’s (1987) Seven Principles and that their performance increased as a result.

Perhaps the most in-depth application of the Seven Principles to a web-based format is from Graham, Cagiltay, Byung-Ro, Craner, and Duffy (2001). The authors, a team of evaluators from Indiana University’s Center for Research on Learning and Technology (CRLT), evaluated four online courses at a professional school at a large Midwestern university. The authors provided an overview of the Seven Principles, the technologies employed to support each, and specific recommendations based on the faculty and student anecdotal comments and researcher observations. Although the authors noted that the strategies and suggestions mentioned were specific to the web-based classes evaluated, such strategies could be used as a general framework for assessing online teaching and learning.

**Future Implications**

Two different, but potentially related approaches may offer some direction for researchers and educators concerned with instructional effectiveness in web-based courses. Both verbal and nonverbal immediacy instances are essential for affective learning, or satisfaction toward content and instructor.
According to Rodriquez, et al. (1996) and Gorham (1988), affective learning mediates the relationship between immediacy and cognitive learning and has been shown as to be equally as relevant—and perhaps even more so—in web-based classes. Research concerning verbal immediacy is the most promising for web-based classes and offers novel approaches for bridging the virtual distance between the instructor and students. Chickering and Gamson’s (1987) Seven Principles are also clearly applicable to web-based and other distance learning formats in that they provide instructional strategies focused on the learner, rather than on the medium used to teach the learner. Of course, if administrators expect faculty to provide quality instruction in web-based classes, they must address the unique pedagogical, compensatory, and support issues inherent to teaching in distance education classes.

Considered together, both immediacy and the Seven Principles may advance the current theoretical framework for enhancing instructional effectiveness as measured by student achievement and satisfaction in web-based classes. For instance, instructors who frequently refer to students by name succeed at establishing rapport with students and often motivate future contact (Principle #1) in both conventional and web-based instructional settings. Likewise, instructors can encourage discussion by requiring active learning opportunities (Principle #3) through students working in teams or in providing students diverse options (Principle #7) in how they interact with the course, their peers, or the instructor. In short, instructor success in using the Seven Principles may hinge on to what degree they employ verbal and nonverbal immediate behaviors. The same could also be said for the impact of immediacy behaviors on the degree to which some, or most, of the Seven Principles are utilized by an instructor. Exploratory research could shed light into how closely the constructs are related, and to what degree they measure separate attributes.

Additionally, focusing research on instructor behaviors rather than the technology employed will help address the gaps concerning the teaching and learning process in web-based classes as noted by several current national reports (cf. Commission on Technology and Adult Learning 2001; Congressional Web-based Education Commission 2000; IHEP 1999, 2000). How closely instructional immediacy and the Seven Principles are actually related is just speculative; however, such issues provide fertile opportunities for future research in how instructors can best achieve certain outcomes in web-based classes. Research investigating how certain facilitative strategies impact learning outcomes would provide faculty with proven techniques to enhance online learning. Further, such results could be used to support new funding opportunities for distance learning technologies and initiatives that help support instructors use of facilitation strategies.

Instructors interested in enhancing their instructional effectiveness should research and begin using specific ways to enhance immediacy behaviors in classes, regardless of the instructional medium. Face-face classes are easiest to practice immediate behaviors due to the instant reinforcement of feedback from students and the use of nonverbal immediate behaviors. Suggestions presented in this paper offer a good start. Faculty may also contact related academic departments (e.g., Communication Studies or Psychology) or faculty training groups to sponsor instructional immediacy training similar to the program noted by Jensen (1999).

Several resources are available for faculty and distance learning administrators interested in learning about or applying the Chickering & Gamson’s (1987) Seven Principles. The Center for Distributed Learning (CDL) at the University of North Texas extended the Graham et al. (2001) strategies to specific tools within WebCT, the platform used to support UNT’s web-based classes. Faculty involved in the CDL’s Excellence in Teaching Online (ETO) sessions learn how to apply the Seven Principles to online teaching and course development following the Graham, et al. (2001) guidelines (WebCT Participant Guide 2000). Additional resources can be located in the American Association of Higher Education Bulletin (AAHE) and the New Directions for Teaching and Learning journal, both cited at the end of this article.
Summary

What does the research in instructional immediacy and the practical suggestions innate to Chickering and Gamson’s (1987) Seven Principles tell us about effectiveness in web-based instruction? Just the things that most (good) instructors already know: encourage students to think and learn, give prompt feedback, provide guidance and support, and consider what new and different ways technology may add support to current strategies and help to induct new ones. Worley (2000) stated it best that what faces an instructor teaching a web-based class is really “age-old questions that have always plagued the classroom, technically enhanced or otherwise” (p. 101). Rather than focus on how useful or comparative the specific technology is in web-based instruction, research should focus more on how such technology can support and enhance specific teaching and learning goals in web-based classes.

This paper reviewed compelling research in the areas of instructional immediacy and Chickering and Gamson’s (1987) Seven Principles that can aid instructors in creating an interactive, learning community taught via the web. Perhaps distance education administrators can expand their offering of facilitation skills to faculty and staff members interested in teaching online courses. Further, researchers can embark on rich paths of discovery into new instructional models that are learner-centered and amenable to various forms of technological mediums. Future research geared toward how specific learner and instructor attributes and instructional design issues impact the learning situation in web-based classes will provide a wealth of practical strategies tied to proven results.

