A FOLLOW-UP INVESTIGATION OF "TEACHING PRESENCE" IN THE SUNY LEARNING NETWORK

Peter J. Shea, Alexandra M. Pickett, and William E. Pelz
State University of New York
SUNY Learning Network
SUNY Plaza, N303
Albany, New York 12246
518.443.5331
518.443.5167
Peter.Shea@sln.suny.edu
Alexandra.Pickett@sln.suny.edu
William.Pelz@sln.suny.edu

ABSTRACT

This paper is a follow-up study to a preliminary investigation of teaching presence in the State University of New York Learning Network (SLN) [1]. In the present study we review ongoing issues of pedagogy and faculty development, and their relationship to student satisfaction, and reported learning in SLN. We provide an overview of the SLN program, and summarize a conceptual framework for our current research on higher education, online learning environments. This framework integrates research on how people learn [2], with principles of good practice in higher education [3] and recent research on learning in asynchronous learning networks (ALNs) in higher education [4]. We also present results of a follow-up study on one aspect of the model, "Teaching Presence".

The SUNY Learning Network is a proud recipient of two Sloan-C Awards, the 2001 Award for Excellence in ALN Faculty Development and the 2002 Award for Excellence in ALN Programming. We believe that it is no coincidence that SLN was recognized in this order; that is to say, we feel our efforts to create a systematic faculty development program has allowed us to create an outstanding program of online courses and degrees. A clear vision regarding the prerequisites for a high quality online learning environment, especially prerequisites related to faculty development, is essential to building effective ALN programs. As this special edition of JALN is dedicated to such efforts we would like to focus on our model for learning environments design and share results of research on specific aspects of the model.

In past studies we have argued that student-faculty and student-student interaction are among the variables most strongly correlated with student satisfaction and reported learning [5, 6, 7]. In the present study, we focus on one aspect of our model for online learning environments and examine interaction more deeply. Building upon the work of Anderson and colleagues [4] we examine the kinds of activities that comprise and sustain productive interaction. These researchers have categorized interactions that occur in asynchronous learning environments that encourage knowledge creation and identify online behaviors and processes that approximate (and may improve upon) those that occur in face-to-face settings. We look at a key element of their work, "teaching presence," and present results of a follow-up study examining students' perceptions of this constellation of online faculty behaviors. We also identify

the components of teaching presence that correlate most highly with student satisfaction and reported learning.

KEYWORDS

Online learning, models, learning centered, assessment centered, knowledge centered, principles of good practice, teaching presence, social presence, cognitive presence, community, student satisfaction, faculty satisfaction, learning effectiveness

I. BACKGROUND

The SUNY Learning Network (SLN) is the online instructional program developed for the sixty-four colleges and approximately 400,000 students of the State University of New York. The major goals of the SUNY Learning Network are to increase access to SUNY's diverse, high-quality instructional programs and to ensure the quality of online instruction for learners in New York State and beyond.

The annual growth in courses, from eight in 1995-1996 to over 3200 in 2002-2003, and annual growth in enrollment, from 119 in 1995-1996 to over 50,000 in 2002-2003, with courses offered at all undergraduate and graduate levels from fifty-six of our institutions, suggests that the project has met, and in many ways exceeded, original projections. Significant growth also brings significant challenges and in many ways this paper is about our efforts to confront issues of quality in large scale learning environments design. While we continue to address these challenges we take pride in the recognition past efforts have received. The program has been recognized by EDUCAUSE as the 2001 award winner for Systemic Improvement in Teaching and Learning in addition to the two Sloan Consortium awards previously mentioned.

II. CONCEPTUAL FRAMEWORK

A primary goal of the SUNY Learning Network is to ensure that our online learning program reflects effective pedagogy. To understand how best to achieve this goal, it is useful to begin by looking at what has worked well in traditional learning environments, and in so doing, be mindful of models of best practices identified for effective education. Such an examination must take into account that differences exist between online and classroom-based teaching and learning. But beginning with best practices in structuring traditional learning environments is a solid foundation for further investigation.

The National Research Council's Commission on Behavioral and Social Sciences and Education, publication *How People Learn* [2] is a very useful resource from which to draw. The authors present a model for effective learning environments in which a system of four interconnected elements shape and mutually support each other. These interconnecting components are foci that identify effective learning environments as *learner centered, knowledge centered, assessment centered and community centered*. The model may be seen as a set of overlapping circles, as illustrated in Figure 1.

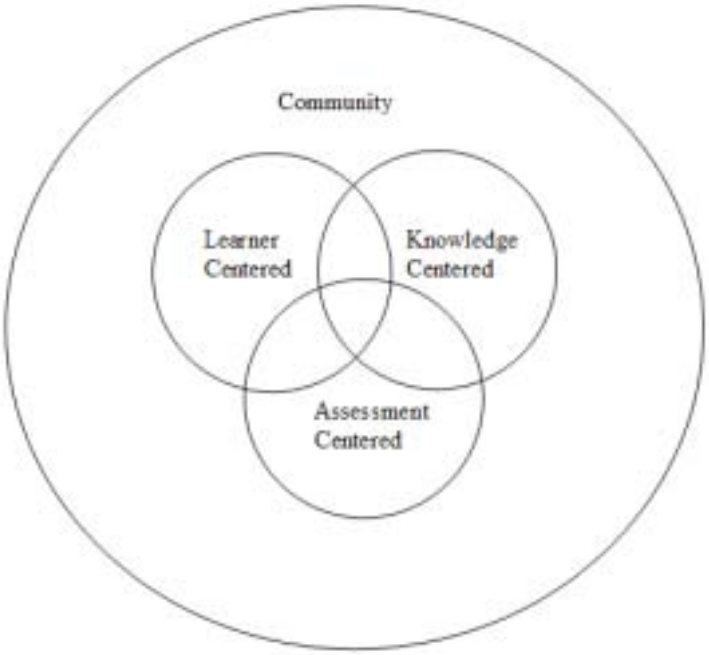

Figure 1. Perspectives on learning environments. (Source: Bransford and colleagues [2]).

