Online Education Forum - Part Three
A Quality Online Educational Experience

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ABSTRACT

This is the third in a series of three papers about online pedagogy and educational practice as part of the JISE "Online Education Forum." This paper deals with the question: *What approaches help assure a quality online educational experience?* Clearly achieving quality is the chief concern of everyone involved with online education. This article focuses on techniques for doing that, such as mastering one's course management system, standardizing course design, consistency in interactions with learners, and controlling class size. Another aspect of success here is developing a well-honed and consistent philosophy toward online teaching that will help learners understand what is expected of them and guide the teacher when unusual situations arise. A transition is underway. The same networking and computing technology that has revolutionized global commerce, and many other facets of modern life, is now being targeted in education. Partnering the Internet with modern course management technology makes it possible for universities to offer online coursework on a global basis. The critical task that lies ahead is to create and disseminate curricula of high quality that students can embrace and educators can sustain. The overall objective of JISE's Online Education Forum is to examine the realities of college and university online teaching, and the processes of education using today's information technologies. The issues and insights discussed in this Forum will provide educators with important tools and the understanding needed to embrace the world of online education.

Keywords: Information Systems Education, Educational Software, Online Course Design, Distance Learning, Online Education.

1. INTRODUCTION

1.1 Unforgiving Environment
Many faculty and administrators struggle with the elusive issue of what it means to achieve quality in online education (Hirschheim, 2005; Porter, Griffiths, and Hedberg, 2003; Schell, 2004; Sullivan, Terpenny, and Singh, 2004). As mentioned in Part Two of this JISE Forum, the virtual classroom is unforgiving. Mistakes in process are often difficult to recognize because of a basic lack of traditional contact between faculty and students. This means that relatively minor problems can escalate to a crisis before being recognized by the professor. The result is an unsatisfactory experience for everyone involved. How can faculty achieve quality in teaching and learning in an online environment, when the online experience is so fundamentally different?

1.2 Overview
The first task that an online teacher must address is mastery of the specific educational software system that is to be used for a given course. Popular systems for managing courses provide a range of features and a significant degree of flexibility in structuring and organizing an online course (Walker, 2003). In order to make it easier for students to follow courses, as well as for faculty to develop them, it is important to standardize the structure and organization of course content, requirements, and basic pedagogical operations as much as possible. Within that context, thorough advanced planning is critical for assuring a quality online experience for the students (Evans, 2001; Starke-Meyerring and Andrews, 2006). A professor must articulate in detail exactly what he or she wants to accomplish every step of the way through the course before beginning.

A quality online course requires clearly defined learning objectives and well-articulated expectations for learners for each part of the course. Interacting in a consistent manner with students in an online environment is another important aspect of teaching effectively online. It is difficult to interpret intent through the technology, and inconsistency by the teacher confuses and upsets the students and creates a negative, counterproductive teaching environment. Class size is another factor that can cause problems. For example, if an online class is too big, then the professor simply cannot

interact with the students at the level necessary to assure a quality learning situation. While many of these challenges for educators exist in any teaching situation, they tend to be especially serious threats to success in online teaching.

2. EDUCATIONAL SOFTWARE

2.1 Course Management Systems

The software systems used for online education are generically called *course management systems* (CMSs). Each different CMS uses different syntax and somewhat different internal organization to do most of the same basic functions needed for teaching and learning online. Consider for example, Blackboard, Sakai, or Desire2Learn (WCET EduTools, 2007). An instructor must strive to become expert in using the adopted CMS in order to assure full use of the system's capabilities. That expertise is essential for effective and credible course design. If a course as loaded into the CMS does not properly fit the structure of the system or fails to utilize key system features properly, it will appear to the students (and others) as clumsy and unprofessional. So, it is essential to take the time needed and learn the details, the capabilities and functions, of the particular CMS to be used.

