A PRELIMINARY INVESTIGATION OF "TEACHING PRESENCE" IN THE SUNY LEARNING NETWORK

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ABSTRACT

This paper examines issues of pedagogy, faculty development, student satisfaction, and reported learning in the State University of New York (SUNY) Learning Network (SLN). Beginning with an overview of the SLN program, we provide a conceptual framework for our current research on higher education, online learning environments. This framework attempts to integrate research on how people learn [1], with best practices in higher education [2] and recent research on learning in asynchronous higher education environments [3].

In previous studies we have presented evidence to suggest that student-faculty and student-student interaction are among the set of variables most strongly correlated with student satisfaction and reported learning. [4], [5], [6] In the present study, focusing on one aspect of our emergent model, we look at interaction more deeply, building upon the work of Anderson et al. [3] to examine the kinds of activities that comprise and sustain productive interaction. These researchers have investigated and described interactions that occur in asynchronous online learning environments that sustain knowledge building and identify online behaviors and processes that approximate (or perhaps improve upon) those that occur in face-to-face settings. We look at one aspect of their work - "teaching presence" and present results of a pilot study to assess students' perceptions of this constellation of online faculty behaviors. We also examine the components of teaching presence that correlate most highly with student satisfaction and reported learning.

KEYWORDS

online learning, models, theoretical framework, SUNY Learning Network, learning-centered, assessment-centered, knowledge-centered, principles of good practice, teaching presence, social presence, cognitive presence, community, survey, student satisfaction, student learning, learning environments

I. BACKGROUND

The SUNY Learning Network (SLN) is the online instructional program created for the sixty-four colleges and nearly 400,000 students of the State University of New York. The primary goals of the SUNY Learning Network are to bring SUNY's diverse, high-quality instructional programs within the reach of learners everywhere and to be the best provider of asynchronous instruction for learners in New York State and beyond.

Strategic objectives for this initiative are threefold:

1. to provide increased, flexible access to higher education within and beyond New York State;

2. to provide a mechanism for maintaining consistently, high quality online teaching and learning across the SUNY system; and

3. leverage the resources of the State University of New York system to contain the costs associated with the development, design, and delivery of online education.

This paper focuses primarily on the second goal - that of providing a mechanism for maintaining consistently high quality online teaching and learning that supports student satisfaction.

The annual growth in courses, from eight in 1995-1996 to over 1500 in 2000-2001, and annual growth in enrollment, from 119 in 1995-1996 to over 40,000 in 2001-2002, with courses offered at all undergraduate and graduate levels from fifty-five of our institutions, illustrates that the project has met, and in many ways exceeded, original projections. The program has recently been recognized by EDUCAUSE as the 2001 award winner for Systemic Improvement in Teaching and Learning and by the

Sloan Consortium for its 2001 Excellence in ALN Faculty Development Award and its 2002 award for Excellence in Institution-Wide ALN Programming.

II. CONCEPTUAL FRAMEWORK

The SUNY Learning Network represents a formal online teaching and learning environment. In order to understand how best to structure such an environment to ensure effective pedagogy it is useful to begin by looking at what works well in traditional learning environments, and in so doing, attend to models of best practices identified for effective education. Of course, such an examination must be done in light of our understanding that differences exist between online and classroom-based teaching and learning. But starting with best practices in structuring traditional learning environments is a good foundation for further investigation.

The National Research Council's Commission on Behavioral and Social Sciences and Education, provides guidance in this area, especially in the publication *How People Learn* [1]. The authors offer a model for effective learning environments in which a system of four interconnected components combine and mutually support each other. These interconnecting components are foci that provide a foundation for learning environments, the best of which appear to be *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.
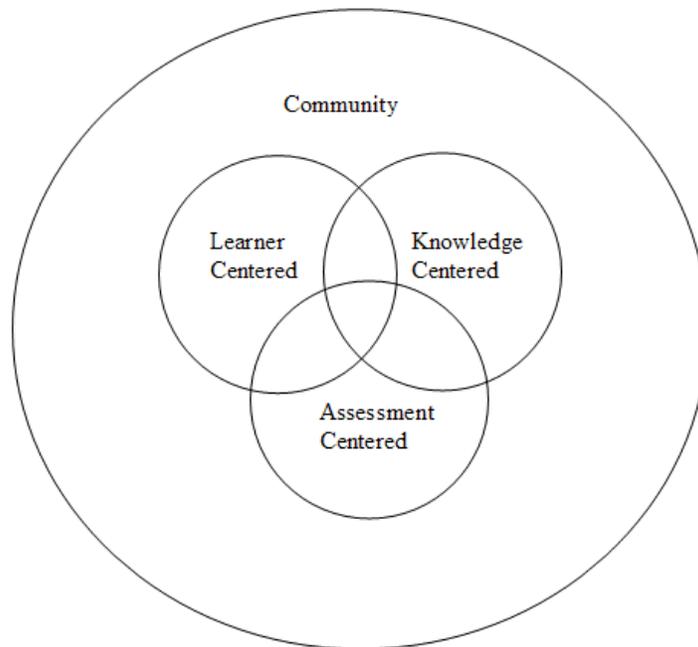

Figure 1. Perspectives on learning environments. (Source: Bransford et al. [1]).

The authors detail each of these foci - briefly summarized here. Good learning environments *are knowledge centered* in that they are designed in consideration of desired outcomes. Guiding questions for creating a knowledge-centered learning environment include - what do we want students to know and be able to do when they have completed our materials or course? How do we provide learners with the "foundational knowledge, skills, and attitudes needed for successful transfer" [1]?