References


How Instructor Immediacy Behaviors Affect Student Satisfaction and Learning in Web-Based Courses

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In this study I investigated whether instructor classroom behaviors, called “immediacy behaviors,” are significantly associated with student learning and satisfaction in Web-based MBA courses. Immediacy behaviors represent instructors’ attempts to reduce the social distance between themselves and their students. While my study found that immediacy behaviors were positive predictors of student learning and course satisfaction, such other factors as student attitudes toward course software, the length of a course, and prior student and instructor experience with Web-based courses were also significant predictors. These findings suggest that both structural characteristics of MBA programs and instructor behavior merit attention for Web-based courses to successfully deliver graduate management education.

Keywords: Immediacy behaviors, Web-based courses

While most US colleges and universities now deliver at least some courses via the Internet (Clarke, 1999), the medium has also brought competition from corporations, prompting concern about a potential shakeout of providers of business education (Moore, 1997; Symonds, 2000). This potentially hostile future environment raises a fundamental question for business schools: Do faculty add value to education in the online environment, and if so, how? Some initial studies on virtual classroom characteristics suggest that time and place flexibility, patience with students adopting a new technology, and an emphasis on interaction increase student satisfaction with Web-based courses (Arbaugh, 2000a; 2000b; Berger, 1999; Dumont, 1996; Ellram & Easton, 1999; Harasim, 1990). But these characteristics are largely endemic to the medium, thereby making them easily replicable by
both academic and non-academic institutions. By identifying and understanding ways in which faculty uniquely add value to the online education process, business schools could gain an advantage that can be leveraged against emerging corporate competitors and other business schools seeking to use the Internet to broaden their traditional service regions (Kedia & Hariston, 1998; Moore, 1997). This article reports findings from a six-semester study conducted at the University of Wisconsin Oshkosh to identify the added value of faculty in Web-based MBA courses.

**“Virtual” Immediacy Behaviors**

Educational communication scholars (Christophel, 1990; Gorham, 1988; Menzel & Carrell, 1999) have thoroughly studied immediacy behaviors and their relationship to student attitudes and learning in traditional classrooms. But only recently have researchers extended these findings to distance education. *Immediacy refers to communication behaviors that reduce social and psychological distance between people* (Mehrabian, 1971; Myers, Zhong, & Guan, 1998); it includes both nonverbal and verbal behaviors. In a classroom, nonverbal immediacy behaviors are those associated with physical conduct such as eye contact, smiling, movement (or lack thereof) around the classroom, and body position (Andersen, 1979; Richmond, Gorham, & McCroskey, 1987). Verbal immediacy focuses on speaking behaviors such as including personal examples, using humor, providing and inviting feedback, and addressing and being addressed by students by name (Gorham, 1988). Both nonverbal and verbal immediacy behaviors are associated with student motivation and learning (Christophel, 1990; Menzel & Carrell, 1999; Myers et al., 1998).

In distance education, researchers are finding that students have lower expectations concerning nonverbal behavior than in the traditional classroom (Frietas, Myers & Avtgis, 1998; Witt & Wheless, 1999). Compressed video course delivery, which has less impact on immediacy behaviors, is indeed positively associated with student learning and satisfaction (Comeaux, 1995; Frietas et al., 1998; Hackman & Walker, 1990). This suggests that
immediacy behaviors could also be associated with student learning and satisfaction in Web-based courses. However, the question remains: how can an instructor demonstrate immediacy behaviors in a virtual environment? While some efforts have been made to develop full motion video for the Internet, technical difficulties keep it from being widespread, and thus the demonstration of nonverbal immediacy behaviors is severely limited. However, behaviors associated with verbal immediacy (Gorham, 1988; Mehrabian, 1967) are possible in the virtual environment. An instructor could still use humor, encourage discussion and feedback, or address students by name through the use of text-based “discussion,” emoticons, and/or audio clips. Therefore, I focused on those items traditionally characterized as verbal immediacy behaviors for this study.

Method

To examine the effect of these behaviors on student satisfaction and learning, I surveyed 25 of the 28 Web-based class sections offered by the MBA program at the University of Wisconsin Oshkosh from Summer 1999 through Spring 2001. The class sections were taught by fourteen different instructors and were conducted using either Lotus LearningSpace or Blackboard course software packages. Students completed a questionnaire either in class or as an e-mail attachment. Any remaining non-responding students were sent a copy of the survey that they could complete at their convenience. The student response rate was 77.7 percent (390 of 502).

Alavi’s (1994) six-item scale was used to measure student learning. To measure student satisfaction, I generated another instrument that asked about their perception of the course’s quality and their likelihood of taking future courses via the Internet. A factor analysis produced two factors: (1) satisfaction with the delivery medium and (2) satisfaction with the course.

I measured immediacy behaviors using the fourteen items from Gorham’s (1988) verbal immediacy scale. A factor analysis produced two factors: (1) “classroom” demeanor, which reflected the
instructor’s use of personal examples, humor, and openness toward and encouragement of student ideas and discussion; and (2) name recognition, referring to the extent to which the instructor was addressed by name by students and vice versa.

The control variables I used in the study were student age, gender, number of international students, number of prior Web-based courses taken by a student, student attitude toward the delivery technology, class section size, number of prior Web-based courses taught by an instructor, the course’s number of credit hours, and the use of audio clips. Student attitude toward the delivery technology was measured using a two-item scale adapted from Thompson, Higgins, and Howell’s (1991) study. I also included a control variable that reflected the interaction between number of credits in a course and the number of prior courses taught by an instructor.

Results

The results of this study are summarized in Tables 1 and 2. The regressions show that both of the immediacy behaviors and student attitude toward the course software were significant predictors of student learning. Attitude toward the course software was also a significant predictor of satisfaction with the delivery medium, as were several other control variables. Prior student experience was positively associated with satisfaction with the delivery medium. While both prior instructor experience and number of course credits were negatively associated with delivery medium satisfaction, the interaction of these variables was positively associated with delivery medium satisfaction.

