

## CHAPTER V

### FINDINGS

The questions basic to this study have been: Which aspects of course design and/or instruction are more effective and successful in the online learning environment than in the face-to-face (F2F) classroom, and why, according to faculty who have been recognized as exemplary online instructors? And, how do these aspects impact student learning in online courses and what evidence shows how students are affected? In this chapter, findings from data analysis are reported, including emerging themes from the 10 case studies to illuminate these questions. In the first section, these findings are described in relation to the research questions. In the second section, these themes are connected to four Sloan-C Pillars of Quality.

#### Categories and Themes

The research questions were used to determine the first categories: Which aspects work better online, which aspects are unique to the online environment, which aspects are better F2F, and how is this shown in student outcomes. Next, as recommended by Merriam, four of the five Sloan-C pillars are used as a framework to further categorize and analyze the emergent themes. Table 4 shows the frequency of the emergent themes under each category. Participant

names are listed next to each theme that emerged from their interview. Each theme is listed next to each category.

Table 4

Themes by Category and Participant

Categories	Themes	Participants
Better Online	Interaction	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Content Presentation	Alexa, Nicole, Stan
	Learner-centered	Alexa, Ann, George, Foster, Mary, Pete
	Visibility of Student	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
Unique to Online	Course Design	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Access and Flexibility	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Stan
Better F2F	Certain Types of Content	Alexa, Ann, Barry, Foster, George
	Orientation	Mary, Laurie
	Training/Preparation	Laurie
Student Success	Student Outcomes	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Stan
	Student Feedback	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Student Responsibility	Ann, Barry, Foster, Laurie, Mary, Nicole, Pete, Stan
	Student Control	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Student Attrition/Retention	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Stan

## Sloan-C Pillars

Learning Effectiveness	Assessment	Alexa, Ann, Barry, Foster, George, Mary, Pete
	Community of Learners	Ann, Foster, George, Laurie, Pete
	Content	Alexa, Foster, Nicole, Stan
	Course Design	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Interaction	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Student Outcomes	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
Access	Access	Alexa, Ann, Barry, Foster, George, Mary, Nicole, Stan
	Flexibility	Alexa, Ann, Barry, Foster, Laurie, Mary, Nicole, Stan
	Visibility of Students	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Student Time	Alexa, Ann, George
Faculty Satisfaction	Changed Instructor Role	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Instructor Workload	Ann, Foster, Stan
Student Satisfaction	Participation	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Student Responsibility	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Pete, Stan
	Student Feedback	Alexa, Ann, Barry, Foster, George, Laurie, Mary, Nicole, Stan

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### Comparative Differences Between Online Courses and F2F Courses

The comparisons in this study between the F2F and online environments are solely in relation to the participants' experiences teaching in both environments. Table 5 displays which themes are prominent throughout the participants' stories.

Table 5

Major Themes from Participants' Stories

Category	Theme	Description
Better Online	Interaction	<ul style="list-style-type: none"> <li>• Discussions are more active and are deeper and more thoughtful, showing deeper levels of critical thinking</li> <li>• Higher levels of participation               <ul style="list-style-type: none"> <li>○ Participation is require</li> <li>○ Willing participation above and beyond what is required</li> </ul> </li> </ul>
	Visibility of Students	<ul style="list-style-type: none"> <li>• Thinking and thought processes are visible               <ul style="list-style-type: none"> <li>○ Progress is visible</li> <li>○ Easier to mentor and guide, provide help</li> </ul> </li> </ul>
Unique to Online	Course Design	<ul style="list-style-type: none"> <li>• Online environment is different than F2F environment               <ul style="list-style-type: none"> <li>○ Course design provides opportunities to reconceptualize courses</li> <li>○ Access provides better opportunities to makes connections with content, students, and experts</li> </ul> </li> </ul>
	Access and Flexibility	<ul style="list-style-type: none"> <li>• Online environment provides unique access opportunities</li> <li>• Online supports increased flexibility for both instructor and students</li> </ul>
Better F2F	Certain Types of Content	<ul style="list-style-type: none"> <li>• Skills that have no real-life application in the online environment</li> <li>• Sensitive content</li> <li>• Some discussions</li> </ul>
	Orientations	<ul style="list-style-type: none"> <li>• Provide initial connection to names, faces, voices</li> </ul>

	Training/ Preparation	<ul style="list-style-type: none"> <li>• Training on software and process to be used in online activities</li> </ul>
Student Success	Outcomes	<ul style="list-style-type: none"> <li>• Better discussions, improved writing, improved critical thinking skills, higher quality work on projects and assignments and in some cases improved quiz and test scores.</li> </ul>
	Student Feedback	<ul style="list-style-type: none"> <li>• Better and more frequent student feedback</li> <li>• Opportunities to use feedback to improve course</li> </ul>
	Student responsibility	<ul style="list-style-type: none"> <li>• Student comments show appreciation for more responsibility for their learning</li> <li>• Learner-centered environment promotes student self-sufficiency</li> </ul>
	Student Attrition/ Retention	<ul style="list-style-type: none"> <li>• Students drop online courses early in semester</li> <li>• Online not for everyone</li> <li>• Better students online</li> </ul>
Faculty Satisfaction	Changed Instruction	<ul style="list-style-type: none"> <li>• Feel more connected to students, reveal more of their personality to students</li> <li>• More precise and complete with instructions and directions</li> </ul>
	Workload	<ul style="list-style-type: none"> <li>• More time required to teach online</li> <li>• Time is well-spent, worth it</li> </ul>

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### Effectiveness and Success in the Online Learning Environment

Indicators of quality in online courses lead to identification of certain aspects of the online environment that prove to be more effective and successful than the F2F environment. All of the participants were able to point to various activities and outcomes that they perceive as being more effective and successful online than their F2F courses. Four primary themes emerged from the success stories: interaction - including discussions, content presentation, learner-centered instruction, and visibility of students.

Interaction. Without exception, all participants agreed that discussions are much more successful in their online courses than their F2F courses. Barry, Laurie, George, Mary, and Foster feel there is real learning happening in the online discussions. Barry comments, "There is real learning going on throughout the thread [discussion] as students read the postings of other students and sometimes, thoughtfully, change their views" (interview notes 2/13/06). Foster notes that the students were more intimate online, making deeper connections. Ann mentions that the diversity of background among the students makes the discussions much richer and deeper. Laurie believes that the online discussions "work much better online because students can read and think about the posts and have more time to absorb, synthesize, analyze, and compile" (interview notes 1/30/06).

Taking advantage of expanded time frames is another benefit of online discussions. George notes, "The online environment, compared with the

traditional classroom, offers more opportunities and literally more time for such interactions” (interview notes 2/23/06). Both George and Pete point to the ability to conduct multiple discussions simultaneously as a clear advantage of online discussions. Alexa found the discussions very useful in facilitating the small group work that there is not enough time for in a traditional class time period.