Good learning environments are also *learner centered*, that is they function in a manner that connects to the strengths, interests, and preconceptions of learners [1] and help students to gain insight into themselves as learners. In such environments teachers work to bridge new content with students current understandings and facilitate growth, while attending to the learners' interests, passions, and motivations.

Another characteristic of good learning environments is that they are *community centered*, that is they promote and 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, the Bransford, et al. [1] emphasize 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* [1] provide an excellent framework from which to consider the design of online learning environments, in that 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 implement a learning-, assessment-, knowledge-, and community-centered environment - one that is designed to engage higher education students specifically?

Certain institutional practices are 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. [7]

The seven principles of good practice in undergraduate education identified by Chickering & Gamson [2] reflect much of what is identified by Bransford et al. [1] in the design of good learning environments. These principles distill decades of research on the undergraduate experience, providing some guidance on how best to structure learning in higher education. Chickering & Gamson [2] 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 feel that the principles of good practice outlined by Chickering & Gamson [2] are at the heart of the model presented by Bransford, et al. [1] and provide a focus specific to higher education learning environments. Figure 2 details this relationship.
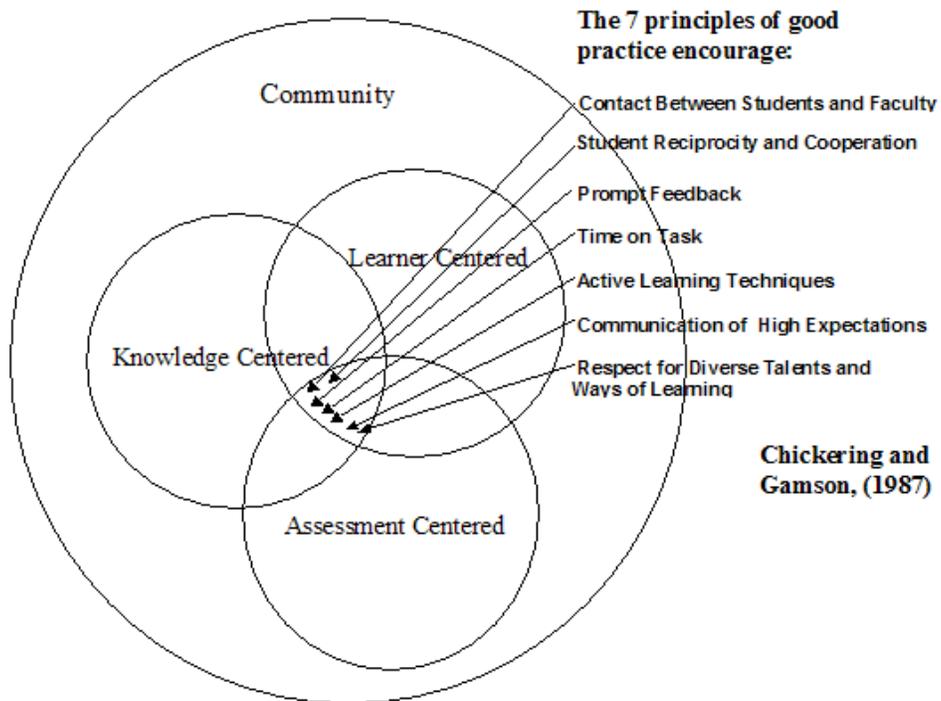
Figure 2. Principles of good practice and perspectives on learning environments. (Source: Chickering & Gamson [2]).

While these principles provide guidance in developing higher education learning environments, they are written at a relatively high level of abstraction without a specific focus on the needs of higher education students *learning at a distance* as in the case of the SLN. Further, SLN was specifically designed as an asynchronous environment, and 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, & Archer [8]. This framework also reflects, the principles of good practice and, we propose, the model presented by Bransford et al. [1]. It is to the Garrison et al. [8] framework we will now turn with the goal of providing a more comprehensive conceptual background and to provide a more developed and detailed set of categories through which to examine issues of pedagogy, faculty development, student satisfaction, and reported learning in SLN.

In the model of critical thinking and practical inquiry proposed by Garrison et al. [8] three overlapping lenses - cognitive presence, social presence, and teaching presence provide mutual support to create a framework in which interaction in an asynchronous online educational experience may be assessed. The model seeks to explain how to best analyze and ultimately promote higher order learning in computer mediated, largely text-based, environments such as SLN. This paper will focus primarily on one aspect of the model, "Teaching Presence" and briefly summarize the other components.

