

Three Challenges for the Christian Institution of Higher Learning
In the Implementation of
Computer/Internet-based Instructional Technology
[CIBIT]¹

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James DuPree
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¹ Referenced as CIBIT for brevity throughout the paper. I use CIBIT as a generic term for technology based learning whether CBT or Distance Learning because most of the principles apply to both. Also, current innovation in CIBIT is focusing largely on Distance Education and Distributed Learning, hence many of the referenced articles cite research and practice in that field.

Introduction

Some foresee significant changes coming to higher education due to the use of CIBIT. Learners will learn more, working at their own speed and pace. Classes will range from 100 to 1000 students, with more interaction between instructor and learner. The learning community will be virtual, with participants coming from all over the world, yet receiving more individualized attention. Online learning will constitute 50% of all learning and education, and the average cost of an online course will drop to under \$100,² with education becoming financially self-sufficient. These optimistic prognosticators assume that technology will drive these changes itself.³

What is the reality of CIBIT? How will the resource-constrained Christian institution of higher learning meet this challenge? What might be the impact on the pedagogy of its business faculty? Can technology and faith live and function within the heart of the Christian business education program?

Christian Colleges and Universities possess a unique mission in the realm of higher education as the intellectual arm of God's host in the battle for the hearts and minds of humanity. This battle began in the Garden of Eden, continued through the inception of the church, and will be completed in His timing in the future.⁴ The business program in Christian institutions of higher learning is one of the key academic programs in this battle. Societies have moved through a variety of worldviews over the ages; from a religious one, to a scientific one, to the present

² See William A. Draves, *Teaching Online* (River Falls, WI: LERN Books, 2000), pp. 7 and 53-54.

³ See John S. Brown and Paul Duguid, *The Social Life of Information* (Cambridge: Harvard Press, 2000). Brown and Duguid offer an interesting critique of the technophile optimists who argue that CIBIT and related technologies will change the world in ways we cannot foresee overnight. Citing historic example after example they show that most technical prognosticators neglect the social impact of information. The social needs of people often significantly mitigate the impact of technology.

⁴ Starting with Satan's earliest conversation with mankind in Genesis 3:1—Now the serpent was craftier than any of the wild animals the LORD God had made. He said to the woman, "Did God really say, 'You must not eat from any tree in the garden?'"—when he caused Eve to question God's instructions, through Paul's warning to the church of the nature of Satan in 2 Cor. 11:14-15—And no wonder, for Satan himself masquerades as an angel of light. It is not surprising, then, if his servants masquerade as servants of righteousness—to God's judgment at the end of time in Revelation 20:7-15.

economic/business understanding of reality and managing life's issues and society.⁵ And so, the business program in Christian institutions of higher learning has become the newest way to infiltrate the world for Christ.

While the Christian institution of higher learning faces any number of challenges in the fulfillment of God's mission, this paper focuses on the significant, current, and continuing challenge of its implementation of computer/Internet-based instructional technology (CIBIT) within its business curriculum. I believe that within this critical challenge are three issues central to the mission and purpose of this unique institution: the consumption of limited resources in implementing an expensive technology, the technology's value to the improvement of pedagogy, and the implications of the use of such technology on the faith-based mission of the institution.⁶

This challenge is important to us in our business programs in Christian higher education in terms of the critical distinction between our mission or purpose versus our venue, our ethical obligation to prepare our students for the real world, and pragmatically how the work world is changing around us. I ask the reader to consider an important distinction between a Christian business program's purpose—*raison d'être*, and its venue—the method of implementation of that mission. I believe this distinction may be at the heart of much of the resistance to technological innovation in general among faculty, administration, institutions' boards, and the implementation of CIBIT in specific. Purpose, for the Christian person or institution, is that call

⁵ As we read history we can see that humanity had a religious worldview until the emergence of science in the late 1400s, and early 1500s. Men frame reality and answers to the questions of society in religious terms. The advent of "science" led to a model of discovering and understanding reality through a scientific framework. Human behavior is mechanical, chemical, etc. I believe a strong case can be made that since about the 1900s an economic/business frame of reference, emerging due to the industrial revolution is taking precedence. While science is a strong societal metaphor, more and more people of all nationalities are framing the solutions to life's and the world's problems in terms of economics and business, either as the cause or the solution. Hence, the rising importance of the Christian business education program in Christian colleges and universities.