The authors detail each of these foci which are briefly summarized here. Good learning environments are *knowledge centered* in that they are designed to achieve desired learning outcomes. Questions that must be addressed in creating a knowledge-centered learning environment include these: What do we want students to know and be able to do after completing our materials or course? How do we provide learners with the "foundational knowledge, skills, and attitudes needed for successful transfer" [2]?

Effective learning environments are also *learner centered*, in that they account for the strengths, interests, and preconceptions of learners [2] and help students to gain insight into themselves as learners. In these environments instructors help to bridge new knowledge with students current understandings and facilitate growth, while attending to the learners' interests, passions, and motivations.

Good learning environments are also *community centered*, that is they encourage and can benefit from shared norms that value learning and high standards. Ideally, good learning environments connect to relevant external communities and provide a milieu within the classroom where students feel safe to ask questions, to work collaboratively, and in which they are taught to develop lifelong learning skills.

Finally, Bransford and colleagues [2] state that good learning environments are *assessment centered*, meaning that they provide learners with many opportunities to make their thinking visible and to get feedback in order to create new meaning and new understanding.

The guidelines in *How People Learn* [2] provide an excellent framework from which to consider the design of online learning environments, because they summarize much of what is known about good learning environments generally. However, in addition, we must also consider the specific needs of higher education learners, and focus on lessons learned from research in college level teaching and learning, as

these are most relevant to SLN. Are there guidelines that help to determine how to devise a learning, assessment, knowledge, and community centered environment specifically designed with the needs of higher education students?

There are well-researched practices in higher education known to lead to high levels of student engagement. Perhaps the best-known set of engagement indicators is the Seven Principles of Good Practice in Undergraduate Education. [8]

The seven principles of good practice in undergraduate education identified by Chickering and Gamson [3] reflect much of what is described by Bransford and colleagues [2] in the design of good learning environments. These principles summarize decades of research on the undergraduate experience, providing essential guidance on how best to facilitate student success in higher education. Chickering and Gamson [3] encourage the following general conditions and behaviors for successful learning: (1) frequent contact between students and faculty; (2) reciprocity and cooperation among students; (3) active learning techniques; (4) prompt feedback; (5) time on task; (6) the communication of high expectations, and (7) respect for diverse talent and ways of learning.

We submit that the principles of good practice outlined by Chickering and Gamson [3] are also central to the model presented by Bransford and colleagues [2] and provide a context that is more specific to higher education learning environments. Figure 2 details this relationship.

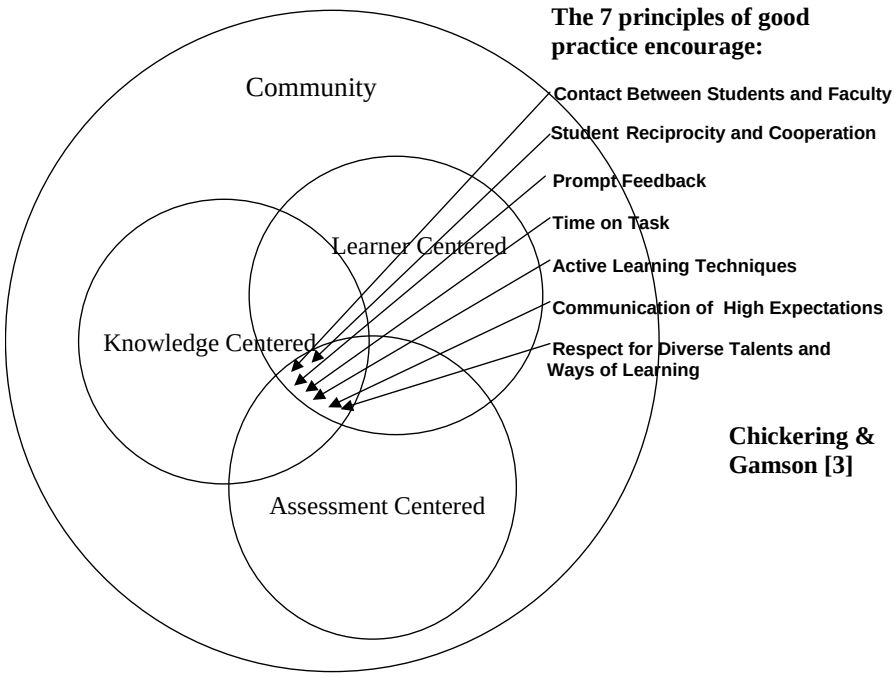

Figure 2. Principles of good practice and perspectives on learning environments. (Source: Chickering and Gamson [3]).

While these principles provide guidance in developing effective learning environments, they are written without a specific emphasis on the needs of higher education students *learning online* as in the case of the SLN. Further, SLN was specifically designed as an asynchronous environment, which, for many courses in the program, depends largely on text-based forums to carry out teaching and learning interactions. A specific set of indicators that *does* focus on higher education at a distance in primarily text-based,

asynchronous environments may be found in the model proposed by Garrison, Anderson, and Archer [9]. This framework also reflects the principles of good practice in undergraduate education and, we propose, the model presented by Bransford and colleagues [2]. We will now turn to the framework of Garrison and colleagues [9] to provide a more comprehensive conceptual background and a more developed and detailed set of categories through which to examine issues of pedagogy, faculty development, student satisfaction, and reported learning in SLN.

The model of critical thinking and practical inquiry proposed by Garrison and colleagues [9] is presented as a sort of Venn diagram in which various overlapping lenses, representing cognitive presence, social presence, and teaching presence, provide mutual support. Through this framework, interaction in an asynchronous online educational experience may be assessed. The model seeks to explain how to best study and ultimately facilitate higher order learning in computer mediated, largely text-based, environments such as SLN. This paper will focus largely on one aspect of the model, "teaching presence," and briefly summarize the other components.

Cognitive presence is the extent to which students are able to construct and confirm meaning through sustained discourse in a community of inquiry, and it is achieved in concert with effective teaching presence and satisfactory social presence.

In this model, social presence is viewed as the ability of students to project themselves socially and affectively into a community of inquiry and is deemed critical in the absence of physical presence and attendant teacher immediacy necessary to sustain learning in the classroom.

