

**ONLINE TEACHING AS A CATALYST FOR CLASSROOM-BASED
INSTRUCTIONAL TRANSFORMATION**

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September 2001



PART I

A. Introduction

How does the experience of teaching an online course impact classroom teaching? In Part I of this paper we present results from a study in which we heard from 255 online teachers from 31 colleges in the SUNY Learning Network about the effects of conceptualizing, developing, and teaching a complete online course on different aspects of their classroom instruction. Questions focused on instructional design, pedagogical reflection, alternative means of instruction and assessment, and the overall effect on classroom teaching. Evidence suggests the experience fosters pedagogical review and instructional transformation. Also - a recent sample of these same online instructors revealed that approximately 95 percent are satisfied with online teaching; said they would teach another online course and that they would recommend online teaching to a colleague. Additionally, during the same period, approximately 90% of students reported high levels of satisfaction and learning in this environment. This level of satisfaction and learning was achieved in a unified system comprised of over 1000 online instructors from fifty-three different colleges offering over 1500 online courses to more than 25,000 enrollees across the State University of New York.

Part II of this paper takes a closer look at student satisfaction at one institution participating in the SUNY Learning Network - Herkimer County Community College (HCCC). Through HCCC's Internet Academy, Herkimer has built a model "locally-branded" online learning program, building upon and complementing SLN support and services. In this section of the paper we report on this campus-level context of wrap-around support and services and faculty reactions to teaching online courses at HCCC. The success of a consortium of fifty-three colleges, such as SLN, depends on the enthusiasm and ownership of its members - the Herkimer Internet Academy provides an excellent example of these qualities. This section of the paper also looks at the effect of developing and delivering an online course on classroom instructional quality and provides additional evidence of the nascence of transformation.

Statement of Problem: This paper addresses the complex issue of transforming higher education from a teacher-centered to more learner-centered model. Clearly this is a process that will only occur in stages. One of the first stages is awareness and reflection. What kinds of experiences allow instructors to examine their pedagogy to begin this process? Can developing and teaching an online course serve as a catalyst for instructional review which leads towards instructional change in the classroom? What evidence exists to support the position that well coordinated programs of academic support and training for online instructors allows for the kind of pedagogical reflection that begins the process of educational transformation?

B. Rationale

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 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.

Currently, through SLN, fifty-three colleges within the State University of New York offer more than forty complete certificate and degree programs, from associate level degrees through graduate degrees, completely at a distance.

C. Background Information for the Program

The SUNY Learning Network started as a regional project in the Mid-Hudson Valley involving eight SUNY campuses. Initially, the development and delivery of asynchronous courses was a new activity for SUNY campuses and faculty. With generous support from the Alfred P. Sloan Foundation combined with enthusiasm and resources from SUNY System Administration and participating campuses, SLN has evolved successfully through three stages - 1) "proof of concept", 2) "proof of scalability", and 3) "proof of sustainability".

Successful experiences led to an expanded vision and goals for SLN and the scope and objectives of the project have grown substantially. 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 more than 25,000 in 2000-2001, with courses offered at all undergraduate and graduate levels from fifty-three of our institutions, illustrates that the project has met and in many ways exceeded original projections.

Faculty participating in SLN come from all academic ranks, from adjunct to full professor and all types of institutions ranging from small rural community colleges to large urban university centers. Here are some demographics on respondents to the Fall 2000 SLN survey on faculty satisfaction upon which this paper is based:

Table 1. Institution Type

	Frequency	Percent	Cumulative Percent
University Center	15	5.9	5.9
University College	33	12.9	18.8
College of Technology	13	5.1	23.9
Specialized College	18	7.1	31.0
Community College	175	68.6	99.6
Other	1	.4	100.0
Total	255	100.0	

Table 2. Reported Faculty Computer Skills Level Before Teaching Course

	Frequency	Percent	Cumulative Percent
High	160	62.7	62.7
Average	85	33.3	96.1
Low	9	3.5	99.6
Zero	1	.4	100.0
Total	255	100.0	

Table 3. Gender

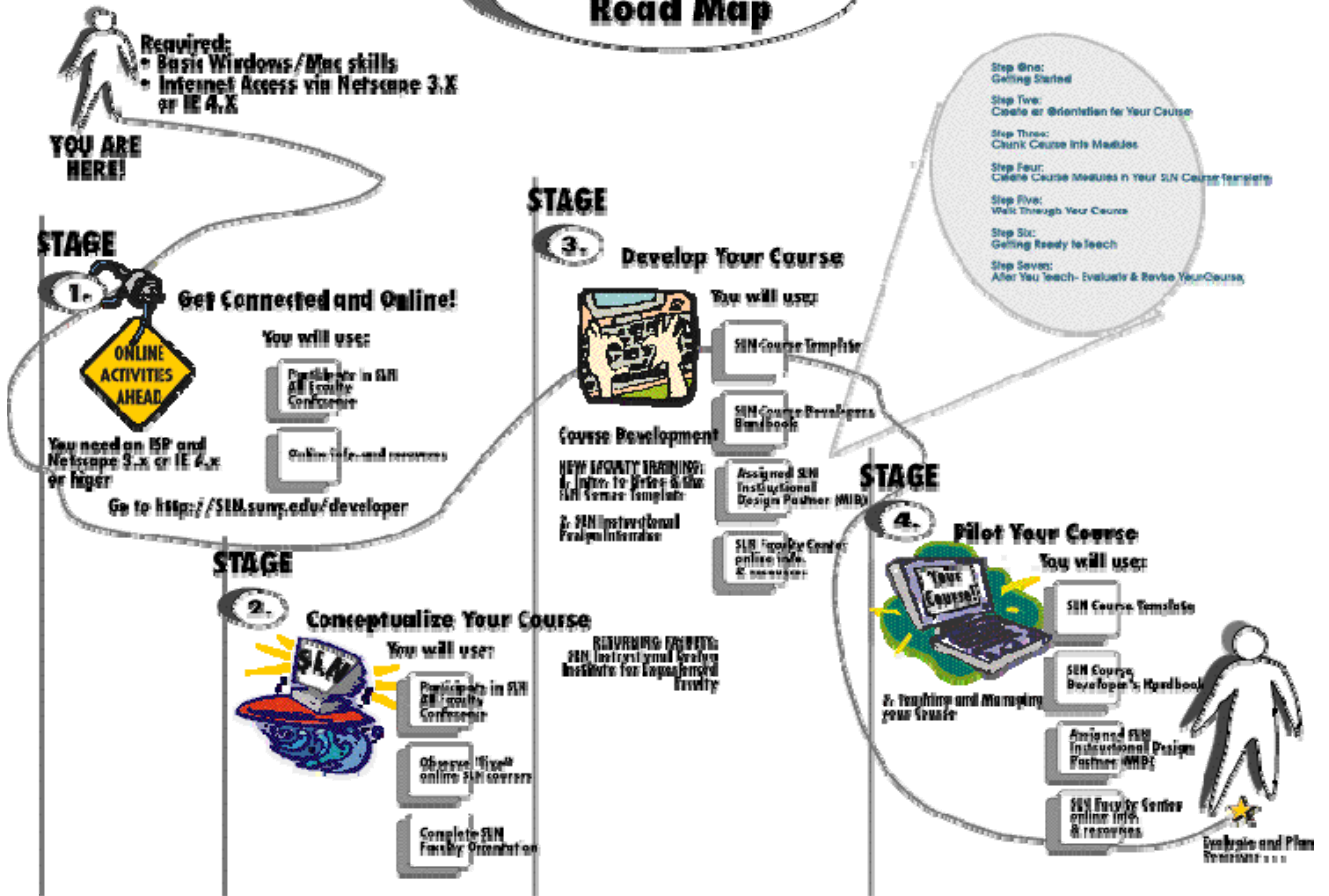
	Frequency	Percent	Cumulative Percent
Female	131	51.4	51.4
Male	124	48.6	100.0
Total	255	100.0	

