

# Techtalk: An Online Framework for Developmental Literacy

By Melissa Burgess and David C. Caverly

In a previous Techtalk column, Peterson and Caverly (2005) introduced the Community of Inquiry (CoI) model (Garrison, Anderson, & Archer, 2001) as a guide for online learning. The CoI model has maintained longevity and applicability to a variety of both synchronous and asynchronous technologies (Ice, Curtis, Phillips, & Wells, 2007). In this column, we will revisit the CoI model and its application to new synchronous and asynchronous instructional tools situated within developmental literacy. In future columns, we'll apply it to developmental math and writing.

## Laying the Virtual Groundwork

When technology is integrated into a classroom, learner attitudes and outcomes match or surpass that of instruction which does not use technology (cf., Burgess, 2009; Rosen & Salomon, 2007). Further, Leu, Kinzer, Coiro, and Cammack (2004) have stressed the importance in the global economy to equip students with *new literacies* that support social communication and use of communication technologies. Many incoming freshman are already equipped with these social technological skills, including those who are developing their literacy (Burgess, 2010). However, instructors in DE (developmental education) would be well-served to examine and measure students' digital literacy toward informing instruction, as often it is shallow (Caverly, Peterson, Delaney, & Starks-Martin, 2009).

Some hesitation, however, has occurred with the promotion of online (be it all online or hybrid) developmental literacy due to high attrition rates and a lack of confidence in the medium. One reason cited is that developmental students cannot handle the independent nature of this delivery mode (Petrides, Kerplani, & Nguyen, 2006). Others have argued that DE students need instant feedback and teacher presence to learn effectively; therefore, online learning may place them at risk for dropout or feeling isolated (Boylan, 2002; Maxwell, 1997). However, with the continuing emergence of new learning technologies, instant feedback and teacher presence can be attained online with the appropriate guiding framework.

## Community of Inquiry Model

Garrison, Anderson, and Archer's (2000) CoI model is based on an interaction of three major instructional components: *social presence*, *cognitive presence*, and *teaching presence*, which augment an effective educational learning experience. *Social presence* focuses on either asynchronous or synchronous online communicative interactivity among learners by using social, constructivist activities. Learning technologies embrace critical thinking, collaboration, and problem-solving of real-world problems to create this social presence (Trilling & Fadel, 2009). *Cognitive presence* is defined as "the extent to which meaning can be constructed by sustained communication within a group of people" (Garrison et al., 2001, p. 3), implying that social presence must be established prior to the emergence of cognitive understanding. *Teaching presence* stresses the importance of instructor guidance and support to direct these social constructivist activities and foster the cognitive presence. Teaching presence is particularly important for DE students as many are learning self-regulatory skills.

## Best Practices

The following best practices provide guidelines for DE literacy instructors using new and emerging technologies within the CoI model. They can help ensure the smooth and effective delivery of instruction.

### Address Access, Attitude, and Educational Issues Prior to Technology Implementation

Make sure technical and educational support for faculty and students using technology is readily available. For example, support through wireless Internet access, sufficient hardware for those without computers or smart phones, and technical support structures when problems arise is essential.

### Identify Concepts/Strategies to be Learned

Objectives for learning must be identified prior to teaching with technology as they guide the direction of learning. One possible concept and strategy objective would be to identify author and source credibility. Technologies can supplement instruction through access to extensive multimedia resources on the Internet; e-mail, discussion forums, or blogs to provide feedback; and a wiki history to assess learning, but sources must be credible.

### Design Activities Based upon a Cognitive Presence

Churches' (2007) Digital Taxonomy provides a variety of technologies to support each level of Bloom's Revised Taxonomy (Anderson & Krathwohl, 2001) and delineates how they are linked to cognitive objectives. For DE literacy, one might use *ProCon.org* (2010) at the knowledge level to select an issue and find initial sources on both sides of it, choose *Webspiration* (2010) at the analyzing and evaluating level to collaboratively brainstorm an argument, and then use *PBworks* (2010) at the creating level as a wiki to document a solution to the issue.

### Create Opportunities for a Social Presence

Technologies that facilitate social presence include blogs, discussion boards, online chats, texting, e-mailing, instant messaging, or two-way audio and video conferencing. These technologies provide DE literacy students an opportunity to socially interact to construct an understanding as they critically think, collaborate, and problem solve real-world problems. One might choose *Blogger* (Google Inc., 2010) to provide opportunities for students to collaborate and share what they are adding or changing on their wiki.

### Provide a Teaching Presence through Support, Guidance, and Feedback

To effectively lead an online DE literacy course, an instructor must be willing to exhibit the following characteristics (Churches, 2007). An *adapter* is flexible, diverse, and creative with instructional design. A *visionary* looks at emerging technologies and envisions creative ways to effectively incorporate them into instruction. A *collaborator* actively models social learning interactions. *Risk takers* trust their own abilities to deliver instruction that supports digital native students. A *learner* models a commitment to lifelong learning adapting and changing to incorporate new ideas. A *communicator* communicates quickly, clearly, and effectively. A *modeler* demonstrates behaviors that are expected of students (i.e., tolerance, patience, global perspectives, etc.). A *leader* guides student learning with technologies through clear objectives, vision, incentive, and action.

## Learning Technologies for Developmental Literacy

To understand *how* learning technologies can enhance instruction in developmental literacy through an asynchronous or synchronous environ-

ment, it is also necessary to pinpoint the reasons *why* each technology is used. Applying a CoI perspective, technology enhances information seeking, information presenting, knowledge organization, knowledge integration, knowledge sharing, and knowledge assessment. Burgess and Caverly (2010) illustrate the variety of online learning technologies linked to each of these developmental literacy applications.

## Conclusion

It is fairly certain that online learning technologies will continue to evolve in years to come. Additionally, it is also fair to posit that learning technologies will change according to the needs of a global society. What will remain the same are the underlying pedagogical needs of developmental literacy students. What is important for students today and in the future is access to developmental literacy instructors who are willing to be continual learners, maintain a teaching presence in their asynchronous and synchronous online teaching environments, and develop a cognitive presence through a social presence.

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Melissa L. Burgess ([mburgess@esc6.net](mailto:mburgess@esc6.net)) is the Distance Education Director for the Texas Virtual Learning Center at Region VI Education Service Center in Huntsville, TX and David C. Caverly ([dco2@txstate.edu](mailto:dco2@txstate.edu)) is professor and director of the Developmental Reading Program at Texas State University, San Marcos, San Marcos, TX 78666. 



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