Teaching presence is the design, facilitation, and direction of cognitive and social processes for the realization of personally meaningful and educationally worthwhile learning outcomes. Teaching presence has three components: Instructional Design and Organization, Facilitating Discourse, and Direct Instruction. We discuss these in greater depth below.

The authors provide a visual representation of the model, reproduced in Figure 3.

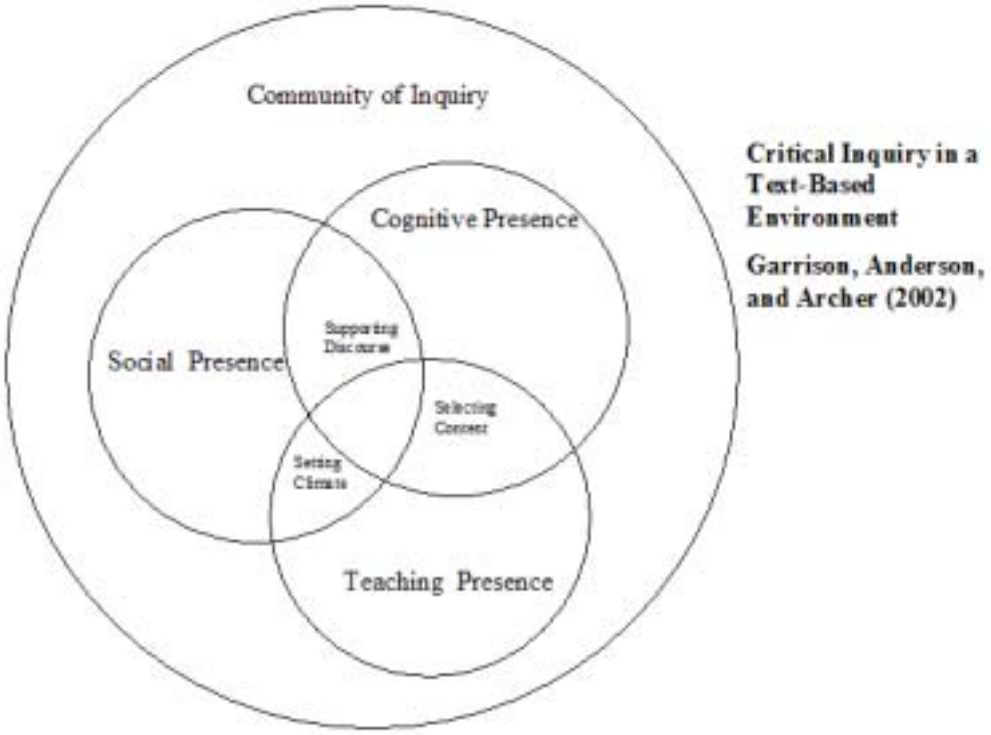

Figure 3. Elements of an educational experience. (Source: Garrison and colleagues [8]).

How does this model relate to the principles of good practice in undergraduate education espoused by Chickering and Gamson [3]? Again, one might revise the model to locate the seven principles of good practice as shown in Figure 4.

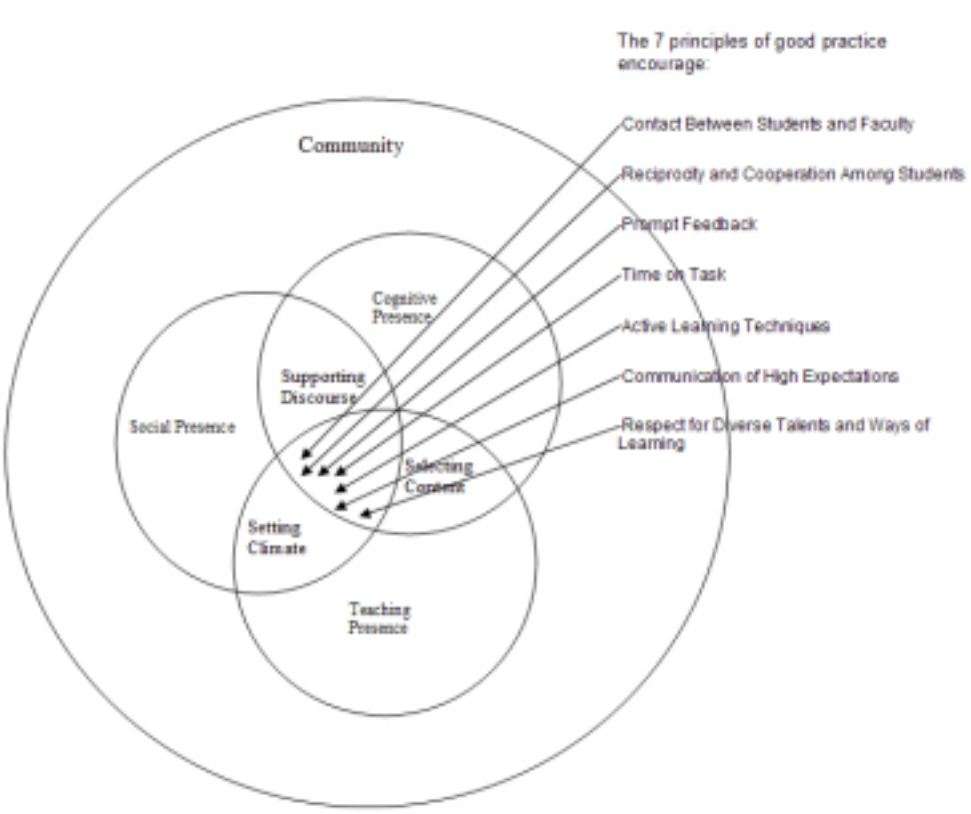

Figure 4. Principles of good practice and elements of an educational experience.

The principles of good practice are also essential elements of the teaching and learning transaction and crucial in creating and sustaining student engagement and learning. The Garrison and colleagues [9] model helps to identify and enact these principles in a specifically *online* learning environment.