2.2 Basic Capabilities

The features of a course management system determine what can be included in the course design and exactly how these components will be set up for student use (Walker, 2003). For example, typical features include locations within a CMS to store and display syllabi, calendars, announcements, etc. The professor loads the syllabus and calendar information into the system before the semester begins so that students can access this information early in the course (and throughout), and the professor posts announcements during the semester to broadcast information to the group whenever appropriate. Another ingredient of a CMS is an asynchronous, threaded discussion board (Coppola, Hiltz, and Rotter, 2002; Dos Santos and Wright, 2006). The discussion board *is* the online classroom. It is where students and professors interact and discuss course topics and issues in a chat room format. Also included in the CMS are features such as digital drop boxes for assignments, online library holdings, support for video clips, support for audio conferencing, and even workgroup collaboration support software. Most systems also provide email links for students, distribution lists, and online grade book facilities that make grades available to students as assignments are completed during a semester. Also included are facilities for posting biographic information about students and faculty. These profiles, which include photos, personal information, and brief resumes, provide a basis to improve personal intimacy between the various participants within an online class.

3. STANDARDIZED APPROACH TO COURSE DESIGN

3.1 Standard Look and Feel

Regardless of whether a university adopts a standard *look and feel* for online courses, each professor should do this for his or her own set of online courses. When developing new courses, using a well-established, consistent structure

following 'best practices' makes course design process much less difficult (Bruckman, 2002). For example, determining how the course is to be divided into modules, structuring and organizing assignments, the layout of the individual weekly units of work, rules governing when to post discussion board answers, etc., should follow similar patterns in one's online course offerings. This simplifies the many decisions about design alternatives that a professor must address. A consistent design and structure also helps students understand and navigate online coursework more easily.

Unfortunately, a professor may need to use different course management systems for different classes. Often professors teach at more than one school, or universities sometimes change from one CMS to another. In such cases, more than one course management system may be in use. Courses previously set up on the previous system may reside there for a long time. Sometimes, different departments or colleges in one university use different CMSs. As noted above, the features of the CMS can influence course design, but what is really being addressed here is the need to build the online courses as independent of the CMS as possible following a standardized approach. Then, the instructor at least has a chance to maintain consistency across platforms in putting an entire complement of online coursework together.

3.2 Complete Profiles

There are numerous guidelines for what may be included in online coursework standards. One involves faculty and learner profiles. These are key components of an online course. For the faculty member, developing a personal profile provides the first real opportunity to set the tone for the course with students, because students naturally go to the professor's profile first. In addition to providing a summary of the instructor's educational background and experience in teaching online, a profile gives the teacher a chance to describe his or her expectations and aspirations for the course and for the students taking it. The faculty profile provides an important early opportunity to connect with the students and warrants careful consideration and preparation.

Students often do not take profiles seriously and some must be cajoled, or even coerced, into posting information about themselves. Student postings tend to be abbreviated and range from interesting and informative to poorly done. However, any profile is better than nothing when trying to understand a student in a far distant *seat* in the cyber classroom. Is this student an Indian in Minnesota, a soldier in Germany, a housewife in Detroit, an engineer in Texas, or maybe a banker in Panama? Where did this student study before? What are his or her interests? Importantly, a good set of profiles helps to facilitate understanding among teachers and students within an online teaching and learning community, as well as improving interaction and collaborative learning among students (Mabrito, 2001). Getting students to post meaningful profiles is well worth pursuing for the overall success of the virtual classroom experience.

3.3 Modular Course Content

Standardizing the structure of online courses begins with modularizing the course content. Modularizing coursework

makes it easier to organize, deliver, and control an online course (Jones and Kelley, 2003). Theoretically, modules (often called *units*) could be of any duration with different levels of assignments and readings and different kinds of activities required in each one. But the online environment is difficult enough for the students to manage without making the units uneven or inconsistent in structure. Generally, units of a week's duration mean that students have part of a week to read and think about the assigned material and the rest of the week to develop answers for discussion question postings and other deliverables. This is a typical and workable approach.

3.4 Unit Structure
Generally, each unit begins with a 'lecture,' which is actually an essay that summarizes the issues to be found in the readings for a given unit (Levin, 1999). Two to five thousand words of material here would be typical. As the technology improves, this portion of the online course will increasingly be supplemented with online video based lectures (Sensiper, 2000). Students are required to review these lectures and the assigned readings (which may include chapters in a textbook, information from websites, supplemental readings, and additional lectures or video clips) that have been loaded into the CMS for students to analyze, synthesize, and internalize. Once the students have done the necessary preparation, they examine the unit discussion questions and prepare and append an answer for each discussion question by posting the answer into the course management system's discussion board. These answers must be focused essays that integrate readings and critically analyze issues. These questions are an integral part of an online course in that the process of discussing them online is as close to the traditional classroom as students and faculty can get in an online course. This is where the virtual teaching happens, the 'online classroom.'

