GOING LIVE WITH E-TUTORING: A SELECTION AND IMPLEMENTATION GUIDE FOR DISTANCE EDUCATION PROGRAMS

Maria Elena Valdes-Corbeil, Ed.D., The University of Texas at Brownsville, mevaldes1@aol.com
Joseph Rene Corbeil, Ed.D., The University of Texas at Brownsville, rene.corbeil@utb.edu

ABSTRACT

This paper illustrates the journey of an institution to provide academic engagement opportunities for distance education and campus-based students through the use of innovative, team-building technologies. The role of campus-based, traditional tutoring centers is changing to provide learning and technological support to online and nontraditional campus-based students, and an infrastructure that increases their awareness of course expectations, the professional and academic skills required for success, as well as available resources. However, oftentimes there is no formal tutoring system in place for online courses. Although there are online tutoring services available on the market, their implementation and use is expensive. This paper delineates the early phases of the online tutoring development process, including a rubric with a checklist of technological and pedagogical issues and questions to facilitate decision-making; an e-tutoring tool selection matrix; and an online tutoring model.

Keywords: Distance Education, Online Support, Online Learning, e-Tutoring

GOING LIVE: WHY E-TUTORING?

There is a pressing need to provide online tutoring to distance education students who are not in proximity of the university and campus-based students who have family and work responsibilities that keep them from accessing tutoring services during the traditional hours of operation. The need to offer distance education courses rushed faculty and administrators into developing courses and programs before many institutions were prepared to offer students the infrastructure that they needed to apply, register, and access student support services, such as the library, counseling, and tutoring, that their campus counterparts have readily available. The challenge is compounded at higher education institutions where resources are limited and students who are enrolled in online courses pay distance education and student fees which partially fund tutoring services, yet, there is no formal tutoring system in place for online courses. Students in many online courses may obtain some "out-of-class" tutoring from their instructor or in the instance that the instructor refers them to someone at the university's learning center, they may receive individualized services via email or telephone. While there are countless online tutoring services available on the market, their implementation requires an extensive availability of human and financial resources.

SETTING THE STAGE: E-TUTORING OPTIONS

After identifying the need and reviewing many expensive commercially-developed tutoring products, it became necessary to explore creative partnerships, such as the collaboration that exists to provide distance education students with library access. The University (UT) System Library has a "Chat live with a Librarian." Students link to the library from the campus' website and every day a different librarian from one of the partner institutions monitors a chat room and is available to answer questions or assist students in finding the appropriate resources. Similarly, the tutoring center at different UT campuses can be responsible for different subject areas and provide synchronous tutoring for that subject area during varied times during the day and evening. Also, experienced tutors can be assigned their content area of expertise (for example, biology) and provide students times when he/she will be available in a virtual classroom for out-of-class discussions and tutoring. Due to the administrative planning required for this type of program, these partnerships are currently in the planning stages of this project. However, the need still existed for a more immediate implementation solution.

Available online tutoring models were then assessed, including correspondence based, email, fax, and telephone. The limitations to the use of these tools include issues of timeliness and just-in-time learning because they require waiting, and turn-around time increases frustration and may even discourage students. Therefore, the solution had to be inexpensive and easy to implement for both the tutoring personnel and the students, who at this campus in a poor region of the country, do not have access to advanced technology tools and high speed Internet connections. A possible, viable solution for this institution involved the use of a product that the institution had purchased to use with the online master's degree program. It helps us provide live,

free tutoring that offers the students the choice to engage in audio/video/chat conferencing. Given the role of course tutors in supporting academic engagement [3], it was crucial to select the appropriate tutoring tool.

TESTING 1, 2, 3: SELECTING THE RIGHT TOOL

While there are a multitude of audio and video conferencing tools on the market, selecting the most appropriate one for a program's specific needs can be a formidable task. Several factors come into play. According to Regenold [2], the key to successful implementation is knowing when to use the right tool at the right time for the right purpose. The following issues and questions should be addressed in the selection of a communications product or solution:

Cost
One time fee or recurring charges? Do you purchase the license outright or do you incur yearly renewal of service fees?

Ease of Use
Is the program easy to install? Administer? Use? Will the tutoring staff require training? Does the program have a user-friendly interface?

Adaptability
Is the program adaptable to instructional use? Is the interface customizable?

Scalability
Is the program scalable to permit multiple simultaneous sessions?

Compatibility
Is the program compatible across multiple platforms and operating systems?

Bandwidth Requirements
What are the minimum bandwidth requirements for receiving audio? Video? Both?

Features
What communication features does the program have? Chat, IM, Whiteboard, Audio, Video, Polling?

Benefits
What are the benefits of using this platform over all others?

Limitations
What are the limitations of this platform?

Necessary Accessories
What accessories are needed to promote the use of selected tools?

Usefulness/Effectiveness
To what extent is the chosen tool found useful to student achievement?

After reviewing dozens of products, we narrowed the search to three products: Horizon/Wimba, Skype, and Flash Communication Server. Each of these products had the potential to serve the students' tutoring needs, but each comes with its own advantages and disadvantages:

Horizon/Wimba. Web-based communication tools facilitate and promote vocal instruction, collaboration, coaching, and assessment. The voice tools support traditional communicative styles of language learning, giving students multiple methods of speaking, writing, and listening.