The authors define cognitive presence as "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 referred to as "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.
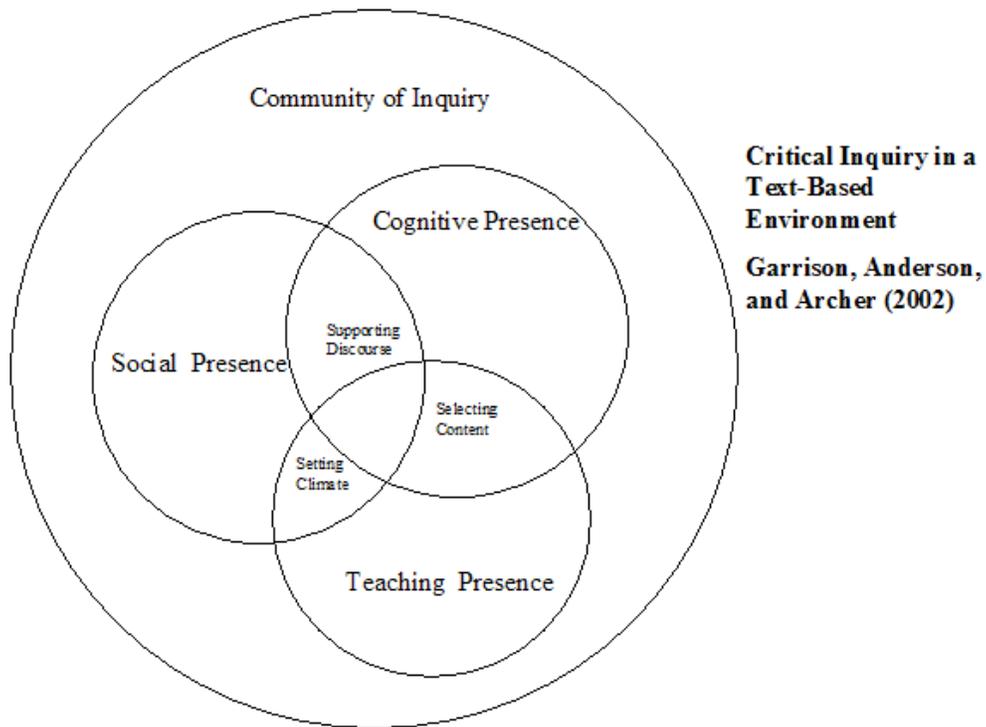

Figure 3. Elements of an educational experience. (Source: Garrison, Anderson, & Archer [8]).

How does this model relate to the principles of good practice in undergraduate education espoused by Chickering & Gamson [2]? Again, one might revise the model to locate the seven principles of good practice as shown in Figure 4.
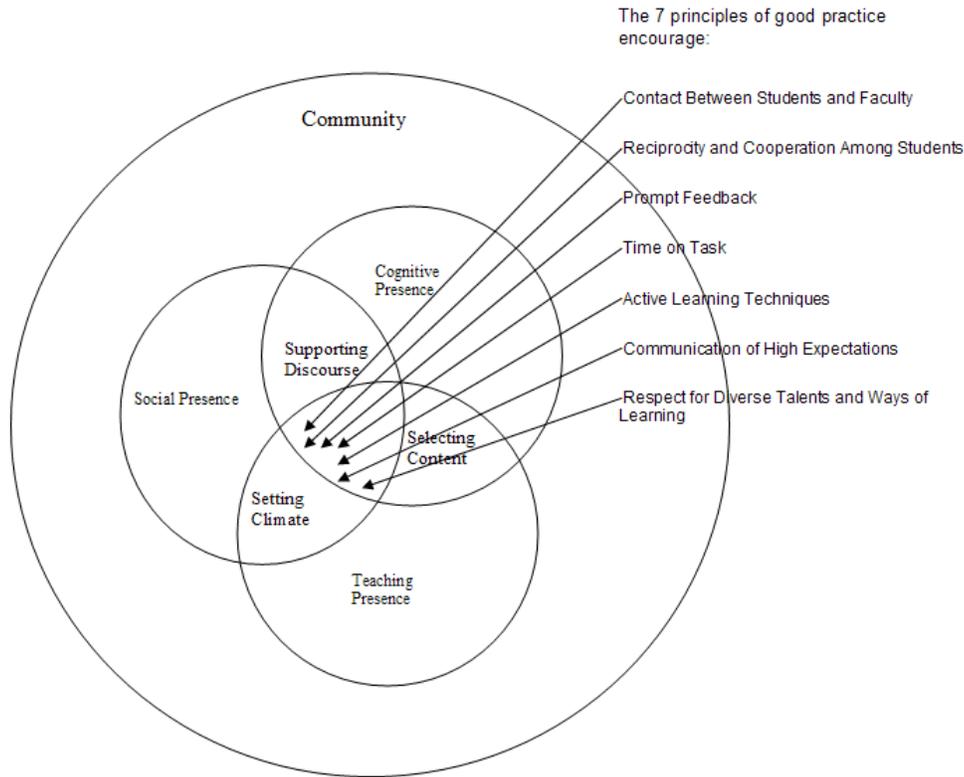
Figure 4. Principles of good practice and elements of an educational experience.

We feel that 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. We feel that the Garrison et al. [8] 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 et al. [3] is useful in analyzing 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.

Below we will describe the faculty development process and identify elements of support for the creation of "teaching presence" that are embedded in SLN training. We will also explain how faculty become aware of and enact these in the online courses they teach to create and sustain cognitive presence. By attending to both the general principles of good practice in higher education articulated by Chickering & Gamson [2] and to how they are identified and enacted in online, asynchronous environments in the Anderson et al. [3] framework we will attempt to discover whether the faculty development efforts were likely to result in good pedagogy, student satisfaction, and learning.

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

How can a faculty development process help faculty to engage in behaviors that are likely to result in productive learning environments, high levels of learning and student satisfaction? Clearly, to achieve this goal there is a need to focus on the elements put forth by Bransford et al. [1], i.e., 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 & Gamson [2]. Finally, because the goals of the trainings are to help faculty understand the nature of online, asynchronous learning we need to emphasize many of the indicators of social presence outlined by Rourke, et al. [9] and teaching presence outlined by Anderson, et al. [3] that lead to better *online* learning. Below we will discuss faculty development in greater detail, especially as it relates to teaching presence, and examine how faculty learn about these ideas and practices through SLN trainings.