Both immediacy variables and student attitude toward the course software were also positively associated with course satisfaction. However, other control variables were also significant predictors of course satisfaction. While prior instructor experience was positively associated with course satisfaction, the interaction of instructor experience and course credits was negatively associated with course satisfaction. Prior student experience was also negatively associated with course satisfaction.
Discussion

These findings have several implications for business school faculty and MBA programs. They support earlier studies that appropriate immediacy behaviors enhance student learning and course satisfaction (Comeaux, 1995; Frietas et al., 1998; Gorham, 1988; Menzel & Carrell, 1999). This suggests that findings related to the construct of immediacy behaviors may be generalizable to online courses (Arbaugh, 2000b). While generating questions for class discussion is important, instructors who rely merely upon asking students questions to generate interaction will be severely disappointed. Instructors can influence student interaction by providing personal examples of the class material, demonstrating a sense of humor about the course material and/or the Web-based course experience, and inviting students to seek feedback from them and from each other.

Although some researchers see online learning as a detached and impersonal learning environment (Flaherty, Pearce & Rubin,
Table 2. Results of Hierarchical Regression Analyses on Student Learning and Satisfaction (n = 390)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Student Learning</th>
<th>Satisfaction—Delivery Medium</th>
<th>Satisfaction—Course</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M 1</td>
<td>M 2</td>
<td>M 1</td>
</tr>
<tr>
<td>Age</td>
<td>.00</td>
<td>-.00</td>
<td>.00</td>
</tr>
<tr>
<td>Gender</td>
<td>-.03</td>
<td>-.06</td>
<td>-.11</td>
</tr>
<tr>
<td>International Students</td>
<td>-.05</td>
<td>.03</td>
<td>-.25</td>
</tr>
<tr>
<td>No. of Prior Internet</td>
<td>.03</td>
<td>.02</td>
<td>.13***</td>
</tr>
<tr>
<td>Courses Taken</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Prior Internet</td>
<td>.03</td>
<td>.04</td>
<td>-.12*</td>
</tr>
<tr>
<td>Courses Taught</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class Size</td>
<td>-.00</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Use of Audio Clips</td>
<td>.59***</td>
<td>.16</td>
<td>.09</td>
</tr>
<tr>
<td>Attitude Toward</td>
<td>.12***</td>
<td>.07**</td>
<td>.26***</td>
</tr>
<tr>
<td>Course Software</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Course Credits</td>
<td>-.08</td>
<td>-.07</td>
<td>-.14+</td>
</tr>
<tr>
<td>No. of Internet Courses</td>
<td>-.02</td>
<td>-.02</td>
<td>.06**</td>
</tr>
<tr>
<td>Instructor Demeanor</td>
<td>.40***</td>
<td>-.02</td>
<td>-.02</td>
</tr>
<tr>
<td>Name Recognition</td>
<td>.31***</td>
<td>-.04</td>
<td></td>
</tr>
</tbody>
</table>

F = 6.15*** 16.35*** 14.49*** 12.09*** 5.54*** 21.17***

D.F. = 10,379 12,377 10,379 12,377 10,379 12,377

Adj. R-square = 0.14? 0.34? 0.28? 0.28? 0.13? 0.40?

Change in R-squared = 0.15*** 0.00 0.14***

Note. Standardized regression coefficients reported.
+p < .1. *p < .05. **p < .01. ***p < .001.
1998; Noble, 1998), this study seems to indicate the opposite. The online learning environment can in fact reduce the traditional social distance between instructor and student (Ahearn, Peck, & Laycock, 1992; Berger, 1999; Brandon & Hollingshead, 1999; Chidambaram, 1996) because the online environment may be more dependent upon the collective effort of all class participants rather than primarily the instructor to assure a successful course (Bailey & Cotlar, 1994; Leidner & Jarvenpaa, 1995). By engaging in such behaviors as asking the class how things are going in the course and encouraging people to talk about non-course related issues, the instructor may well be setting the stage for a more collective classroom effort. The fact that instructor online experience was not a predictor of learning also suggests that not only are immediacy behaviors more directly transferable from traditional classroom practice to Web-based courses than first thought, but they may be even more critical than technological acumen in predicting success in online. This implies that given reasonable technical support, those instructors who have strong classroom skills may be more effective online instructors than those more technologically savvy faculty who are not as strong in the classroom.

At first examination, the negative relationship between delivery medium satisfaction and both instructor experience and number of course credits combined with a positive relationship between delivery medium satisfaction and the interaction seems rather puzzling. However, there are some reasonable explanations for this finding. Newer online instructors may not have the command of the delivery medium that more experienced instructors have, and longer courses may make that inexperience more apparent. The negative relationship between course credits and medium satisfaction may also reflect a burnout factor often associated with online courses (Berger, 1999; Ellram & Easton, 1999; Hiltz & Wellman, 1997). Conversely, experienced online instructors may have a much greater command of the delivery medium than do many students, thereby placing some students in the position of feeling as though they are having to catch up to the
instructor’s technological expertise in addition to mastering the course material. This feeling may well be exacerbated by comparatively short course durations. This explanation is further supported by the fact that increased student experience with online courses is positively associated with delivery medium satisfaction. However, increased instructor experience with online courses may be valuable in that the instructor could be refining already existing online course material rather than posting it for the first time during the course and/or have more thorough knowledge of how to pace a class over a longer time period.

