

Quality Online Developmental Math Courses: The Instructor's Role
by Sharon Testone

Introduction

Two vastly different online experiences were presented in an earlier column. An excellent course on Human Resource Management was compared with a College Algebra course which was less than mediocre. At that time, I concluded that online instructors have a great impact on the quality of a student's online experience (Testone, 1999). Since that column was published, I have enrolled in web-based courses and workshops on the topic of online teaching and learning. Furthermore, I have developed and taught a beginning algebra course and a review course which includes topics from arithmetic through intermediate algebra. Completing my own course work and teaching developmental math students online have reinforced my beliefs that the instructor has a major impact both on student success and satisfaction.

Characteristics of Good Online Instructors

The characteristics of good online instructors are similar to those of a good classroom instructor. Both instructors must be organized, caring, approachable, fair, creative and available to assist students. Furthermore, the instructors must have knowledge of their subject area and the ability to create a learning environment that includes many different types of activities. These activities must accommodate different learning styles and meet the needs of a diverse student population.

Online instructors must have another set of skills in addition to those mentioned previously. They must be computer literate, extremely flexible, and responsive. When

developing an online course, instructors must be able to think differently about presenting course materials and able to create a totally different learning environment. Additionally, they need to be life-long learners who have a desire to update their skills and incorporate new technology into their online courses. Finally, they must be able to communicate effectively in written form and willing to communicate with students daily .

Communication and Clarity

When designing a course, the requirements, expectations, and procedures need to be written in very clear and concise language. If students become confused, the instructor will not be available immediately to answer any questions. The students will have to post their questions and then wait for clarification. If this happens too often, students will become discouraged and may withdraw from the class. It is necessary, therefore, to anticipate questions and try to address them when developing the course materials.

Instructors need to realize that every "word" that would be verbalized to students in the traditional classroom needs to be written into the online course. The written documents will include the syllabus, expectations, assignments, grading procedures, and directions for how to proceed through the learning materials and activities in the course. Additionally, the course content needs be presented to the students in a written form or perhaps using audio or video materials.

Many courses include mini-lectures which should be more than a reading assignment. Good mini-lectures provide the students with the course content and demonstrate how to solve problems or how to avoid common errors. The mathematical symbols needed to present this information should be in an understandable format. Using several sets of

grouping symbols, sqrt instead of $\sqrt{\quad}$, or ^ instead of a superscript makes it more difficult for the students to learn the mathematics. In the past, it has not been possible to represent math symbols on websites; however, today the software is available to eliminate that problem.

Since developmental math students cannot be expected to merely read the mini-lectures or a textbook without any other support, many online courses include other components. Fortunately, most of the textbook publishers provide video lectures, web-based tutorials, and other ancillary materials that will support student learning and can be incorporated into an online course.

Once the course is designed, it is recommended that it be piloted. Either the whole course or a portion of the course should be tested with a small group of developmental students to be sure that directions, lectures, and other course documents are understandable.

Communication and Visibility

Communication is very important to maintain the instructor's visibility in the online classroom. Although faculty members may be online daily, their presence may not be visible to all students. Reading discussion postings, but not responding will leave the students wondering about the instructor. Additionally, responding privately to one or two students will have the same effect. It is important, therefore, to post messages often in locations where they will be visible to all students. Course management systems have "newsflash areas", "bulletin boards" or some area where general messages may be posted

for all to view. These messages allow the students to know that the instructor is present and they are not alone.

The number of times an instructor signs into the classroom is dependent upon the type of class and perhaps the level of activity at a specific time in the semester. For example, instructors may need to sign on daily at the beginning of the semester and before a project or an exam is due. Checking on the students every other day may be sufficient for some disciplines, but I have found that it is not sufficient for developmental mathematics. Since these students do need much assistance and are often frustrated very easily, they need an instructor who is available at least once each day. My colleagues and I often visit our online classrooms at least twice each day to be sure that our developmental math students are not waiting too long for an answer to an essential question. Moreover, we cover for each other if one of us is not available to check the classroom on a regular basis. This arrangement is especially needed during college vacations because some students may use that time to catch up or work ahead and we don't want to hinder their progress.