Because it *was* designed for online learning environments, the framework and indicators articulated by Anderson and colleagues [4] are useful in evaluating the SLN faculty development efforts. While it is not the original intention of the authors that this model be used for assessing faculty development programs, it does provide a "checklist" against which efforts to create an effective online learning environment can be analyzed.

Previously [1] we described the faculty development process and identified elements of support for the creation of "teaching presence" that are embedded in SLN training. We also explained how faculty learn about and enact these in the online courses they teach to create and sustain cognitive presence. It was our intention to attend to both the general principles of good practice in higher education articulated by Chickering and Gamson [3] and to how they are identified and enacted in online, asynchronous environments. We used the Anderson and colleagues [4] framework to discover whether the faculty development efforts result in effective pedagogy, and the correlation of aspects of the framework with measures of student satisfaction, and learning.

III. HELPING FACULTY CREATE AND SUSTAIN QUALITY ONLINE TEACHING AND LEARNING

How can a faculty development process help faculty to learn to be effective online instructors, i.e., to engage in behaviors that are likely to result in high levels of learning, and student satisfaction? Clearly, to achieve this goal we need to focus on the elements put forth by Bransford and colleagues [2], and the trainings need to emphasize the importance of learning-centered, knowledge-centered, assessment-centered, and community-centered environments. Additionally, because SLN is a higher education learning environment, we need to emphasize the importance of the specific principles of good practice in undergraduate education outlined by Chickering and Gamson [3]. Finally, because the goals of the trainings are to help faculty understand the nature of online, asynchronous learning, we emphasize many of the indicators of social presence outlined by Rourke and colleagues [10] and teaching presence outlined by Anderson and colleagues [4] that lead to better *online* learning. In a preliminary study of teaching presence [1] we discussed faculty development in great detail, especially as it relates to teaching presence, and we examined how faculty learn about these concepts and practices through SLN trainings. In the present study we briefly review recent revisions to our faculty development process meant to foster greater understanding of teaching presence. We also present results from our most recent student survey indicating progress in this area.

A. Helping Faculty Create and Sustain Teaching Presence

Anderson and colleagues [4] define teaching presence as "the design, facilitation, and direction of cognitive and social processes for the realization of personally meaningful and educationally worthwhile learning outcomes." While the authors were principally concerned with analyzing course discussion transcripts for evidence of these categories, it is our belief that teaching presence is also evident in other areas of online courses. Anderson and colleagues [4] acknowledge this, and encouraged others to investigate teaching presence beyond course discussions. In a previous study [1] we used the categories devised by Anderson and colleagues [4] and provided additional examples of teaching presence (beyond what may be found in discussion transcripts), and described in great detail how faculty are supported to understand and create teaching presence in SLN online courses.

Teaching presence in this model has three components – 1. Instructional Design and Organization, 2. Facilitating Discourse, and 3. Direct Instruction.

Through a five-month faculty development cycle with guided assistance from the SLN instructional design team, new and experienced faculty confront issues around transforming classroom-based teaching and learning to the online environment. Our most recent faculty development cycle included a new session devoted to the topic of teaching presence. Questions that participants addressed included:

1) What is teaching presence? Why is it important?
2) How do we measure or identify teaching presence in an online course?
3) What are some design features that can enhance teaching presence?
4) How can we improve teaching presence through online classroom management?
5) What tools does the SLN Course Management System (CMS) provide to facilitate teaching presence?

Through such workshops and by leveraging elements of the SLN CMS, new faculty gradually learn from trainers and experienced faculty how to effectively design online learning, engage in productive dialogue

and to implement direct instruction online. (For more details about the SLN faculty development program as it relates to teaching presence, see Shea and colleagues [1]).

We will provide a brief summary below and the survey questions meant to elicit students' responses regarding the components of teaching presence.

1. Instructional Design and Organization.

Under the category, "Instructional Design and Organization" the authors include:

setting curriculum
designing methods
establishing time parameters
utilizing the medium effectively
establishing netiquette

This aspect of the model equates with Chickering and Gamson's [3] concern for active learning techniques, time on task, communication of high expectations, and prompt feedback, again, providing more consideration of the affordances and constraints of *online* environments.

Survey questions meant to elicit students perceptions of teaching presence were written in consultation with Terry Anderson, principle author of the paper from which this construct was drawn. Items were written as statements, and students were asked to express their level of agreement based on a five-point Likert-type scale. The question that related to instructional design and organization included the following:

a. Setting the curriculum

Overall, **the instructor** for this course clearly communicated important course outcomes (for example, provided documentation on course goals).

Overall, **the instructor** for this course clearly communicated important course topics (for example, provided a clear and accurate course overview).

b. Designing Methods

Overall, **the instructor** for this course provided clear instructions on how to participate in course learning activities (for example, provided clear instructions on how to complete course assignments successfully).

c. Establishing Time Parameters

Overall, **the instructor** for this course clearly communicated important due dates/time frames for learning activities that helped me keep pace with the course (for example, provided a clear and accurate course schedule, due dates and more).

d. Utilizing the medium effectively

Overall, **the instructor** for this course helped me take advantage of the online environment to assist my

learning (for example, provided clear instructions on how to participate in online discussion forums).

e. Establishing Netiquette

Overall, **the instructor** for this course helped student to understand and practice the kinds of behaviors acceptable in online learning environments (for example, provided documentation on "netiquette" i.e., polite forms of online interaction).

2. Facilitating Discourse

Another component of teaching presence in the Anderson and colleagues model is *facilitating discourse*. The task of facilitating discourse is necessary to maintain learner engagement and refers to "focused and sustained deliberation that marks learning in a community of inquiry" [4].

The authors provide indicators of the act of facilitating discourse, which include:

identifying areas of agreement and disagreement
seeking to reach consensus and understanding
encouraging, acknowledging, and reinforcing student contributions
setting the climate for learning
drawing in participants and prompting discussion
assessing the efficacy of the process

This aspect of the model equates in some ways with Chickering and Gamson's [3] encouragement of contact between students and faculty and reciprocity and cooperation among students, further delineating these for *online* learners. Facilitating discourse is also essential for sustaining the knowledge centered and community centered learning environment emphasized by Bransford and colleagues [2].