Barry and Foster specifically noticed how moving certain class activities online opened up F2F class time to pursue more meaningful activities, to be able to probe the subject matter much deeper and/or broader. Nicole realizes how much more content she can cover in the online course than F2F because all of the content is online. She feels that the online course uses the students’ time much more effectively than classroom time. George agrees, “The online format allows me to stretch a single discussion topic over an entire week (168 hours) rather than cramming it into a hour long class period” (interview notes 2/23/06).

Access and flexibility in interactions are also common themes. Pete and Foster appreciate being able to give rapid feedback to their students. “I can provide ongoing feedback concerning the quality of the responses during the semester”, notes Pete (interview notes 2/9/06). This is particularly important to both Pete and George who consider the discussions to be a large part of the course grade. Additionally, the students do not have to wait until the next class period to get their questions answered. All of the instructors have some form of a ‘questions’ thread where student post their questions. A few of them do not participate in the student discussions so the questions thread is the place online

where they interact with the students. Laurie creates two threads for questions; Muddiest Point for course content questions, and Tech Woes for technology-related questions. She is the only professor who allows anonymous postings in these two threads by design. The students can post anonymously, which has increased the number of postings and questions. She notices that there are more posts in these two threads and that these same questions are not being asked in the classroom.

There were two activities in Laurie's class that she feels she cannot do as well in the F2F class: the View From Here student reflections and the Trio Debate pre-writing exercise. In the View From Here activity, the students post weekly reflections about the course; how they are doing, what they think of the assignment, etc. Even though the students know she will be reading these posts, Laurie reports that they share more openly than they do in the F2F classroom. "They post comments that they would never share in the classroom. You get a level of honesty and openness that you would never be able to duplicate in a verbal discussion in the classroom" (Laurie interview notes 1/30/06). Laurie also has seen improved understanding as a result of moving one of her classroom activities online. When she conducted the Trio Debate in the F2F classroom, the students sat in groups of three; one spoke non-stop for three minutes in support of the issue, then next student spoke non-stop for three minutes against the issue and then the third student compiled and synthesized the two sides in three minutes. The summaries were not very substantive because it was hard to

capture everything that was spoken in that short period of time. Since this activity is in preparation of the writing assignment, she wanted to find a better way to prepare the students.

When Laurie moved this activity online it was much more successful because everyone posted their comments and all had time to synthesize and process the two sides. Online responses were longer, more thoughtful, displaying critical thinking, and their individual papers were much better, they received higher marks. Also, at the end of each assignment, she has them post a reflection about the assignment and she was able to see that their understanding had increased. These are two activities that Laurie feels she must keep online.

George wants his students to be able to carry on civil, candid conversations on controversial topics. He is able to model this competency more effectively online. He likes to invite guest speakers to engage in these types of discussions online where the students can read and observe these discussions in process. Additionally, George points out, “The best way that I have found to evaluate the students is online” (interview notes 2/23/06). He feels that the students can demonstrate the competency he is looking for better online.

Barry feels that the level and quality of interaction in his Asian Religions course is far superior to what he has experienced in the F2F classroom. “I’ve been so pleased with the results, especially in the give-and-take of the postings, that I have no interest in teaching these online courses F2F as I did before” (Barry interview notes, 2/10/06). He adds that although in the past he has had

some good discussions in his F2F classes, currently the online environment seems to support more of what he wants to have happen with his subject matter.

Participation is increased in the online learning environment according to all participants. Ann and Foster noticed that the online students form partnership and teams faster online than in the F2F class. They also noted that the students are more prone to share more intimately with each other online than they do in the classroom. All instructors noted that the online discussion environment gives all students a chance to be heard by the very fact that they must post to 'attend' and participate in class. Laurie and Pete note that the online environment helps reduce inhibitions and shyness. Pete says, "Personal factors such as self-concept are less inhibiting online" and "Students who have a negative perception of their body type or facial features are often reluctant to speak out in a public forum". All instructors noticed increased participation by all and many were particularly pleased and surprised to see insightful, quality responses from students who normally would not speak up in class. George comments,

I find that students are able to respond to questions and provocations with different levels of agility. When employing the Socratic method in traditional f2f settings, I have observed that many students are unable to cope with questions directed or redirected at them. They simply can't formulate their responses quickly enough to suit the pace of the class (which must pack an entire discussion into an hour class session). We might be tempted to call these students "shy" or even "slow" (in a pejorative sense). However, they aren't, necessarily, shy or slow at all. Indeed, when they have time to reflect and consider their responses to questions and provocations, they prove themselves to be both quite forceful and quite capable of making nuanced contributions to class discussion (interview notes, 2/23/06

This perception is echoed in all of the interviews. The other comment shared by all participants is that fact that in the online learning environment, there is no domination of the discussion by three or four outspoken students. Everyone has the opportunity to be heard and participate.

According to these instructors, discussions conducted online in the asynchronous, threaded discussion boards (or forums) are far superior to the discussions that occur in the F2F classroom. Thus, all participants cited discussions as one of the activities that they keep or would keep in the online learning environment if they teach F2F or in a blended course.

Content Presentation. Nicole and a colleague developed their course solely for the online environment, taking advantage of the unique properties of the Web. They use Flash animations to explain processed and concepts that could not be shown in the F2F classroom. Stan uses a combination of recorded Webcasts and electronic whiteboard drawings to help the students learn difficult concepts in quantitative statistics. The Webcasts are of his F2F presentations, but by recording them and posting the movies online, both his F2F and online students benefit from being able to go through the presentation. He also includes problem solving exercises that allow the student the ability to view the lectures and do the exercises as many times as they need to in order to understand. Alexa uses interactive Flash movies and video to create simulations for her students to work through. In one instance, the simulation reveals the thinking of some of the characters, giving the student some insight into the situation. Alexa

feels this is much better than any type of role-playing simulation she could do in the classroom and it is a much better way to encourage her students to engage in real-life contexts in which to learn.

All participants point to the benefit to the student of having the content online for anytime, anywhere access and review. Nicole mentioned that in the classroom students get distracted, do not pay attention, or do not take good notes. Being able to go back to the content as many times as necessary to understand it before moving on is a distinct advantage of having the content online. Laurie indicated that having all of the content online helps her students to see the course holistically allowing them to see how all activities, assessments and discussions tied back to each other and the learning objectives. It helps them understand why they are doing something in the course. This also helps her as an instructor, as she is able to identify and weed out those activities that do not add to the learning experience but are just considered 'busy work'. Mary has witnessed her students accessing the self-tests over and over again, even though they do not earn any points for doing so. Stan receives many appreciative comments from his students on the recorded webcasts and help sessions that he put online. The students indicated that they repeatedly accessed these online materials to review concepts.

