Examining the Effects of Teaching Presence on Student Satisfaction in Fully Online Learning Environments

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Descriptors: Teaching Presence; Student Satisfaction Online

Abstract

This study examined the relationship between teaching presence as defined by the Community of Inquiry model and student satisfaction. The participant group of 22 graduate students represented a convenience sample from four fully online college courses. Much has been written about the positive impact of social presence on student interaction and satisfaction in online courses, but recent research is focusing on the importance of teaching presence and its role in online learning environments. The teaching presence construct represents instructional design and course organization, facilitated discourse, and direct instruction. A correlational analysis found a significant positive relationship between teaching presence and student satisfaction, while no significant relationship was found between previous online course experience and teaching presence. T-test provided evidence that age has a significant effect on student perception of teaching presence.

Introduction

In recent years, as researchers investigate student learning in online environments, the phenomenon of online presence has emerged. Online presence refers to one’s ability, whether student or instructor, to project their human nature into an otherwise computer mediated environment, void of the visual and verbal cues found in the traditional classroom. “In an online course, the simplest definition of presence refers to a student's sense of being in and belonging in a course and the ability to interact with other students and an instructor although physical contact is not available” (Picciano, 2002, p. 22).

The concept of presence in online learning environments can be further examined when several elements essential to educational transactions in the online environment are included. These elements are 1) cognitive presence, 2) social presence, and 3) teaching presence (Garrison, Anderson, & Archer, 2000). Garrison et al. (2000) define cognitive presence as the extent to which participants are able to construct meaning through sustained communication. Categories for cognitive presence include triggering events, exploration, integration, and resolution. Shea, Pickett, and Pelz (2003), elaborate the term by adding that it is achieved in concert with satisfactory social presence and effective teaching presence. Examples of cognitive presence include student questions, expressions of confusion, problem solving, and evidence of students making connections and building new knowledge.

Kehrwald (2008) defines social presence as “…the means by which online participants inhabit virtual spaces and indicate not only their presence in the online environment but also their availability and willingness to engage in the communicative exchanges which constitute learning activity in these environments” (p. 94). Garrison et al. (2000) describe social presence as the ability to project oneself as a real person (one’s full personality) both socially and emotionally in the online environment. The original categories of social presence, as defined by Garrison and Arbaugh (2007) are affective expression, open communication, and group cohesion. They also suggest that activities which cultivate social presence can enhance the learner's satisfaction with the Internet as an educational delivery medium. Social presence can be recognized by the use of emoticons to express oneself, idioms, more informal and familiar language, and evidence of students helping each other in a supportive manner.

Teaching presence as defined by Anderson, Rourke, Garrison, and Archer (2001) is “…the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes” (p. 5). Based on this definition, the authors distill three components or elements of teaching presence: instructional design and organization, facilitating discourse, and direct instruction. Examples of teaching presence are the instructor clarifying areas of confusion, correcting misinformation appearing in discussion postings, moving the discussion along and keeping it on topic, and encouraging students to participate online. Teaching presence focuses on the tasks and processes of teaching online; it is not the affective projection of the instructor’s self, or personality into the virtual learning environment per se. This is referred to by some as teacher social presence, where the instructor works to develop and nurture a sense in the students that there are real people who care about them and their learning in the virtual environment (Wise, Chang, Duffy, & del Valle, 2004, p. 249).

However, Garrison, Anderson, and Archer (2000) acknowledge that for additional progress to be made in understanding the three components of teaching presence, more precise and valid indicators associated with each of...
them are necessary. Shea, Picket, and Pelz (2003), address this by providing the necessary depth to these elements with the addition of sub-categories or indicators as depicted in table 1.