A. Helping Faculty Create and Sustain Teaching Presence

Anderson et al. [3] 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 et al. [3] acknowledge this, and encouraged others to investigate teaching presence beyond course discussions. We will use the categories devised by Anderson et al. [3] and provide additional examples of teaching presence (beyond what may be found in discussion transcripts), and describe how faculty are supported to understand and create teaching presence in SLN online courses.

Teaching presence in this model has three components - I. Instructional Design and Organization, II. Facilitating Discourse, and III. Direct Instruction. We will discuss each of these in some detail below. Under the category, "Instructional Design and Organization" the authors include: a) setting curriculum, b) establishing time parameters, c) utilizing the medium effectively, and d) establishing netiquette and e) designing methods. This aspect of the model equates with Chickering & Gamson's [2] 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.

1. Instructional Design and Organization

Support for instructional design and organization is provided in many ways for SLN faculty. For example all faculty are provided a shell structure from which to build their learning materials within the SLN course management system (CMS). The SLN CMS embeds a common instructional design format and organization into each course. It is however, flexible, and faculty can alter the format to suit their needs and the specific learning outcomes for their courses. This CMS provides several advantages for achieving the goals of building an asynchronous learning network on the scale of SLN. Each course has a common look and feel, so students do not need to learn a new interface every time they enroll in a new course. Placeholder documents also serve to remind faculty to include information that students will need to feel well oriented in any course. The CMS helps faculty to establish teaching presence in accordance with several of the categories identified by Anderson et al. [3]. These are *a) setting the curriculum, b) establishing time parameters, c) utilizing the medium effectively,* and *d) establishing netiquette*. Below we will also discuss faculty development support for *e) designing methods*.

a. Setting the curriculum

Common course information shell documents provide a reminder to faculty of the importance of this

element of teaching presence, and that they need to inform the students about the course, how it will proceed and how students can succeed. Common issues confronted include the sequence, quantity, and pacing of learning activities in each section of the course.

Each course contains documents into which course-specific information may be inserted. Trainers, using the hard copy and online-faculty development guide provided to all faculty, give examples of appropriate content that can be tailored for a standard set of course information documents. Documents that touch upon setting the curriculum include: a welcome document, a course overview, course learning objectives, "how you will be evaluated" and "my expectations" documents, as well as readings and course materials. Such signposting begins to fulfill the role of creating a "narrative path through the mediated instruction and activity set such that students are aware of the explicit and implicit learning goals and activities in which they participate." [3] In addition to creating the narrative path, we feel it is also important to provide a "table of contents" to the narrative. So faculty can also create course-level and section-level overview documents with the goal of reminding students where they are and what they will be working on throughout each section of the course.

b. Establishing time parameters

This element of teaching presence is critical - keeping students moving along at a similar pace is foundational to supporting meaningful interaction in asynchronous learning environments such as SLN. For students to engage in co-construction of knowledge, they need to work together, and well-articulated time parameters facilitate effective interaction.

Faculty in SLN learn about the importance of establishing time parameters in several ways. Again, the SLN CMS provides standard documents and instructional cues that help establish time parameters. For example, it contains a preformatted course schedule, into which learning activities, topics, assignments and due dates may be recorded. Each course segment (module) contains a standard "What's Due?" document for that section of the course. At the document level, "discussion starter" documents contain start and end date reminders so that faculty remember to provide these time parameters to students. Assignment starter documents contain similar due date reminders to help faculty to keep students on track. Additionally, the SLN CMS permits faculty to activate and deactivate learning modules in order to control course pace.

c. Utilizing the medium effectively

Under this category Anderson et al. [3] include helping students understand how to use the technology appropriately, for example the proper use of the reply and quote functions in online discussion. Again, the SLN CMS contains standard course documents that help faculty to help students understand these functions and they are placed immediately before the task to which they refer or in which they will be used. Such shared documentation on effective use of the medium reduces the burden on individual faculty to "reinvent the wheel" in each course.

Frequently students will need extra help with the technology - so in addition to documentation within each course, a central student helpdesk exists to assist students to make effective use of the medium. But rather than take a merely reactive role, the Helpdesk facilitates an interactive, online orientation to SLN. This online course, modeled on all other SLN courses is offered each semester and helps students understand the medium and its effective uses, as well as practice the skills necessary for success before they enter a specific, credit-bearing course.

To help faculty understand and address instances when students are not using the medium well, one of the roles of the SLN instructional design partner is to monitor each course, especially in its very early stages,

and to make sure that the faculty member is aware of communication breakdowns, such as misplaced postings, unanswered questions etc., so that they may be repaired.

Utilizing the helpdesk and instructional design partners to support elements of teaching presence may represent a more productive approach to online learning environment design.

d. Establishing netiquette

Rourke et al. [9] refer to "netiquette", i.e., behaviors that are deemed appropriate in online communication. Newcomers to online communication are often unaware that certain acts may violate established norms. One example is typing in upper case, which is viewed as "shouting" in online communication and thus inappropriate for most messages. Dominating conversations with long postings is another potentially problematic violation of netiquette. Trainers review these concepts and the hard copy and online versions of the SLN handbook provide examples of simple policies for acceptable interaction in online college courses.

e. Designing methods

Under this category the authors include the provision of instructional strategies that help structure learning activities. One of the greatest challenges in online learning is the clear articulation of how learning activities will be structured and paced, and new online faculty frequently struggle with providing clear instructions on how to accomplish a particular activity. Cooperative learning methods in particular require clear directions and close monitoring. The ability to draw on hundreds of courses that have been developed, designed, and delivered through SLN provides some assistance in overcoming these challenges. Faculty are able to review examples of learning activities that were either successful or unsuccessful to understand how their design and method may impact their effectiveness. Examples include student-designed surveys, journals, observations, individual and collaborative projects, jointly constructed annotated bibliographies, etc. Through the SLN Faculty Developers Center, and the all-faculty conference, instructors can view entire archived courses, "sit in" on live courses, and access excerpted examples of well-designed, or previously successful learning activities. These resources, which assist faculty to understand the design of effective methods, are detailed below.