Learner-Centered Instruction. Alexa, Ann, George, Foster, Mary and Pete find the online environment to be extremely conducive to creating and facilitating learner-centered activities. The online environment allows some flexibility in the

timing and pacing of instruction, and well as in the level and direction of the learning experience. All of the students do not have to move through the course in a lock-step manner as they do in F2F courses. Pete summed it up when he described what learner-centered instruction looked like, “students decide what questions to ask, students decide what discussions to participate in, students decide what websites to review, students decide what topics to research, students decide what level of achievement to attain” (interview notes, 2/9/06). Ann cited that fact that, even though all students (F2F and online) do better if they work through all of the assignments from the book, she has noticed that the online students’ work on the assignments is better than her F2F students. Foster and Mary point to the ability to meet different learning preferences in the online environment with more agility than in the classroom because of the different ways to interact with the students.

Visibility of Students. All of the participants feel that in many ways they connect better with their online students than their F2F students. The students are much more visible online through their postings and other activities. Participation is required, thus all student activities and postings paint a picture of who the student is and how they are progressing through the semester. Alexa, Ann, Barry, George, Laurie, Nicole and Stan all mentioned being able to ‘see’ their students better online, being able to see their thought processes, progress, and problems through their interactions with the instructor and fellow students. Ann, Foster and Mary discussed being able to identify the students who were

having trouble sooner in the course and respond to them quicker than they can in the classroom. Ann says,

You have running picture of what the student is doing. In class, you may see them half asleep or not knowing where they are supposed to be on the computer if we are doing a lab session, but you don't really know where they are with the content. You know that students are in trouble earlier online than in the classroom. It allows you, in a sense, more control, of knowing what's happening. You can see if they are in trouble earlier online than in the classroom. It's visible" (interview notes, 2/27/06).

Three of the participants mentioned the ability to track the students in the course, using this information to pinpoint students who are falling behind or struggling. Stan feels that the students benefit from being required to make what they understand about the concepts visible to the instructor and fellow students helps them have a better learning experience.

Four overarching themes emerged from the data in regards to effective and successful practices in the online learning environment: interaction, which includes participation through discussion, content presentation and access, learner-centered instruction, and the visibility of the student. Additionally, some of these successful and effective practices are unique to the online environment.

#### Aspects that are Unique to the Online Learning Environment

The data revealed a few aspects that are unique to the online environment. Five of the participants mentioned the approach to course design in very different for the online environment than it is for a F2F course. Foster stated,

[My] initial reaction was that online is uniquely different that F2F. The biggest mistake many make is taking the F2F model and imposing it

online. Teaching online has its own unique qualities and best practices (interview notes, 2/10/06).

Alexa mentioned having to learn how to design for the medium, maximize the unique capabilities of the online environment. Both George and Nicole designed their courses for the online environment, having never taught them in the F2F classroom.

Access and flexibility seem to be unique to online over any other medium, even older distance technologies. Audio and video-conferencing, web casting, and Chat limit access and flexibility because they require that the student be connected at a prescribed time and, in many instances, at a prescribed place, such as a video conferencing room or classroom. Even though the online environment can provide for real-time, synchronous interactions, its strength is in the ability to carry on substantial, robust asynchronous activities that provide open access and maximum flexibility for students and instructors alike.

Even though some of the instructors feel that the use Flash animations and Webcasts for their content is far superior to what they are able to do in the classroom, these are not necessarily unique to the online environment. These instructional pieces can be used in the classroom as well to demonstrate processes and illustrate concepts that are impossible to show in the classroom. Regardless, what is unique is the fact that the students are able to control the pacing and progress through the content, giving them the ability to move as quickly as they want or to rewind and repeat any piece of the simulation, lecture

or animation as many times as needed to understand it. Both Barry and George pointed out that the online environment gives the students more, and better, opportunities to interact and work with the content in meaningful ways.

All of the participants use some form of content management system. Content management systems (CMS) provide self-contained learning environments with all of the instruction, interaction, assignments and assessments inside the online course. This is not necessarily much different than the classroom, but what is unique is the ability to carry on 'class sessions' anytime, from anywhere, having access to content, discussions, assignments, and assessments 24 hours a day, 7 days a week throughout the semester. The other advantage is the ability for more and different types of students to interact with each other, enrollment not being confined to those students who are on campus and can come to the classroom. Ann felt that this diversity in her students was what made the online discussions and activities much richer than she witnessed in the classroom.

#### Effectiveness and Success in the F2F Learning Environment

When asked what needed to be kept in the F2F environment, the participants cited certain types of content and some discussion activities. Alexa teaches a communication skills class in which the students must learn skills that they will utilize in their jobs in face-to-face situations. She feels this type of content should not be taught online because there is no real-life application to the online environment. Ann mentioned that in her supervisory course, students

practice organizing and leading a staff meeting, conducting a job interview and being interviewed for a job. She keeps these activities in the F2F environment because she has not figured out how to conduct them effectively online yet. Foster and Barry mentioned any type of interaction that needed to be conducted in real-time, face-to-face settings; discussions of sensitive nature, some debates and some assessments. Mary keeps the first class meeting/orientation in the F2F classroom because she likes to meet the students, be able to put faces and voices to names. She also feels that the students benefit by meeting her in person, as it helps them to know that she is a real person being the emails and text messages. Laurie has found that she needs to use more F2F time to provide hands-on training for her students so that they can conduct peer reviews using a third party software package. She also uses F2F time for small group collaborative interactions that need the immediate real-time exchange to produce good results. Both Nicole and Stan said that there is nothing that they would keep in the F2F class. In fact, when approached to create a blended version of her online course, Nicole indicated that she and her colleague are having a very challenging time figuring out what to put in the F2F sessions. She adds, "... we went from the fully online to the blended and the fully online is totally functional and stands on its own, so the initial answer is nothing, everything in our online course works!" (interview notes, 2/24/06).

## Indicators of Success for Students

### Student Outcomes

Responses to how the students' are affected by the successful and effective aspects of online courses, the participants spoke in terms of student outcomes and performance, feedback and satisfaction, student responsibility and student retention and attrition.

In terms of the quality of work by the students, Ann, Foster, Laurie, and Mary mentioned that they see improved quality of work in their courses. As Alexa notes, "It shows in the work product for each module, and the final product is of a much deeper, richer caliber than what I get in the F2F class" (interview notes, 2/23/06). Ann sees a huge improvement in how the students in the online course complete the exercises from the book. Mary finds that the students are avoiding doing sloppy work which she attributes to the flexibility she builds into the structure of her course. Stan believes that student performance is improving as a result of the presentations he has created, which the students take advantage of for studying and reviewing.