Advantages
- Seamlessly integrates with Blackboard and WebCT.
- Offers live discussions between students and tutors, anytime, anywhere.
- Supports audio, video, application sharing, and content display.
- Facilitates and promotes vocal instruction, collaboration, coaching, and assessment.

Disadvantages
- Cost. Campus-wide licenses can cost up to $10,000 per year.
- Not easily customizable. The software comes prepackaged and may not be adaptable to specific tutoring needs.
- There is a significant learning curve in administrating and using the program.
- Requires users to install various plug-ins and adjust computer settings.

Skype. A computer-to-computer service that allows users to speak, to send instant messages or to send files to one another from their computers via the Internet at no cost. Conferences of up to five users are supported. Skype 2.0 has a *Skype Video Calling* feature which has been implemented to enable videoconferencing.

Advantages
- It is free.
- Supports chat, audio, and video communication.
- File transfer – P2P technology allows users instantly send and receive files securely.

- Voice-over-IP (VoIP) technology allows users to communicate through by phone.
- Permits conference call with up to 5 people at the same time.

Disadvantages
- Requires software download and installation.
- May not work through firewalls.
- Not customizable. The software comes prepackaged and may not be adaptable to specific tutoring needs.
- Does not support application sharing or content display.

Flash Communication Server. Facilitates the development and delivery of communications applications that integrate audio, video, text, chat, and enterprise data, the development of multimedia presentations with streaming video and synchronized content, and, collaborative meeting applications that bring people together in real-time.

Advantages
- Affordable.
- Customizable- custom applications can be built for instructional use.
- Easy to use. The software has a user-friendly interface.
- Scalable. The software can accommodate multiple sessions and users simultaneously.
- Compatible. Compatible across multiple Web browsers and computer platforms.
- No additional software needed. Requires only Flash plug-in already found on most PCs.

Disadvantages
- Not Free. The academic version of the software costs approximately $2000.
- Requires programming ability for customization
- Requires familiarity with server management and setup.

After evaluating Horizon/Wimba, Skype, and the Flash Communication Server, the tutoring center decided to adopt the Flash Communication Server. Products like Horizon/Wimba and Skype come with pre-packaged commercial-quality user interfaces that provide a multitude of features. Conversely, the Flash communication server comes with sample templates and copy & paste snippets of code. The biggest difference between the pre-packaged option and the programmable option is the ability to customize the interface to fit a specific purpose. Many of the features available on the pre-packaged products simply don't fit the online tutoring paradigm.

When asked to explain the differences between Horizon/Wimba and the Flash Communication Server, one technician provided the following analogy: Horizon/Wimba is like a luxury car that comes with every amenity and comfort item imaginable while the Flash Communication Server is like a hot rod that is custom-built from scratch. While the luxury car may possess features that may never be used, the hot rod is built for a very specific purpose and only has those features that support that purpose. In other words, the Flash Communication Server permits the Learning Assistance Center to develop web-based applications that specifically meet the needs of an online tutoring program. The ability of the Flash Communication Server program to be customizable was its most appealing attribute. Cost-wise, it was nowhere as expensive as Horizon/Wimba, nor was it free like Skype, but we felt that the program was affordable and provided most of the features we needed.

LIGHTS, CAMERA, ACTION: GO LIVE!

Once the software is installed and the interfaces created, how do you facilitate the online tutoring service? We propose two options:

Option 1: Make an appointment. Have students contact the Learning Assistance Center and schedule an online tutoring session. This option is ideal for students who are working on long-term projects and need assistance at different stages. The scheduling can be done over the phone or through the use of an online form. A shared online calendar can be used to allow students to view at a glance what days and times are available. Students are then instructed to submit their drafts to the assigned tutor prior to the live session.

Option 2: Offer virtual office hours. Assign tutors to monitor the chat room for students who need immediate assistance. Post "virtual tutoring hours" during times when students will most likely request assistance. One possible solution would be to assign a group of tutors to monitor the chat room on different evenings of the week. These online tutoring sessions can even be facilitated from home on evenings and weekends.

The interface we developed allows students and tutors to communicate via chat, audio and video conferencing. Students with slow dial-up connections can call in and speak live to a tutor while sitting in front of the computer. The tutors will use computers with broadband Internet access, webcam, and microphone.

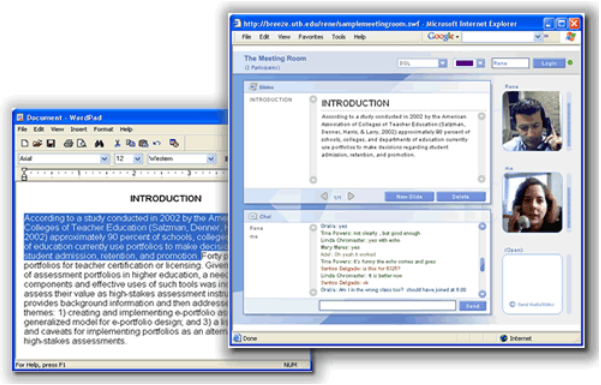

Figure 1. Screenshot of the Flash Communication Server interface. While students and tutors converse through audio, video, telephone, and/or chat, content can be edited by both parties when pasted into the shared work space.