2. SLN Faculty Developers Center

Through this online resource, faculty can access their SLN email, explore a common set of library resources, search a repository of discipline specific learning objects (MERLOT), access the online version of the SLN Handbook, participate in an online faculty orientation, and access instructional design tips and online teaching tools, beyond those included in the SLN CMS. The Faculty Center is one resource for promoting understanding of designing methods.

a. Archived courses

Faculty are encouraged to browse from a broad selection of previously delivered and now archived courses across disciplines and to examine them for ideas regarding how they will design their own course. These courses provide a "static" view of previous designs that have proven effective in the eyes of the instructional designer, faculty members and students.

b. Live courses

New faculty may enter a selection of live, ongoing SLN courses to get an understanding of how experienced instructors conduct and facilitate a course. This guided discovery process occurs during the all faculty online conference and allows faculty to see and discuss the dynamic process by which a course unfolds and through which teaching, social, and cognitive presence may evolve.

c. Excerpted activities

Instructional designers have developed a database of innovative online teaching and learning activities from previous courses that new instructors can access. This resource is smaller than a complete course but represents a greater concentration of examples from across many courses.

d. Facilitating Discourse

Another element of teaching presence in the Anderson et al. [3] framework is facilitating discourse. The task of facilitating discourse is necessary to sustain learner engagement and refers to "focused and sustained deliberation that marks learning in a community of inquiry" (Anderson et al.). The authors provide indicators of the act of facilitating discourse, which include a) *identifying areas of agreement and disagreement; b) seeking to reach consensus and understanding; c) encouraging, acknowledging, or reinforcing student contributions; d) setting climate for learning; e) drawing in participants and prompting discussion;* and *f) assessing the efficacy of the process*. This aspect of the model equates in some ways with Chickering & Gamson's [2] 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 et al. [1]. We will look at the components of facilitating discourse and identify how faculty in SLN learn about this skill.

Trainers and instructional design partners encourage faculty to consider the early stages of their courses as an opportunity to begin to create a non-threatening environment in which students can begin to engage in discourse. A standard practice designed to help meet this goal is the use of an "ice-breaking" module. In this initial course section, students engage in ungraded activities where they can practice the skills needed to participate in the course. These might include open class and small group discussions, submitting a profile or taking a learning style quiz. These activities are designed to encourage class discourse in a safe, supportive and un-assessed (at least in terms of course grade) environment.

Two indicators of discourse facilitation, *identifying areas of agreement and disagreement* and *seeking to reach consensus and understanding*, depend on the ability to frame a thought provoking topic of discussion. Students need to be encouraged to engage in dialogue in order to express thoughts that others may then acknowledge or refute. Before consensus can exist, ideas must be expressed and examined. Faculty learn how to start and extend such discussion in several ways. Though face-to-face and online forums, faculty explore resources that document effective, engaging online discussion practices. For example, in face-to face trainings faculty examine and discuss a list of fourteen ways to enhance online discussion that correspond to the categories identified by Anderson et al. [3]. Faculty "experience" these tips by participating in facilitated discourse in the online all faulty conference. Examples of discourse facilitation tips to faculty are included below:

Include a grade for participation.

Be clear about how students can succeed in discussion with reference to quality and quantity guidelines as well as requirements for timeliness. Entering an asynchronous discussion after it is nearly over can be unproductive (though there are ways around this problem - such as asking a late student to summarize the discussion that has already occurred)…

Provide an overview of what is due for each week.

This weekly agenda will help keep students working as a cohort and ensure a "critical mass" for getting discussions off the ground…

Make the discussion interesting or provocative.

Asking students to respond to "known answer" questions is unlikely to generate sustained involvement. Discussion questions should be open-ended, focused on learning objectives and likely to spur some controversy or interaction…

Participate "wisely".

The instructor should not dominate the discussion. Nor should he or she be absent. It is the instructor's job to keep the discussion on track by guiding without "pontificating". Frequently an instructor will provide a comment that students perceive as the "official answer" and discussion can come to a halt…

Require a product that is based on or the result of discussion.

A "hand-in" assignment that is based on class discussion can help students to synthesize, integrate and apply what has been discussed…

With the ongoing assistance of an instructional design partner for implementation, tips such as these help faculty to understand how to facilitate productive discourse in the service of creating teaching presence and ultimately cognitive presence.

3. Direct instruction

Anderson et al. [3] also include indicators of direct instruction in their framework for the analysis of teaching presence. These indicators include a) *presenting content and questions, b) focusing the discussion on specific issues, c) summarizing discussion, d) confirming understanding, e) diagnosing misperceptions, f) injecting knowledge from diverse sources* and *g) responding to technical concern*. This aspect of the model equates with Chickering & Gamson's [2] concerns 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 et al. [1].

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 their 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.