Video teleconferencing technology has been available for many years, but it has been expensive. With the development of 'YouTube' with its free uploading and viewing of video clips, this has all changed (Natarajan, 2006; Shih et. al., 2003). The speed and capabilities of new generations of networking are making it possible to include inexpensive, quality video in educational software. This capability will revolutionize online teaching once again by adding an important new dimension to course management systems for professors to utilize.

3.5 Discussion Questions
Students post answers to the discussion questions during one week and instructors critique their responses, usually a week later after the deadline for that week has passed and all students have finished posting. Professors should also post their own answers to the discussion questions to help students learn as part of this weekly process of critiquing. All students can see all of these postings. Also, instructors need to evaluate and grade student effort on the discussion question postings each week and give feedback to students so that they have a better chance to improve over time during a course (Littleton, Phil, and Whitelock, 2004; Schank, 2001). This is all very time-consuming, but it is at the heart of the online teaching process and instructors should

certainly do it systematically, consistently, and on a timely basis (Arbaugh, 2001).

Discussion questions are open-ended. They are loaded into a part of the CMS that employs a threaded bulletin board type of software (called the 'discussion board' or 'course room') where students can append (or *post*) their answers for each question online. This is all done asynchronously; students can post answers at different times, and even change them if they choose, until the assignment deadlines. The number and nature of these discussion questions varies depending upon the preferences of the instructor and the nature of the course. Some choose, for example, a larger number of short answer essay questions while others (especially those teaching graduate students online) prefer one or two significant essay questions that seriously challenge the students' critical thinking about the assignments (Greenlaw and DeLoach, 2002). Students are encouraged to write and post their answers online before looking at the postings of other students, although every student can see the postings that have been made by every other student once posted. Part of the requirements for each week's work should be that students read and consider the postings of other students and the instructor's responses to them as part of the learning process in the course room. This is analogous to listening to class discussions in a conventional classroom. Students can also post comments to other student's postings, so students can (and should) dialog about issues in the course. Often, an online course will include a requirement that students dialog regularly with one another. This is accomplished by requiring students to comment substantively about the postings of several of their fellow students each week.

3.6 Feedback and Grading
Students are graded on these dialogs as well as the essay answers that they develop for the discussion questions. The essays generally carry a higher weight in the grading scheme. Students are always very concerned about grades. And too much ambiguity about grading in an online course can destroy the instructor's credibility with the students. They deserve to know what is going to be required, when it is due, and how it is to be graded. The cyber classroom is a two-way street. Without the normal contact found in a conventional classroom, students seldom know what to expect from a teacher. In cyberspace, they have to trust the motives of the teacher just as the teacher must trust them in order for the course to be successful (Hiltz and Turoff, 2002). Ambiguity or inconsistency in grading destroys that trust quickly. And once gone, trust is not easy to rebuild online. Concise timeframes, clear assignments, specific deliverables, and unambiguous due dates are essential to provide the sense of understanding and control that will foster an effective online learning environment and make it possible for students to feel comfortable and motivated.

4. PLANNING PERSPECTIVE

4.1 Basic Philosophy
An individual professor preparing an online course first focuses on thorough planning, but a key part of that is his or her philosophical view of online teaching. What should an

online course be and do? What is the vision and how should teaching online really work? What should be done versus what can or cannot be done? These are basic questions with which every online instructor must grapple, first in designing online coursework and then again more pointedly when teaching the course.

4.2 Course Content

For example, how much content should be put into an online course? Should it be comparable to a conventional course at the same level and for the same audience and course credit? The answer is clearly 'yes,' but how is that accomplished? The tendency here is to make the course *too difficult* and thereby avoid appearances that it is *too easy*. This really requires thinking about constraints and fairness in deciding the workload for an online course (Hirschheim, 2005; Porter, Griffiths, and Hedberg, 2003). English or Math or Management '101' should be comparable whether taught conventionally or online, but the tools and techniques do not transfer exactly from one teaching approach to another and this introduces uncertainty. The problem is that online teachers are often concerned that their online courses may not be rigorous enough. They feel vulnerable to complaints that online courses are too easy, and they tend to overcompensate and actually make them too difficult. Unwittingly overloading the students with work leads to serious consequences and can threaten the overall viability of this approach. Therefore, part of the planning process must include making certain that both the content of a course and the workload associated with it are not excessive. This is a key issue that must be dealt with carefully and proactively, and early in the course planning process.