Table 4. Content Area

	Frequency	Percent	Cumulative Percent
Math/Science	84	32.9	32.9
Humanities	31	12.2	45.1
Business/Prof. Dev.	50	19.6	64.7
Art	6	2.4	67.1
Social Science	44	17.3	84.3
Other	40	15.7	100.0
Total	255	100.0	

Direct support to faculty comes from a variety of sources. Faculty engage in a four-stage faculty development process and seven step course-design process before teaching online. This following graphic provides details of this process:

SLN Faculty Development Process Road Map



SLN Faculty Development and Course Design Process

Support to Faculty

Support provided to the faculty include the following:

People	Materials	Trainings	Software	Online Resources
SLN Administrative Team	Faculty Developers Handbook and Training Materials 1	Introduction to SLN	Lotus Notes	SLN Website
Instructional Design Partner and Trainers	Training Materials 2	Instructional Design Intensive	SLN Template	SLN Faculty Center
HelpDesk Staff	Training Materials 3	Teaching and Managing Your Online Course	MERLOT Discipline Specific Online Instructional Objects	All Faculty Conference
Experienced Faculty Mentors	Experienced Faculty Training Materials	Experienced Faculty Training	Advanced SLN Media Guide	Live Courses for Observation

SLN Support: People, Materials, Trainings, and Software

In the early years course development was supported centrally, from the Office of the Provost, with both stipends and laptop computers used as incentives to attract faculty course developers. In recent years, these incentives have not been offered centrally and some campuses have begun to provide additional material support. Campuses identify courses and faculty locally, as the do with classroom-based offerings. Many campuses have decided to offer complete online degree programs.

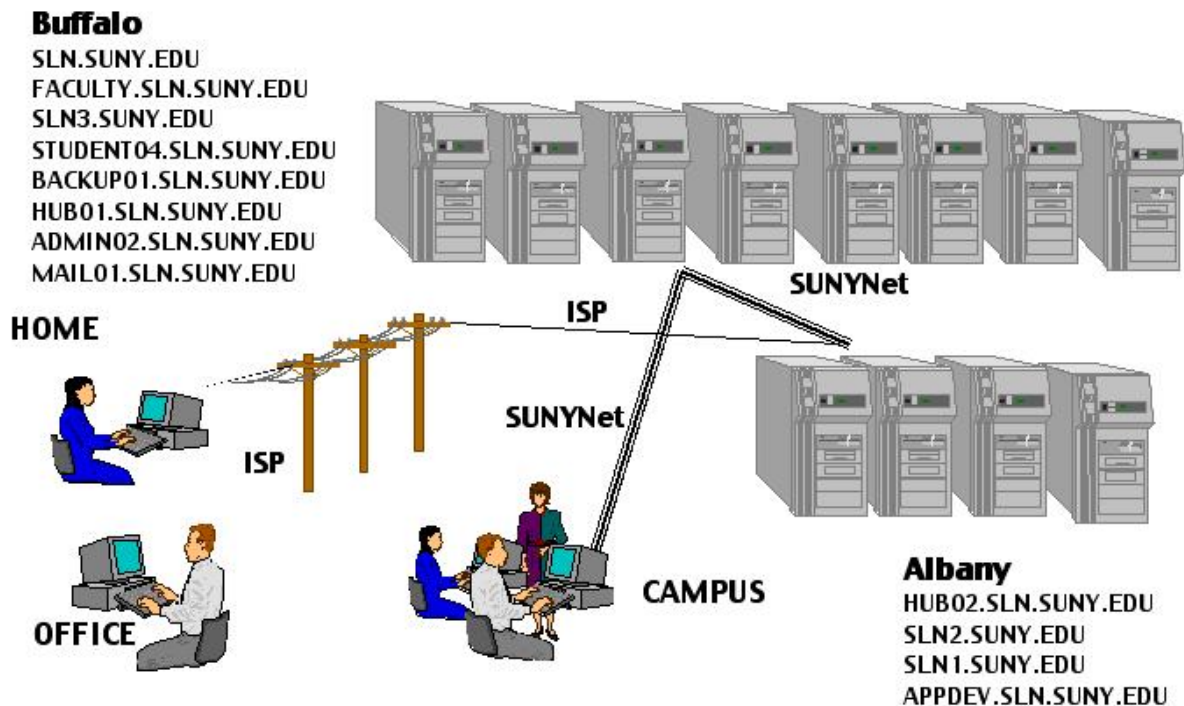
D. Method

Technology and Infrastructure

Hardware and Software: Technical infrastructure is based on a redundant and highly available, multi-server, multi-location platform. Courses may include text, images, sound and multimedia appropriate to meet course learning objectives. Software, based on a flexible course template was locally developed in the Lotus/Domino Environment.