The fact that instructor experience and immediacy behaviors were both positively associated with course satisfaction suggests that more experienced online instructors either learn or bring from their classroom experience the importance of immediacy behaviors in the online setting. This may explain in part the negative relationship between student experience and course satisfaction. More experienced students have likely been exposed to a greater variety of instructors (both good and bad) and will therefore have higher expectations of their instructors. For them, the novelty effect of Internet-based courses has likely worn off (Gibson & Gibson, 1995) and as a result they may be less tolerant of bad course experiences regardless of instructor experience level.

However, in spite of the benefits of instructor experience in online courses, the interaction of course length and instructor experience was negatively associated with course satisfaction. There are several possible explanations for this finding. First, eighty percent of the full semester courses in the study were required courses, whereas nearly seventy percent of the half semester courses were either foundation (pre-core) courses or electives. Typically, students will be more satisfied with a course they choose to take than one they are required to take. Second, this relationship may also suggest the possibility of the previously mentioned burnout factor for Web-based courses. Lastly, there could have been course-specific factors that reduced student satisfaction such as interest in the course topic or material, classroom dynamics, or interpersonal conflicts.
This study had several limitations that should be mentioned. It was conducted at a single institution; that institution has a relatively small international student population; students there also take courses on site. Thus, these findings may not be widely generalizable. Also, the study extended over six semesters; that may have created a maturation effect for both students and instructors. This could be a reason why prior student experience was a significant predictor of satisfaction with the delivery medium. However, this concern was considered a trade-off for increasing the sample size, and thereby the statistical power, of the study. Lastly, since there were no classroom-based control groups, it can’t be said with certainty that these findings are unique to the Web-based environment. These limitations should certainly be addressed in future studies.

Recommendations
These findings lead to three recommendations for faculty and business school administrators who seek to develop effective Web-based courses. One concerns faculty experience. Students may react negatively when MBA faculty gain online course experience at differing rates. Those who have less experience than their students may frustrate them by seeming to be disorganized and lacking in online classroom skills. Those who have more experience than their students may overwhelm them with technological sophistication or advanced online pedagogies. Thus neither of the approaches common today for developing an online MBA program—requiring most or all faculty to teach online or entrusting online course development to one or two early adopters—may be effective. Instead, MBA programs may wish to develop a cadre of faculty from several disciplines who will be committed to teaching Web-based courses for an extended period of time so that they might be able to both learn and share their knowledge with each other at a similar pace.

Second, the significance of student attitudes toward course software suggest that an instructor’s skill and experience in conducting Web-based courses could go for naught if students don’t like the course software package. This suggests that business schools
seeking to develop online degree programs should not immediately commit to a single software package, but rather experiment with at least two and maybe several. Instructors should be consistently asking for student feedback about what they like and dislike about particular packages, and the business school should not be afraid of using this feedback to adopt a different software package that may better suit instructor and student needs.

Third, developers need to take steps to overcome burnout (Dumont, 1996; Dyrud, 2000; Taylor, 1996; Hiltz & Wellman, 1997). As noted, this can be caused by the volume of electronic communication among class participants, disparity of online experience between the instructor and students, course duration, and the expectations of required vs. elective courses. Earlier, I discussed ways to overcome disparity in experience. To address problems with course duration, school may chuck course materials into smaller modules for delivery online. One approach is the creation of a separate online MBA program like Ohio University’s “MBA Without Boundaries” program. Another approach is for faculty to run courses using compressed schedules, thereby reducing the likelihood that a course merely drags on. Faculty could also incorporate a “mid-course break” to help students and the instructor recover from the volume of messages they receive and then return refreshed for the remainder of the course. Instructors may also wish to control message volume by limiting the number of comments a student can make to a single discussion, or by closing discussion topics once a certain number of quality comments have been posted. This could provide sufficient incentive for students to resist the temptation to “pile on” comments in order to meet course participation requirements.

To address the problem of student resistance to required courses, business schools could increase the number of elective credits in their MBA programs. They could also provide some flexibility by identifying a group of required courses from which students could choose to take a predetermined number. The cadre approach to online MBA program development could yield great benefits here. By learning about teaching online courses at a simi-
lar pace, instructors could work with each other to minimize the pedagogical and non-content related aspects of these courses. While students will probably always prefer elective courses, schools can take steps to minimize the satisfaction gap between them and required courses.

**Implications for the Future of Web-based MBA Courses**

This study suggests some interesting directions for future research on Web-based delivery of MBA courses. Immediacy behaviors in the online environment certainly merit additional attention. In the near future, the immediacy construct may be broadened to include nonverbal behaviors for Web-based courses as full motion/streaming video becomes more technologically feasible. The multi-dimensionality of immediacy behaviors found in this study could serve as a starting point for re-examining the verbal immediacy construct. Previous studies of verbal immediacy have tended to view it as a one-dimensional construct (Frietas et al., 1998; Gorham, 1988; Myers et al. 1998). Given recent concerns about the validity of Gorham's (1988) verbal immediacy scale (Robinson & Richmond, 1995) further study of the dimensionality of the construct appears to be warranted.

The emerging virtual environment for management education presents great opportunity and risk. New students, new pedagogies and technological enhancements, and the blurring traditional competitive barriers certainly promise an exciting time for all involved. The findings of this study suggest that to be successful in delivering Web-based graduate courses and programs, business schools will need to provide skilled, experienced instructors and use delivery software platforms that elicit a positive reaction from students. If they do this, rather than running depersonalized, commercialized classes (Dyrud, 2000; Noble, 1998), Web-based courses can be an environment where engaged, active learning takes place.

**References**


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Interaction and Immediacy in Online Learning

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Abstract

This article presents the concepts of interaction and immediacy and discusses their theoretical frameworks, implications, and relationship with one another. The authors propose the development of a new conceptual model and recommend additional antecedent research.