4.3 Pace of Delivery

Closely related to online course content is the rate of delivery of that content. What about the pace of the course? In general, it is probably better to start and end the course slowly (with a lighter workload for the students) and to increase the workload in the middle units. Starting slowly helps assure that each student can more easily become comfortable with the mechanics of cyber learning and familiar with the nature and structure of the assignments in the beginning weeks of the course. If students get behind early, a disruptive level of confusion and chaos follows. At the end of the online course, students will typically be doing term papers or other projects, and slowing the pace of the course at that time makes it possible for them to do these major assignments more effectively.

 The question of pacing is clearly important. Some students may fall behind. But others, given the opportunity, may choose to work well ahead of the rest of the class and post their answers to discussion questions early. Should they be allowed to do that? Most course management systems can control when the various units of a course are made visible to the students. Should that be utilized to stop students from working too far ahead in the class? Different instructors would likely answer these questions differently. It is easier for the students if they can look ahead, see what is coming, and plan their work accordingly. But allowing students to post early tends to lessen the collaborative dialoging among students, especially for the better students who are often the

ones posting early. The point is that these questions will come up in an online class and the instructor would be well advised to plan carefully and provide students with a detailed statement of what is expected of them at the beginning of the course. Trying to field each question as it arises during the course is problematic, especially after students have already made assumptions that they think reasonable and acted accordingly.

4.4 Basis for Grading

Another fundamental issue in an online course is determining the basis for assessing student performance (Bowman, 2003; Brown and Liedholm, 2002). The instructor must plan this aspect of the course very carefully in order to be perceived by his or her students as treating students objectively, fairly, and consistently. Grading generally begins with the students' discussion forum activities. Of course, students can also do research papers or term projects of various kinds as part of an online course. Whatever is appropriate for a particular course, the professor needs to have determined answers to questions about grading before the class begins in order to assure consistency when students press for details.

With regard to exams, course management systems do have online testing facilities that professors can use to develop a variety of exams using multiple choice, short answer, or even essay question formats. But there is a basic problem in online education. One does not know who is actually doing the work in an online course, or taking an online exam. Is the person enrolled perhaps paying someone else to take his or her online exam, and how would the instructor know? One way to handle this issue is to have the students physically meet at the beginning of the semester to emphasize course expectations and at the end of the semester for a final exam. Then verifying student IDs should resolve this question. If all the students are in the same geographic area, this approach may be best. However, the promise of online education lies in its global reach. If the students are scattered around the country (or the world), bringing them together periodically for any reason is most likely not feasible. This makes the general problem of knowing who is actually doing the work in an online course an intractable one. As a result, online coursework tends to de-emphasize examinations as a form of student assessment.

The only real option is to trust in the academic honesty of the students. This is a major difficulty with online assessment. Eventually, perhaps, the use of cameras, retinal scanning or fingerprint identification, or other technologies may help solve this problem (Dass and Jain, 2007). But today, the instructor must trust in the online dialogs, papers, and other exercises submitted as coming from the students and in good faith.

4.5 Assessment of Performance

Assessment of student work in an online environment is difficult at best. The same kind of difficulties may reside in the conventional classroom. A teacher, for example, does not know if a term paper turned in by one student was actually written by another. But in the online classroom, these kinds of problems seem to be accentuated by the distance between teacher and learner. From a practical perspective and with

today's technology, what can an instructor do to assess online student performance? Throughout a fifteen week session that includes frequent dialogs with individual students, a professor invariably develops a sense of each student's communication style and content knowledge. Inconsistencies are usually obvious when the term paper varies too widely from earlier written performances in the online course.

Student postings of answers and dialoging about the discussion questions demonstrate clarity of thought, grasp of concepts presented in the readings, and analytical ability applied to the topics in the course. This can be a solid basis for assessment. However, if weekly activity is to be graded, then the instructor must provide at least some weekly feedback so students can understand how to improve over time. Otherwise, students are likely to find this a highly unsatisfactory arrangement. Having students write papers on topics related to the course is another common way that students are evaluated in online courses. Depending upon the subject matter of the course, there may be other exercises that can be graded. Exams may also be workable given the caveats that have been discussed previously. Perhaps, for example, the instructor can arrange for the students to go to a local testing center near them to take exams. The instructor must be very clear about the levels of online interaction required of students, as well. Whatever the instructor decides, it should be planned in detail and explained to the students early in the course so that they know what they are to do and how their work will ultimately be evaluated.