Barry and Nicole find that grades are about the same, but see great success in that. Barry explains,

Final grades for my online versions tend to be about the same as the f2f versions (perhaps a little higher, but nothing to write home about). The benefit is that these grades have come with less intervention by me and more work by the students in understanding difficult concepts (interview notes, 2/13/06).

Nicole was very pleased that the grades are comparable to the F2F courses. She is even more pleased to see that the students are not 'flunking' because they do not feel that they can get to an instructor.

Foster observes that his students get about one-half of a grade higher if they work in groups rather than working alone in both F2F and online courses. The difference he sees in the online environment is that the students tend to form small groups quicker online and of their own volition. He is forced to assign groups for his F2F students. Foster notes that he tends to have a more even bell curve distribution in his grades in comparison to the rest of the institutions' online courses, where the distribution is more bi-modal, where there is a spike in the D-F range and another spike in the B – A range. He attributes his grade distribution to accountability of the students, that the students feel that they own their work, they have opportunities for multiple submissions of assignments, the small study groups, and his support and encouraging comments. Mary mentions that she grades harder than she used to in the F2F course but she is seeing more grades in the A range. She also allows multiple submissions through rewriting of assignments.

I think that part [of their improved grade] is because in F2F classes I could put a grade on the papers with a few remarks and expect students to ask for clarification when needed. But in the online classes, I have to put ALL of the comment sin writing, enabling the student to peruse, review and think about the rewriting process (interview notes, 2/14/06).

Stan also noted improvement in test scores and has raised the level of his tests. Another area he has seen improvement is in the quality and types of questions the students ask.

Nicole's colleague, who teaches the next classes after Nicole in the sequence, mentioned that she feels that the students coming out of Nicole's courses are better prepared. Nicole thinks this is because in the process of taking her online course, they learn how to take more responsibility for themselves and their learning.

### Student Feedback

Alexa found that her student evaluations for both online and F2F courses were about the same, Ann reported that many of her students send her comments about how much they enjoyed the course and appreciated having the opportunity to take it. Barry's students enjoyed seeing what their fellow students had to say, Mary received comments about how much the students feel they have improved their writing, and Stan has encountered favorable feedback on the presentations he created for the online courses. Pete's students tell him that they enjoy taking responsibility for their own learning, something he promotes in his course design and facilitation.

### Student Responsibility

Overall, most of the participants feel that the online environment encourages the students to take more responsibility for their own learning,

prompting them to become more self-sufficient and proactive. Barry notices this in the way that the students wrestle with the text to gain understanding,

In a face-to-face environment students rarely seemed to read the textbook since the instructor would explain everything during the next lecture/discussion. Online, however, though I did include one or two brief (5-12 minute) Impatica PowerPoint audio presentations in each content module, students were left more to their own devices. In postings and short-answer writing I found spontaneous references to the text with relative frequency, evidence that students were reading and thinking about the assignments. Students would often comment that they had to read the selections "more than once" (!) in order to begin to understand them, and some students wrestled with certain selections in a way I had not seen in my face-to-face classes with the same subject matter (and same textbook).

In both instances online students had to depend on themselves and their fellow students to a greater extent than in the face-to-face venue. I offered careful guidance by asking narrowly focused questions so the discussions remained fixed on the meanings of the text at hand and did not degenerate into off topic disquisitions (Barry, 2/13/06).

Barry also notes that the students have to depend on themselves and their fellow students to a greater extent than in the F2F venue.

Ann commented that students in medical terminology courses do better if they complete all of the work in the textbook, regardless of whether or not they are F2F with an instructor standing in front of them or online with an instructor guiding them from a distance. She noticed in particular that the online students tend to do better on this bookwork than the F2F students. She attributes this improved performance to the fact that many of the online students are more serious and are more organized, more dedicated to their education. Many of Ann's students are health professionals who realize that they need to know how

to use the terminology in their jobs, so they set goals for themselves in this class, which gives them greater motivation. She also feels that the students who take online courses are better students than those in the F2F courses.

Mary observes her students taking more responsibility in the fact that they take the online quizzes she provides as many times as they can, “in an effort to beat their own score and learn the content” (interview notes, 2/14/06). She also uses learning agreements so that students choose how they want to move through her course and thus take responsibility for their progress and learning.

The students express that they are (often for the first time) facing the challenge of having to discipline themselves to meet schedules since they know I won't nag, beg, beseech, or penalize them – it's up to them to be responsible (Mary, 2/14/06).

This is one aspect of her online course that she feels is much better than in the F2F courses.

Pete encourages students to take responsibility in his courses in the way that he has designed the activities. The students are required to write a discussion question for each chapter and then facilitate the resulting discussion with their fellow classmates. Pete's course is very learner-centered:

Students decide what questions to ask, students decide what discussions to participate in, students decide what websites to review, students decide what topics to research, students decide what level of achievement to attain (Pete, 2/9/06).

In many ways, the online learning environment promotes self-sufficiency and responsibility for the students.

### Student Control

Many of the instructors pointed to increased student control over course materials as a great benefit of having course materials online. Ann, Mary, Nicole and Stan notice the ways in which their students use the online course materials for their benefit. Ann and Mary noticed how students moved through the course at their own pace, sometimes working ahead of schedule to manage their busy lives. Nicole and Stan mention the ability for students to review the course materials as many times as necessary to gain understanding before moving on to the next section. Nicole feels that her students directly benefit from having the multimedia course materials online for learning the International Phonetic Alphabet.

All of the sounds of the International Phonetic Alphabet, with its related symbol [are online]. This is available to the students at anytime, from anywhere, and they can go through it as many times as they need to. They have lots of opportunity to work with the content (Nicole, 2/2/06).

Barry and George also commented on how the online environment gives students much more time and many more opportunities to work with the content to increase comprehension. Additionally, Mary, Nicole and Stan highlighted how students have used the online course materials for self-checks and self-quizzes.

If they don't get what is in the first two units they are going to have trouble in the third unit. But if they realize they didn't get it, [the content] is always there and they can go back and work through it again (Nicole, 2/24/06).

Through improved student feedback responses, Laurie realized the advantage she gave to her students when she placed all of her content online.

### Student Attrition/Retention

Having more control over their own learning experience promotes self-sufficiency and responsibility in the students. Many students perceive this experience to be much more difficult than attending a face-to-face course. Some of the instructors mentioned that online learning is not for everyone and that in fact it serves as a winnowing process. The students who are uncomfortable with the process tend to drop online courses and take them face-to-face. Other instructors have worked on finding strategies that increase retention. Foster mentioned that the attrition rates in his online courses are much lower than the university's rates, "[I] have significantly less attrition, less than 10%. The university average is above 30%" (interview notes, 2/10/06). He feels this is because of his willingness to be flexible in assignments, allowing multiple submits for each assignment and offering encouraging and supportive feedback to his students.