Table 1
Subcategories or indicators of the main elements of teaching presence

<table>
<thead>
<tr>
<th>INSTRUCTIONAL DESIGN AND ORGANIZATION</th>
<th>FACILITATING DISCOURSE</th>
<th>DIRECT INSTRUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting curriculum</td>
<td>Identifying areas of agreement and disagreement</td>
<td>Presenting content and question</td>
</tr>
<tr>
<td>Designing methods</td>
<td>Seeking to reach consensus and understanding</td>
<td>Focusing the discussion</td>
</tr>
<tr>
<td>Establishing time parameters</td>
<td>Encouraging, acknowledging, and reinforcing students’ contributions</td>
<td>Summarizing the discussion</td>
</tr>
<tr>
<td>Utilizing the medium effectively</td>
<td>Setting the climate for learning</td>
<td>Confirming understanding</td>
</tr>
<tr>
<td>Establishing netiquette</td>
<td>Drawing in participants and prompting discussion</td>
<td>Diagnosing misperceptions</td>
</tr>
<tr>
<td></td>
<td>Assessing the efficacy of the process</td>
<td>Injecting knowledge from diverse sources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responding to technical concerns</td>
</tr>
</tbody>
</table>

Using the indicators and their subcategories from table 1, Shea, Swan, Li and Pickett (2003) developed a Teaching Presence Scale (TPS) to tease apart the aspects of teaching presence from social presence and cognitive presence. A study using this scale was conducted to further examine the relationship between students’ perception of teaching presence and their satisfaction in fully online learning environments. The purpose of this research was to examine the indicators (elements) of teaching presence as they relate to student satisfaction in the hope of increasing instructor awareness about the importance of teaching presence and to guide faculty development initiatives. A closer examination of the three elements of teaching presence can help faculty design, facilitate, and instruct more effectively in the online environment.

**Instructional Design and Course Organization**

Before students ever enter an online class, faculty and instructors must prepare the structure or bones of the course in advance. Anderson et. al. (2001) describe the course design and organization element of teaching presence as the planning and creation of the structure, process, interaction, and evaluation aspects of the online class. Shea, Swan, Li and Pickett (2005) offer that setting the curriculum, utilizing the medium effectively, and establishing netiquette are also parts of effective online course design and organization. Whether using a learning management tool such as BlackBoard or WebCT or an open source system such as Moodle, thoughtfully planning the course design and organization are critical aspects of providing a satisfactory online learning experience.

According to Anderson (2004), the design and organization of a course offers instructors the first opportunity to develop their teaching presence. The design of an online course provides the framework from which students access all content, including the syllabus, discussion questions, commentary, mini lectures, the gradebook, images, audio and video files, and dialogs with other students and the instructor. Having a sense of the courses’ grand design, learning objectives, and the related activities, reassures students that they can participate effectively online and achieve the learning objectives. Ensuring that students can quickly find the critical information they need to get started in the class reinforces their confidence that they can be successful in the online environment. Therefore, how this content is structured and made accessible informs a student’s first impression of the online course as well as first impressions of the instructor.

In this respect, keeping content consistent, accessible and clearly labeled becomes a key component of teaching presence. Swan (2001) found in her research that the “greater the consistency among course modules, the more satisfied students were, the more they thought they learned, and the more interaction they thought they had with their instructors” (p. 318). Research by Henry and Meadows (2008) also supports this idea.
In an online course, students need to be able to find everything they need to be successful learners and how to do so easily. Even in well-organized courses it is not uncommon to find out, part way through the course, that one or more students have not found some of the essential information (Henry & Meadows, 2008, p. 10).

Providing timelines, organizational guidelines, clear expectations for student work and activities also support sound instructional design and course organization elements. Instilling teaching presence is also accomplished by explaining or modeling for students what appropriate responses look like from an etiquette or online professionalism perspective.

**Facilitated Discourse**

The second element of teaching presence, facilitated discourse, “… is the means by which learners develop their own thought processes, through the necessity of articulating them to others” (Anderson, 2004, p. 280). According to Shea, Swan, Li and Pickett (2005) the instructor task of facilitating discourse is necessary to maintain learner engagement and refers to a focused and sustained deliberation that differentiates it from a discussion. The authors characterize facilitated discourse by including such instructor tasks as identifying areas of agreement and disagreement in discussion postings, helping students understand and reach consensus, reinforcing and encouraging student contributions, setting the climate for learning, drawing in participants and assessing the efficacy of the process. The authors also found that a strong and active presence of the instructor, guiding the discourse, is related to both students’ sense of connectedness and learning. Facilitated discourse goes beyond the social aspects of making contact online. It offers a deeper, richer, student to instructor interaction relative to the content at hand, and it is distinct from the instructor participating in a chat room or informal blog with students.