The following graphic provides additional information:

SLN Server Infrastructure

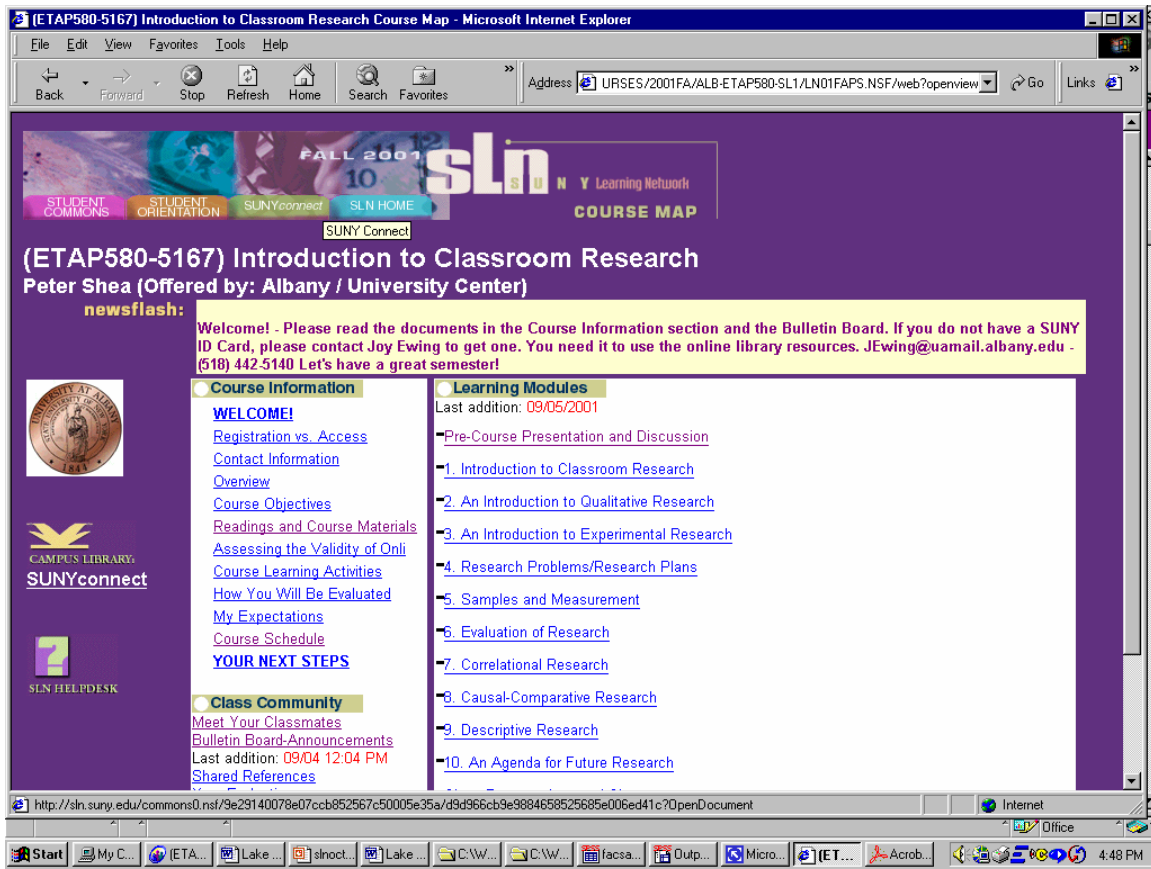


September 2001

SLN Infrastructure

Courses

Courses may include text, images, sound and multimedia appropriate to meet course learning objectives. Software, based on a flexible course template was locally developed in the Lotus/Domino. The image below is the new SLN Course Template interface, as seen from a students perspective on the web:



SLN Course Web Interface

Content Delivery

Delivery of courses in SLN is asynchronous and instructor led. Students proceed through the course as a cohort. Faculty course designers participate in ongoing training that highlights the importance of interaction (among other instructional variables). Performance is assessed in many ways (discussion, essays, quizzes, tests, projects, portfolios etc.) and faculty are free to use asynchronous assessment methods that are consistent with their teaching. Occasionally faculty will choose to use proctored examinations (face-to-face meetings) making sure to accommodate students at a distance, by using local proctors.

Organization and Evolution

Courses are predominantly faculty developed and taught. Technical support is provided by a centralized SLN HelpDesk and both centralized and campus-based instructional designers. Support is available seven days a week and is widely utilized by both faculty and students.

Again, course development was initially supported centrally with both stipends and laptop computers used as incentives. In recent years, these material incentives have not been offered centrally and some campuses have begun to offer incentives. Courses have been offered a total of fourteen terms through SLN.

E. Results

Ongoing questions about faculty reactions to online education have led us to seek understanding about the effects of online development and teaching on a variety of instructional variables. For example, is the online environment appropriate to a large range of disciplines or do faculty feel that certain subject areas are impossible to implement online? Do faculty who teach online feel isolated from students or that they do not know the students? Do faculty feel that students in the online classroom perform less well than students in the traditional classroom? Do faculty feel that developing and teaching an online course requires more time than traditional courses? Of particular interest - how does the experience of teaching an online course effect classroom teaching?