4.6 Preparing for Problems
Part of being successful in teaching online is gaining enough experience so that potential problems can be recognized and averted before they become serious. One of the most difficult of these situations is when an online student simply disappears. He or she stops posting or otherwise participating in the course. The student does not answer emails, or perhaps his or her email does not work anymore. After several or many weeks have passed, the missing student then contacts the professor claiming something terrible has happened somewhere far away and the student has been caught up in a crisis. What is the professor to do? How does an instructor decide whom to believe and whom not to believe? Should every excuse be acceptable since none can effectively be verified without considerable effort on the part of the instructor? This is part of course planning that an online professor must consider, because it will happen and handling such questions fairly in the middle of everything else can be problematic.

4.7 Course Preparation
Teaching online really forces an instructor to plan ahead in much more detail than one might expect (Evans, 2001). Aspiring to excellence means that online courses must be planned, documented, and finalized before the first online class sessions. Many who teach both in the conventional setting and online agree that their experience with planning for online classes has actually improved their conventional teaching because it has heightened their awareness of the value of better planning in teaching (Abbott, 2005). Of course, once a teacher has taught a particular online class, it

is much easier the second time around. Once the structure and pedagogical process of the class is established, the problem is more one of keeping the class 'fresh' and anticipating what might go wrong rather than trying to figure out how best to deliver it.

5. CLEARLY DEFINED LEARNING OBJECTIVES

5.1 Formal Objectives
Of course, learning objectives should be clearly defined, but this is actually a subtle point in distance education. In conventional courses, the definition of learning objectives tends to be less formal and the objectives are more malleable during a given term as a course evolves. In an online course where everything must be thoroughly and carefully documented in advance, the formalized role of learning objectives is actually much more important. The way that an instructor ultimately focuses and justifies anything he or she does with online coursework is in terms of its appropriateness to the related learning objectives (Duin, 1998; McLaren, 2004). Each online course, therefore, should include learning objectives, overall and for each of its units. Design of an online course begins with formulating carefully thought out learning objectives for each unit of the course (Hollenbeck, Zinkhan, and French, 2005). These objectives are concise statements that drive the course design process. In particular, the structure and content of the units relates back to their specific objectives. What is the goal of a given online course? What should be taught and what is most important among the various topics to be included? Why is it being done a particular way? These are typical pedagogical questions that arise, and clearly defined learning objectives can help to answer such questions effectively.

5.2 Critical First Step
Professors must take the time to really know what to do and what to put into an online course. Trying to design a course before formalizing learning objectives is a mistake. Objectives should focus on course content, organization of the units, and the needs of students. Instructor efforts to create a highly interactive classroom environment are critical for student learning (Arbaugh, 2000; Cook, 2000). Obviously, developing objectives requires a realistic perspective about what can be done in an online course within the constraints of the course management system and the discipline to be taught. Some may argue that creating learning objectives is more of an art than a science. Be that as it may; it is an art (or a science) that every online teacher must master to be effective in the online classroom.

5.3 Clarity of Purpose
The learning objectives also provide a touchstone for the students (and anyone from outside a course who might view it, such as administrators). For example, students often have a difficult time responding to the discussion questions, especially early in an online course when they are still struggling with understanding what they are supposed to do. Students are concerned about what the professor thinks is important in the readings, and they become perplexed about what to emphasize in their answers. When they ask about how to proceed here, the teacher can direct them to the list of

learning objectives for the unit in question and tell them to be sure to demonstrate in their answers that they have achieved those learning objectives. Administrators often want to know what an instructor is doing in a given online course and why. A concise set of learning objectives can help to answer these kinds of questions too.