⁶ See Sir John Daniel, "Why Universities Need Technology Strategies," *Change* 29 (Jul/Aug 1997), p. 10f. Sir John Daniel outlines six challenges to world class universities in the acquisition and implementation of technology. I've chosen to focus on two that are most relevant to our context and adapted them slightly—the need for strategy due to the consumption of resources and the need to review how it is used in the instructional process. The third challenge is drawn from David Hill Scott, "A Vision of Veritas: What Christian Scholarship Can Learn from the Puritan's 'Technology' of Integrating Truth," *Leadership University Internet*, www.leaderu.com, in his discussion of the uniqueness, the competitive advantage of the small Christian College. Scott makes an argument for Christian scholarship; I adapted the argument and applied it to technology and Christian pedagogy.

of God placed on the hearts of the men and women to serve Him according to a unique set of gifts and preparations. The institutions' or individual's purpose in the spreading of the gospel is eternal and unchanging, as it is based in the character and nature of God, not on the method of the institution or the character of the person. If God calls a man or woman to build others in their faith, or directs the founding of an institution for the purpose of preparing men and women to penetrate society in various professions as witnesses of the Grace of God and as lights in the world, that call is unchanging. When institutions or persons move from that course, they are diverting from God's will and plan for them. On the other hand, the venue, how it is done, in individual lives and through institutions, does change. For example, God may call an individual to build others in their faith as a college student, a professional person, a family builder, and then return him/her to the professional arena. Or, within an individual career, lead an individual through various venues—individual contributor, manager, CEO, and back to individual contributor. However, in each venue the purpose remains the same—building individuals in faith—it is only the setting that changes.⁷ When we mix what God has called us to do with a particular method, we become rigid and less relevant as the world changes. God's purpose is eternal; His method may change with the times.⁸

These are also critical issues for us in the ethical fulfillment of God's call. Ethically, how can we graduate business students without fully preparing them for the real work world, of which CIBIT is a major part? In 1997 it is estimated that corporate users of distance education spent over \$1 billion.⁹ There is a clear shift from traditional face-to-face training and education in the corporate world to the use of CIBIT in training and development with a projected 33% annual

⁷ I was first clearly exposed to this distinction by Bill Nix, CEO of WorkLife, in his recent book *CharacterWorks* (Grand Rapids: Eerdmans, 2000). My comments are heavily indebted to his writing and thinking on this subject.

⁸ While not making a dispensational argument, simply look at God's shift from a chosen people, to "contracting" with individuals who form the body of believers to reach the world. Look at the various forms God has used over time, His prophets, His written word, the Incarnate Word—Christ, etc. All point to God's flexibility in using different methods to get the salvation message out to humanity.

growth in its use.¹⁰ Computer skills, the ability to research, and the ability to learn are critical skills that corporations are spending millions of dollars to develop and hone. How can we present ourselves as providing high quality business education to our students if we are not integrating these technologies, to some degree, into our educational process? And, as we prepare our students to be witnesses for Christ, we need to prepare them to be competent business professionals in their respective fields so they can win the opportunity “to give an answer for the hope within them.”¹¹ If our graduates are not fully prepared with the gospel and professional business competence, they may be shut out of important arenas, their advancement may be slowed, and they may not attain the influence within companies where they can be of maximal impact for Christ.

Finally, and perhaps most distastefully, we have to deal with reality. Pragmatically, three significant trends in higher education and corporate education push us into CIBIT, like it or not; the stress on interactive instruction and learning, the growth in the use of teams and groups, and the escalation of computer technology to facilitate instruction and learning.¹² The institution, large or small, that ignores these trends, does so at its own peril. Corporate use of interactive instruction and learning is driving the development of self-directed, life-long learning. Business professionals are expected to keep current, to learn constantly, and to do a degree of it themselves. This corporate goal fits directly with that of any Christian faculty or business program. We of course wish our students to be life-long learners. The Internet and computer technology provides one of the finest venues for this process. Any review of business literature

⁹ See Alan G. Chute, Melody M. Thompson, and Burton W. Hancock, *The McGraw-Hill Handbook of Distance Learning* (New York: McGraw Hill, 1999), p. 5.

¹⁰ See Richard N. Katz and Diana G. Oblinger, eds., "The "E" is for Everything," in *Educause Leadership Strategies*, vol. 2 (San Francisco: Jossey Bass, 2000), pp. 4-5.