Because the construct of teaching presence is meant to account for activities and behaviors of both instructors *and* students we decided to write parallel questions for this part of the survey. In a robust learning environment, one characterized by sustained productive discourse, we would hope to find both faculty and students engaging in teaching presence. In fact Anderson and colleagues [4] explain that they chose the term "teaching presence" rather than "teacher presence" for this reason. Items meant to elicit students' perceptions of this aspect of teaching presence include:

a. Identifying areas of agreement/disagreement

Overall, **the instructor** for this course was helpful in identifying areas of agreement and disagreement on course topics in ways that assisted me to learn.

Overall, **other participants** in this course were helpful in identifying areas of agreement and disagreement on course topics in a way that assisted me to learn.

b. Seeking to reach consensus

Overall, **the instructor** for this course was helpful in guiding the class towards agreement/understanding about course topics in a way that assisted me to learn.

Overall, **other participants** in this course were helpful in guiding the class towards agreement/understanding about course topics in a way that assisted me to learn.

c. Reinforce student contributions

Overall, **the instructor** in this course acknowledged student participation in the course (for example, replied in a positive, encouraging manner to student submissions).

Overall, **other participants** in this course acknowledged student participation in the course (for example, replied in a positive, encouraging manner to student submissions).

d. Setting climate for learning

Overall, **the instructor** for this course encouraged students to explore concepts in the course (for example, encouraged "thinking out loud" or the exploration of new ideas).

Overall, **other participants** in this course encouraged students to explore concepts in the course (for example, encouraged "thinking out loud" or the exploration of new ideas).

e. Drawing in participants, prompting discussion

Overall, **the instructor** for this course helped to keep students engaged and participating in productive dialog.

Overall, **other participants** in this course helped to keep students engaged and participating in productive dialog.

f. Assessing the efficacy of the process

Overall, **the instructor** for this course helped keep the participants on task in a way that assisted me to learn.

Overall, **other participants** in this course helped keep us on task in a way that assisted me to learn.

3. Direct instruction

Anderson and colleagues [3] also include indicators of direct instruction in their framework for the analysis of teaching presence. These indicators include:

presenting content and questions
focusing the discussion on specific issues
summarizing discussion
confirming understanding
diagnosing misperceptions
injecting knowledge from diverse sources
responding to technical concerns

This aspect of the model equates with Chickering and Gamson's [3] concerns about interaction and for prompt, assistive feedback, again with emphasis on the needs of *online* learners. Attention to direct instruction is also essential for sustaining the knowledge-centered learning environment emphasized by Bransford and colleagues [2].

a. Present content/Questions

Overall, **the instructor** for this course presented content or questions that helped me to learn.

Overall, **other participants** in this course presented content or questions that helped me to learn.

b. Focus the discussion on specific issues

Overall, **the instructor** for this course helped to focus discussion on relevant issues in a way that assisted me to learn.

Overall, **other participants** in this course helped to focus discussion on relevant issues in a way that assisted me to learn.

c. Confirm understanding

Overall, **the instructor** for this course provided explanatory feedback that assisted me to learn (for example, responded helpfully to discussion comments or course assignments).

Overall, **other participants** in this course provided explanatory feedback that assisted me to learn (for example, responded helpfully to discussion comments or course assignments).

d. Diagnose misconceptions

Overall, **the instructor** for this course helped me to revise my thinking (for example, correct misunderstandings) in a way that helped me to learn.

Overall, **other participants** in this course helped me to revise my thinking (for example, correct misunderstandings) in a way that helped me to learn.

e. Inject knowledge from diverse sources

Overall, **the instructor** for this course provided useful information from a variety of sources that assisted me to learn (for example, references to articles, textbooks, personal experiences, or links to relevant external websites).

Overall, **other participants** in this course provided useful information from a variety of sources that assisted me to learn (for example, references to articles, textbooks, personal experiences, or links to relevant external websites).

Regarding the final indicator of direct instruction, responding to technical concerns, it should be noted that faculty in SLN are specifically instructed not to respond to student technical difficulties, as this diverts instructor resources away from the primary role, facilitating learning. It is the role of the SLN Help Desk to address all technical issues, and faculty are advised to refer all such questions to the Help Desk to avoid students becoming dependent of instructors for technical support.

IV. STUDENT SATISFACTION, REPORTED LEARNING AND "TEACHING PRESENCE"

As part of the cycle of the course design and faculty development, we engage in regular efforts to evaluate online teaching and learning in SLN. Each semester we conduct surveys of participating faculty and students through an integrated, web-based data collection infrastructure. In the Spring 2003 semester, we implemented a follow-up questionnaire on students' perception of teaching presence. To create the survey, we framed questions around teaching-presence indicators identified by Anderson and colleagues [4].

In this most recent survey we received responses from 6088 students, about 31% of student enrollments for that period. This response rate is more than double the 15% rate of response in the preliminary study [1]. However, this remains a relatively low response rate, so we must consider these results to be suggestive rather than conclusive, and not necessarily generalizable to all student enrollments in SLN. It should be noted that this response rate is typical of email and web-based survey returns, which have been declining in recent years [11].

Students are asked, via email and through messages posted online, to complete the web-based survey by both SLN administration and their course instructors. Follow up communications are sent to non-respondents two weeks and four weeks after the initial request. While the survey is completely voluntary, the format of the instrument requires that all questions be answered before the survey may be submitted successfully, so for these surveys, students respond to all items. Students are instructed that the results of the survey will not be revealed to their instructor and that it is a voluntary activity that will have no bearing on their grades.

V. RESULTS

What follows are summaries of student responses to the questions asked on the Teaching Presence Survey as well as those responses that correlated highly with measures of student satisfaction and reported learning. Questions are organized by the components of teaching presence identified by Anderson and colleagues [4]. Survey items were followed by a five point Likert-type scale that asked students to express their level of agreement or disagreement to statements eliciting responses related to teaching presence. Frequencies of response are presented for each question followed by the correlation between the responses for that item and student satisfaction and reported learning.