The main themes have been identified and illuminated; it is time to explore how each theme connects to the Sloan-C Pillars of Quality, a framework for promoting quality in online courses.

#### Connecting to the Sloan-C Pillars of Quality

Recent research has shown that online learning environments can be as good and in some cases better than their traditional, face-to-face (F2F) counterparts (Hiltz, Zhang, & Turoff, 2001; J. C. Moore, 2002). The Sloan-C Pillars of Quality "compose an easily remembered heuristic frame for the profound

interdependence of common goals” (J. C. Moore, 2002, p. 2). There are five pillars: learning effectiveness, cost effectiveness, access, faculty satisfaction, and student satisfaction. At this level, cost effectiveness does not play as important a part, although it should not be discarded completely. Course designers and instructors may realize how they need to be supported by the institution in order to improve quality in online or web-based offerings. Requesting support and resources can be framed in terms of cost effectiveness as a benefit to the institution, as well as the instructor and students. In this analysis, the pillar of cost effectiveness is not examined separately, but is mentioned in connection to the other pillars.

### Learning Effectiveness

The potential to transform educational practices through online technologies has been highlighted in this study (Dziuban, Shea, & Arbaugh, 2005; Harasim, 2000; Hiltz, 1994). Although the technology in and of itself will not make this transformation, seeking effective ways to use the technology is a current challenge. Changes in pedagogical uses of these technologies are shifting the role of both instructor and student. Thus, the discussion turns to “teachers and learners online engaging in more collaborative relationships” (J. C. Moore, 2002, p. 7).

The learning effectiveness pillar uses the good practices as summarized by Chickering and Gamson’s Seven Principles for Good Practice in

Undergraduate Education (Chickering & Gamson, 1987). In 1994, Chickering and Ehrmann (1996) comment on the ways in which technology influences practices,

The biggest success story in this realm has been that of time-delayed (asynchronous) communication.... electronic mail, computer conferencing, and the World Wide Web increase opportunities for students and faculty to converse and exchange work much more speedily than before, and more thoughtfully and “safely” than when confronting each other in a classroom or faculty office. Total communication increases and, for many students, the result seems more intimate, protected, and convenient than the more intimidating demands of face-to-face communication with faculty (para 10).

Increased opportunities for interaction with the instructor and fellow students are provided in the online learning environment. Potential for creating more personalized learning experiences and formation of learning networks or community of learners are strengths of the online learning environment (J. C. Moore, 2002). Examined under the pillar of learning effectiveness are assessment, community of learners, content, course design, student outcomes, and student feedback. The goal of the learning effectiveness pillar is that online learning is “demonstrated to be at least as good as the institutional norm” (J. C. Moore, 2005, p. 3)

Assessment. Assessment is one way to examine learning effectiveness in a learning environment. George and Pete use the discussions as a major assessment tool in their courses. Pete uses a rubric to grade all discussion postings, providing this rubric to the students at the beginning of the semester to set high expectations, one of Chickering and Gamson’s seven principles of good practice. George notes that he evaluates and assesses the online discussions

“on their own merit and with a level of rigor and specificity that I do not give to in-class discussions” (interview notes, 2/23/06). George counts the discussions as 50% of the course grade and Pete uses the discussions as the exams in his course.

Alexa and Pete feel that the term projects are better online because students have more time and opportunities to collaborate on them more effectively than in class. Pete also pointed out that “term projects are better online because students can collaborate in the selection of topics, identification of sources, and organization of the paper. [Additionally], drafts can be submitted for peer review” (interview notes, 2/9/06).

Both Barry and Foster realized how much F2F class time they could save by having most of the assessments conducted online. “Putting assessments online has freed up about 3 – 4 weeks of class time to use for going into greater depth into the content and create richer learning environments” (Foster, interview notes, 2/10/06).

Community of Learners. Instruction that emphasizes communications and community building is highlighted as another aspect of quality. All participants highlighted how much more effective and successful the formation of learning communities among the students is in the online learning environment. Ann and Foster notice how much more supportive the students are of each other in their online courses. Ann and Laurie point to more open and encouraging comments between students, where questions are asked and ideas are shared in

ways that they are unable or unwilling to F2F. Ann and Pete relate that the students make stronger and deeper connections online and it helps them to not feel so isolated. George says that the “prolonged, deeper discussions help many students with their other course work, particularly essays, and will use the discussions to try out ideas, thoughts to incorporate into their papers or postings” (interview notes, 2/23/06). Foster has witnessed how math anxiety is reduced when students form and participate in learning communities. Foster also notes that students will make these connections and form the small groups much quicker than F2F. This follows along with Hiltz’s concept of swift trust – where there is a willingness “to suspend doubt about whether others who are ‘strangers’ can be counted on to work on the group’s task” (J. C. Moore, 2002, p. 20).

Content. Sloan-C recommends that course design take advantage of the unique capabilities of the online learning environment to improve learning, discussion, testing, and materials. Alexa, Foster, Nicole and Stan took advantage of audio, video, and Flash animations to maximize the effectiveness of their online course content. All of them received recommendations from instructional design to examine and consider how best to use the medium for their courses. Nicole expounds on this idea, “We’ve done a really good job with the interactivity and presentation of the content [in ways that] I can’t do in the classroom. We’ve done a really good job using Flash technology to illustrate things that I can’t illustrate on the board because I need it to move [in synch with the audio], and you can’t make things move on the board” (interview notes, 2/24/06). All of them

agreed that having the content online gives students more access and many more opportunities to work with the content than they can get in the classroom.

Course Design. The instructors who had design and media development assistance agreed that their courses would not be as good as they are if they had not received that assistance. Alexa thought she would only upload her lecture notes and PowerPoint presentations, but her design team helped her to move from the presentation model to a learner-centered model. They helped her to think more structurally about the course, including writing learning objectives for each level of the course. Ann benefited from taking a faculty development course online that dealt with how to teach online. She also uses continuous feedback from her students to improve her course design. Nicole and her colleague did not know the technology, so in working with a design team, they were able to have their ideas of how the course should work translated into Flash animations and illustrations. Laurie learned how to identify activities in her course that were 'busy work' – activities that had nothing to do with the course goals or learning objectives.

Barry and Laurie took the incremental approach by trying out their online components in a F2F class before moving the class online. They felt that this was the best way for them to move to into the online learning environment, gradually, finding what is effective and what is not.