Keywords: distance education; interpersonal interaction; immediacy; theory; theoretical framework

Introduction

In the historical progression of distance education from correspondence courses to online learning, opportunities for interpersonal interaction have increased. Early correspondence courses enabled learners and instructors to interact, albeit with a significant time lag between message production and reception. Videoconferencing made it possible for learners and instructors to interact in real-time, and it also facilitated learner to learner interaction, although the required equipment often made this means of distance education too costly for mainstream use. With the emergence of the Internet, particularly email and the World Wide Web (WWW), it became possible to promote high degrees of interaction within a technologically mainstream and cost-effective learning environment.

This progression has not only been driven by the myriad of interactive opportunities available in the online environment, but also by the belief that high levels of interaction, particularly those which promote social engagement, can have positive effects on the learning experience. Indeed, numerous studies suggest a positive correlation between relationally supportive online environments and cognitive learning (e.g., Gunawardena, 1995; Wegerif, 1998; Rovai, 2002). Collaboration with faculty and other students can be a strong motivating force for learning (Johnson and Johnson, 1999) and online instructors are frequently encouraged to actively construct a positive social dynamic in parallel with the content delivery (Palloff and Pratt, 1999). Failure to fully consider the relational dynamics in the online setting may produce greater feelings of isolation among distance learners, reduced levels of student satisfaction, poor academic performance, and increased attrition.
Interaction alone, however, is insufficient to create a positive social dynamic in the online classroom. Although increased interaction among participants may lead to more opportunities for positive social penetration, it may also lead to competition, “flaming,” and other forms of negative communication. Research demonstrates that the integration of verbal and non-verbal immediacy communication behaviors lets instructors move from mere interaction to authentic intimacy and interpersonal closeness. In short, an instructor’s understanding of interaction and immediacy dynamics will affect the nature and quality of communication in the online learning environment.

Accordingly, this article will highlight the concepts of interaction and immediacy, and discuss their theoretical frameworks, implications, and relationship with one another. The authors will also recommend additional research related to interaction and immediacy, and propose the development of a new conceptual model.

Interaction

Interaction is at the heart of the online learning experience. One of the foundational theories in distance education is Moore’s transactional distance theory, which emerged from his doctoral research into educational programs where the instructor and student were physically separated (Moore and Kearsley, 1996). Transactional distance was conceived as a function of dialogue, structure, and learner autonomy. Moore postulated that distance was a pedagogical phenomenon, rather than a function of geographic separation, which existed in face-to-face classes as well as distance classes. According to Saba (1999), this was a significant shift in the pedagogical perspective toward distance education, which “moved the discourse on the subject from its Newtonian paradigm and grounded it in a contemporary postmodern science. According to this dynamic (time-sensitive) and systemic (self-organized) view of mediated communication, what is important is communication and construction of knowledge” (para. 6).

Moore (1989) acknowledged that: “Interaction is another important term that carries so many meanings as to be almost useless unless specific sub-meanings can be defined and generally agreed upon” (p. 1). Therefore, he proposed three distinct types of interaction in distance education: learner-content, learner-instructor, and learner-learner. Learner-content interaction is the process in which students examine, consider, and process the course information presented during the educational experience. According to Moore and Kearsley (1996), “Every learner has to construct knowledge through a process of personally accommodating information into previously existing cognitive structures. It is interacting with content that results in these changes in the learner’s understanding” (p. 128). Learner-instructor interaction is communication between the instructor and the student in a course. In the case of online learning, such interaction usually occurs via computer-mediated communication and is not strictly limited to instructional communication that occurs during the educational experience, but may include advising, offline communication, and personal dialogue. Finally, learner-learner interaction is communication between two or more students in a course. Such interaction often occurs via asynchronous computer-mediated communication, although it may include other forms of interpersonal and small group communication, online and offline, that occurs during the duration of a course.

This threefold interaction construct has been extended and adapted by subsequent researchers in the area of distance and Web-based learning. Hillman, Willis and Gunawardena (1994) added learner-interface interaction to reflect the growing role of technology in the distance education process. They noted: “When dealing with any tool, it is necessary for the user to interact with the device in a specific way before it will do his or her bidding” (p. 34). They also distinguished
between learner-interface interaction and the necessary mediation of an interface which occurs in any interaction, by noting that for the technically-challenged learner, the interface itself becomes “an independent force with which the learner must contend” (p. 35). Burnham and Walden (1997) observed interactions within a distance education environment and concluded that learner-environment interaction should be added to the model. They defined learner-environment interaction as “a reciprocal action or mutual influence between a learner and the learner’s surroundings that either assists or hinders learning” (Findings section, para. 2).

Anderson and Garrison (1998) added teacher-teacher interaction, teacher-content interaction, and content-content interaction to the mix. Teacher-teacher interaction considers the professional development efforts of teachers to engage one another in order to enhance their own pedagogical abilities. Such interaction might occur at conferences, in seminars, or through informal electronic communication (p. 105). Teacher-content interaction, generally viewed as a prerequisite to the distance course, is proposed as another component in the interactive model, because new technologies enable teachers to interact with the content far more easily and creatively than in the past. The authors note: “The opportunity for teachers to interact with the learning content provided by other teachers is increasing dramatically as a result of the WWW” (p. 108). Similarly, they note the growing sophistication of online tools such as databases, search engines, and intelligent agents, and propose content-content interaction. While they note that this is the most embryonic type of interaction, more recent technologies such as blogs, wikis, and content syndication aggregators merely increase the likelihood of content-content interaction actually occurring in a meaningful way.