A. Instructional Design and Organization

Overall, rating for questions about instructional design and organization were, once again, quite high. As in the previous study, approximately 85% of respondents expressed agreement about statements reflecting good practices in instructional design and organization as defined in the survey. In attempting to determine how relevant this group of indicators is to student satisfaction and reported learning we correlated these variables. On average, students who reported high levels of instructional design and

organization in their courses also tended to report high levels of satisfaction and learning (r=.64 for satisfaction and r = .60 for reported learning). This correlation replicates the findings from our preliminary study of teaching presence.

Average correlation for variable related to instructional design and organization:

	Satisfaction	Reported Learning
Correlation	.64	.60
Significance	.000	.000

B. Facilitating Discourse

Relative to results for Instructional Design and Organization, results for indicators that reflect effective discourse facilitation were somewhat lower. For this category students were asked to rate both their instructor as well as their fellow classmates. This dual scoring system reflects the belief that, in a learner-centered classroom we would hope and expect to see students facilitating some of the discourse supportive of their learning.

On average, approximately 75% of respondents agreed or strongly agreed with statements indicating that their instructor helped facilitate productive discourse and approximately 69% agreed or strongly agreed with statements indicating that their classmates helped facilitate productive discourse. Overall, students who reported effective discourse facilitation on the part of their instructor also tended to report high levels of satisfaction and learning (r=.64 for satisfaction and r = .58 for reported learning).

Average correlation for variables related to facilitating discourse on the part of the instructor:

	Satisfaction	Reported Learning
Correlation	.61	.58
Significance	.000	.000

While students rated their classmates almost as high as their instructor on effective discourse facilitation, the correlation between their rating of their classmates' discourse facilitation and their satisfaction and reported learning were not as high. (r=.41 for satisfaction and r = .43 for reported learning).

Average correlation for variables related to facilitating discourse on the part of students:

	Satisfaction	Reported Learning
Correlation	.41	.43
Significance	.000	.000

C. Direct Instruction

Regarding direct instruction, approximately 78% of respondents agreed with statements indicating that the instructor provided helpful direct instruction and approximately 65% agreed with statements indicating that their classmates did so. Students who reported high levels on these measures of teaching presence also reported high levels of satisfaction and reported learning.

On average, students who reported effective direct instruction on the part of their instructor also tended to

report high levels of satisfaction and learning (r=.63 for satisfaction and r = .61 for reported learning).

Average correlation for variables related to direct instruction on the part of the instructor:

	Satisfaction	Reported Learning
Correlation	.63	.61
Significance	.000	.000

Again, while students rated their classmates relatively high on effective discourse facilitation, the correlation between their ratings of their classmates and their satisfaction and reported learning were not as high. (r=.40 for satisfaction and r = .43 for reported learning) when compared to the correlation with the instructor.

Average correlation for variables related to direct instruction on the part of student:

	Satisfaction	Reported Learning
Correlation	.40	.43
Significance	.000	.000

VI. CONCLUSIONS

As with the preliminary study, students once again rated their experience of teaching presence as relatively high in these courses. Approximately 85% of respondents reported agreement with statements describing the first category of teaching presence, instructional design and organization. On average, students who reported high levels of instructional design and organization also reported high levels of satisfaction and learning (r=.64 for satisfaction and r = .60 for reported learning). These results are very similar to those found in the preliminary study and lend support for the central role of instructional design and organization in effective online learning environments design.

The relatively higher ratings in this category can probably be attributed to the greater proportion of resources applied to instructional design and organization through faculty development and the design of the SLN course management system. For a detailed discussion of how the features of CMS and how it may be customized to achieve effective instructional design and organization, see Shea and colleagues [1]. Generally speaking, because course design is accomplished before a course begins, opportunity to impact this area of teaching presence is somewhat greater relative to discourse facilitation and direct instruction.

We believe that these results validate our ongoing focus on instructional design and organization and the resources applied to this aspect of the SLN faculty development process. From a system perspective we feel that it is essential to continue to support faculty to better understand the important role that good design plays in student satisfaction and learning in ALNs. The elements of online instructional design and organization identified in this model–-setting curriculum, designing methods, establishing time parameters, utilizing the medium effectively, establishing netiquette-– provide a fairly simple touchstone for communicating a relatively complex process and will allow us to continue to focus on this crucial area as we continue to evolve and grow.

Survey respondents also reported relatively high levels for the other categories of teaching presence,

facilitating discourse and direct instruction. Approximately 75% of respondents agreed with statements indicating that their instructors helped facilitate productive discourse and approximately 69% agreed with statements indicating that their classmates helped facilitate productive discourse.

For the categories of facilitating discourse and direct instruction, the survey measured interaction behaviors of both instructors and students. The assumption here is that in a learner centered environment we'd expect "shared roles" or collaboration such that students engaged in behaviors that lead to co-construction of knowledge. In fact, such student-student interaction is recognized not only as general good practice [4], but also, depending on design, also thought to make teaching and learning more efficient (for example, Twigg [12]) and more effective (for example, Johnson, Johnson, and Stanne [13]). Survey respondents indicate that their classmates do frequently engage in these interactive teaching and learning behaviors. However, for the students who responded to this survey, instructor behaviors correlate more highly with satisfaction and learning than do student's teaching-presence behaviors. So, while students actually scored their classmates higher on several indicators in these categories of variables, their perception of instructor behaviors for facilitating discourse and direct instruction correlated more highly with satisfaction and learning than their perception of fellow student behaviors.

There may be several interpretations of these results. Certainly, students have traditionally expected the instructor to play the central role in teaching. Upon reflection they may be pleasantly surprised to discover that their classmates also perform some of this role, but their expectations are higher for the instructor than for their fellow students. As to why students might rate their classmates higher on certain categories, the same explanation may apply: students may have higher expectations of instructors than their classmates, and therefore be more "strict" in their rating of the instructor and lenient in rating their classmates. Alternatively (or perhaps additionally), students far outnumber instructors, so their interactive behaviors should be higher in number and therefore more evident. In either case, the result indicating that students perceive that their classmates engage in teaching presence behaviors at high levels, either by facilitating discourse or by providing direct instruction, should not be interpreted as inappropriate. Best practices in teaching and learning advocate this shared role, and these results indicate a measure of success in this area. That being said, a great deal more research is required to understand how best to facilitate consistently productive, student-student cooperative learning in higher-education online settings.

