



FACE . . .

Technology and the Classroom: Re-imagining How We Learn

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ONE POPULAR WORLD WIDE WEB SITE DEDICATED TO RESOURCES FOR CHRISTIAN education and mission regularly logs over a million and a half “hits” per day. Thousands of church-related home pages are accessible to anyone in the world with a computer and an internet link. Such sites offer data about congregational history, staff, or weekly schedules, but they also become opportunities for new ventures in mission to members and non-members alike. A university professor aims a video camera linked to her home page at her office chair. Now any student who visits her home page can discover immediately if the professor is “in.” Another professor captures his classroom lecture with a video camera. The lecture is heard by the students in the classroom, but is also available over the web to anyone logged on to his home page. Digitally recorded, it continues to be available for viewing by his students or anyone else who logs on at another time.

When watered by the imagination, these brief clips explode into a variety of ways the computer is affecting classrooms today. Technology occasions new conversation and experimentation about the ways we teach and learn. At the same time, it challenges us to think creatively about the shape and strategic exercise of mission in a rapidly reconfigured world. In this creative process computer technology offers ways of strengthening and enriching already effective classroom teaching. It also necessitates rethinking the nature of a learning environment in which an expanding world of resources lies at the fingertips of a new generation of computer literates whose style of learning may be quite different from their predecessors, including especially their teachers. In this brief essay, I will simply suggest several areas in which computer technology should and will continue to affect the classroom.

1. *Enrichment of resources.* This is perhaps the most obvious effect of technology. A world of information, sometimes too much of it, impinges on us. At the same time, access to a variety of resources or perspectives is a great stimulus for learning. Computer technology offers not only access to such rich resources but also a variety of ways in which these resources may be orchestrated and brought into the classroom. Audio and video tapes, presentation graphics, access to the

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TO FACE

Technology and the Classroom: Inevitable and Better

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SIN, DEATH, AND THE DEVIL WILL NOT BE BANISHED BY THE INTRODUCTION OF COMPUTERS in the process of education. The eschaton did not arrive with the world wide web. Those are my only concessions to nay-sayers. Web-based technology has already facilitated fundamental change; this is not a fad and the change is not simply a marginal enhancement or a costly diversion.

My own evidence is based on several offerings of a course on the Pentateuch for students both resident on Luther Seminary's campus and scattered from Florida to Washington. The quality of the engagement with the biblical text and the depth of discussion among students matches anything I have witnessed as a teacher in face-to-face classroom settings. Computer-mediated learning is far more than a concession to students who have difficulty moving to a seminary campus for theological education. In fact, the work of the students involved has been the best I have seen in twenty years of teaching.

Surely, the technology itself does not produce this improvement. Rather, the technology allows the practice of teaching to catch up with the active-learning rhetoric we have used for a long time. We have hoped students catch the appropriate learning from us by watching us model theological, pastoral reflection, but we remain uncertain about how deeply our enthusiastic modeling spreads. We keep on speaking in the classroom, perhaps because it is logistically the easiest way to teach. Too often our practice assumes that the only way content is learned is by our "delivering" it and students "receiving" it.

We don't wish to conduct ourselves in this manner; not all of us regularly do so. Nor will technology automatically alter such teaching practice. In fact, there is a strong temptation to perpetuate these practices with the aid of multimedia technology. We can add technological bells and whistles as we "deliver" our lectures, hoping to increase attention and motivation among listening students. But adding glitz does not fundamentally alter education.

However, new technologies, especially web-based technology, can implement the style of education that we have long said we wanted. The logistical problems inherent in collaboration and discussion outside the confines of the

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web, downlinks, interactive video—all are extensions of the more familiar overhead transparencies or duplicated handouts. It is no mean task to select appropriate technology and resources for the classroom so that this technology does not become mere window dressing or an end in itself but an integral part of the learning environment.