Although not explicitly defining her model as learner-context interaction, Gibson (1998) drew on ecological systems theory and proposed a model of the distance learner in context. Gibson argues that the distance learner simultaneously engages and interacts with multiple contexts which extend beyond the classroom, such as family, workplace, peer groups, and larger institutions such as government, mass media, and organized religion, extending out to interaction with the larger culture (p. 117).

Dating back to Moore’s threefold model of interaction, these approaches have generally emphasized the “who” of interaction at the expense of the “what.” In other words, these various models of interaction have largely focused on which entities were interacting rather than clearly defining the nature of interaction itself. Wagner (1994) distinguished between interaction and interactivity, and noted that neither concept had been sufficiently defined. She thus wrote: “Simply stated, interactions are reciprocal events that require at least two objects and two actions. Interactions occur when these objects and events mutually influence one another” (p. 8). In distance education, such interactions are interpersonal and occur within an instructional context. She distinguishes between such human interaction and interactivity, which she describes as a characteristic of the technology itself. “Interactivity may eventually be viewed as a machine attribute, while interaction may be perceived as an outcome of using interactive instructional delivery systems” (p. 26).

Anderson (2003a) revisited the issue of defining interaction in distance education. After surveying a variety of definitions and characteristics of interaction, he returned to the Wagner (1994) definition as a suitable foundation. “Despite concerns about the application of Wagner’s simple and broad definition of interaction, her definition does seem to include the essential components and nature of interaction without compromising or restricting the wide range of possible types of interaction” (p. 130). He then proposed a comprehensive model of interaction which included student-teacher, student-student, student-content, teacher-content, teacher-
teacher, and content-content interaction. In a follow-up effort, Anderson (2003b) confirmed his previous definitional conclusion, but distinguished between “interaction leading to learning in any informal context and those types of interaction that occur in a formal interaction context” (Interaction and Education section, para. 1). He then developed a more sophisticated interaction model of e-learning incorporating all six types of interaction in an expansive framework, which covers a variety of online learning models including independent study, paced collaborative learning, structured learning resources, and communities of inquiry.

Immediacy

Mehrabian (1967) defined immediacy as the extent to which selected communicative behaviors enhance physical or psychological closeness in interpersonal communication. In other words, immediacy can be understood as “those communication behaviors that reduce perceived distance between people” (Thweatt and McCroskey, 1996, p. 198). Immediacy can have verbal and non-verbal forms. Non-verbal immediacy would therefore be understood as a sense of psychological closeness produced by physical communicative behaviors such as facial expression, eye contact, posture, proximity, and touch. Verbal immediacy would thus be a sense of psychological closeness produced by word selection. For example, the use of the word “we” fosters increased relational closeness and is considered more immediate than the comparable statement “you and I.” Anderson (1979) summarizes the impact of immediacy:

The more immediate a person is, the more likely he/she is to communicate at close distances, smile, engage in eye contact, use direct body orientations, use overall body movement and gestures, touch others, relax, and be vocally expressive. In other words, we might say that an immediate person is perceived as overtly friendly and warm (p. 545).

Mehrabian (1971) found that such non-verbal behaviors increased sensory stimulation, thus resulting in more intense, affective, and immediate interactions (p. 77). Mehrabian suggested that non-verbal behaviors such as leaning toward another, assuming a position close to another, touching another, facing another, and looking into another’s eyes are immediacy producing behaviors. Additional non-verbal immediacy producing behaviors include positive head nods, purposeful gestures, and vocal expressiveness (Andersen, Andersen, and Jensen, 1979). Mehrabian (1971) and later Gorham (1988) described verbal immediacy behaviors as linguistic differences in expression from which feelings of like and dislike are inferred. Asking questions, using humor, addressing individuals by name, initiating discussion, and sharing personal examples are verbal behaviors which produce immediacy and contribute to a sense of psychological closeness.

Although immediacy was originally developed in the interpersonal communication context, it has been frequently used in instructional communication research during the past two decades. With the rapid diffusion of the Internet into a mainstream communication medium, there has been a clear emphasis on the dynamics of interpersonal communication in the online environment. Although not necessarily referencing the immediacy concept by name, there is significant conceptual overlap between examinations of traditional immediacy producing behaviors and discussions of online interpersonal communication dynamics.
Interaction and Immediacy Intertwined

Online education environments offer the opportunity for increased interaction – regardless of how many types of interaction are considered – than previous models of distance education. In particular, there has been significant emphasis in the literature about how to promote interpersonal interaction with the tacit understanding that high levels of interaction will produce positive results, particularly results related to social dynamics. Such an emphasis on (and perceived benefits associated with) interpersonal social dynamics is consistent with the constructivist framework, which appears to be dominant in online learning pedagogy. An unstated assumption, however, appears to be that promoting interaction will lead to positive communication behaviors such as instructor immediacy, social presence, and community in the online classroom. Accordingly, much of the literature (particularly best practices texts) integrates the concepts of interaction and immediacy into a seamless presentation extolling the benefits of social interaction.

De Verneil and Berge (2000) noted: “It is important in most Web-based instruction that a designer explicitly includes learning in social context... since the learning process takes place within a social framework” (p. 236). They argued that promoting student interaction through class discussions, are integral to effective online learning. Harasim (1989) examined online courses and drew a similar conclusion about the value of student interaction and discussion. She added: “Knowledge building occurs as students explore issues, examine one another’s arguments, agree, disagree, and question positions. Collaboration [learner-learner interaction] contributes to higher order learning through cognitive restructuring or conflict resolution, in which new ways of understanding the material emerge as a result of contact with new or different perspectives” (p. 55) (emphasis added).