Through the implementation of a thirty-two question online survey, we heard from 255 online teachers from thirty-one colleges in the SUNY Learning Network. Part of the survey focused on general reactions to online course development and instruction and part focused on the effects of conceptualizing, developing, and teaching a completely online course on different aspects of classroom instruction. These questions investigated online education's impact on systematic design of instruction, pedagogical reflection, opportunities to consider alternative means of instruction and assessment, and the overall effect on classroom teaching.

Why should we feel that developing and teaching an online course would have an impact on regular class instruction? What evidence exists to suggest a sustained opportunity for pedagogical reflection is allowed through this experience? One piece of evidence - previous surveys indicate that faculty spend a great deal of time and effort on the development and teaching of online courses. In the most recent survey, for example, the most common response to the question - "How much time did you spend developing your online course?" was "More than 120 hours." We suspected that this level of effort might offer opportunities for reflection that would have a positive impact on classroom-based instruction.

It should be pointed out that this development time is not spent alone. All faculty who participate in the SUNY Learning Network agree to participate in rigorous preparatory training, and receive ongoing support during the entire time they teach their courses, both from the trainers, multimedia instructional designers, and a faculty HelpDesk. Training begins with participation in an online all-faculty conference that mirrors the environment in which faculty will eventually instruct. Through participation in this online conference new faculty come together to experience firsthand what they and their students will do in this new learning environment. The all-faculty conference uses the same technology and interface that the new instructors will use, and provides opportunities to discuss a variety of common concerns, observe live courses, and "try out" many of the features and

functions they will use in their own online courses, all from the perspective of the student.

Through this experience and through twenty hours of face-to-face training, faculty explore the idea that online instruction does not simply entail mimicking what happens in the classroom, but rather, requires a transformation: a re-conceptualization of their course and learning objectives given the options and constraints of the new learning environment. Common issues that arise include how to best create a sense of class community: an environment in which students get to know the instructor, each other, and have ample opportunities for quality interaction and feedback. In order to fully exploit the unique opportunities of online instruction faculty are encouraged to reflect on their instructional goals and then to investigate, with the help on an multimedia instructional designer (MID), how best to translate and achieve those goal online. The faculty HelpDesk provides continuous support to answer technical questions and make the technology as invisible as possible.

Inasmuch as faculty develop and teach their courses with the assistance of face-to-face and online training, with ongoing support of an assigned and dedicated MID and the SLN HelpDesk, we believe there is an opportunity to discover whether the faculty development and course design process, including all the faculty support this process entails, might have an effect on pedagogical reflection and classroom instruction. Results, reported below, are encouraging.

Outcomes

"It's very clear to me that the students are the real teachers in online courses - mini lectures; and all the other devices are simply resources that they can call upon. I find it somewhat amusing to read how some entrepreneurs believe that the internet offers them the "advantage" of hiring and using virtuoso teachers. In my opinion these "star" performers are relegated to entertainers on the web. I say again: the real teaching is done through peer discussion with the formal instructor adopting the role of moderator."
Survey Comment from an SLN Instructor

Rather than go into great detail on the more than 8,000 answers we received from the 255 respondents to the thirty-two survey questions, this section will examine the faculty's general reactions to online instruction and greater detail on those responses which provide insight about the effects of the faculty development process, faculty support processes, and online instruction on pedagogical reflection and classroom based teaching. A few comments that were typical of respondents are also included.

General Reactions

"Terrific experience! Can't wait to do it again!"
Survey Comment from an SLN Instructor

We wanted to get a general understanding of how faculty felt about the entire experience of developing and teaching an online course. The survey asked them to rate their level of satisfaction using a Likert type scale. To the question "How satisfied were you with the experience of developing and teaching an online course?", approximately 96% expressed general satisfaction and approximately 4% expressed general dissatisfaction.

Student Performance

"How would you compare your online student's performance to in classroom performance? - online students performed better (they had an incredibly high level of performance that I do not believe I would have had in a classroom environment)"
Survey Comment from an SLN Instructor

We also wanted to understand how faculty perceived student performance in online courses as compared to similar classroom courses. To the question, "If you have ever taught this course in the classroom, how would you rate your online students' performance to your classroom students' performance?", respondents were twice as likely to report better performance from their online students than their classroom student. Approximately 33% reported better performance from online students, about 41% reported no difference in performance, and approximately 14% reported better performance from classroom students. The remainder did not teach the course in the classroom.

Interaction

"An advantage is the contact with students - they share things I do not believe they would tell me otherwise. The instructor has to be prepared to be available and responsive - I am; and I think as a result the experience is enjoyable for all. Another advantage is the discussion list - timid students are empowered - dominant students are curtailed a bit; and all students must think about what they are contributing instead of being put on the spot and just spewing out something" Survey Comments of an SLN Instructor

"Since I had taught this course a few years in the class room prior to teaching online I was afraid that it would be difficult to achieve the level of interaction with the students; show as many advertising campaigns; or to be able to interact to any degree with the students. I found that rather inhibit; the online format encouraged personal comments from students; meaningful dialog among students; and excellent student/faculty contact. Through the Bulletin Board; threaded discussions; phone calls ... the student bonded to create a real learning environment."
Survey Comments of an SLN Instructor

We feel that importance of interaction in teaching and learning cannot be understated. Through interaction with the instructor, peers, and course content students have the opportunity to negotiate meaning and connect new concepts to previous knowledge. One

measure of this important variable is faculty perceptions of interaction. To the item "Compared to classroom based teaching, rate your level of interaction with your online students" online faculty were, again, more than twice as likely to rate their interaction with online students as higher than their classroom students. Approximately 61% felt that their level of interaction with students was higher online than in the classroom, approximately 28% saw no difference, and about 26% thought the level of interaction was lower online than in the classroom. The remainder did not teach the course in the classroom.

We asked a similar question regarding interaction *between* students and found the following results - online faculty were more than twice as likely to rate interaction *between* their online students as higher than their classroom students. About 60% rated interaction between online students higher than their classroom students, about 28% saw no difference and 26 % rated interaction between their classroom students as higher than their online students. The remainder did not teach the course in the classroom.