Appropriate facilitation is demonstrated when the instructor makes an overt effort to build trust and transparency, engage all students in online discussions, and model exemplar discussion postings and participation. Building trust online is key to creating a safe and open learning environment, one in which learners are free to explore, share and create knowledge. Trust allows for risk-taking, a necessary component in learning, while promoting sharing and mutual learning. Within the element of teaching presence, the instructor can also model expected and appropriate online discussion participation by posting her own thoughts or ideas about a particular topic and conclude by adding additional open ended questions to encourage further discourse. Trust is further demonstrated when students are asked to lead or moderate and facilitate the discussions postings.

Other aspects of effective discourse facilitation include providing prompt feedback to student questions and postings, and using student names in communications. Posting positive remarks when students demonstrate understanding or reach consensus are also effective discourse facilitation strategies. Pointing out areas of disagreement or misconceptions may pique student interest and create cognitive dissonance, thereby stimulating others to participate. Being involved in student discussions and communications on a regular basis supports teaching presence. As Swan (2001) found in her empirical study, student perceptions of interaction with their instructors were highly correlated with both satisfaction and perceived learning.

**Direct Instruction**

Instructors and faculty demonstrate direct instruction when they provide intellectual and scholarly direction for the course, sharing their knowledge as content experts with students. As Anderson et. al. explain (2001), the teacher as subject matter expert “is expected to provide direct instruction by interjecting comments, referring students to information resources, and organizing activities that allow the students to construct the content in their own minds and personal contexts” (p. 9). Direct instruction communicates and sets the intellectual climate for the course, modeling the qualities of a scholar, including integrity and sensitivity (Anderson, 2004). In content rich units the instructor can present herself by including her personal reflections on content issues, providing relevant anecdotes and examples, and offering insights into being successful in an online learning environment.

Shea et. al. (2003) found that instructor behaviors for facilitating discourse and direct instruction correlated highly with satisfaction and learning, supporting the notion that the instructor is expected to be the subject matter expert and is expected to share that knowledge in the learning environment in the form of direct instruction. Swan, Richardson, Ice, Garrison, Cleveland-Innes, and Arbaugh (2008) state, “Instructor responsibilities are to facilitate reflection and discourse by presenting content, using various means of assessment, and feedback” (p. 3). By providing thoughtful, prompt, direct instruction, faculty can enhance their teaching presence in the online environment.

This study addressed the following research questions:

1. What is the relationship between teaching presence as defined by the elements of instructional design and organization, discourse facilitation, and direct instruction, and student satisfaction in a fully online college course?
2. What is the effect of age on student perception of teaching presence?
3. What is the relationship of the number of online classes a student has taken and their perception of teaching presence?

**Methodology**

**Participants**

Participants represented a convenience sample of undergraduate and graduate college students enrolled in four online classes during the first six-week session of summer semester 2009. All four classes were taught by full time PhD faculty. Twenty one students from a total of 71 students (30%) elected to participate in the online survey. These fully online classes are part of the teacher preparation and educational technology curriculum at a university located in the southwestern region of the United States.

The survey used in this research was adapted from the validated Teaching Presence Scale (TPS) from Shea, Swan, Li, and Pickett (2005), with slight modifications; questions addressing the other two components of the Community of Inquiry construct (social presence and cognitive presence) were omitted and four open ended questions regarding student perceptions of teaching presence were added.

**Materials**

The survey instrument was an electronic questionnaire that consisted of 17 Likert measured items which corresponded to the three elements of teaching presence as defined by the Garrison et al. (2000) model. The survey opened with two questions directed toward learning more about the participant group: their age range and how many previous online courses they had taken. The 17 items were evaluated using a 5 point scale with 1 for strongly disagree through 5 for strongly agree. Included were two additional Likert scale questions designed to measure overall student satisfaction with the course using the same 5 point scale. The survey concluded with four open ended questions designed to elicit student opinions about course organization and instructor involvement.

**Procedure**

During the fifth week of the six-week summer session, a hyperlink to the online survey along with a letter of consent was posted in each of the four online classes being studied. Students agreed to participate by clicking the survey link which took them to the informed consent letter and then into the actual survey. Students had one week to complete the survey during which two reminder emails were sent. All emails were sent through the university’s course management system. Participation was voluntary and survey data was collected anonymously by the survey provider. The survey was closed at the end of the sixth week.