¹¹ See 1 Peter 3:13-17, "Who is going to harm you if you are eager to do good? But even if you should suffer for what is right, you are blessed. Do not fear what they fear; do not be frightened. But in your hearts set apart Christ as Lord. Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have. But do this with gentleness and respect, keeping a clear conscience, so that those who

shows that the use of teams and the use of computers in training are *de rigueur* in the business community. The use of teams drives the trend toward increasing employee participation in decision making and taking greater responsibility in the workplace as an “employee-owners.” The use of computers, whether we speak of the American consumer or of corporate life, is playing a large part in daily and corporate life and education. A 1998 survey showed that 43% of American households have at least one computer, 65% of these households use educational software, and 25% use online services regularly.¹³ In corporate life, choose your trend and statistic. Estimates of the growth of online corporate education vary from \$11.5 billion by 2003 to \$50 billion by 2005.¹⁴ A survey of corporations and corporate universities shows a significant growth of the use of the Internet and intranet in the delivery of corporate training and education.¹⁵ Industry analysts report that E-learning will be one of the central catalysts in the new economy, on the Internet, and in education at all levels in American society.¹⁶ The growing importance of CIBIT in education and how we choose to respond to the three basic challenges of its implementation may well shape our future in higher education and our impact on society for Christ.

The Challenge of Limited Resources

The first challenge, limited resources, makes the adoption and implementation of new technology in the instructional process especially problematic for the small private Christian college. Throughout human history new communication technologies have emerged and have

speaking maliciously against your good behavior in Christ may be ashamed of their slander. It is better, if it is God's will, to suffer for doing good than for doing evil.” NIV.

¹² See K.R. Stunkel, "The Lecture, a Powerful Tool for Intellectual Liberation," *The Chronicle of Higher Education* (June 26, 1998), p. A57.

¹³ See Software and Information Industry Association, "1998 Survey of Household Use of Information Technology," www.siiia.net/siia/default.htm, 1998.

¹⁴ See Diane R. Khirallah and Marianne M. Kolbasuk, "A New Way to Learn?," *InformationWeek* (May 22, 2000), p. 22. and Anonymous, "E-Learning Market Projected to hit \$50 Billion by 2005," *Lifelong Learning Market Report 4* (December 5, 1999): p. 3.

¹⁵ See Laurie J. Aron, "Online U," *Across the Board*, 36 (Spring 1999): p. 64.

¹⁶ See Brian W. Ruttenbur, Ginger C. Spickler, Sebastian Lurie, "E-learning: The Engine of the Knowledge Economy," *Industry Analysis for Morgan Keegan*, (July 6, 2000): pp. 6-11. This is a market analysis of the E-learning industry. I've drawn conclusions and applications for higher education institutions.

eventually been integrated into the educational process. From the oral communication “technology” of the Socratic method, to the recitation of texts from tablets, papyri, and paper, to distance learning via the mail-based correspondence course, to television courses, to the use of the Internet for distributed education, educators have attempted to improve and enhance the learning process with technology.¹⁷ However, the initial introduction of a new technology seems to almost always be more expensive than existing processes. The dollars for implementation and maintenance are initially drawn away from other needs rather than simply added to budgets. This forces difficult financial choices. Grants and special funding may meet the immediate need in the initial implementation of a new technology. However, the long-term costs of technical support, training, and upgrading of technology, versus the actual return in terms of increased quality, effectiveness, productivity, or tuition dollars, make early adoption and/or the extensive use of such technology a resource-intensive proposition. This makes the alignment of the mission of the school and the acquisition and use of technology critical to the good stewardship of limited resources. Ill-spent monies and/or distraction from the mission of the institution can be an element of the financial and complete failure of the small resource-limited institution.¹⁸

It seems reasonable to assume that the typically “resource-challenged” Christian college and business program will tend to be at a “later” adopter due to the lack of financial, technical, and human resources necessary for technological implementation. This “limitation” is actually an advantage when the implementation of CIBIT embraces a clear coherent strategy consistent with the mission of the institution¹⁹ and delivers on it with high quality. Limitation of resources may be God’s assistance in guiding us to carefully consider and evaluate investments, slowing the

¹⁷ See Joseph Straubhaar and Robert LaRose, *Media Now: Communications Media in the Information Age* (Wadsworth, 2000), pp. 10-13.

¹⁸ See Martin Van Der Werf, “The Death of a Small College,” *The Chronicle of Higher Education* (May 13, 2000): pp. A40-A43. While it was not the implementation of technology that resulted in this institution’s demise, it is a case in point of how the lack of careful husbanding and use of financial resources can contribute to its failure.

adoption process for Christian institutions. This allows early adopters, corporations, major research institutions, etc., to make the heavy initial investments, make the mistakes inherent in any new beginning, and “work out the bugs.” The “later adopter” learns from those experiences, avoiding the high costs of initial innovation.

