Simulations in Support of Learning
Dr. Curt Madison, Director, Center for Distance Education

Distance Education sits awash in a mediated environment. We know going in that students will be separated from instructors by time or geography. We can use the characteristics of the mediated environment to enable customized approaches to learning. The advantage of distance education lies with the opportunity for the choice itself. Instructional designers who begin their work knowing that the student experience will be mediated can construct the context for the learning experience.

We can create collaborative learning by connecting students to each other around the world in “communities of learning.” We can also develop professional behaviors by connecting students to real life “communities of practice.” By using sophisticated simulation environments we can accelerate student learning.

A designer would choose to use a simulation if she wanted to allow students to take risks in dangerous situations, allow students to repeat procedures for review or alternate choices, provide a safe environment for operations, or to protect other staff or students from unskilled student actions.

Simulations for learning have undergone profound improvement in the past year. Full-size expensive installations of airplanes and trucks are giving way to hardware-software hybrid solutions at one tenth the price. Learning theorists apply design principles to ferret out the essential elements in skill acquisition.

Software based simulations available through 3D Virtual Worlds are on the cutting edge of even greater cost reductions for accelerated learning.

The Center for Distance Education participates in all levels of design for mediated environments.

Understanding by Design aka. UBD
by Heidi Olson, Instructional Designer

CDE begin using the Understanding By Design (UBD) model about five years ago. Developed by Grant Wiggins and Jay McTighe and first published in 1989, the framework has become a standard for many educational institutions. The Instructional Design Team (IDT) provides UBD introductory sessions for new course developers and for those who are revising current courses. The process can be adopted for all types of learning and is particularly relevant to distant delivered classes like the ones we offer. In hopes of getting beyond designing a course that is structured on “read-a-chapter, take-a-test” – used in a lot of traditional correspondence courses – the UBD model encourages developers to design a course that will encourage student understanding of the content and set them on the road to becoming life-long learners.

To begin, we ask course developers to envision the outcomes of the class and determine the important things students should take away upon its completion. What are the big thoughts, the deep conceptual understandings that are important? What are the essential questions that can provide a framework for delivering content that will engage the student and keep them motivated to work through the content with you as the guide? By beginning with the desired results and working backwards to learning activities the developer is constantly referring back to the big thoughts or the enduring understandings of the course content.

The second stage of the UBD process is to determine how you will know a student comprehends the concepts. How can you tell if the learner understands and more importantly, can apply that knowledge to other scenarios or real-world situations? It might be by giving a traditional true/false, short answer test or it might be that in your discipline it’s more relevant to have the student concentrate on a portfolio or performance. Determining what types of assessment you’ll have after establishing the big concepts of your content will help to guide the assessments to align closer to the goals of course.

While thinking about assessments UBD has you consider all types of performance ability or what they call the “Facets of Understanding”: explanation, interpretation, application, perspective, empathy, and self-knowledge, which is a concept similar to Bloom’s Taxonomy. By using a range of these concepts to assess the learning you’ll be asking your students to consider the content in a more complete way. How can you get a student to use empathy in a math class? This is a hard one! How about: Why do you think that many consider “One” to be the loneliest number and how might that feel?

After you have your framework in place its time to plan your learning experiences and instruction – this is the fun part! The goal is to focus on being effective and engaging. What instruction or learning experience will promote the desired understanding? What types of activities could you assign that will equip the learner with the needed knowledge and skill to perform the course goals? Will reading a chapter in a textbook accomplish this? Research shows that students learn best when they are able to actively apply what they read (or hear if there is a lecture) to some type of learning activity. The IDT will work with you to brainstorm ideas and help figure out what types of technology could be used to best accomplish this goal.
The UDB Approach for Math
by Latrice Bowman

I was recently approached to design and revise some courses for CDE. In the past when asked to do this, I found it to be a very lengthy and difficult process. For math classes it’s easy to determine the topics to be covered in the course and come up with some problems that help explore those concepts but how do you make it interesting and engaging for students that you don’t meet face to face? The Understanding by Design process was not put together with math classes in mind. However, the techniques and ideas are quite universal. Using this process helped me rethink how my students learn concepts and instead of just picking problems and giving exams, it helped me identify the overall goals and redesign the course so that my distance students received some of the same benefits from the course that my campus students have. The new courses are such that students understand the material better (can give better explanations and work more involved problems) and students are completing the course in a more adequate time. I also feel that I am interacting and receiving feedback from students that I had not received in the past. Overall I am pleased with the process and had found it to be very applicable. I now feel that my distance classes are quite comparable to my campus classes and now student truly have more options for math.

We Care What Students Think!
Dr. Shauna Schullo, Associate Director, Center for Distance Education

CDE is committed to making our student’s educational experience the best it can be. So, we are continually looking for ways in which we can enhance our services and improve our courses to better meet student needs. In order to do this effectively, CDE evaluates our courses each semester. The most important form of evaluation that we can get is feedback from students on how we are doing.

This semester, we implemented a new approach to our course evaluations. We put the course evaluation form online for students to access at anytime and from any Internet connected computer. We hope that this method of evaluation will increase the number of students offering feedback by making it easier for them to submit results, especially for web based courses.

Please feel free to let your students know about the online course evaluations. You can send them email or even paste the address below into a Blackboard message. If you would like to take a look for yourself, just point your web browser to http://distance.uaf.edu/cc/endofcoursesurvey/survey.htm.

CDE will process the evaluations and provide a summary to instructors for each course. No names or identifying information will be available to instructors, but comments and overall results will assist you in understanding how your students felt about the course and where changes might need to be made.

All students who received a grade in Fall 2006 were sent a letter containing this information as well as a print version of the evaluation. This will serve to facilitate the evaluations for those who do not have Internet access as well as notification of the new online process.

For more information about this process go to the CDE website at http://distance.uaf.edu/research or contact our office and we’ll share our experiences. We look forward to working with our current developers through this process, but mostly we anticipate greater student engagement which should result in increased completion rates.

TALK BACK
Is there something you want to know about? Is there a topic you’d like to see us cover? Students, is there a faculty member you would like us to highlight? Faculty members, tell us about your exceptional students for Student Highlight coverage! Let us know by emailing us at distance@uaf.edu!!

Dr. Shauna Schullo

UAF is an affirmative action/equal opportunity employer and educational institution.

UNIVERSITY OF ALASKA
FAIRBANKS

Center for Distance Education and Independent Learning
Location: 3352 College Rd, Suite A, Fairbanks, AK 99709
Mailing Address: PO Box 756700, Fairbanks, AK 99775
Phone: 907-474-5353 / Toll Free: 1-800-277-8060
Fax: 907-474-5402  Email: distance@uaf.edu