**Data Analysis**

Two correlation computations using Pearson’s $r$ were performed to answer the research questions addressing student satisfaction and previous online course experience with teaching presence. Correlation designs are used to determine the extent to which two or more variables are related among a single group of people, in this case the participant group of 22 students taking online courses. In correlational research there is no attempt to manipulate the variables or to prove cause and effect. A t-test was performed in order to examine the effect of age on students’ perception of teaching presence. All statistical calculations were completed using SPSS statistical software.

**Results**

The Pearson product moment correlation for the mean teaching presence score and the mean satisfaction score was statistically significant at $r(18) = .719, p < .001, N = 19$. The evidence suggests a significant positive relationship between students’ perception of teaching presence and their satisfaction with the class.

Another Pearson product moment correlation was performed to answer research question three regarding the relationship of previous online courses taken and student perception of teaching presence. Evidence from these calculations suggests a small negative relationship between the number of online classes taken previously and the mean teaching presence score; $r(18) = -.382, p = .107, N = 22$. There is not a significant relationship between the number of online classes previously taken and the mean teaching presence score.

A one sample t-test was performed to determine if age has an effect on student perception of teaching presence. This resulted in $t(21) = 9.253, p < .0001, N = 22$, thereby suggesting that age had a significant effect on the mean teaching presence score ($M = 4.1053, SD = .49006$).

**Teaching Presence Open Ended Questions**

When asked what they liked most about the online course organization, five student comments expressed appreciation for the clear directions regarding how to complete their assignments as well as explicit due date information. Four student comments expressed appreciation for the examples the instructor provided which helped them better complete their assignments. One participant wrote, “I liked that the assignments came with directions as well as examples. I also liked that for the most part the directions were very clear. The teacher was also prompt when posting assignments and available to email and responded in a timely and friendly manner”.

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When asked what they liked least about how the course was organized, students reported difficulties with the group work, such as communicating with their group and not being able to view the completed work of other groups (eight comments). Other students commented that they wanted more interaction from the online instructor (three comments). For example, “The instructor didn’t really do any teaching. All he/she did was provide feedback on the materials we created.”

Students responding to the question about what the instructor did to support their learning, said overwhelmingly they appreciated the prompt feedback and quick email responses (14 comments). Secondly, they said the clear examples provided helped them to learn (9 comments). One participant commented, “He/she provided great examples of [the] expectations for the course, and most of the time the directions were clear and precise.”

The final question asked what the instructor could have done to support their learning. A few students said they would like the instructor to be more engaged with the class and “to teach more” (2 comments) while others said they wanted to see the work produced by other groups (2 comments).

**Discussion**

Because there is a strong positive relationship between teaching presence and student satisfaction, one can make a case for building and facilitating fully online courses based on the criteria of effective instructional design and course organization, facilitated discussion, and direct instruction. The results of this study support previous research (Swan & Shih, 2005; Shea, Pickett, & Pelz, 2003; Swan, 2001) demonstrating that student-teacher interaction and teaching presence were strongly related to student satisfaction and perceived learning.

The instructional design and course organization element of teaching presence represents the structure, processes, interactions, and evaluation of the online course, tending to students’ needs regarding instructional design and organization means providing clear navigation paths within the course, providing clear instructions about how to participate in the online learning activities, as well as effectively communicating timelines, due dates, and expectations around polite and professional course participation (group norms or netiquette).

Facilitating discourse requires the instructor to participate actively in student dialogs and discussion postings by raising questions, making observations and contributing ‘expert’ commentary that move the online conversation along. Previous research (Shea, Swan, Li, & Pickett, 2005; Shea, Pickett, & Pelz, 2003) found that evidence of a strong and active presence from the instructor, one where she actively guides the discourse, was related to students’ sense of learning.

Direct instruction which involves content presentation, such as PowerPoint slides, mini lectures in the form of short audio files, or text-based commentary highlighting salient points, as well as providing other sources of information (e.g. links to other online resources) also represents an important component of teaching presence. Explanatory feedback, delivered in a timely and constructive manner, along with the correction of misunderstandings, are additional ways faculty can enhance and support student satisfaction in the online learning environment. These combined elements when evidenced in an online class, underpin a successful and satisfactory learning experience for students as the positive correlation between teaching presence and student satisfaction found in this study suggests.