Most of the participants find that their online courses are more learner-centered. Mary and Pete mention in particular how much easier it is to create

learner-centered courses online because the instructor can provide more choices in how the student moves through the course or works on assignments, and the student, in needing to be more self-sufficient online, can take advantages of those choices. Alexa, Ann and Stan mention that it is easier to provide instructional activities that accommodate different learning styles.

Alexa, Barry, Foster, George, Nicole and Stan mention that they are able to cover more material in more depth online than they can in their F2F courses. They attribute this to being able to have all of the content prepped and uploaded before the semester starts, which allows them to use the students' time more advantageously and efficiently. Foster and Mary feel that this has also allowed them to be more flexible with the students, allowing them the opportunity to rewrite and/or resubmit assignments until the student gains understanding or improves their performance.

All participants are using the online learning environment advantageously by creating activities that the student is able to do on their own. Online quizzing and self-checks are two activities that many of them incorporated into their courses. Having the content online provides multiple opportunities for the students to work with the concepts and to check their understanding, without requiring any direct class time or instructor time. They all feel that this is one of the most effective and successful aspects of the online learning environment.

Interaction. The Sloan-C Pillar Reference Manual cites a study ongoing study conducted at the SUNY Learning Network using the Seven Principles of Good Practice as benchmarks. Some of the statistics related to interaction are:

- 70% of students reported very high quality interaction with classmates.
- 73% reported high levels of interaction with classmates.
- 75% reported high levels of interaction with faculty.
- 78% reported very high quality interaction with instructors.
- 93.4% reported active participation in their online courses (J. C. Moore, 2002, p. 9; Shea, Swan, Fredericksen, & Pickett, 2002)

The comments from the participants in this study underscore these findings. Alexa has received comments from her students saying that they feel they have more interaction with her and fellow students in the online learning environment than they do in the F2F environment. Ann mentioned that the students love using the discussions to interact with each other. She estimates that they spend about 75% of their time in the online discussions. She also feels more connected to her students because they tend to share more about themselves online and are more supportive and encouraging of fellow students. Barry mentioned that students must depend on each other to a greater extent online than they do in the F2F classroom, which promotes better student-to-student interaction.

Foster feels that the online interaction helps the students form small groups or learning communities that serve to help reduce math anxiety in a supportive environment. They identify with each other online through their comments and questions. This prompts them to connect with each other earlier in the semester to form these study groups. George comments, “[In] observing the same students in both F2F and online courses, [I was] surprised at the different in online performance” (interview notes, 2/23/06). Many of the students who were quiet or reluctant to participate in the F2F discussions were prolific and insightful in the online discussions.

Laurie and Mary both note the increase in participation in online discussions. Mary feels that through the increased interaction online, the community of learners is more solidly established than in the F2F courses. Because of the outstanding benefits of online interactions she has observed in her online courses, Nicole does not teach any class, F2F or online, without incorporating online discussions into the course activities. Pete feels that the online environment promotes better interactions between students and facilitates student-centered learning activities. He allows students to write their own discussion questions and facilitate the resulting discussion. There can be multiple discussions going on at the same time, something Pete mentions is impossible to do in the F2F class. He is also able to give feedback much more rapidly in the online environment. Stan uses the discussions for content clarification, issues and problems, and any questions, and Foster feels that he can provide more

prompt feedback to his students in the online environment, particularly in using the dialogic process to help them increase their understanding. He does not feel that time allows for this in the F2F class setting.

All participants feel that the interaction is more effective and successful in the online environment than it is in the F2F environment. They experience better connections with their students and see increased interaction between the students.

Student Outcomes. All participants adamantly agreed that the most effective and successful aspect on the online learning environment is in regards to discussions and student performance. Alexa captures the feelings of the group,

Discussions are much deeper because they have time to compose, compile their responses. When you speak [in the F2F class], you don't think very much before you ask questions or make comments. Online [discussions] are much better (Alexa, 2/23/06).

Time seems to be a critical success factor for students in online courses, the fact that they have more time to interact with the content and fellow students, and as Ann pointed out, "The students have the ability to obtain additional information on the topic before participating in the discussion" (interview notes, 2/27/06).

Barry actively participates in the online discussions to help the students develop critical thinking skills. George models the type of critical thinking and active participation he expects from the students. Pete includes an assignment in

his course in which the students research and discuss what critical thinking is. All participants agree that they see more evidence of critical thinking and deeper, more thoughtful responses in the online discussion than what they typically experience in the F2F course.

All instructors also commented on the improved quality and level of work by the students in the online environment. Alexa comments, "It shows in the work products for each module and the final product, it is of a much deeper, richer caliber than what [I see] in the F2F class" (interview notes, 2/23/06). Ann noticed that the online students do a better job with the book assignments in the medical terminology course. Foster notices an increase in performance that he attributes to increase accountability and student responsibility in the online environment. Laurie and Mary both notice that individual papers were much better and that the students were receiving higher marks. Mary adds, "I grade harder than I used to in the F2F class but have more 'A's" (interview notes, 2/14/06). Nicole's colleague, who teaches the courses that in next in the sequence after Nicole's course, has observed that the online students seem to be better prepared for the next class. Stan mentioned that he feels student performance has improved because he has provided content presentations in his online class that help the student review and work with the concepts.

Barry observes that grades are about the same between the online and F2F courses, but the improvement is revealed in how the students achieve those grades.

Final grades for my online versions tend to be about the same as the f2f versions (perhaps a little higher, but nothing to write home about). The benefit is that these grades have come with less intervention by me and more work by the students in understanding difficult concepts (Barry, 2/13/06).

The participants have seen improved student performance through better discussions, high quality work on assignments, and in some cases improved grades.

### Access

Access according to the Pillar Reference Manual “means that all qualified, motivated students can complete courses, degrees or programs in the disciplines of their choices” (J. C. Moore, 2002, p. 26). At the institutional level, this means providing the infrastructure and course management tools necessary to create stable access to learning environments and learner support services. The major themes emerging from the participant interviews include access, flexibility, visibility of the students, and effective use of student time.

Access has different meanings to the participants. Some feel that access means maximizing the flexibility allowed by asynchronous online learning environments. In this regard, Alexa stated that she would not teach a blended course as that would take away the reason for online courses, the ability to access the course anytime and from anywhere. As soon as you include a synchronous component, such as F2F class sessions, you lose that advantage. For others, access means being able to interact with a more diverse group of learners than a F2F environment because students are not place-bound,

restricted to those institutions that are close to where they live. Ann feels that the diversity of her students accounts for the success and effectiveness of her course.

For most participants, access means that students whose schedules and lifestyle do not allow them to attend F2F classes on a campus can pursue their education online. In Ann's case, many of her students are working second and third shifts, which prevent them from attending evening classes. Foster feels that the convenience and flexibility of online courses trumps all other considerations. Depending on what types of content and learning environment is created for the online course, some participants say their students appreciate not having to buy a book, are grateful to have access to the learning materials at anytime, and to have opportunities to work with and review content to increase understanding.