Appropriateness of the Online Environment

"In the traditional classroom setting time does not allow for the input and response of each student for every discussion on topics covered. In the online environment each student was required to have input into certain discussions and respond to questions. This allowed me to get to better evaluate the level of the students understanding of concepts and focus on areas that needed clarification." Survey Comments of an SLN Instructor

"I firmly believe that any course can be taught online; (but I also firmly believe that there are some students who should not be involved in online learning)." Survey Comments of an SLN Instructor

We were curious to know whether instructors from different discipline areas had different opinions on the appropriateness of their course content to the online environment. One could hypothesize that certain content areas might not lend themselves to the kind of conversion necessary to success in the online environment. Respondents to the survey taught in the following discipline areas - Math/Science, Humanities, Business/Professional Development, Art, Social Science and others. To the question - "Do you think the online environment is appropriate for teaching your course content?" approximately 91% said "yes", about 7% were undecided and about 2% said "no". Of the four respondents who said that the environment was not appropriate, two were professors of Math and Science; one was from Business/Professional Development, and one was from Social Science. Of eighteen who were undecided about the appropriateness of the environment, nine were professors of Math/Science; five were professors of Humanities;

three were professors of Business/Professional Development, and one was a professor of Social Science.

Knowledge of Students/Isolation

"Getting to know students" is different; interaction is in a different way. Hard to gauge a comparison. In some ways; I thought there was more interaction; but I had a hard time remembering what background went with what student. In the classroom; I had an appearance to attach to the words. Here just a name. I found myself having to keep a "log" on each student to remember simple; notable; important descriptors that would be automatic in the classroom. This made me feel a little more isolated from them; than when I am "in person." Survey Comments of an SLN Instructor

It is natural to be concerned about the effects of teaching online on the degree to which faculty get to know their students and on feelings of isolation. One could certainly hypothesize that the online environment might be cold, sterile, and anonymous. To determine to what extent the faculty became familiar with their students we asked the following questions - "Compared to similar courses you have taught in the classroom, how well did you get to know your online students?" Approximately 37% felt they knew their online students better than their classroom students, about 25% felt there was no difference, and 35% felt they did not know them as well. Regarding feelings of isolation we asked the for responses to the following statement, "Developing and teaching this course made me feel isolated from my students." Approximately 73% of respondents expressed disagreement, about 27% expressed agreement.

The majority of the faculty who teach within SLN have never taught an online course before and many report only average computer skills. So we were interested to know about the effect of online course development on faculty understanding of teaching with technology. We asked for reactions to the following statement - "Developing and teaching this online course improved my understanding of teaching with technology." Approximately 97% of respondents agreed, about 3% disagreed.

Alternative Means of Instruction, Assessment and Systematic Instructional Design

"I enjoyed this class very much. I was very nervous about this before I started; but the support I received both from my mid and other experienced faculty; and the help desk was very helpful and I am teaching this again. I learned a lot about the type of interactions; and I am making changes in the structure of my course; to hopefully improve it this semester. Like any other course that you teach first time; you need to learn from and make improvements. I am not discouraged at all from the way that things went. I look forward to teaching it again." Survey Comment from an SLN Instructor

"I enjoyed this teaching and learning experience. The students that stayed with the course were very motivated and hard working. I would like to explore new ways and new strategies in teaching using the online format that are not used in the classroom. Perhaps a new pedagogy will be developed so as to not limit ourselves to using the traditional classroom as the benchmark to compare online teaching to. I think we will discover new and more creative ways of facilitating the learning process using this medium. Thank you." Survey Comment from an SLN Instructor

In order for instruction to become more learner centered, faculty must have an opportunity to consider alternatives to traditional methods and to be able to engage in more systematic design of instruction which incorporates those alternatives. Considering all the time and effort that faculty reported expending, we wondered whether the experience of developing and teaching an online course afforded such opportunities. Apparently it does. Approximately 97% of survey respondents reported that developing and teaching their online course offered them a new opportunity to consider alternative means of instruction, and approximately 93% reported that the experience offered them a new opportunity to consider alternative means of assessment.

Regarding instructional design, we asked the following question - "Think about similar courses you have developed for the classroom - relative to those courses, how likely were you to systematically design instruction before teaching the course?" Respondents were more than nine times as likely to report more systematic design of instruction for their online courses than for their classroom courses. Approximately 58% of respondents reported higher levels of systematic instructional design online, about 37% reported no difference and about 6% reported less systematic design of instruction online.

Although very high percentages of faculty reported that the experience of developing and teaching an online course offered them opportunities to reflect on alternative means of assessment, alternative means of instruction and more systematic instructional design do they transfer that knowledge to the classroom? Since we feel that the process of instructional transformation begins with an opportunity for reflection we asked faculty to respond to this statement - "Developing and teaching this online course provided me with an opportunity to reflect on how I teach in the classroom". Apparently it does. Approximately 94% expressed agreement with this statement. Reflection is, however, necessary but not sufficient. Do faculty feel that this opportunity for reflection will have any impact - will the experience of developing and teaching an online course actually improve the way they teach in the classroom? Results are encouraging - approximately 85% of respondents felt that the online development and teaching experience would improve the way they teach in the classroom.

Faculty Support Processes

The following are comments that demonstrate faculty responses to the support processes provided through the SUNY Learning Network:

"The greatest single advantage of teaching my courses online has been both the emotional and technical support provided by the SUNY Learning Network staff. Without exception every single person has been professional; helpful; and fully informed on every single aspect of Lotus Notes and Instructional Design. Without the type of support SLN provides it would not be possible to either launch the courses nor to achieve the high quality online courses that I have achieved. The SLN platform provides my Community College the opportunity to advance teaching technologies in a way that would have otherwise taken the college years to achieve. BCC faculty and students benefit from the marvelous spirit of cooperation provided by SLN."

Survey Comments of an SLN Instructor

"I have found teaching through SLN a great experience. The support and training have been wonderful. Whenever I have encountered a problem; someone has always been there to walk me through to a solution. It has been such a great experience that I am looking forward to teaching in this environment for many years. ."