But, we say, if we fall behind state schools, if we don’t offer a competitive technological experience, then we will lose students to secular business programs. Not necessarily. First, the reality is that the implementation of cutting-edge technology creates image advantage and little else. Data from the Campus Computing Project’s annual survey shows that most U.S. institutions of higher learning have not really begun to use Web-based processes to support the educational process. It appears we may not be as behind most institutions as we think.²⁰ The use of E-learning and online courses varies from 75% of public universities, to under 41% for private universities to under 26% of private four-year colleges.²¹ This survey measures institutions claiming to have E-learning; it does not access the degree or quality of the use of CIBIT. Also, the implementation of this kind of technology is resource and time consuming, fraught with “bugs” and frustrations. And the information on these experiences is readily available to later adopters. Our competitors’ need to publish and present and their collaborative model of education provides ample information on what they learn without having to make the heavy initial investments.

Key for the Christian institution is thinking of this issue strategically. First, what do we want to do and why? Back a “million years” or so ago, at the beginning of the ice/computer age, a wise man once said, “Figure out what you want to do with a computer system and why, then

¹⁹ See "Getting Started with E-Learning: An Interview with Dell Computer’s John Cone about pulling the Big Lever, *Training and Development* (May 2000), p. 63. Cone, Dell’s VP of Dell Learning offers nine rules for getting started. Consistency of the E-learning strategy with an organization’s mission is number two after a customer focus.

²⁰ See Katz and Oblinger, pp. 12-14.

²¹ See Katz and Oblinger, p. 13, Table 2.1.

buy your software, and then find a system to run it.”²² This wisdom often seems forgotten when schools chase, acquire, and implement technology at the institutional level. Fundamentally, we need to ask what the technology does for the institution and the business program in terms of our mission. Are we striving to keep up with the educational Jones, silence vocal technological advocates among the faculty, alumni, or board members? Or, is there a solid pedagogical reason or purpose for adopting it at this time, in this way?

A second strategic question, which relates to our first, is one of customer value analysis.²³ Historically, Christian educational institutions and business programs have provided what they believed a “student” needed to learn on the basis of the expertise of content providers—i.e., the board, accrediting bodies, the faculty, tradition, careful thought, etc. During the educational crisis of the ‘60s some institutions turned that determination largely over to the student, while others reacted the other way and chiseled curricula into stone tablets. Forgive me for being a business professional here, but Christian educational institutions, serve several “customers” or constituencies beyond us—God, society, parents, students, and employers—and it is our responsibility to be responsive in terms of content and venue. Our mission is to provide these constituencies with graduates prepared to assume their roles within them. But have we accurately identified our customer(s) needs accurately? Do we really know what they value in an education? What attributes and performance levels are they looking for in our graduates in terms of experience with CIBIT? How important is each of these—attributes, performance levels, and experience with CIBIT? How well do the institution and the business program (and their competition) meet these expectations? Granted, Christian higher education business programs should not be entirely market driven. Our mission is not entirely adaptable to a market economy

²² An apocryphal comment made frequently in the past and present by every computer professional worth his/her salt and largely ignored by consumers and CIOs alike. I can’t attribute it to anyone source.

because of the larger issues of developing broadly, liberally-educated students with critical thinking skills, an outcome that is something more than pure professional preparation. However, the reality is that we do need to be sensitive to marketplace expectations, particularly in terms of CIBIT, as most of students (who will also eventually be alumni and donors) work after graduation. And most tuition paying, donating parents expect some type of return on their educational investment.

If we understand the benefits each “customer” expects and values from our educational product, we can create strategic E-learning plans husbanding limited resources to create that value.²⁴ Physics students probably need to do complex modeling on computers, English students research and composition, business students’ research, spreadsheet analysis, simulations, etc. I will presume and generalize, for a moment regarding God’s expectations of us as business educators. We are called to be faithful to His mission of reaching the world for Christ. To do this we need to be careful in the use His resources, including the implementation of CIBIT. We don’t need to be the innovative leaders; we need to be faithful, and sometimes that calls for a careful cost/benefit analysis and following others in the developments of techniques and technology.

