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Technical Evaluation Report

55. Best Practices” and Collaborative Software In Online Teaching

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Introduction

In recent years, many distance educators and institutions have successfully adopted asynchronous text-based environments as the backbone of their online classrooms. Group email, electronic references, and course websites, coupled with online discussions, typically constitute the model of online course delivery. Although the structure and pacing of these asynchronous text-based environments provide both students and instructors with increased flexibility and convenience, the synchronicity – and sometimes the freshness of the interaction – of the traditional face-to-face classroom were often sacrificed.

The field seems to be aware of this loss. According to Gartner Research, the virtual classroom collaboration software market grew by 19.7 percent in 2003, to reach more than US \$507 million in new license sales worldwide, the third consecutive year of growth (Clark, 2005). Despite their costs and technical complexities, the popularity of these virtual classroom collaboration software packages suggest that they are seen by instructors as offering an important aid to interaction in some distance learning environments.

Some established virtual classroom products (Elluminate, Centra, WebEX) are priced outside the reach of many educational institutions, but low-cost alternatives are beginning to come to market that offer much of the same functionality and capabilities (see Reports #52 and Report #53). These software products change – and challenge – the asynchronous model of delivery. They focus group energy, they permit real-time interaction (which can help develop group cohesion, especially for those less familiar with media-based learning) and, most importantly, they provide a familiar instructional environment that mimic many positive features found in the traditional classroom environment (i.e., synchronicity, verbal rather than text-based interaction, instructor presence, whiteboard presentation facilities, hand-raising for turn-taking, public and private messaging capabilities).

For instructors, the virtual classroom also replicates familiar elements of the face-to-face teaching environment. For instance, virtual classrooms offer instructors the opportunity to address the class as a group, respond quickly to questions, provide feedback to students in groups or individually,

to ‘call on’ participants (verbally or in private text messages), query and poll, doodle illustrations and post references for all to see, and to communicate individually or with the group in print (text). While arriving at a conclusion through discussion via asynchronous discussion can take hours of typing and weeks before conclusion, in some synchronous voice-based classes this process takes a fraction of the time and is more rewarding (Walther, 1996).

Developing skills for another new environment

Although the virtual classroom provides new and easy opportunities for instructors to incorporate synchronous activities as part of their course delivery strategy, little definitive research is available on best uses of these tools, and the role of the instructor in modeling appropriate uses for the students to imitate. New online instructors seeking guidance about what constitutes best practice in the online teaching world may recognize that virtual classrooms in some ways resemble traditional classrooms, but many instructors in these environments lack training or experience to guide their practice (Salmon, 2001). What training there is often concentrates on the use of the technology rather than on the role of the online teacher. Additionally, Longobardi (2003) points out that the quality of delivery with live e-learning is perhaps even more important than in instructor-led classroom training. He suggests that even exceptional instructors and subject-matter experts comfortable with teaching in face-to-face classrooms will not necessarily be star performers in a virtual classroom.

This is not a new problem – new technologies have always stressed existing paradigms. While researchers have long investigated and developed best practices for classroom-based instruction, much less is known about how best to deliver instruction via the Internet (Kozma, 1999 as cited in Brantley and Zulli, 2004). As Swan (2003) observes: “We know online learning is effective. What we need to know is what makes it good, and how can we make it better?” (p. 8). Although these virtual classroom environments represent new challenges for instructors and instructional designers alike, models for effective instruction in this environment have not yet been widely developed. According to Hoffman (2005), “Since live online learning is relatively new, training professionals have been creating programs without the benefit of successful models, without best practices, and without full knowledge of how to use the technology to its best advantage. Best practices are developing but haven’t been widely shared. So a promising tool has gone misused and underused despite its bright prospects.” (p. 7).

What do we already know?

All is not doom and gloom. Some progress has been made to capture and share these best practices through the development of patterns to support online course delivery (see # Report 54). Organizations such as Europe’s e-Len are beginning to establish pattern repositories to advance the sharing of best practices among networked-learning practitioners, which is a useful starting point for new users.