Flexibility. Flexibility is revealed in two ways; 1) in scheduling, online course give students more flexibility and options for taking courses and 2) learning processes – instructors can be more flexible online, allowing students more choices and more opportunities in how they want to learn the concepts.

Visibility of Students. All participants commented on the visibility of their students. They can see their thinking more clearly online than in the classroom. Barry's students mentioned that they like being able to read the thoughts of fellow students, that it helped them with their understanding. Stan agrees, "The students have to make what they understand visible to the instructor and to fellow students" (interview notes, 2/12/06). Additionally, Pete mentions that online

collaborations and small group activities can be closely monitored by the instructor, which is impossible to do in the classroom at the same level. It is as if you were observing all of the small group activities rather than floating around catching snippets of conversation, as you do in the classroom.

Laurie says the visibility of the students thinking is the reason there are two activities she would only conduct online and not in the classroom. One the activities are a reflection the students write on their experience in the course and with the assignment. She is able to glean valuable information about the student and how they are progressing through the course through these reflections.

Pete adds that the online environments allow him to have a clearer, most accurate accounting of student participation. "The best I can do in the classroom is a crude estimate of class participation" (interview notes, 2/9/06). Since the discussions are the exam in his course and participation counts towards a large portion of the final course grade, the online environment is more effective for him and his students.

Student Time. A few of the comments apply directly to more effective uses of student time in the online environment. Alexa says that because they are not spending 3+ hours a week in the classroom, "...students have more time to delve more deeply into reading materials" (interview notes, 2/23/06). "The duration of online discussions allow a topic to be probed in greater depth than time in the traditional classroom permits", George adds (interview notes, 2/23/06).

### Faculty Satisfaction

The faculty experience of teaching online must be as effective and professionally beneficial as the F2F teaching experience (J. C. Moore, 2002). Faculty basically receive satisfaction from teaching online for the same reasons they do teaching F2F; to be able to connect and motivate students to become better learners and pursue and share knowledge.

The participants in this study found many ways in which they found satisfaction; through design assistance and faculty development opportunities, to ways in which teaching online changed their F2F instruction. They also commented on their role as an online instructor and how the online environment impacts their workload.

For the most part, all of the participants enjoy teaching online. Ann was surprised at how much she enjoyed teaching online. Pete no longer teaches any F2F courses and Barry has no desire to teach the Asian Religions courses F2F any more. If George has total control of his choice of teaching venue, he would teach one seminar type class in the evenings, but he totally supports the online initiative of his university and is in the process of developing a third online course. Laurie prefers to teach both blended and online courses and Nicole is challenged to find ways to convert her totally online course to a blended course and have it be as effective. Stan has received much satisfaction from being able to explore ways to use technology to create a more effective and successful learning environment for his students.

The participants who received design assistance and faculty development opportunities were very satisfied with their online teaching experience. Alexa and Nicole both commented on how much their designers helped them with the conception and creation of their courses. Ann and Laurie gained much value from attending faculty development workshops that taught them how to teach online. George felt supported by his university through the provision of stipends to develop online courses.

Instructor Role. In many ways, teaching online has changed how the participants teach F2F courses. Alexa and Laurie say that they give better directions. Laurie notices that she is much more expressive in her online communications and interactions than she is in person. She allows more of her personality to show through in the online environment. Nicole feels she has benefited from expanding her knowledge about her subject. She added a lesson on acoustics in her online course which is not normally covered in the F2F course. She had to research acoustics and waveforms in order to become the subject matter expert in the design of these lessons.

Stan has changed his testing methods. He has moved away from proctored testing to take-home exams. "I think I can do a better job of testing, give the students a better chance to exhibit their understanding of the material...", (interview notes, 2/12/06). He had also realized that students learn differently, so he has changed his strategy to incorporate different instructional activities to meet different learning preferences. Teaching online opened new

avenues for Stan, challenging his to reexamine his teaching activities and methods. “This is part of the reason I was interested in teaching online” (interview notes, 2/12/06).

Alexa and Foster both pointed out the change in their role as the instructor, involving much more mentoring and facilitating than lecturing. Foster feels that this change in the instructor role helps the online students begin participating much sooner than they do in the F2F environment. “In the F2F environment the instructor is present all the time, that physical authoritarian figure is there, inhibits the conversation” (interview notes, 2/10/06). In the online environment, the lack of physical presence and positioning at the front of the class helps to create an environment where personas are less inhibited and students start sharing and interacting sooner.

All of the participants were actively involved in online discussions, but they were very purposeful in how they participated. Some participants do not participate in certain discussions because they want the students to interact with and respond to each other. Laurie only monitors the reflection discussion assignment in her course. In the question and answer discussions, she is more active and involved in the first part of the semester and then slowly ‘backs out’ of the discussion to allow the students to start responding to each other. She still monitors these discussions, but only responds when she sees a problem or issue.

Pete does not participate in the discussions that are facilitated by the students, but he grades each and every post and sends private feedback to each student to guide and mentor them. Barry is actively involved in his discussion, but has found that if he is too involved, the students tend to direct their responses solely to him and that inhibits the flow and interaction he desires for the discussions. Both Alexa and Nicole were overwhelmed by the amount of time they were spending responding in the discussions, so they each have explored using small group discussions, allowing the students to interact in small groups without involvement by the instructor.

Instructor Workload. Workload issues were part of the comments made by many of the participants. Ann is still challenged to find ways to reduce her workload. She feels that in order to be effective, she must respond to each student with additional information. But she feels it is worth the time she spends because she feels that she is making a difference in her students' education. Foster agrees that he spends more time teaching his online courses but that he feels the return on the investment is more than worth it – higher retention rates in his courses than the university average.

Stan feels that he spends about three times as much time in his online courses than he does his F2F courses, but is continually looking for ways to reduce the workload and yet remain effective.

Interestingly, even though all participants were able to identify multiple aspects of the online environment that were more successful and effective than

the F2F environment, all of them stated that they did not feel that online education is better than F2F education. Most of them agreed that it is as good as F2F, but not better. Barry is the only participant who feels that the online environment will always be second best to the F2F environment, even in light of the benefits he highlighted of teaching online.

This may be connected to other comments that pointed to online courses as being a type of winnowing or sorting mechanism. Alexa, Nicole, Barry, and Foster all mentioned the fact that they have students drop out of the course shortly after the start because they find that online learning is 'not for them'. Some of them have the misperception that an online course is going to be easier than a F2F course, or that they think they are not self-motivated enough to be successful in an online course, that they need the scheduling discipline that a F2F class provides. Stan comments, "I think that some online students are not ready for some of these features and sometimes are looking for a correspondence type course" (interview notes, 2/12/06).