Christian colleges should adopt a market-follower strategy in the implementation of technology-based learning. Allow the larger, better-funded state institutions to be market leaders, taking on the developmental expense and risk inherent to innovation. The Christian institution and business program can then imitate or adapt what secular institutions have learned at much less cost and risk.²⁵ While this involves some sacrifice of reputation for innovation, it permits institutions with far smaller resources to remain highly competitive and current in the use of

²³ See Philip Kotler, *A Framework for Marketing Management* (Upper Saddle River, NJ: Prentice Hall, 2001), p. 131.

²⁴ See Roger J. Best, *Market-Based Management*, 2nd ed. (Upper Saddle River, NJ: Prentice Hall, 2000), pp. 79-100.

²⁵ See Philip Kotler, p. 138. Also, in "Teaching Online—The Emerging Core Competency," *Academy Online 2* (Winter 1999), many of the earliest efforts at the use of this technology were failures, leaving a negative legacy for the public, faculty, and administrations involved. See their site, www.academyonline.com.

technology in its educational process. There is some significant anecdotal and research evidence that there really is a “second-mover” advantage, especially in the implementation of technology.²⁶ Marketing research supports that an institution’s “brand name/image” is more important than being first to market with any given “product,” i.e., CIBIT.²⁷ In business, Joan Rigdon argues, the key is brand building. I believe this holds true for Christian academic institutions as well. The majority of our believing constituencies probably does not care whether we were the “first” in technology but rather that we offer a quality business education, that we are faithful to our mission, and that we do what we do well, so our graduates are competitive and able to infiltrate the world for Christ in their respective venues. Do not read this as an argument against innovation, but that our resource allocation should be more heavily into faculty development, educational quality, student/faculty support. We should gather “market intelligence” in order to stay abreast of the practices of leading schools,²⁸ rather than invest in the initial experimentation and innovation.

Our CIBIT strategy should be based on these two questions; 1) what do we want to do and why and 2) what are the expectations of our constituencies in terms of CIBIT? They are intertwined and need to be researched and answered in tandem. A market/customer study should be conducted quickly in conjunction with a review and analysis of the institution’s mission, separating the mission itself from issues of venue. This data would then be used to create and implement the CIBIT strategy.

The Impact of CIBIT on Pedagogy

Technologies such as computers (or pencils) don't have predetermined impacts; it's their uses that influence outcomes.²⁹

²⁶ See Joan I. Rigdon, "The Second-Mover Advantage," *Red Herring* (September 2000), pp. 462-4.

²⁷ See Ruttenbur, et al, p. 28.

²⁸ This concept is adopted from a marketing follower position for businesses as outlined by Roger J. Best in *Market-Based Management*, 2nd ed., (Upper Saddle River, NJ: Prentice Hall, 2000), pp. 280-281.

²⁹ See Stephen C. Ehrmann, "Asking the Hard Questions About Technology Use and Education," *Change* 31 (Mar/Apr 1999), p. 24.

Our second concern is the impact of CIBIT on pedagogy. How and why are we using it in our instructional process? Research suggests that the CIBIT-type instructional process is as effective in helping students learn as traditional instruction with an instructor physically present, even though student satisfaction is lower.³⁰ So, how are we using it?

Are we using the new CIBIT technology to simply enhance current pedagogy, or to rethink and work innovatively in the instructional process? That is, are computers, LCD projection panels, big screen projectors, etc., simply showing PowerPoint slides—essentially sexy overheads or films on DVD—providing more control and more “theater-style” viewing, or are we using the challenge of CIBIT technology to rethink, re-examine, innovate, and improve the instructional process? Are we looking at “knowledge media” in new ways, rethinking the relationship of knowledge to learning?³¹ As I researched this paper, I came to see CIBIT not as a threat to effective instruction and the role of the professor, but as an opportunity. The research process caused me to remember things about teaching that had faded over time and also to review and consider why I was doing what I was doing in my classes. It even helped me enhance the integration of my faith into my various content deliveries by reminding me of the need for connectedness to the student.³²

Referenced earlier, as our graduates need to win the right to be witnesses, “to give an answer for the hope within them” in the world, sometimes I forget I need to win the right to instruct. Whether presenting business content or Christ, I need to win the right to be heard by my

³⁰ There are numerous sources on this topic, I only offer two here. First, is a study cited in *The McGraw-Hill Handbook of Distance Learning*, eds. Alan G. Chute, Melody M. Thompson, and Burton W. Hancock, (New York: 1999), p. 15. The second is an example of research related specifically to business curricula, A. Faye Borthinck and Donald R. Jones, “The Motivation for Collaborative Discovery Learning Online and Its Application in an Information Systems Assurance Course,” *Issues in Accounting Education* 15 (May 2000).