6. CONSISTENT INTERACTIONS WITH LEARNERS

6.1 Effective Collaboration
Feedback and support from the teacher are critical for learners in an online course situation. Students are isolated and they are engaging in what is inherently the very human process of learning by interacting with essentially dehumanizing machinery. It can be a daunting task, really, and the only dependable lifeline comes from the professor. This is a key issue and it is the reason that teaching online is so different from teaching in the conventional classroom. The tendency is for inexperienced online teachers to minimize communicating with students. This is a characteristic of the 'sink or swim' mentality. Tell the students what is to be done; and they either do it; or they do not. This approach is too harsh for most experienced online educators. Students need to be met where they are and guided in a process of learning using Internet tools and technologies. What really needs to be fostered is a higher level of interaction among the students and the teacher, a sharing of the intellectual journey in an online course experience. Guiding the students, communicating about the subject matter, fostering collaborative learning, and managing student expectation about the course on every level are the hallmarks of excellent online teaching (Hiltz and Turoff, 2002; Mabrito, 2001).

6.2 Consistent Interactions
Consistency is key. In some ways, online teaching is like conducting a large, ongoing tutorial. There are ample opportunities for one-on-one communications with each student, mostly through emails or sometimes telephone calls or rarely personal meetings. It is, unfortunately, easy to be inconsistent or unclear in such communications and sometimes answer the same questions differently for different students. In a conventional class setting, a student asks a question and a teacher can make a pronouncement to the whole class and can easily note what has been said, either accepting it or modifying it as needed in subsequent class periods. In an online class, the questions tend to be one-on-one between the teacher and a student. Any given interaction may be perceived as less significant by the teacher. The student, of course, receives what is said with finality. Also, such questions tend to be spread out over longer periods of time, which may make the answers given earlier more difficult to remember for the teacher. And questions tend to be more random and 'out of the blue.' Students ask about a range of different topics and issues in a course, jumping around from topic to topic because they are operating independently. There is very little continuity here because these communications tend to be disjoint. As a result, online instructors can be trapped, if they are not wary. Students will quickly decide that the teacher is incompetent and does not really know what he or she wants if they recognize problems here. It is critical for the online teacher to keep track of directives given to individual students and make sure that responses are consistent and repeated for everyone in the class. It is also too easy in this situation to promise a student something and then fail to follow up. Teaching online is difficult enough without having students who are disillusioned because the teacher has been inconsistent with them or failed to keep a promise that was made.

7. CLEAR EXPECTATIONS FOR LEARNERS

7.1 Misunderstandings
How do students know what the teacher expects of them? In the online world, there is no face-to-face contact, no body language, and no tone of voice to help students know what is most important. From the students' perspective, the volume of written documentation for an online course is not easily interpreted. It is a lot of material, and it is difficult to tell what is important, especially if the student is new to the process of online education. So, it is easy for a student to misunderstand and, because a lot of the work done in an online course is done remotely, the student is often behind schedule and sometimes working very hard on the wrong things, before a misunderstanding can be discovered. The damage is already done by then. The instructor feels that the student must do what everyone else has done to get credit for the course; and the student feels misled, under pressure, and discouraged for having to redo work that the teacher probably should have made clearer in the first place.

7.2 Formal Statement of Expectations
There is a fundamental need in online education for the teacher to state expectations for student behaviors and performance early in the course and reiterate these expectations, reinforcing them continually, throughout the course. A key part of this is to be on the lookout for any early signs of trouble with any student, including even slight deviations from expected behavior in the course. The instructor never really knows what is happening in the far reaches of the online classroom. Following up soon after expectations are not met is critical.

7.3 Learner Crises
Student problems can range from short-term to long-term; from trivial disruptions to major crises, and often the first indication is a late posting or a missed checkpoint on a deliverable. The instructor should be constantly alert, looking for unusual or unexpected actions by any student in the course. If a student misses a posting, follow up immediately with an e-mail asking, "What's up?" Keep asking until an answer comes. If email does not work, make a phone call. Usually, a student will answer back quickly citing some minor disruption and will be pleased that the teacher cared enough to notice, but sometimes there are real problems troubling a student and knowing about such situations early can make it possible to work out a way to salvage the student's semester. Good students sometimes have bad problems and helping them get through the semester is a worthwhile goal if it can be accomplished.

Students can evaporate and disappear from an online course if the teacher allows that to happen. And other

students will certainly notice that disappearance. They will want to know where a missing student has gone. To ensure continuity, the class can be reassured if the teacher can relate that there is an unusual situation, without disclosing the actual problem, and that the student is really not missing and other arrangements are being made for him or her to finish the course.