New online faculty struggle with how to engage in direct instruction. Novice instructors frequently raise questions about how they will "teach" in the absence of visual and aural clues reflective of students misunderstanding. So, how do new SLN faculty learn about effective practices for direct instruction in the "lean" ALN medium? Again, there are a variety of forums in which this topic is explored. For example, new faculty interact and learn from experienced faculty in the "Managing and Teaching your Course Workshop", the last in a series of three face-to-face workshops for new instructors. In this meeting experienced instructors present lessons they have learned from designing and facilitating their own courses, including how they present content, focus and summarize discussions and issues, and identify and remedy misunderstanding.

New faculty learn that direct instruction takes place most commonly through dialogue with the instructor (as well as more able peers). Some examples of suggestions for effective dialogue discussed in training forums include:

Resist the temptation to respond to every student's response. Otherwise, the discussion may become a series of dialogs between you and each student, rather than among you and the students.

Assign individual students the task of summarizing the discussion, and check for accuracy and comprehensiveness.

Employ student-led discussion where assigned students devise critical thinking questions and

are evaluated on the quality of their questions and how they facilitate the discussion.

Create a discussion response that calls on specific students that have not yet participated in the discussion.

Create a discussion response that asks a specific student to clarify a point, or that asks a student to reassess a response in light of another student's response.

Create a discussion response that asks a follow-up question of the group or of an individual student.

<div align="right">(SLN Faculty Developers Guide)</div>

The SLN CMS also provides some scaffolding for effective direct instruction practices; for example, there is a built in "Question Area" through which misunderstanding may be resolved. Standard course documents provide an arena for the presentation and effective organization of content. Faculty can also use a pre-formatted "shared reference" form also embedded in the template to inject knowledge from diverse sources.

Through suggestions, tips, and elements of the SLN CMS such as those mentioned above, as well as participation in online forums, new faculty gradually learn from trainers and experienced faculty how to engage in effective dialogue and to implement direct instruction online.

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

As part of the revision cycle of the course design and faculty development processes we have engaged in systematic efforts to evaluate and analyze 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 Summer 2002 semester, we piloted a questionnaire on students' perception of teaching presence. To define create the survey, we framed questions around teaching-presence indicators identified by Anderson et al. [3].

In the most recent survey (Summer 2002) we received responses from 1150 students, about 15% of student enrollments for that period. Due to the low response rate, we must consider these result to be a pilot of the instrument, and not generalizable to all students enrollments in SLN. This response rate, while low, is unfortunately typical of email and web-based survey returns, which have been declining in recent years [10].

Students are asked, via email and through messages posted online, to complete the web-based survey by both SLN administration and their instructor. Follow up reminders 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 grade.

V. RESULTS

What follows are the frequencies of student responses to the questions we asked on the Teaching Presence Survey as well as those responses that correlated highly with student satisfaction and reported learning. Questions are organized by the components of teaching presence identified by Anderson et al. [3]. 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 quite high. 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 are to student satisfaction and reported learning we correlated these variables. On average, students who reported high levels of instructional design and organization also reported high levels of satisfaction and learning (r=.635 for satisfaction and r = .588 for reported learning).

B. Facilitating Discourse

Summary: Compared to results for Instructional Design and Organization the ratings that indicate 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 expect to see students facilitating some of the discourse supportive of their learning. Approximately 73% of respondents agreed with statements indicating that their instructor helped facilitate productive discourse and approximately 72% agreed with statements indicating that their classmates helped facilitate productive discourse.

Facilitating Discourse		
Ratings of Instructor	Agree	73%
	Nuetral	15%
	Disagree	12%
Ratings of Fellow Students	Agree	72%
	Nuetral	21%
	Disagree	7%

Table 1. Average student ratings for statements reflecting effective discourse facilitation. (see appendix for statements and individual responses)

On average, students who reported effective discourse facilitation on the part of their instructor also reported high levels of satisfaction and learning (r=.64 for satisfaction and r = .58 for reported learning).

	Satisfaction	Reported Learning
Correlation	.64	.58
Significance	.000	.000

Table 2. Instructor average: facilitating discourse (see appendix for statements and individual responses)

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=.36 for satisfaction and r = .37 for reported learning).

	Satisfaction	Reported Learning
Correlation	.36	.37
Significance	.000	.000

Table 3. Student average: facilitating discourse

C. Direct Instruction

Summary: Regarding direct instruction approximately 76% of respondents agreed with statements indicating that their instructor provided helpful direct instruction and approximately 66% agreed with statements indicating that their classmates did so.

Direct Instruction		
Ratings of Instructor	Agree	76%
	Nuetral	11%
	Disagree	13%
Ratings of Fellow Students	Agree	66%
	Nuetral	24%
	Disagree	10%

Table 4. Average student ratings for statements reflecting effective direct instruction. (see appendix for statements and individual responses)

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 reported high levels of satisfaction and learning (r=.64 for satisfaction and r = .61 for reported learning).

	Satisfaction	Reported Learning
Correlation	.64	.61
Significance	.000	.000

Table 5. Direct Instruction: Instructor

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=.39 for satisfaction and r = .39 for reported learning).

	Satisfaction	Reported Learning
Correlation	.39	.39
Significance	.000	.000

Table 6. Direct Instruction: Student

VI.   CONCLUSIONS

In general, students 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=.635 for satisfaction and r = .588 for reported learning). The relatively higher ratings on this category can probably be attributed to the greater high proportion of resources applied to instructional design and organization through faculty development and the SLN CMS design. Inasmuch as design is accomplished before a course begins, opportunity to impact this area of teaching presence is relatively greater.

Survey respondents also reported relatively high levels of the other categories of teaching presence, facilitating discourse and direct instruction. Approximately 73% of respondents agreed with statements indicating that their instructor helped facilitate productive discourse and approximately 72% 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. Survey respondents indicate that their classmates do frequently engage in these 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 then their perception of fellow students.