³¹ See Sir John Daniel, “Why Universities Need Technology Strategies,” *Change* 29 (Jul/Aug 1997), pp. 10f.

³² Not a Christian treatise but an interesting discussion of the need for contact and connectedness with students and the psychological and spiritual elements of the cyber-classroom in Rena Palloff and Keith Pratt, *Building Learning Communities in Cyberspace: Effective Strategies for the Online Classroom* (San Francisco: Jossey-Bass, 1999), pp. 33-35.

students—a small matter I sometimes forget since “the kids” have to be there—attendance policy you know—and they take notes (I think). Also, I need to remember things like the learning goal of each instructional unit, thinking through how I am tying together the content and its presentation—the mode, lecture, reading, experiential exercise—back to that goal.³³ Reviewing the learning activities and reconsidering how I assess progress and learning are all elemental, but, at least for me, are sometimes passed over in the routine of re-teaching “comfortable material” the 3rd or 10th time ☺. The study of CIBIT caused me to review the implicit learning model present in my teaching and how well my presentation fit it.³⁴ This led me back to a learning model³⁵ that closely parallels the adult learning model I learned decades ago as a corporate trainer. Such was the personal impact of CIBIT on my pedagogy.

In the bigger picture, CIBIT is a different technology, and it will undoubtedly modify the role of the instructor.³⁶ There are important psychological, social, and communicative differences in this type of educational process which is much more learner-centered, and far less instructor-centered.³⁷ We can anticipate that the skill set of the instructor will change due to the change in his/her role; that the nature of the instructor-student relationship will change due to the mediation of information by the technology; and that ethical issues will arise around issues of faculty productivity, student honesty, and staffing. Significant issues to be sure, but I hope that we will come to see them as opportunities to enhance instruction, both traditional and computer-based.

³³ See Valorie Beer, *The Web Learning Fieldbook: Using the World Wide Web to Build Workplace Learning Environments* (San Francisco: Jossey-Bass, 2000), p. 26-27.

³⁴ Beer also does a very nice job of reviewing two of the most common learning models and the content and presentation organizational strategies for each in her book, p. 72-74.

³⁵ See Beer, p. 100. The model has four learning activities—discovery, invention, production, and generalization. These parallel the basics of content, problem-solving, application in specific, and interpretation to a context beyond the learning situation.

³⁶ See Chute, Thompson, and Hancock, pp. 55-57.

³⁷ See Kathleen C. Owens, Brian Anater, Robert E. Griffin, et al; "Lessons Learned in Developing Distributed Education, A St. Francis Case Study," unpublished paper (March 30, 2000), p. 11.

The emerging use of computer-supported collaborative learning is drawing heavily from the lessons learned in the use of collaborative learning in the traditional classroom setting.³⁸ Hence the technology is not entirely new as we draw from previous experience that has been shown to be effective. Some criticize contemporary traditional management education as inadequate in several respects.³⁹ In one such critique by Nevins and Stumpf, eight specific shortcomings are cited.⁴⁰ CIBIT is uniquely suited for addressing four of these particular issues: timely accurate feedback, better practice fields, use of “real life” situations, and problem-orientation. And, research shows that often once faculty has experience with CIBIT type teaching, they tend to become quite positive about it.⁴¹ The impact on pedagogy may not be as severe as some predict. However, the differences do make faculty development critical to the effective implementation of CIBIT, as well as the motivation and cooperation of the faculty.⁴² If the institution does not properly assess its faculty needs and provide development targeted to the proper use and integration of the technology into the educational process, or if it is not willing to provide the resources to do this, it should not even begin the journey into CIBIT.⁴³

There are benefits of online learning for the student; increased student initiative and participation, greater learning and higher grades, greater discussion and communication with peers, and preparation for work in virtual teams in the work world are all heavily documented.⁴⁴

Which of these would any business faculty not want? Also, research on computer-supported

³⁸ See Brandon and Hollingshead, p. 110.

³⁹ See Mark David Nevins and Stephen A. Stumpf, "21st-Century Leadership: Redefining Management Education," *Strategy and Business* (3rd quarter, 1999), pp. 45-48.

⁴⁰ See Nevins and Stumpf, pp. 45-48.