8. SIGNIFICANCE OF CLASS SIZES

8.1 Time Commitment
Quality online teaching requires extensive interaction between the teacher and his or her students. This interaction demands a commitment of the teacher's time, so the number of students in an online course has a significant impact on the level of interaction that is possible. Typically, faculty members simply do not have the time to teach *large* online classes in the manner described here (Schell, 2004). Ideally, the number of students enrolled in an online course should be limited. Large courses can certainly be taught online, but then there must necessarily be less contact with the instructor. And these classes must, therefore, be much more impersonal for the students. This means that the quality of the online educational experience for both teachers and students will suffer if online classes include too many students.

8.2 Quality Questions
Teaching a large online course is very different from teaching a small one. Forecasting the expected number of students is a very critical issue in planning and preparing to teach an online course. From an economic perspective, increasing the number of students in an online course increases the revenue for a university. Obviously, one can expect pressure to increase online class sizes because of this. But from a pedagogical perspective, too many students in an online course simply cannot be taught effectively. Quality suffers because teaching cannot be student centered (Perreault, Waldman, and Alexander, 2002). Clearly, a reasonable balance must be struck here. And where that balance falls will influence the way a teacher must prepare for teaching an online course. The fulcrum seems to be around twenty students.

8.3 Critical Mass
For a new course or a new instructor, fifteen to twenty students in an online class is probably ideal. For an established online class with an experienced online teacher, perhaps twenty-five or maybe even thirty students would be a workable number. A class with too many students will degenerate mostly into a modern version of an old-fashioned 'correspondence course.' This really means missing out on the emerging opportunities for effective online interaction. Also, most students will find the larger online classes too sterile and unfulfilling. Some may tolerate this, but most will probably opt out of online education in favor of the conventional classroom. One other key point here, online classes can also be too small. In an online class with a half dozen students, or even ten or so, the dialogs among learners are weaker and the overall learning experience tends to be less rich. Without enough students, the online environment

becomes too dry and stale after a few weeks of the course. Fewer students mean less diversity of opinion as well. Bringing together students from different backgrounds and with diverse viewpoints has from its inception been a traditional strength of online education (Barth, 2004). Classes that are too small dilute this strength.

8.4 Learning Objectives and Course Design
Class size significantly impacts learning objectives and course design. Take, for example, an online course of twenty students compared to one of forty or fifty students. In a conventional setting, delivering lectures to a group of fifty instead of twenty is mostly a matter of getting a bigger lecture hall. But in an online setting, these are very different situations. There would be considerably more work needed with the larger class to maintain quality at acceptable levels. For example, there would be much more posting and dialoging, many more relationships to maintain, etc. A typical professor probably could not allocate that much time to one class.

So, how would more students change the content in an online class? Clearly, there is much less time to discuss issues in the online environment with many students. So, the content would have to be limited to only the most important points, theories, or whatever. The fullness of the curriculum would be limited. Fewer deliverables, much less feedback for students, much more of the 'sink or swim' mentality would be necessary. Quality of the online teaching and learning experience would suffer dramatically. Basically, the size of the class *determines* the learning objectives and course design. An online course designed for fifteen to twenty students is necessarily a different kind of course from one designed for thirty-five or fifty. It is unwise to take a class designed for twenty students and enroll forty or fifty in it. When it comes to online education, one size does not fit all!

9. CONCLUSION

Much of what has been said in this paper deals with motivating students to succeed in an online learning environment. Online education allows professors to capitalize on the resources of the Internet in developing and presenting a body of knowledge to students. Guiding students through these resources in their quest to master that body of knowledge has the potential to provide a richer learning experience than that found in a conventional classroom. A well structured and documented course with clearly specified requirements and expectations gives students the confidence and grasp to engage actively in the online course setting. A teacher that is communicating with students regularly and showing both enthusiasm for the course material and for the online teaching process, and helping them learn, greatly increases the motivation of the students to perform. Consistent interaction, steady participation, and timely reinforcement are the keys to keeping the students in an online course involved and active in the cyber learning process.

If class requirements are vague or ambiguous or contradictory, students will become discouraged and quickly lose interest. If they cannot achieve clarity somehow, they

will interpret the situation as best they can and operate accordingly. This is not likely to be what the instructor intended, resulting in conflict. If students perceive that a faculty member is not engaging in an online course, they will be much less likely to engage themselves. Nothing is more destructive to online student motivation than a faculty member who is not interacting with them. Without significant human contact, students may seek to get by with the least amount of effort possible, and their learning and the quality of the online course will suffer accordingly.

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