As indicated by the results regarding the effect of age on the perception of teaching presence, there is a significant effect. In this study, the majority of students were between the ages of 17 -28 (54.54%), with only two in the class over the age of 40. These results may indicate that the younger online students have a greater need to experience teaching presence in order for them to stay engaged, motivated and satisfied in the online environment. Also the direction, feedback, facilitated discourse, and clear course design provide by teaching presence may be more welcomed by younger, less experienced online learners.

When investigating the relationship of teaching presence and previous online course experience, the results suggest that there is no effect. This may be because students who have taken online classes previously are already familiar with the general processes, procedures, and expectations found in online course work and therefore do not have a need for teaching presence. It is also possible that because of their previous online experiences, these students are accustomed to teaching presence elements in online classes and take those elements for granted, or they have become proficient at being an online learner even if teaching presence elements are lacking.

As Shea, Swan, Li, and Pickett (2005) found, students reported higher levels of teaching presence, learning, and satisfaction in courses where the instructors had been previously trained in how to establish effective teaching presence. The results of this study support a call for instructor and faculty professional development initiatives around building online learning environments grounded in effective instructional design and clear course organization, facilitated and meaningful discourse, and concise direct instruction; elements which enhance student engagement and satisfaction.
Limitations

Unfortunately, the number of survey participants was small compared to the number of students invited to participate in the survey. This limits the generalizability of the results to a larger population. Additionally, this study did not review the specific course organization and design, facilitated discourse, and direct instruction found in each of the classes surveyed. More specific details, examples, and evidence of teaching presence within the online courses surveyed may better inform the results and implications for improving teaching presence.

Areas for Future Research

Research questions generally beget more research questions and this study is no exception. This study did not address the effect of teaching presence on learning, and it did not examine the relationship between teacher social presence and teaching presence although the two are closely related. Other areas for investigation include observing teachers who have high teaching presence scores and capturing how they facilitate online, the types of activities they offer students, and how they plan and structure their online courses.

More recent studies (Arbaugh, 2007; Shea & Bidjerano, 2008) have examined teaching presence as just two factors or elements: directed facilitation and instructional design and organization. Shea and Bidjerano (2008) recommend making a clearer distinction among the factors defining direct instruction by adding such characteristics as the instructor’s ability to provide valuable analogies, useful illustrations, and present helpful examples (p. 552). Therefore, future studies on teaching presence may need to include a more comprehensive and revised description of the direct instruction element.

References


Appendix A: Survey Instrument

Survey Questions:

1. Choose your age range.
   17-22
   23-28
   29-34
   Over 35

2. Choose which best represents your previous online course experience.
   This is my first online course.
   I have taken 1 online course.
   I have taken 2 or more online courses.

<table>
<thead>
<tr>
<th>Instructional Design and Organization</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The instructor clearly communicated important course topics.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. The instructor for this course clearly communicated important course goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. The instructor provided clear instructions on how to participate in course learning activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. The instructor clearly communicated important due dates and time frames for learning activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilitating Discourse</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. The instructor for this course was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. The instructor helped to keep course participants engaged and participating in productive dialog.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. The instructor helped keep course participants on task in a way that helped me to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. The instructor encouraged course participants to explore new concepts in this course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Instructor actions reinforced the development of a sense of community among course participants.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direct Instruction</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. The instructor provided useful illustrations that helped make the course content more understandable to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. The instructor presented helpful examples that allowed me to better understand the content of the course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. The instructor provided explanations or demonstrations to help me better understand the content of the course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. The instructor provided feedback to the class</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
during the discussions or other activities that helped us learn.

15. The instructor asked for feedback on how this course could be improved.

<table>
<thead>
<tr>
<th>Overall Satisfaction</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Overall, I am very satisfied with this course.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Overall, this course is meeting my learning needs.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Open ended questions
1. What did you like most about the way this course was setup and organized in Blackboard?
2. What did you like least about the way this course was setup and organized in Blackboard?
3. What are some things this instructor did to support your learning in the online environment?
4. What are some thing this instructor could have done to support your learning in the online environment?