Kearsley (2000) declared: “The most important role of the instructor in online classes is to ensure a high degree of interactivity and participation” (p. 78). Parker (1999) similarly highlighted the pedagogical benefits of student interaction, but offered the caveat that while it is a much-needed component of online courses, it is less likely to occur without the careful orchestration by the instructor:

The sentiment of many faculty is to teach the same course offered on campus with the addition of a few more handouts. To those experienced in the art of distance delivery, it is evident that the addition of a few more handouts is not the solution for interactive course design . . . The challenge lies in the refocusing of the instruction to embody a component of interaction (p. 16).

Such refocusing might include the use of group projects, running dialogues about complex issues, and by making class discussion a significant part of one’s course grade. Parker also observed that the instructor role likely takes different forms throughout the duration of the course. Early in the term, the instructor is likely to lead by example and direct the discussions but, as the weeks progress, the instructor should assume the role of “provocateur” rather than “academician” and produce no more than 20 percent of the class input (p. 16). She also encouraged faculty to incorporate “real life” stories and humor to foster a discussion-friendly climate, recommendations which could be classified as immediacy-producing behaviors, even though they were not labeled as such. This is similar to De Verneil and Berge (2000) who suggest that instructors ask students to post a biography, request active participation, provide feedback to students about their participation level, provide a virtual caf#233; for socializing purposes, and make synchronous chat rooms available should students want to interact in real-time (p. 236-237).
Berge (1997) conducted a survey of instructors teaching online at the post-secondary level to better understand the pedagogy of online courses. While no single model of online learning emerged, Berge found that most instructors deliberately fostered a student-centered rather than teacher-centered environment through various instructional methods. “Predominant among these were discussion, collaborative learning activities, and authentic learning activities (i.e., inquiry, problem-based activities, case studies, projects, peer critique and support), and self-reflection” (p. 44). Woods and Ebersole (2003) reported that encouraging student interaction in personal discussion folders contribute to positive faculty/student relationships, positive relationships among students, a sense of community, and satisfaction with the overall learning experience. In short, such efforts can be used to encourage openness among the students and ideally lead to a high level of student interaction. As interaction increases, particularly interaction of the type which promotes immediacy, opportunities for social penetration abound. These opportunities, in turn, foster a climate of interpersonal interaction that may have positive benefits for interaction in course-related discussion areas.

Although they examined distance education delivered via interactive television, Fulford and Zhang (1993) found that the perception of interaction, rather than a quantitative measure of interaction, was the critical predictor of student satisfaction. “This finding strongly suggests that learner satisfaction may be attributed more to perceived overall interactivity than to individual participation. Instructors teaching thorough interactive TV probably should be more concerned with overall group dynamics” (p. 18). In a similar vein, Clow (1999), Phillips and Peters (1999), Roblyer (1999) and Hacker and Wignall (1997) all concluded that a student’s perception of sufficient interaction with instructors and other students is positively correlated with his level of satisfaction with the overall online learning experience. A ‘sufficient’ level of interaction with faculty generally creates a “sense of personalization and customization of learning” (Boettcher, 1999, p. 43) and helps students overcome feelings of remoteness – perhaps the greatest obstacle to fostering a student’s sense of community in online distance learning (Everhart, 1999, p.12). Arbaugh (2000) found that perceived interaction difficulty was negatively correlated with student satisfaction, while perceived instructor emphasis on interaction was positively correlated with student satisfaction. Arbaugh concluded: “It appears that the flexibility of the medium and the ability to develop an interactive course environment play a larger role in determining student satisfaction than the ease or frequency with which the medium can be used” (p. 43).

Gender also appears to influence the online communication dynamics. Women are more likely to seek supportive communication environments (Brunner, 1991; Burnham, 1988; Ryan and Hicks, 1997) and thus are likely to have significantly different expectations when it comes to frequency and nature of communication online. Instructors attempting to enhance interaction must also keep in mind that messages from males engaged in threaded discussions tend to be more certain, confrontational, autonomous, controlling, and abstract than messages from females, which tend to be more empathetic, and cooperative (Blum, 1999). Arbaugh (2000) found that women participated more than men in class discussions and were more collaborative, while the men were more competitive. Herring (2000) found that female students participated more when the instructor actively promoted a civil and focused discourse. In other words, both gender and communication style influenced levels of interactivity and immediacy-producing behaviors, and were more consistent with female online communication than with male communication.

LaRose and Whitten (2000) borrowed from social cognitive theory as a framework to develop a unified construct of interaction and instructional immediacy for Web-based courses. Specifically, they sought to create a model that incorporated not only teacher and student immediacy, but also
computer immediacy, which they proposed as a result of an ethnographic content analysis of three Web courses. Within this social cognitive framework, they concluded:

There are three possible sources of immediacy in the virtual classrooms of the Web that may create feelings of closeness: 1) the interactions between teacher and students (teacher immediacy); 2) interactions between students (student immediacy); and 3) interactions with the computer system that delivers the course (computer immediacy). Collectively, these sources constitute instructional immediacy. In each case, learning is motivated either through social incentives (e.g., approval for good behavior, expressions of interest in the student) or status incentives that recognize or enhance the status of the learner. The immediacy mechanism is enactive if it results from the interaction between a specific individual learner and one of the other agencies present in the classroom. Immediacy is vicarious if it operates through the observation of other learners as they interact (p. 336).

LaRose and Whitten’s three loci of interactions attempt to formalize the relationship between the basic building blocks of interpersonal interaction in the online classroom, while focusing on the resulting social dynamics (e.g., immediacy) which are often antecedent.