Survey Comments of an SLN Instructor

I do not know where I would be without Bill Pelz; at H.C.C.C.; and I mean that sincerely. Even though it was a summer course; and he was often out and training; I never felt that I could not access him. He is the best!

Survey Comments of an SLN Instructor

"The most positive comments I have are about my MID. He really bailed me out a few times. I really was going to quit; irrespective of the consequences of doing so. He did give me the encouragement and help to continue. He was always responsive; both timely and personally. I always had an answer from him immediately. He did contact me at his own volition to see how I was doing and appreciated the contact. But again; whenever I had problems he was there and I always had the confidence that a solution was an e-mail or phone call away. He is a real treasure for SLN."

Survey Comments of an SLN Instructor

I recognize how lucky we are in NYS to have the SLN. I have talked to numerous colleagues across the nation who don't have the support that we do nor a template to use and I know we are truly blessed to have this system. I really would not do it without what SLN provides. It is obvious that your marketing works; most of my students are not local. It is obvious that the template is user friendly for the students since most succeed in using it. It is obvious that you have a lot of technical people who care about the whole systems because generally things work well most of the time. I really do appreciate all that SLN does. I am proud to be part of it and always speak highly of the system. Thanks."

Survey Comments of an SLN Instructor

Importance or relevance to other institutions.

While these results may not be generalizable to all institutions of higher education it is important to note that they were obtained from over 250 online educators from 31 different institutions teaching at the community college, baccalaureate and graduate levels.

Why are these results important? Developing an online learning environment is not a trivial endeavor. A great deal of time, money, and effort must be applied to achieve success. Can online learning be implemented in such a way that both faculty and students report high levels of interaction, satisfaction and learning? From these results (and the results of SLN student surveys) the answer appears to be yes. Can online learning be implemented in such a way that faculty report they have opportunities for reflection on such important pedagogical variables as alternative means of instruction, alternative means of assessment and systematic design of instruction? Again, from these results the answer appears to be yes. Can online learning be implemented in such a way that faculty report that the experience of developing and teaching an online course will allow them to reflect on and improve the way they teach in the classroom. Once again, these results suggest that it can.

Discovering that 91% of 255 online faculty teaching in areas as diverse as Math, Science, Humanities, Business, Professional Development, Art, and Social Science feel that the online environment is appropriate for teaching their course content may be encouraging to institutions just now considering whether and how to implement online education.

For those just getting started who share concerns about the possibility of achieving high levels of interaction online, it may be useful to know that many experienced online instructors feel that they see more interaction both with and between their students than they do in the classroom. For those concerned about the performance of online students it may be encouraging to learn that many experienced online instructors feel that their online student perform as well or better than their classroom students.

For those who are concerned about whether faculty may see professional development benefits from online teaching, it is comforting to know that 97% of our online faculty reported that the experience helped them to better understand teaching with technology. It may also be comforting to read that 85% of faculty reported that the experience will have a positive effect on their classroom instruction.

It is helpful for us to understand that concerns about anonymity and isolation are not unfounded. We have discovered that it may be wise to focus more efforts on finding ways to help faculty to get to know their online students and we will continue to work in this area.

While this information may be useful, it is necessary to admit that much more work remains to be done. Follow-up research with these faculty, in which classroom based instruction is monitored to see if a carry-over effect actually does exist will be necessary.

Will faculty actually engage in more systematic design of instruction, and use appropriate alternative means of instruction and assessment in the classroom? This remains to be seen.

It would be foolhardy (and factually inaccurate) to claim that the positive results reported here, were or can be obtained without planning, implementation, evaluation, and revision. But certainly there are lessons that can be learned, and some mistakes that can be avoided, based on the experiences of faculty, academic support staff, and the administration of the SUNY Learning Network.

To achieve these results, in general:

- To assure a consistent interface for student orientation, ease of use, and "ease of support", a flexible, customizable course template is essential.
- Good online instructional practices are independent of software, but not independent of course design.
- In online learning, as in life - just because you can do something doesn't mean you should.
- A well designed course creatively leverages the options and recognizes the limitations of the online learning environment.
- Just because you are teaching your course online does not mean that all learning activities need to occur online.
- Online learning and/or web enhanced learning does not and should not mean self-paced and "instructor-less".
- When it comes to creating your initial course, first make it "work", then make it "pretty".
- Faculty need to understand the nature of the online environment - this will represent a departure from years of experience and is potentially uncomfortable. Sensitivity to this discomfort is crucial for success.
- Faculty must convert instruction, rather than to try to duplicate the classroom online. Conversion requires "rethinking" how to achieve learning objectives and how to assess online learning within the options and limitations of the new learning environment.
- It is critical to create opportunities for interaction with students and between students.
- It is critical to create and use activities that build a sense of class community.
- Use the structure of the course to convey information about the course, content, tasks, scope and timeframe.

- Provide explicit instructions, cues, and signposts for students.
- Be consistent, redundant, and complete in the structure and creation of your course - complete design and implementation of a course before it is taught allows for greater flexibility while teaching.
- Faculty must create and communicate to the students a reasonable set of expectations for the levels and kinds of interaction, including boundaries required to maintain sanity.
- Keep it simple, computer skill level should not be a barrier to online learning. Consistency of interface allows for diversity of content.
- Successful online teaching and learning is not primarily about technology - it is about people and relationships. Success demands responsive, caring, and understanding, faculty and student support.
- Learner centered online education cannot arise from "trainer-centered faculty training", "HelpDesk-centered faculty support" or "instructional-designer centered instructional design".

PART II

Part II of this paper looks at faculty satisfaction information collected through the Internet Academy of one of the institutions participating in the SUNY Learning Network - Herkimer County Community College. This section of the paper provides additional insight into faculty satisfaction and on the impact of online course development and teaching on classroom instructional practices. The success of a consortium of fifty-three colleges, such as SLN, depends on the enthusiasm and ownership of its members - the Herkimer Internet Academy provides an excellent example of these qualities.

