of improvement. Qualitative data on perceptions of the course, and teacher's and learner's work suggest that these courses are more demanding than the face-to-face ones they are taking. Students' responses include attitudinal and cognitive adjustments needed for these learning environments. These results have led to improvements, which are presently being applied.

An Online Model For Precalculus

Hari Pulapaka, Valdosta State University, USA; Denise Reid, Valdosta State University, USA

Some of the greatest challenges to designing and delivering a completely online mathematics course are effective and efficient uses of the leading technologies that are available for this purpose. The authors have just completed designing the first version of a precalculus course that is being delivered through a combination of synchronous and asynchronous environments. Precalculus was chosen over other mathematics courses for several reasons. The course has been planned as a model online course for any mathematics course (especially at the early levels). Future versions of this course and related courses will undoubtedly incorporate additional technologies and components in an effort to improve student learning, interactivity, and end-user feasibility. Future plans for the course include development and refeinement of the unfinished sections of the course and tighter integration with graphing calculator and/or mathematical software.

IMAGUS: An Environment To Design Video Applications For Digital Libraries

Andre Luis Alice Raabe, Pontificia Universidade Catolica do Rio Grande do Sul, Brasil; Lucia Maria Martins Giraffa, Pontificia Universidade Catolica do Rio Grande do Sul, Brasil

This poster presents the description of the IMAGUS environment. IMAGUS has tools to built video applications supported by Internet. This environment has being developed in order to contribute for the construction of the PUCRS digital library collection.

Art, Poetry, and Instructional Media

Thomas Reinartz, Rosemount High School, USA; Brad Hokanson, University of Minnesota, USA

In many high school English courses, students are trained to seek out proper form and work toward clarity in their writing assignments. They are taught to write using complete sentences and complete thoughts, fix their punctuation and grammar, and strive for polish in all written work. That is what English is all about. On one level, we can be pleased with their concern. However, this quest for excellence and perfection seems to interfere with the poetry writing process. Many successful poems lack complete sentences, defy traditional uses of punctuation, and contain word combinations that require readers to make inferential connections, often sacrificing the writing clarity that English teachers work so hard teach. We have taught them to be concise, clear, and correct in all writing endeavors, which in most cases, is sound advice. Writing poetry, however, demands skills that require us to play with words and dwell in areas where word juxtapositions and combinations are limited only by one's imagination. The many choices in this "zone" of possibility are frighteningly endless, so it is no wonder students resist entering. They may get lost. To help foster an awareness about word choice and imagery, we developed an interactive program to generate "found" poetry with student input and used it in a twelve week American literature class taught by T. J. Reinartz, one of the authors. The program evolved from discussion between the authors regarding the use of computers to inspire poetry writing. A multi modal qualitative research study was undertaken involving classroom observation, video taping, survey questions and analysis of poetry segments. The findings of that research and analysis will be presented, with broader observations of the use of computers 'in the service' of poetry, and their appropriate use in the high school classroom.

Students as Producers: Changing the Way we Teach and Learn

Gail Ring, University of Florida, USA; Sebastian Foti, University of Florida, USA; Melissa McCallister, University of Florida, USA; Tamara Pearson, University of Florida, USA; Ebraheem Alkazeemi, University of Florida, USA

Educational technology courses at the University of Florida are modeling the concept of students as producers. Through student-based projects such as an online support center, educational software, student portfolios, and documentary-type CD-roms our students are producing educational products. These 'real' activities are improving our courses as students learn by doing, thereby creating a constructivist learning environment. Relevant, contextual projects such as these provide students with an increased sense of empowerment and ownership. In our presentation we will share how the traditional roles of instructor and learner may no longer appropriate.

The GPB project; A successful PHD seminar using Videoconference in real time and a list to communicatebetween the classes

Claire Roberge, University of Quebec in Montreal, Canada

This winter 2000, a seminar was offered at the PHD level in the departement of Communication at the University of Québec in Montréal.Three teachers participated, one from Montréal, one from Paris and one from Grenoble. Seven sessions were offered in videoconference to all students enrolled. A website and a list were added tools offered to the students to communicate between the sessions. The sessions in videoconference were in real time.