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 fulfilled this role, but their expectations are more stringent 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 – student may have higher expectations of the instructor 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 the instructor, 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 success in this area.

For one category, direct instruction, it is probably more appropriate for the instructor to play the "stronger" role. As the resident expert, we would expect the instructor to provide more direct instruction than other 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.

The results we have reported here are useful in informing decisions regarding enhancements to the faculty development process. This study has provided evidence pointing to areas of potential strength (instructional design and organizations) and areas that may need 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 will partner with peers to examine categories of discourse

facilitation, direct instruction, and to a lesser degree, instructional design and organization. Through guided learning activities these online instructors will 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.

In summary we feel that an emphasis on multiple perspectives may be a step forward in the development of online learning environments. Attention to the principles espoused by Bransford et al. [1], Chickering & Gamson [2], as well as Garrison et al. [8] and Anderson et al. [3] may be the best approach to ensuring high quality in the development of future online learning forums. We will endeavor to facilitate understanding of this emerging model (Figure 5) to the SLN community as we seek to improve the experience of students and faculty in the SUNY Learning Network.
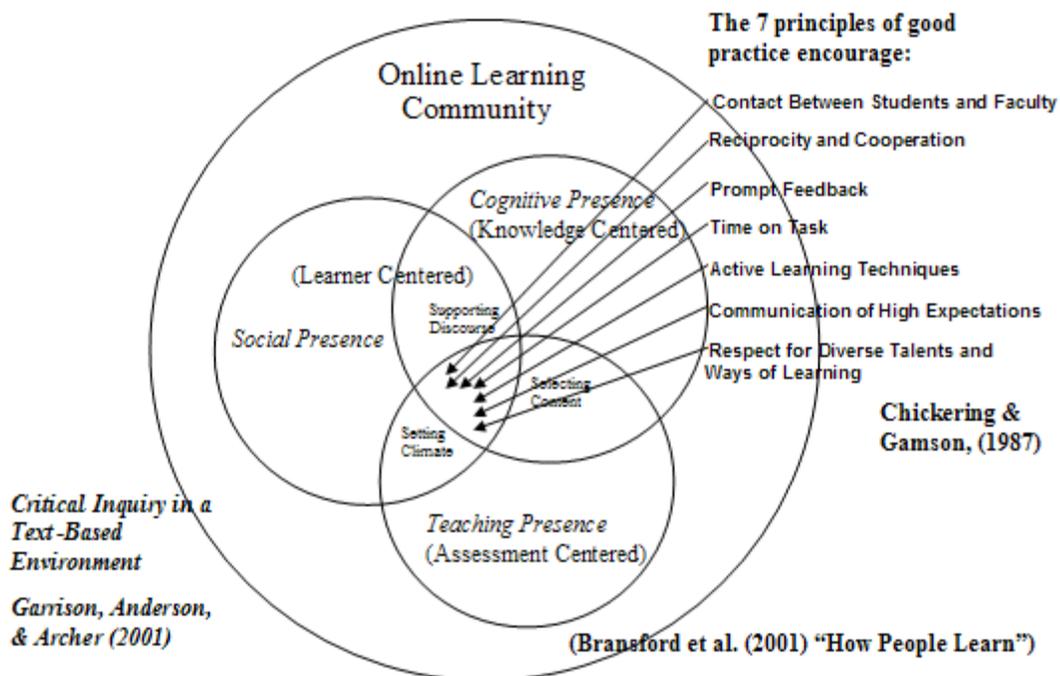

Figure 5. A conceptual framework for high quality, higher education, online learning environments.

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APPENDIX

Survey questions, responses and correlations with student satisfaction and reported learning.

A. Instructional Design and Organization

1. Setting the curriculum

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

	Frequency	Percent	
strongly disagree	37	3.2	6.9%
disagree	42	3.7	
neutral	77	6.7	6.7%
agree	405	35.2	
strongly agree	589	51.2	86.4%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.668	.617
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	36	3.1	6.6%
disagree	40	3.5	
neutral	84	7.3	7.3%
agree	403	35.0	
strongly agree	587	51.0	86%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.664	.617
Significance	.000	.000

2. Designing Methods

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

	Frequency	Percent	
strongly disagree	37	3.2	8.0%
disagree	55	4.8	
neutral	93	8.1	8.1%

agree	407	35.4	
strongly agree	558	48.5	83.9%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.652	.596
Significance	.000	.000

3. 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 etc).

	Frequency	Percent	
strongly disagree	32	2.8	5.5%
disagree	31	2.7	
neutral	59	5.1	5.1%
agree	376	32.7	
strongly agree	652	56.7	89.4%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.608	.544
Significance	.000	.000

4. 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).

	Frequency	Percent	
strongly disagree	38	3.3	7.5%
disagree	48	4.2	
neutral	96	8.3	8.3%
agree	441	38.3	
strongly agree	527	45.8	84.1%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.652	.606
Significance	.000	.000

5. 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).