Traditional models should also be useful. As outlined above, teaching in a virtual classroom can be quite different from the traditional classroom; however, instructor delivery of the educational material remains critical in both (White, 2004). Models such as Chickering and Gamson’s (1991) seven principles for good teaching practice (see Table 1) provide an excellent starting point for teachers considering how they can effectively structure virtual sessions with new synchronous tools, while incorporating lessons learned from over 50 years of educational research in the face-to-face environment. Moreover, these principles have been already effectively adapted to outline

delivery with asynchronous instruction tools (for an example with WebCT see http://www.webct.com/service/viewcontentframe?contentID=2627458&pageName=WebCT3_tools.html).

Table 1. Seven Principles of Good Practice in Undergraduate Education

(Chickering & Gamson, 1991)

1. Encourage contact between students and faculty
2. Develop reciprocity and cooperation among students, rather than competition
3. Encourage active learning
4. Give prompt feedback
5. Emphasize time on task
6. Communicate high expectations
7. Respect diverse talents and ways of learning

Incorporating proven principles into the structure and design of a synchronous lesson will help guide instructors new to mediated learning, although the same age-old questions that have always plagued the classroom – technically enhanced or otherwise – will continue to persist (Worley, 2000). In preparing to exploit the benefits of the virtual classroom, instructors need to consider the strategies that they will employ to deliver a successful session and how students may demonstrate understanding and mastery of the behaviors and strategies they model. Instructor modeling is a powerful form of learning, and as Turoff (1999) contends, the learning methodologies used by educators are as important as the technologies. Developing and adopting new methodologies to leverage the strengths and minimize the weaknesses of the virtual classroom based on previous research, provides a useful starting point.

According to a recent report published by Keegan and colleagues (2005), educators planning to use virtual classrooms can make them more interactive and more imitative of the positive potentials for interaction in face-to-face learning settings. This can be accomplished by exploiting elements of the technology such as breakout rooms, video, text chat, application sharing, and no-cost student-initiated small-group sessions outside of class time. For this to be successful, however, instructors must embrace some guidelines based on pedagogical principles:

- There has to be a focus on interactivity; otherwise communication may be merely one-way
- Preparation should be made in consultation with students; they should know what they can expect, technically and interpersonally, and what is expected of them in relation to interactivity
- There are requirements for academic preparation for both the teacher and the students
- Continuous improvements in the interactivity of sessions have to be made to sustain group motivation
- All parties must make skillful use of technology
- Technical functionality must meet expectations (there are technical support implications to this expectation)

Feedback in the Virtual Classroom: Focus of interactivity

Incorporating the above pedagogical principles will help instructors structure their sessions so that they are both pedagogically and technically sound. True comfort with the online teaching role, however, requires the additional adjustment to the lack of the students’ physical presence. Although the virtual classroom may mimic many aspects of the face-to-face environment, it is an inescapable fact that instructors cannot see the students’ non-verbal cues.

Many virtual classroom tools attempt to compensate for the lack of direct feedback by giving students various means for providing feedback to the instructor and other learners, such as emoticons, pacing indicators, and text-chat messaging. Although using these feedback tools effectively requires adjustments. Some students may not be familiar with these feedback tools, or their use may be different from what is conventional in less structured environments. Protocols must be developed and published to ensure students know how and when to use the feedback tools available. Roles will also change. For students, the ability to send feedback provides some control, but requires understanding of what constitutes appropriate uses of these capabilities. For instructors, use and monitoring of feedback tools, such as hand-raising and polling capabilities as well as other forms of feedback, must be developed because unskillful or unpredictable uses could stifle interaction. Practitioners’ adoption issues are made more complex by the present lack of research on the impacts and best uses of these capabilities.

Conclusion

At the start of the e-learning boom, many observers predicted that online distance education would make classroom learning obsolete. The face-to-face classroom, however, continues to survive. Moreover, elements of this model of instruction will potentially thrive again in the online environment, particularly as the effectiveness and convenience of the virtual classroom gains further popularity, and online users develop more precise adaptations of the classroom’s components and capabilities. Online tools used to assist instructors in creating a comfortable and effective virtual classroom continue to evolve, and as they do evolve the need for additional research increases – research that is ideally based on what is already known and that is aimed toward further identification of best (or simply good) practices.

The next paper in this series examines video-conferencing with audio software.

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N.B. Owing to the speed with which Web addresses become outdated, online references are not cited in this report. They are available, together with updates to the current report, at the Athabasca University software evaluation site: <http://cde.athabascau.ca/softeval/>. Italicized product names in this report can be assumed to be registered industrial or trademarks.

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