The interface also has a shared workspace that allows tutors and students to copy, paste, and edit text files on the fly. In a typical live tutoring session, the student emails the tutor a draft of the assignment. Together, through audio, they discuss the assignment and identify sections that need additional work. The tutor can highlight a passage, copy it from the draft, then paste it onto the shared work space. The tutor then asks the student to read the passage and identify problems with sentence structure or message. The student edits the passage with the tutor's guidance until it is correctly written. The student then copies the edited text from the shared work space and pastes it into his draft. This process is repeated as needed.

The interface is simple and straightforward enough for experienced as well as novice users. More importantly, it allows tutors to implement the tutoring strategies that they employ in face-to-face sessions, but could not apply in tutoring by email, telephone or chat, including important stages of the tutoring cycle such as greeting the student. For example, the audio and video features allow tutors to maximize the use of visual and verbal cues, such as the strategic use of facial expressions and changes in tone to point out key words, passages, or mathematical formulas that need improvement, correcting, and/or further analysis. Through the use of this versatile tool, tutors can even use silence to encourage the student to come up with the solution by him or herself, thereby encouraging the development of independent learning skills. In addition, the shared workspace allows full and active participation from the student as the tutor and student view textual edits or modifications as they occur.

THE NEXT STAGE: IMAGINING THE POSSIBILITIES

Although audio and video conferencing tools work best when working one-to-one, the demands of time and increased enrollment may also necessitate that tutors work with several students at one time. This team-building tool may also be used effectively with small groups, such as to facilitate a test-review session or conduct a conversational English class for second-language learners. When working with more than one student, using the audio and chat features in combination may be most effective. In order to minimize the possibility of more than one person speaking at a time, it is also recommended that ground rules be adopted by the group in the first few minutes of the interaction. For example, the tutor might determine that for that session, he/she will use audio while the students use text-based chat. The tutor can ask if anyone has a question. As students "raise their hands" to speak, the tutor acknowledges the student, who then types his or her question. The tutor re-reads the question aloud, then answers it using audio. The tutor can also assign others to speak by un-muting their microphones. The tutor may also opt to post the response in the shared work space for students to copy if taking notes.

Audio and video conferences can also be used to help small groups to practice and learn a foreign language. For example, conversational English and Spanish classes could be facilitated through live, weekly evening sessions and attended from the comfort of home. The video feature allows second-language learners to learn the body language associated with the target language, as well as culturally-laden verbal and nonverbal communication. Participants can converse with one another in audio, practice their writing through the chat and shared work space tools. The synergy that is established with this tool is a result of the students working together in a three-dimensional space that allows them to establish their own tutoring network beyond the one-dimensional constraints of purely text-based environments.

SUMMARY

Twiggs [4] noted that for most institutions, the implementation of new technologies is thwarted by the additional expense and resources that are required to launch the new services. Most campuses "have simply bolted new technologies onto a fixed plant, a fixed faculty, and a fixed notion of classroom instruction. Under these circumstances, technology becomes part of the problem of rising costs, rather than part of the

solution" (p. 28). According to a study conducted by the Sloan Consortium, "nearly 3 million students are believed to be taking online classes at institutions of higher education in the United States this year, with a growth of approximately 25 percent a year" [1]. According to Twiggs [5], students who participate in online learning programs appreciate the convenience and flexibility of accessing their courses at times, and from places that are convenient and accommodate their lives and responsibilities. However, the benefits afforded by the flexibility of geographical and time-independent courses is a drawback when the learner is far removed from the campus and services that are available to on-campus students, such as tutoring services. Many postsecondary institutions cannot afford to implement costly tutoring (tutoring) systems. Without additional resources or a formal system for providing online tutoring to the rapidly increasing number of students participating in online courses, the needs of distance education students are not being met. Consequently, the journey toward the development of a conceptual model for a synchronous and asynchronous system that will sustain an online tutoring community was embarked upon. The changing role of learning assistance prompted the utilization of current resources and collegial partnerships, coupled with innovative technologies to equalize access for the university's students by providing opportunities for academic engagement; thereby contributing to their awareness, interest, persistence, retention, and satisfaction.

REFERENCES

All-free-info. (2005). Learning online. ***http://all-free-info.com/learning/***

1. Regenold, S. (2005, May). Can you see me now? *Presentations*, *19*(5), 38-40.
2. Richardson, J., Long, G., & Woodley, A. (2003). Academic engagement and perceptions of quality distance education. *Open Learning 18*(3), 223-244.
3. Twiggs. C. A. (2003, Sept/Oct). *Improving learning and reducing costs: New models for online learning. Educause Review*, 28-38.
4. Twiggs. C. A. (2001). *Innovations in online learning: Moving beyond no significant difference*. The Pew Learning and Technology Program Center for Academic Transformation at Rensselaer Polytechnic Institute, Retrieved January 5, 2005, from http://www.center.rpi.edu/Monographs/Innovations.html.