Introduction

The explosive growth of online courses at a rural community college provides an excellent environment to examine some factors which are thought to influence faculty satisfaction with this new higher-education delivery system. Major factors examined include student and professor online interactivity, faculty training and support, and perceived and assessed learning outcomes. The issues of the professor's role in the class and positive transfer of online methodology to the classroom were also investigated. Analysis indicates a high level of faculty satisfaction with online teaching and learning, but also reveals several concerns which merit further study.

Herkimer County Community College (HCCC) is a 2500 student, seventy-five teaching faculty, two-year college located in a rural area of upstate New York. In the spring of 1997 HCCC joined the SUNY Learning Network, an initiative of the State University of New York, with major funding provided by the Alfred P. Sloan Foundation, to assist SUNY colleges and universities to offer asynchronous courses and degree programs. In

the fall of 1997 three HCCC faculty members offered asynchronous courses to thirty-six students. The success of those initial asynchronous courses, coupled with the enthusiasm of the faculty members teaching them, got the attention of the college administration, and in the fall of 1999 the college announced the HCCC Internet Academy (IA). The mission of the IA is to offer a variety of degree programs entirely online. Currently HCCC offers thirteen two-year degree programs and two one-year certificate programs online through the SUNY Learning Network. This fall (2001) forty-eight HCCC faculty members will offer eighty-three sections of sixty-seven different courses, with over 1800 student enrollments. Eighty of the eighty-three sections are taught by full time HCCC faculty. It is also important to note that the decision to teach asynchronous courses is voluntary.

Beginning with the fall 1997 term, HCCC faculty teaching asynchronous courses have participated in a ‘Faculty Satisfaction’ survey. It is a web-based survey, the responses are collected anonymously, and the response ratio is between 75% and 90% each term. The results presented below represent aggregate data from the past four years. This paper will focus on three factors thought to influence faculty satisfaction with online teaching and learning: interactivity, training and support, and learning outcomes.

Interactivity.

“I’ve found that there is more student to student interaction (and it’s more meaningful) in my Internet courses than in my on-campus courses. I have also found this to be the case with my own student interactions. More interaction with more students”

Annette Yauney – Contemporary Mathematics

We frequently hear professors rave about the quality and quantity of student discussions in their online courses. The survey results support this observation.

Q18. How would you characterize the quantity of student-to-student interaction in your online class(es)?

There is more interaction than in the classroom	63%
The amount of interaction is about the same	34%
There is less interaction than in the classroom	3%

“There is significantly more interaction. It is not even close. Students feel much more confident that they will not be negatively sanctioned for expressing their opinions and showing interest in academic matters.”

Peter Turner - Macroeconomics

Q19. How would you characterize the quality of student-to-student interaction in your online class(es)?

The quality of interaction is higher than in the classroom	57%
The quality of interaction is about the same	39%

The quality of interaction is lower than in the classroom 4%

Students tend to ‘help’ each other and make quality comments toward each other. In the classroom, I do not hear these helpful suggestions, but more often I hear negative comments.”

Janet Ciccarelli – Business Communications

“The interaction is more considered and thoughtful than spontaneous reactions in the classroom.”

Lorraine Martin – English I

Q20. How would you characterize the quantity of student-to-professor interaction in your online class(es)?

There is more interaction than in the classroom	51%
The amount of interaction is about the same	33%
There is less interaction than in the classroom	16%

“I have found that student-student interaction is significantly higher in my online class. Students feel less inhibited to participate in the discussions for a couple of reasons. 1. Nonverbal communication is removed. Students do not see each other and therefore do not become anxious about responding. 2. The student has that all-important ‘think time’ to develop a response and share it with the rest of the class. Silence is not a problem in the online environment. In the classroom teachers and students can become uncomfortable with silence and therefore try to fill in with incomplete answers.”

Peter Fagan – Interviewing Practices and Principles

Q21. How would you characterize the quality of student-to-professor interaction in your online class(es)?

The quality of interaction is higher than in the classroom	49%
The quality of interaction is about the same	42%
The quality of interaction is lower than in the classroom	9%

“The Internet provides for very intense small group discussions which are very different than the traditional classroom. I find the one to one discussion between myself and students to be in-depth, and more complex than in a traditional class. Students who are shy or insecure in a classroom do fine in the virtual group discussion.”

Bruce Schwabach – Art Appreciation

Training and Support.

The SUNY Learning Network provides for thorough faculty training both prior to a professor’s first online class (the development cycle) and continually thereafter. Three one-day workshops are required of all new online professors prior to their first online

course. During these workshops the trainees learn both the technology and the pedagogy of online teaching and learning. In addition to the workshops, SLN provides a detailed Faculty Developer's Handbook as well as an extensive website loaded with samples, examples, tips and best practices for effective asynchronous teaching and learning. A critical component of the development cycle is the assistance of a Multimedia Instructional Design specialist (MID). The MID works one-on-one with the trainee on course design and assessment issues. There is an SLN HelpDesk which assists faculty and students with technical issues, such as Internet connections and software installation. Finally, many trainees seek the advise and expertise of more experienced colleagues. All SLN courses use a proprietary course management system which was designed specifically for asynchronous higher education by knowledgeable college educators. Much of the training is designed to enable the professors to take full pedagogical advantage of the course management system.

Q10. Which of the following services did you utilize as you developed and taught your first SLN course?

SLN Training Workshops	93%
MID assistance	96%
Developer's Handbook	81%
SLN Help Desk	61%
Experienced SLN Professors	82%

"I could not have done it without the training!"

Janet Evelyn-Dorsey – Introduction to Entrepreneurship

"My course would have been of substantially lower quality without the workshops and MID support."

Timothy McLean – Social Problems

Learning Outcomes.

It is unlikely that any professor would feel much satisfaction with a methodology which was perceived as inauthentic or ineffective. In addition to the Faculty Satisfaction Survey, HCCC also administers a web-based student survey each term. The results of the student survey are posted to the college Intranet for the faculty to read. The results below are aggregated from the student survey.