Again, the behaviors identified under discourse facilitation--identifying areas of agreement and disagreement; seeking to reach consensus and understanding; encouraging, acknowledging, and reinforcing student contributions; setting the climate for learning; drawing in participants and prompting discussion, and assessing the efficacy of the process-–provide a useful and manageable checklist to communicate to faculty and facilitates reflection on these important roles in online learning environments. However, we must continue to investigate how to design this kind of learning if we wish to use online environments to their best advantage. Again, we need greater understanding of how best to leverage online student-student interaction to achieve optimal learning outcomes.

The same may be said regarding the category direct instruction. The behaviors identified–-presenting content and questions, focusing the discussion on specific issues, summarizing discussion, confirming understanding, diagnosing misperceptions and injecting knowledge from diverse sources, can also help faculty better focus on providing effective direct instruction. And from these survey results it appears that that students expect the instructor to play the "stronger" role in this regard. As the content expert, we would expect the instructor to provide more direct instruction than students, at least from a traditional view of teaching and learning. That being said, the evidence presented here suggests that students are playing an active role in their online courses, which, again, is congruent with good practices in teaching and learning. However, we need even better understanding of how to structure online learning to take

advantage of student-to-student direct instruction.

The results we have reported here are useful in informing decisions regarding enhancements to our faculty development process. This study has provided additional evidence pointing to areas of potential strength (instructional design and organizations) and areas that may need additional improvement (facilitation of discourse and direct instructions). We have begun the process of revising training based on these results. In cooperation with our instructional design team we have created a new training, the goals of which are to communicate to faculty these general findings and to provide a forum for reflection and revision. Using collaborative learning techniques, faculty partner with peers to examine categories of discourse facilitation, direct instruction, and instructional design and organization. Through guided learning activities these online instructors reflect on how they currently accomplish tasks in these areas, identify where their courses need improvement and, with the assistance of their instructional design partners, implement the necessary revisions.

At this time we are further analyzing results of the survey to determine if differences exist between the results for instructors who have engaged in this new training and those who had not yet participated. We believe that it is reasonable to expect that opportunities to reflect on how to enhance instructional design and organization, discourse facilitation, and direct instruction will result in higher levels of teaching presence and, we hope higher levels of student satisfaction and reported learning.

In summary we continue to believe that an emphasis on multiple perspectives represents a step forward in the development of effective online learning environments. Attention to the principles espoused by Bransford and colleagues [2], Chickering and Gamson [3], as well as Garrison and colleagues [9] and Anderson and colleagues [4] may be the best approach to ensuring high quality in the development of future online learning forums. We will continue to facilitate understanding of this emerging model (Figure 5) with the SLN community as we seek to improve the experience of students and faculty in the SUNY Learning Network.

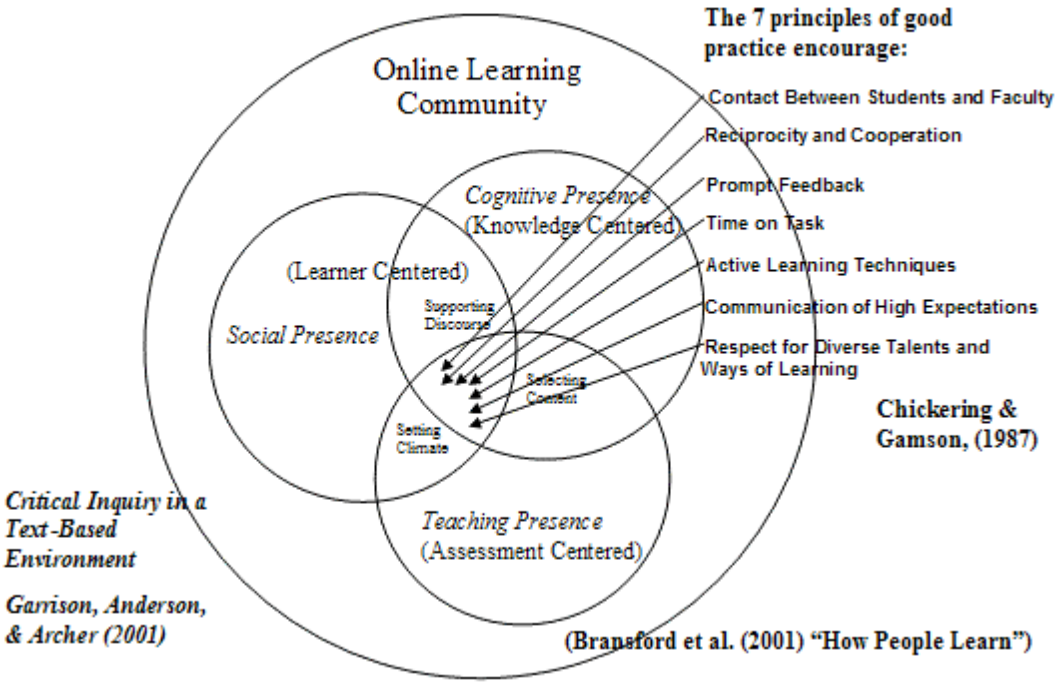

Figure 5. A conceptual framework for high quality, higher education, online learning environments.