2. *Expanding the limits of the classroom.* By now almost everyone with a VCR is familiar with the opportunities that “time-shifting” offers the TV viewer. Computer technology also invites us to rethink the configuration of a classroom as an environment for learning that is not limited to time and place in the traditional way. This is not an entirely new thing. Every student and teacher is familiar with written or reading assignments done outside the classroom. Ventures in distance education are no longer just experimental. And thousands of courses on university campuses using online technology—e-mail, interactive video, web discussion groups, etc.—have demonstrated that whether the student or the professor is physically on- or off-campus becomes somewhat moot. Often these new ways of configuring the classroom reach potential learners otherwise isolated by tight schedules or geography; they may also result in more effective learning by both students and teachers.

3. *Teachers and learners: Who’s in control?* This expansion of the limits of the classroom relates also to the dynamics of teacher and learner. Most of us have been “trained” in an elite system of higher education predicated on the needs of geography, time, and validation (gathering a group of duly matriculated students around an accredited group of professors with a good library in a program leading to a degree). Today, anyone with a computer can easily publish on the web, and many are doing so, even making newly available their own works that have gone out of print. CD-ROM technology, the mind-boggling informational resources of the web, and the growing number of online journals and newspapers, all of them intentionally or randomly linked or hyperlinked, have made “surfing” a new style of serendipitous learning. The professor can no longer be either the one who knows all or the one who is the gatekeeper to learning. Computer technology gives much greater control to the learner over his or her learning. It challenges us to re-imagine teaching and learning as a collegial partnership, a model that is supported by research indicating that people learn most effectively in the context of their peers.

4. *How do we learn?* Perhaps it is too soon to conclude that computer technology is a new revolution to rival that of Gutenberg and the printing press. Still there is much study and conversation today about the ways people learn and experience reality. Such conversation contrasts the learning styles of an older generation, schooled by printed media and rational and sequential thought, with those of a new generation whose identities have been shaped with one hand on a mouse and who experience reality as digitized sound, light, and image. For such learners the continued incorporation of computer technology in the classroom, at the very least to supplement more traditional styles of learning, will be essential. ⊕

classroom can be readily overcome. The computer does not produce the collaboration, but it can mediate the exchanges required for collaboration and discussion to occur. There is no need for students to gather in one place to collaborate. Still, this is a marginal improvement, for the temporal problem remains (and fast typists have a huge advantage).

In an asynchronous electronic forum, students can write and respond to each other without physically passing papers back and forth. Writing to and for peers regularly raises the quality of what is produced. Writing papers for professors is often artificial because the audience is artificial. Writing to peers who will be real colleagues in ministry develops a collaborative, collegial practice that is sorely needed in the contemporary church. The teacher can observe the communications among students and provide private comment via e-mail. Such comment is not seen or heard by the entire discussion group and thus, when it has to be disapproving in character, it does not have the same potential to embarrass the student in front of peers.

In online instruction, more reticent students have equal access. Students are able to complete their thoughts without interruption. Faculty are not able to “censor” the discussion with their body language or with their laughter or the lack thereof. Students cannot vie for faculty approval in front of their peers. Students who have difficulty performing competently cannot hide in an electronic forum and consequently faculty assistance can be given before a crisis point is reached.

Learning how to use web-based technologies effectively in constructing learning environments is not a simple matter. It requires a team approach; more competencies are required than any one teacher can acquire. Teachers cannot depend on their “expert” grasp of content and their personal enthusiasm to be sufficient to create an effective learning experience for students. Teaching theologians will need to develop collaborative relationships, not only with other theologians but also with instructional designers and technicians who will have to be recognized as colleagues in the educational enterprise, not simply as support staff.

The most common objection I hear from non-users is that online instruction will destroy the “personal” dimension of education. Alas, the “personal” is the point at which faculty exert the most subtle and at the same time most forceful pressure on students to conform to the teacher’s tastes or opinions. Computer-mediated communication can effectively ameliorate this pressure. And yet, the “personal” is not lost; it is shifted from the teacher to the students. Online discussions have produced more intense sharing around the discussion of biblical texts *by more students* than any face-to-face class I have observed. Students produce far more than privatistic or bull-session comments when the discussion is not an add-on to a course that at its core is constituted by the “delivery” of information from a teacher. *Engaged* students are intensely personal. ⊕