		Frequency	Percent	
	strongly disagree	31	2.7	7.3%
	disagree	53	4.6	
	neutral	162	14.1	14.1%
	agree	455	39.6	
	strongly agree	449	39.0	78.6%
	Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.569	.547
Significance	.000	.000

B. Facilitating Discourse

1. Identifying areas of agreement/disagreement

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

		Frequency	Percent	
	strongly disagree	45	3.9	12.8%
	disagree	102	8.9	
	neutral	186	16.2	16.2%
	agree	434	37.7	
	strongly agree	383	33.3	71%
	Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.656	.611
Significance	.000	.000

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

		Frequency	Percent	
	strongly disagree	22	1.9	7.6%
	disagree	66	5.7	
	neutral	209	18.2	18.2%
	agree	551	47.9	
	strongly agree	302	26.3	74.2%

Total	1150	100.0

	Satisfaction	Reported Learning
Correlation	.344	.362
Significance	.000	.000

2. Seeking to reach consensus

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

	Frequency	Percent	
strongly disagree	53	4.6	12.3%
disagree	89	7.7	
neutral	195	17.0	17.0%
agree	438	38.1	
strongly agree	375	32.6	70.7%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.662	.599
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	25	2.2	7.0%
disagree	55	4.8	
neutral	255	22.2	22.2%
agree	547	47.6	
strongly agree	268	23.3	70.9%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.378	.370
Significance	.000	.000

3. 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)

	Frequency	Percent

	Frequency	Percent	
strongly disagree	64	5.6	11.6%
disagree	69	6.0	
neutral	121	10.5	10.5%
agree	383	33.3	
strongly agree	513	44.6	77.9%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.639	.555
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	21	1.8	4.8%
disagree	34	3.0	
neutral	151	13.1	13.1%
agree	553	48.1	
strongly agree	391	34.0	82.1%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.393	.382
Significance	.000	.000

4. 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)

	Frequency	Percent	
strongly disagree	40	3.5	8.8%
disagree	61	5.3	
neutral	164	14.3	14.3%
agree	424	36.9	
strongly agree	461	40.1	77.0%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.620	.573
Significance	.000	.000

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)

	Frequency	Percent	
strongly disagree	27	2.3	6.3%
disagree	46	4.0	
neutral	262	22.8	22.8%
agree	514	44.7	
strongly agree	301	26.2	70.9%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.383	.390
Significance	.000	.000

5. Drawing in participants, prompting discussion

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

		Frequency	Percent	
Valid	strongly disagree	64	5.6	16.4%
	disagree	113	9.8	
	neutral	178	15.5	15.5%
	agree	426	37.0	
	strongly agree	369	32.1	69.1%
	Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.568	.529
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	32	2.8	7.8%
disagree	57	5.0	
neutral	219	19.0	19.0%
agree	547	47.6	
strongly agree	295	25.7	73.3%
Total	1150	100.0	

	Satisfaction	Reported Learning

Correlation	.325	.344
Significance	.000	.000

6. 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.

	Frequency	Percent	
strongly disagree	49	4.3	12.0%
disagree	88	7.7	
neutral	154	13.4	13.4%
agree	483	42.0	
strongly agree	376	32.7	74.7%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.655	.618
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	26	2.3	8.7%
disagree	74	6.4	
neutral	331	28.8	28.8%
agree	494	43.0	
strongly agree	225	19.6	62.6%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.403	.395
Significance	.000	.000

C. Direct Instruction

1. Present content/Questions

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

	Frequency	Percent	
strongly disagree	47	4.1	9.0%
disagree	56	4.9	
neutral	99	8.6	8.6%
agree	427	37.1	

strongly agree	521	45.3	82.4%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.689	.672
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	22	1.9	9.0%
disagree	82	7.1	
neutral	237	20.6	20.6%
agree	541	47.0	
strongly agree	268	23.3	70.3%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.423	.436
Significance	.000	.000

2. 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.

	Frequency	Percent	
strongly disagree	47	4.1	9.7%
disagree	64	5.6	
neutral	128	11.1	11.1%
agree	468	40.7	
strongly agree	443	38.5	79.2%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.661	.623
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	28	2.4	7.3%
disagree	56	4.9	

	Frequency	Percent	
neutral	251	21.8	21.8%
agree	553	48.1	
strongly agree	262	22.8	70.9%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.427	.411
Significance	.000	.000

3. 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).

	Frequency	Percent	
strongly disagree	90	7.8	16.8%
disagree	104	9.0	
neutral	107	9.3	9.3%
agree	385	33.5	
strongly agree	464	40.3	73.8%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.666	..603
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	29	2.5	8.2%
disagree	66	5.7	
neutral	270	23.5	23.5%
agree	526	45.7	
strongly agree	259	22.5	68.2%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.385	.390
Significance	.000	.000

4. 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.

	Frequency	Percent	
strongly disagree	62	5.4	13.7%
disagree	96	8.3	
neutral	189	16.4	16.4%
agree	427	37.1	
strongly agree	376	32.7	69.8%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.636	.590
Significance	.000	.000

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

	Frequency	Percent	
strongly disagree	35	3.0	11.0%
disagree	92	8.0	
neutral	357	31.0	31.0%
agree	461	40.1	
strongly agree	205	17.8	57.9%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.378	.368
Significance	.000	.000

5. 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).

	Frequency	Percent	
strongly disagree	60	5.2	11.1%
disagree	68	5.9	
neutral	142	12.3	12.3%
agree	444	38.6	
strongly agree	436	37.9	76.5%
Total	1150	100.0	

	Satisfaction	Reported Learning

Correlation	.576	.550
Significance	.000	.000

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).

	Frequency	Percent	
strongly disagree	40	3.5	11.7%
disagree	94	8.2	
neutral	276	24.0	24.0%
agree	496	43.1	
strongly agree	244	21.2	64.3%
Total	1150	100.0	

	Satisfaction	Reported Learning
Correlation	.346	.350
Significance	.000	.000

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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 coordinates 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".

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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 40,000+ 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 odd 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.