Q19. In your opinion, are your Internet-based courses easier or harder than similar classroom-based courses?

Easier	13%
About the same	55%
Harder	32%

Q21. In your opinion, how much are you learning in your internet-based courses?

Less than in the classroom	11%
About the same as in the classroom	57%
More than in the classroom	32%

“There is more writing and research done in the Internet class. These activities replace some of the usual lectures found in the brick & mortar classroom.”

Bruce Schwabach – Art History

“It’s hard to measure. I did give the same competency exam to my in house and online Economics students last year. The online students had a mean score 9 points higher than the in house students.”

Peter Turner – Macroeconomics

The Professor’s Role.

Another comment we often hear is that the professor’s role online differs in essential ways from the role played in the classroom. Here is some anecdotal evidence that this influences satisfaction.

“online classes really help the students learn how to learn and become a lifelong learner – more so than the in-class experience can. Therefore the role of the instructor becomes facilitator of the learning process. Some faculty take offense to the title of ‘facilitator’ but personally like this term. As I learn more about online education I am reminded of an educational practice developed by Maria Montessori. She advocated helping students learn by developing meaningful activities. The student learns by mastery of these activities. A theory developed a century ago is perfect for online education!”

Peter Fagan – Interviewing Practices and Principles

“More time is spent on teaching and guiding learning, very little on discipline (waking students up, admonishing inappropriate behavior, lateness, etc.)”

Janet Ciccarelli – Financial Mathematics

Faculty Satisfaction.

HCCC professors who are teaching online courses were asked this question: **What is the most satisfying thing about online teaching?** Here is a selection of the responses.

“ Not having to physically rush into a room, hope I remembered everything, etc. It is a much more relaxed atmosphere, therefore, my entire focus is on each student. I feel that I give more in my online classes, as I can type faster than I can talk! (Bathroom and snack breaks help also!) Structure sometimes impedes great minds!”

Cynthia Gabriel – Modern American Novel

“Participating in a dialogue with a student that continues over several days and in which the student and I both seem to be learning from each other.”

Timothy McLean – Social Problems

“There is a certain closeness which develops in the Internet environment. It’s sort of like the days of Ham Radio. Someone from far away that you have never seen becomes a comrade.”

Bruce Schwabach – Art History

“Unquestionably the enhanced opportunities for student input. While this is typified by the discussions, it also includes things such as relevant websites that students post and submission of their own discussion questions. Students who choose to take full advantage of these opportunities derive a benefit that just can’t always be provided in a classroom setting.”

Kalman Socolof – Survey of American Television

“I am re-energized, less tired, and less burned out. Just ask my family.

Peter Turner – (several online courses)

Concerns.

Current faculty, were also asked: **What are your concerns about online teaching?** Some of the comments received point to legitimate issues which need to be addressed in order to maximize faculty satisfaction.

“The technology available on the student end. There are some things I would love to try, but they might not be effective for students using slow modems to access my course.”

Peter Fagan – Interviewing Practices and Principles

“The authenticity of the work being submitted. After all, how do I truly know that the work is from that particular student?”

Cynthia Gabriel – Modern American Novel

“How will courses be monitored to assure quality?”

Mary Green – Anatomy and Physiology

“More screening may be necessary to discourage poorly motivated students who are prone to procrastination from enrolling in online courses. These students would be at risk in any type of educational setting but they are especially likely to fall behind and drop out of an online course.”

Timothy McLean – Social Problems

Conclusion.

As mentioned previously, at HCCC asynchronous teaching on the Internet is a voluntary activity. Accordingly, one indication of faculty satisfaction is the proportion of professors who try it and choose to continue. Of the 49 current HCCC faculty who have volunteered to teach SLN courses, 48 are still teaching them. Two questions on the Faculty Satisfaction survey addressed this issue.

Q24. Overall, how satisfying has your online teaching experience been?

Very satisfying	74%
Somewhat satisfying	26%
Not at all satisfying	0%

Q25. How would you characterize your wishes for future online teaching?

I plan to continue teaching online courses	100%
I plan to stop teaching online courses	0%

Impact on Classroom-Based Instruction.

The faculty who go through training and teach online courses learn and implement pedagogical techniques different from those employed in the classroom. When these techniques are subsequently implemented successfully in the classroom, positive transfer has occurred. This could reasonably be a contributing factor to increased faculty satisfaction. From the faculty satisfaction surveys:

Q16. Has developing an online course had any positive impact on your classroom teaching?

A very positive impact	50%
A somewhat positive impact	32%
No positive impact	8%
Does not apply	10%

“I’ve become much more aware of the importance of relating subject matter to ;real-life’ experiences. I’m convinced this is the best way students really learn – or really care – about course content. So, in my class plan, I now have built in questions for each reading whereby students must relate the literature to something from their own lives, from history, tv, movies, song, etc.”

Faye Eichholzer – Women in Literature

“The way it has most contributed to the classroom is in the text that I have developed. It has opened up my classroom course to new and different ideas and information which I probably would not have researched if it were not for the Internet course.”

Paul Wehrum – Wellness

“Whenever my virtual students start a discussion about a topic that is really interesting, I will take the information from the Internet course and use it as discussion topics in the classroom. I am generating more interesting discussions in the classroom.”

Lynton Clark – Introduction to Law Enforcement

“I now include more interactive learning activities, which I think makes my classroom teaching more effective.”

Mary Greene – Anatomy and Physiology

At HCCC, everyone currently teaching asynchronous courses has indicated that they plan to continue. In addition, there are potential online professors ‘waiting in the wings’ for their turn to develop and offer courses online. The HCCC Internet Academy has been a tremendous success, thanks to many contributing factors. As this paper tries to convey, the high level of satisfaction with online teaching and learning on the part of the participating professors is one of these factors. As the comments above attest, we also feel that the experience of developing and delivering online courses through SUNY Learning Network and the Internet Academy has had a positive effect on classroom-based instructional practices and constitute evidence of the seeds of transformation.

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