VII. REFERENCES

1. **Shea, P., Fredericksen, E., Pickett, A., and Pelz, W.** A Preliminary Investigation of Teaching Presence in the SUNY Learning Network, *Elements of Quality Online Education: Practice and Direction*, Volume 4 in the Sloan-C series. Needham, MA: Sloan-C, 2003.
2. **Bransford, J., Brown, A., Cocking, R., Donovan, M., and Pellegrino, J. W.** *How People Learn*, National Academy Press, 2000
3. **Chickering, A. W., and Gamson, A. F.** *Seven Principles for Good Practice in Undergraduate Education*. Racine, WI: The Johnson Foundation, Inc/Wingspread, 1987
4. **Anderson, T., Rourke, L., Garrison, D. R., and Archer W.** Assessing Teaching Presence in a Computer Conferencing Context. *Journal of Asynchronous Learning Networks*, 5(2) (September 2001).
5. **Shea, P., Fredericksen, E., Pickett, A., and Pelz, W.** Measures of Learning Effectiveness in the SUNY Learning Network, *Online Education: Learning Effectiveness, Faculty Satisfaction, and Cost Effectiveness*, Needham, MA: SCOLE, 2001.
6. **Shea, P., Pelz, W., Fredericksen, E., and Pickett, A.** Online Teaching as a Catalyst for Classroom-based Instructional Transformation, *Elements of Quality Online Education*, Needham, MA: SCOLE, 2002.
7. **Shea, P., Swan, K., Fredericksen, E., and Pickett, A.** Student Satisfaction and Reported Learning in the SUNY Learning Network, *Elements of Quality Online Education*, Needham, MA: Sloan-C, 2002.

8. **Kuh, G.** The National Survey of Student Engagement: Conceptual Framework and Overview of Psychometric Properties 2001. http://www.indiana.edu/~nsse/acrobat/framework-2001.pdf
9. **Garrison, D. R., Anderson, T, and Archer, W.** Critical Inquiry in a Text Based Environment: Computer Conferencing in Higher Education. *The Internet and Higher Education*, 2(2-3): 1-19, 2000.
10. **Rourke, L., Anderson, T., Garrison, D. R., and Archer, W.** Assessing Social Presence in Asynchronous Text-based Computer Conferencing. *Journal of Distance Education*, 2001. http://cade.athabascau.ca/vol14.2/rourke_et_al.html
11. **Sheehan, K.** Email Survey Response Rates: A Review. *Journal of Computer Mediated Communication*, 6(2), 2001.
12. **Twigg, C.** Expanding Access to Learning: The Role of Virtual Universities. Troy, NY: Center for Academic Transformation, 2003.
13. **Johnson, D.**, **Johnson, R., and Stanne, M.** Methods of Cooperative Learning: What Can We Prove Works? Minneapolis, MN: University of Minnesota Cooperative Learning Center, 2001.

VIII. ABOUT THE AUTHORS

Peter Shea is the Interim Director of the SUNY Learning Network, the State University of New York's multiple-award winning online education system. He is also Director of the SUNY Teaching, Learning, and Technology Program and serves as coordinates for SUNY's participation in the MERLOT Project (Multimedia Educational Resource for Learning and Online Teaching) a national consortium for the collection and peer review of online teaching and learning materials. Dr. Shea is also a visiting assisting professor in the Department of Educational Theory and Practice at the University at Albany, where he has taught at the graduate level both online and in the classroom. He is the author of many articles and several book chapters on the topic of online learning and co-author of a new book, "The Successful Distance Learning Student".

Alexandra M. Pickett is the Assistant Director of the SUNY Learning Network (SLN), the asynchronous learning network for the State University of New York under the offices of the Provost and Advanced Learning and Information Services. A pioneer in instructional design and faculty development for asynchronous web-based teaching and learning environments, Ms. Pickett has since 1994 led the development of the instructional design methods, support services, and resources used by SLN to support the development and delivery of full web online courses by SUNY campuses and faculty. She has spent the past eight years conceptualizing and implementing scaleable, replicable, and sustainable institutionalized faculty development and course design and delivery processes that in the 2002-2003 academic year will result in the delivery of 2,500+ courses with 50,000+ student enrollments. One of the original SLN design team members, she co-designed the course management software and authored the 4-stage faculty development process and 7-step course design process used by the network. Her comprehensive approach to faculty development includes an online faculty resource and information gateway, an online conference for all faculty with the opportunity to observe a wide variety of online courses, a series of workshops for new faculty, instructional design sessions for returning faculty looking to improve their courses, a developer's handbook, a course template, a faculty HelpDesk, online mechanisms for faculty evaluation of SLN services, and an assigned instructional design partner. In 2001 SLN was honored to receive the Sloan Consortium Award for Excellence in ALN Faculty Development for 2001 and the Educause award for Systematic Progress in Teaching and Learning for 2001. Today, working with 56 of the 64 SUNY institutions, she has directly supported or coordinated the development of more than 1,500 SUNY faculty and their web-delivered courses. Her research interests are in faculty satisfaction and the effective instructional design of online courses, and student satisfaction and perceived learning. She has co-authored a number of studies on these topics and has published and presented the

results both nationally and internationally. Visit http://SLN.suny.edu/developer and http://SLN.suny.edu/conference.

Bill Pelz is Professor of Psychology at Herkimer County Community College. Bill joined the faculty of HCCC in August of 1968, the second year the college was in operation. During his 34 year tenure at HCCC he has served as Chair of the Humanities and Social Science Division and Director of Distance Learning, but has always returned to his first love: teaching. In 1994 he was presented with the SUNY Chancellor's Award for Excellence in Teaching, a most cherished prize. Bill has published an assortment of scholarly and academic articles, most recently focused on the area of student and faculty satisfaction with asynchronous teaching and learning. His current research interest is in isolating the pedagogical factors which influence student achievement in virtual learning environments.

Bill has developed and taught a total of eight asynchronous credit courses and four asynchronous non-credit courses. Since 1999 his teaching load has been entirely online. In addition to teaching full-time on the Internet, Bill is also the Coordinator of the HCCC Internet Academy, the HCCC Campus Instructional Design Specialist, and the Lead Trainer for the SUNY Learning Network, having trained in excess of 1000 SUNY faculty during the past three years. He currently represents The State University of New York in the discipline of Psychology on the national Merlot Project, which is assembling a collection of high quality web-based learning objects for use in higher education. Bill is a vocal advocate for Asynchronous Learning Networks (ALNs), and has developed and taught an asynchronous course called "Online Pedagogy: Creating a Successful Asynchronous Course" for the SUNY Teaching, Learning and Technology Cooperative.