⁴¹ See Sarah Carr, "Many Professors Are Optimistic on Distance Learning, Survey Finds," *The Chronicle of Higher Education* (July 7, 2000), A35.

⁴² The study of "24 Benchmarks of Quality Distance Education" points out the need for faculty development. An executive summary of the report may be downloaded from www.ihep.com/qualityonline.pdf. See also, Palloff and Pratt, 57-58, where they discuss the impact of development on faculty motivation; and Dan Carnevale, "Turning Traditional Courses into Distance Education," *The Chronicle of Higher Education* (August 4, 2000), p. A37.

⁴³ See Elliot Masie, "Joined-up Thinking," *People Management* 5, (Nov. 25, 1999), p. 33. Masie argues for the professional development of those within the corporate world—training managers (administrators), trainers and designers (faculty), and others, in order to properly develop and use online education and training. Masie is the founder of Technical Learning, an Internet-based corporate education and training company.

collaborative learning (CSCL) shows three major components: collaboration, communication, and social context,⁴⁵ which produce learning important to business education. There is actually a higher level of communication among students, and between students and the instructor, than in the traditional setting. To ensure shared meaning, participants tend to increase their level of “discussion.” Students ask more questions. The evidence suggests that the online environment also creates a stronger sense of social context than the traditional face-to-face classroom.⁴⁶ Why is not completely clear, but the phenomenon is well documented. It may be due to the high visibility of everyone’s work, which is often accessible to all members of the class, or it may be due to the development of “positive interdependence,” i.e., participants being able to see the value of working together. This is a critical learning in today’s business environment with its increased dependence on teams and work groups. Finally, there is often a strong social cohesion that develops as members identify with their group.⁴⁷ Something that may well carry beyond the school experience and enhance professional networking.

CIBIT enhances learning by helping students participate in “double-loop learning.” A term coined by Chris Argysis in terms of organizational development and organizational culture, Rena Palloff and Keith Pratt find it applicable to CIBIT learning processes.⁴⁸ The distance the student has from the problem, the time to reflect, and the construction of the learning process all contribute to the student not only learning content and problem solving, but also learning how to think about problems. The student learns how to learn, a *meta* move forward in the educational process which is our ultimate goal: to create the life-long learner who can integrate the foundation that we lay into new situations and build on that foundation.

⁴⁴ See David P. Brandon and Andrea B. Hollingshead, "Collaborative Learning and Computer-Supported Groups," *Communication Education* 48 (July 1999), p. 109.

⁴⁵ See Brandon and Hollingshead, pp. 111-112.

⁴⁶ See Brandon and Hollingshead, pp. 112.

⁴⁷ See Brandon and Hollingshead, pp. 114-115.

But in the real world, not all is beautiful. There are associated costs of CIBIT in its impact on pedagogy. Obviously, there can be high upfront financial costs.⁴⁹ Some of these can be recouped later in the process. Also, going with the most appropriate technology rather than the high-end sexy technologies, such as videoconferencing, can minimize many of these costs. However, the reality of the need for economy of scale to recapture costs inherent in the implementation and maintenance of CIBIT and the difficulty of doing makes it a financial risk.⁵⁰ Currently, when costs savings are involved in the use of CIBIT, they tend to be related to things such as reduced travel for participants, self-paced learning, and repeatability of the content to multiple audiences without the active involvement of the instructor.⁵¹ All of these items are most applicable to corporate education and training or graduate/executive level programs, not undergraduate instruction. However, some online educational services such as Education2Go argue for and seem to be practicing the use of live instructors over the Internet, in an asynchronous environment, in classes of up to 1,000 students, and providing students with personal responses, leading of discussions, etc.⁵²

Aside from monetary issues, there are philosophical and mission-related costs. Some fear that the increasing the sophistication of delivery technology may inherently limit access to those students most in need of education.⁵³ There is a “learning-curve” for both faculty and students in using this type of technology, an opportunity cost. Is the enhancement of the learning process or some other benefit available that clearly offsets the time spent on simply learning and using the

⁴⁸ See Palloff and Prattt, pp. 62.

⁴⁹ See Darin E. Hartley, *On-Demand Learning: Training in the New Millennium* (HRD Press, 2000), p. 52. Hartley manages Dell’s Learning Technology Services Department.

⁵⁰ See Alan Tait and Roger Mills, eds., *The Convergence of Distance and Conventional Education: Patterns of Flexibility for the Individual Learner*, (London: Rutledge, 1999), p. 94.