Communication and Relationship Building

The online instructor has to develop a relationship with the students by using the written word. Since there are no facial clues, students may misunderstand a comment. Some instructors use emoticons to show smiling, happy, sad, etc. These symbols allow the instructor to make a joke or kid with someone without the statement being misunderstood. Often humor does not translate well to this environment and a joke may be interpreted as sarcasm by a student.

It is important for the instructor to set the correct tone from the beginning. Students need to realize that they are in a classroom, not a chat room and certain standards are expected. These standards need to be communicated in a nonthreatening manner. It is important to develop a rapport with the students so that they do feel free to ask questions and participate freely in discussions.

Discussions also are used to create a class community among the students. Often instructors provide areas within the course where students may discuss any topic of interest. This area is similar to a "student lounge". Meanwhile, threaded discussions on course topics occur asynchronously in the "classroom". Developmental math faculty often wonder how discussions apply to this discipline. Various questions can be posed that will initiate student responses and spark a math related discussion. Students in the social sciences will most likely have more interesting discussions than will occur in a math class, but we need to be creative and provide students with an opportunity to relate to each other (Appendix A).

Communication and Empathy

Written communication skills are essential in an online classroom. Instructors have to be aware of how their written word will be understood and interpreted by students. Developmental mathematics students may be quite sensitive about their lack of mathematical ability and may easily misinterpret a comment from their instructor.

When responding to a student, instructors should use tentative language and demonstrate empathy for the students. For example, a student would not be offended by the following comment: "It appears that you misunderstood the directions for this

assignment. I will give you an opportunity to make corrections." A student, however, would most likely be offended by: "If you read the directions, you would have known where to submit the assignment. It is not acceptable because you put it into the wrong place." Before writing a response, instructors must think about the difficulty that a developmental student may be having navigating the course and learning the mathematics at the same time. Having patience with these students is yet another characteristic of a good online instructor.

Conclusion

Teaching online is an interesting adventure with much still to learn. Most new online instructors speak of the additional work and the frustrations. They speak of the need to improve their written communication skills and the need to become life-long learners which represents an opportunity for professional growth. Finally, most online teachers state that they are having "fun" working with students in this environment. Perhaps that is the most important characteristic of a good online instructor - someone who is having "fun".

Reference:

Testone S. (1999, Fall). On-Line courses: A comparison of two vastly different experiences. Research and Teaching in Developmental Education 16(1).

Appendix A:

SAMPLE DISCUSSION QUESTIONS:

1. Tell us why you are taking this course online and any worries you may have about learning math this way.
2. Tell us about a very good math experience you have had in the past and why it was a good experience.
3. Choose one of the following: graphical, substitution, or elimination methods. Briefly describe the method and then try to convince your classmates that it is the best method to use for solving simultaneous equations.
4. Factoring can be difficult for some students. Tell us about a factoring problem that gave you trouble, but you were finally able to complete. What steps did you take that led to your success?
5. Explain why dividing by $\frac{1}{2}$ is the same as multiplying by 2. Try to use specific examples with your explanation.

Appendix B:

RESOURCES OF INTEREST:

Assuring Quality in Distance Learning: A Preliminary Review. (1998). Washington, DC: The College Board

Palloff, Rena M. and Pratt, Keith. (2001). *Lessons from the Cyberspace Classroom: The Realities of Online Teaching.* San Francisco: Jossey-Bass, Inc.

Salmon, Gilly (2000). *E-Moderating: The key to Teaching and Learning Online.* London: Kogan Page Limited.

Schweizer, Heidi. (1999). *Designing and Teaching an Online Course: Spinning Your Web Classroom.* Boston: Allyn & Bacon.

Simonson, Michael, et al. (2000). *Teaching and Learning at a Distance: Foundations of Distance Education.* Upper Saddle River: Prentice Hall.

White, Ken W. and Weight, Bob H. (2000). *The Online Teaching Guide: A Handbook of Attitudes, Strategies, and Techniques for the Virtual Classroom.* Needham Heights: Allyn & Bacon.