Regardless, all of the participants are very enthusiastic about teaching online and continually strive to find ways to be more effective in their courses and to help their students be more successful. Stan sums up, "The online class is more rewarding to teach because the depth of learning is more often greater than in the F2F class" (interview notes, 2/12/06).

### Student Satisfaction

“The student satisfaction pillar measures students’ overall satisfaction with learning, teaching, affordability, and access...” (J. C. Moore, 2002, p. 42).

Students expect convenience and flexibility in online programs. They want access to education that is independent of time and distance. They want to be able to take advantage of multiple ways of learning. They like choices between fully online and blended options, as well as synchronous and asynchronous modes. They prefer highly interactive courses that use problem-based or situated learning to connect what they are learning to real life application. They want technical support that is available all day, every day and they desire frequent and prompt feedback from the instructor throughout the semester. And they do not want to pay ‘an arm and a leg’ for their courses.

Some of the issues surrounding student satisfaction are revealed in retention/attrition rates. What contributes to a student dropping out of an online course? What contributed to a good learning experience? What part of this experience is the students’ responsibility and what part is the instructor and institutions responsibility? Additionally, how can an instructor use student feedback to improve their courses and/or provide needed assistance to the student.

Participation. The online environment allows all students to participate and be heard. All of the participants commented on how much more effective and successful online discussion were than F2F discussions. Many of them

mentioned that the online environment 'evens the playing field' by allowing all students to have a chance to be heard, to have a voice. Barry mentioned that he feels the relative anonymity of the online environment helps shy and quiet students to be more verbal, more actively involved in the discussions. Foster feels that personas are less inhibiting online and George has witnessed students who did not speak up in F2F class discussions become prolific in their online contributions.

Pete mentioned that students participate more and are willing to share more intimately because "personal factors such as self concept are less inhibiting online" (interview notes, 2/9/06) than they are in the physical classroom. Pete adds, "Students who have a negative perception of their body type or facial features are often reluctant to speak out in a public forum" (interview notes, 2/9/06). Laurie found that she can get a higher level of honest, open comments from her students online than she can in the F2F course. Students ask questions that they do not ask in the F2F classroom. Barry agrees, "You get a level of honesty and openness that you would never be able to duplicate in a verbal discussion in the classroom" (interview notes, 2/10/06).

All participants also mentioned that online discussions were more effective because students have time to think before they respond. They also have time to research the topic further and tie outside resources and references into their comments and responses.

Ann observes that the students who have the best learning experience are those that are actively involved in all aspects of the course. All of the participants have a mechanism built into the course that requires participation, whether it is a participation policy stating specific requirements or a sizable portion of the total course grade that comes from participation. The participants feel that having required participation is the only way to have a highly interactive learning environment that benefits the students.

Student Responsibility. Student responsibility and student control is exhibited through the course design and instructional strategies of the instructors. Some of the participants, such as Pete and Mary, give the students much more control over how they participate in the course activities. Pete allows the student to lead their own discussions and choose their own project topics. Mary allows her student to choose between a semi-self-paced or structured schedule. The students have responded with positive feedback about their ability to take responsibility for their own learning experience. She also feels that this has improved student outcomes. They avoid doing sloppy work just to meet a deadline when they have picked their own deadline. Students have commented that “they are (often for the first time) facing the challenge of having to discipline themselves to meet schedules since they know that I won’t nag, beg, beseech, or penalize them – it’s up to them to be responsible” (interview notes, 2/14/06). Nicole adds, “They realize they need to be disciplined and no one is forcing them to do it” (interview notes, 2/24/06).

Another way students are enabled to take responsibility is through the extensive use of web-based content in many of the participants' courses. Student activity and feedback indicate that students take advantage of having the content online, able to access it anytime and as many times as is needed to understand the concepts.

Mary noticed that students take the online self-quizzes as many times as is allowed in an effort to beat their own score and learn the concepts more thoroughly. Barry noted comments posted by the students about how they have had to read through the materials three or four times to understand it, wrestling with certain selections in ways that he had not seen in the F2F courses. He comments that this is very different from what happens in the F2F class where the students come to class expecting the instructor to explain the reading assignment rather than reading it themselves and struggling with comprehension. He also notes that the online students learn how to depend on themselves and fellow students to a greater extent than in the F2F courses.

Foster points to another aspect of the online environment that increases student responsibility. The online discussions provide a permanent record of comments made by the students, so there is more accountability for what they say. He feels this is an improvement over oral communication. He has observed that his online students make more of an effort to be friendly, encouraging and supportive, for a longer period of time during the semester than the F2F students. He has also noticed that the online students are more likely to set up their own

small study groups. He usually ends up having to assign his F2F students to groups.

Student Feedback. Ann has received feedback from her students indicating that they are very appreciative of being able to take this course online. Some mentioned that her online course was better than other F2F courses they have taken. Alexa was completely surprised that her student evaluations for the online course were as good as those for her F2F courses. She was worried that her personality would not show through in the online course materials, but she discovered through student feedback that it did and that she was able to connect with them in beneficial ways.

Laurie worked on her course to make it more complete over a few semesters. She knew when the course was fully developed by the nature of the feedback she received from her students. Laurie also uses her students' reflections as a type of barometer of how they are doing in the course, if they need help or encouragement.

Barry found from student feedback that the students enjoyed being able to read fellow students postings, to see what they were thinking and that it helped them with their learning. Mary's students told her that they feel she expects and elicits better work from them online because of the interactive nature of the course and the amount of individualized feedback she gives. "I get comments telling me how much they feel they've improved their writing" (interview notes, 2/14/06).

Stan has received favorable feedback on his Web presentations.

I was using these [recorded webcasts and electronic whiteboard sessions] to provide synchronous help sessions which were captured for viewing on demand. I often use this delivery technique to provide presentations on more complex material. I am now expanding these concepts to provide a presentation which allows the students the opportunity to work practice problems after the presentation of a segment. This provides the student the opportunity to master a concept before proceeding. In addition, the student can easily review a concept until the concept has been mastered (Stan, 2/12/06).

Student satisfaction is revealed through student work and participation, as well as through student feedback and comments shared with the instructors. This chapter discusses the common themes and issues that emerged from the participant interviews about their experiences designing and teaching their online courses. Thirty different themes were identified, some of which can be subsumed under other themes. The major themes are interaction - including discussions, content presentation, learner-centered instruction, and visibility of students. Using four of the five Sloan-C Pillars of Quality, the themes are connected to one or more of the pillars: Learning Effectiveness, Access, Faculty Satisfaction, and Student Satisfaction.