**Recommendations**

Although the LaRose and Whitten (2000) model more explicitly connects interaction and immediacy than most research, it is sufficiently representative in that it presents interaction as a necessary dynamic within the online classroom, which results in positive social and educational benefits. Unfortunately, such co-mingling of interaction and immediacy insufficiently considers the extent to which immediacy is both a consequence of interaction and a contributor to it, as well as omitting the extent to which interaction can lead to non-immediate results. Accordingly, we recommend revisiting the definitional framework of interaction itself with an eye toward immediacy and other social dynamics.

Wagner’s (1994) foundational definition described interaction reciprocal objects and events which influence one another. Such an admittedly broad definition successfully advances beyond a one-way or transmission model of communication into a two-way or dialogic model (Carey, 1989), although the learner-content interaction pushes the boundary as the majority of the interaction is likely to be part of the learner’s “internal didactic conversation” (Holmberg, as cited in Moore, 1989, p. 2).

Building on a similar foundation of reciprocal influence, Rafaeli (1988) distinguished between three types of communication sequences: two-way (non-interactive), reactive (quasi-interactive), and fully interactive. According to Rafaeli:

Two-way communication is present as soon as messages flow bilaterally. Reactive settings require, in addition, that later messages refer to (or cohere with) earlier ones. Full interactivity (responsiveness) differs from reaction in the incorporation of reference to the content, nature, form, or just the presence of earlier reference (p. 119).
This model offers a significant advance to an understanding of interaction as mere reciprocal interaction, but proposes that the nature or content of the communication events distinguish between levels of interactivity.

Although considering human-computer interaction, Laurel (1991) posited that the perception of interactivity existed along a continuum which contained three variables: frequency, range, and significance. Frequency identified how often choices were available; range identified how many choices were available; and significance identified how much the choices really affected the situation. She later added the feeling of participation, indicating how immersed one felt within the experience. Accordingly, a highly interactive experience would be one in which someone had frequent opportunities to make a wide variety of significant choices and in which they felt engaged and immersed within the experience.

In contrast with these two definitions of interaction, it seems that the online learning interaction literature has been so focused on what things are interacting (e.g., learner, instructor, content, computer, environment, etc.) that we have missed the nature of interaction itself. As a result, as researchers and practitioners we have tended to see any of these pairs, which bump up against one another, as evidence of interaction. We thus propose the development of a more nuanced model, one which distinguishes between limited dyadic communication (which we will label transaction) and more qualitatively substantive communication (which we will label interaction). Transaction would be understood as a limited engagement to meet a specific need (or toward a specific purpose) of one of the participants with little intent of ongoing dialog or communication; while interaction reflects an active engagement with the expectation of some level of ongoing communication. Interaction, therefore, goes beyond transaction.

For example, in current parlance, a purely lecture or instructor note-based online course (with no discussion or question and answer dialog, just lectures/notes and tests) would likely be classified as having a high level of learner-content interaction, a moderate level of learner-instructor interaction, and little to no formal learner-learner interaction. In the proposed new framework, such an educational experience would reflect the presence of learner-instructor transaction and, depending on the student and their approach to the course materials, either learner-content transaction or learner-content interaction. Simply reading the texts would be considered learner-content transaction, while creating new materials, seeking out additional Web materials and posting content, or reorganizing the materials into a new presentation, would reflect learner-content interaction.
Figure 1 shows this new proposed model of interaction. Essentially, the learner is in the center and has opportunities for four potential realms of engagement: instructor, learners, content, and environment. In each of these realms, the learner can ignore or be deprived of engagement altogether, engage in transactional communication, or engage in fully interactive communication by moving outward from the center of the diagram. On the outer edges of the diagram are a few of results and provocateurs of interaction. Immediacy, therefore, is seen as a benefit of interactive learner-instructor communication, since active ongoing communication is likely to result in an increased feeling of psychological closeness between the learner and instructor. Similarly, the presence of such immediacy is likely to promote increased levels of interaction because learners and instructors are developing a safe and rich interpersonal environment, and this is reflected by the arrow which both comes from and returns to the interaction sphere.

Such a proposed framework goes beyond distinguishing between one-way and two-way communication, and attempts delineate between limited functional communication and rich dyadic and group engagement. Furthermore, this transactive/interactive framework can be used to address both interpersonal interaction (learner-instructor, learner-learner) within the same framework as non-personal interaction (learner-content, learner-environment), which can otherwise be difficult.

It should be noted that there is nothing inherently wrong in this model with mere transactional communication. We do it frequently when we ask someone the time, watch the evening news, read a journal article, or listen to a recorded lecture. There are even selected social dynamics
which can result from transactional communication (e.g., para-social dynamics, some perceptions of immediacy); however, the many pedagogical and social benefits presented in online learning best practices generally pre-suppose the movement beyond transaction into interaction.

Admittedly, this is an initial consideration of this new model of online learning interaction. There remains the need for additional research and development to validate this construct. In addition, there is a significant question about whether such a model should consider both positive and negative effects of interactive communication. For example, high levels of learner-learner interaction can produce an educationally rich learning community, or it could also lead toward socially rich, yet intellectually shallow, dialogue and groupthink. Perhaps there should be positive and negative ramifications included in such a robust model of interaction. In addition, there should be additional consideration of how many technologies and dynamics are both the result of and contributor to interaction.

Regardless, there is a need for instructors to distinguish between the mere presence of particular dyadic communication and the presence of genuine interpersonal and contextual interaction as they seek to improve the online educational experience. Furthermore, the development of such a model, corresponding instrumentation, and empirical research, would further the ends of effective online education.

References