⁵¹ See Chute, Thompson, and Hancock, pp.16-20.

⁵² I encourage a visit to their site, Education2Go.com, but be careful, you may lose faculty; they are looking for independent contractors to facilitate and instruct their courses.

⁵³ See Tait and Mills, p. 104.

technology?⁵⁴ Clearly, being able to sit in an office or dorm room and conduct library research over the Internet offsets travel time, accessibility, and other issues. But, does reading text on a computer screen provide an inherent benefit over reading physical lecture notes or a textbook? Faculty development and training to deal with issues of attrition, interpersonal communication, social connections, etc., all require time, human, and financial resources. And, there may also be an intellectual or philosophical cost, as some argue that the traditional educational model is ill-suited for CIBIT and needs rethinking. And, student attrition from online courses is a serious problem. Both may place a higher workload on the instructor. Anita Bischoff identifies several reasons for attrition from online courses; isolation, accelerated pace, competing responsibilities, and technical issues.⁵⁵ The monitoring and management of the course and students by the instructor is much higher with CIBIT. But it may be in line with what the business faculties at smaller Christian schools are already doing because of the personal attention they tend provide. Managing pace may involve sharing time management skills and actively encouraging the students. Competing responsibilities may force greater flexibility on the instructor to avoid students dropping out. The use of the site and interacting with the class should be as seamless and transparent to the student as possible, or technical difficulties and tensions may lead to dropping out.⁵⁶

Another important issue requiring faculty development is the interpersonal element between instructor and student.⁵⁷ An important consideration is the vagaries of computer-mediated communication, because much of the nonverbal element of communication is cut off. Instructors should pay special attention and care to the metaphors they use, for example, because

⁵⁴ See Palloff and Pratt, p.18.

⁵⁵ See Anita Bischoff, "The Elements of Effective Online Teaching," *The Online Teaching Guide: A Handbook of Attitudes, Strategies, and Technologies for the Virtual Classroom*, Ken W. White and Bob H. Weight, eds. (Boston: Allyn and Bacon, 2000), pp 57-72.

⁵⁶ See Bischoff, pp 69-72.

each carries with it images. Without the nonverbal backup to the verbal/text message in a mediated environment, often asynchronous in timing, confusion can ensue. People communicate in the online classroom based on their guiding metaphors, which create and project conceptual frameworks, which may clarify or distort the communication process.⁵⁸ An online instructor can increase the interpersonalness of his/her online communication by communicating to the student as a unique individual, showing respect for the student's ability to think and make choices, and looking for and paying attention to relevant feelings and the whole human being as expressed in the text messages.⁵⁹ The tendency to exclusively rely on text for communication in the online classroom, and the plain and temporary nature of the text, make it easy to ignore or forget the individual. Also, this learning environment is not without its social dangers and places a heavier responsibility on the instructor for assisting and facilitating group identification. The relative anonymity and decrease in nonverbal communication of the online environment can foster rudeness, "flaming," and poor social behavior online.⁶⁰ Instructors need training in focusing on building social cohesion and positive interdependence among team members and class participants.⁶¹

Whether adopted or merely studied, the online instructional processes and use of CIBIT can direct us to re-examine our assumptions about learning, our methodologies, and the role of instructor and student, all of which are healthy assessments.

The Relationship of Technology and Faith

The third issue which the Christian institution of higher learning and its business programs must address regarding the use of CIBIT relates to its distinctiveness—the faith-based

⁵⁷ See Ken White, "Face to Face in The Online Classroom," *The Online Teaching Guide: A Handbook of Attitudes, Strategies, and Technologies for the Virtual Classroom*, Ken W. White, Bob H. Weight, eds. (Boston: Allyn and Bacon, 2000), pp 1-12.

⁵⁸ See White, p. 3.

⁵⁹ See White, pp. 5-7.

⁶⁰ See Brandon and Hollingshead, p. 115.

education. How do we integrate faith into the use of technology? Frankly, this has been the most difficult question for me. I almost cut it out because I can only raise the question at this time and offer, what I consider, rather insubstantial suggestions. But it really is probably the central question to our existence as business faculty. Technology is taking over society. We better figure out its relationship to faith, or our relevance to the lost and our impact for Christ is going to be diminished. The question has been difficult for me to formulate, because we do not add or integrate faith into what we do, but rather it is an expression of who we are. Just as any organization is a culture rather than having a culture, Christian faith and practice is who we are, what sets us apart, not something added on.

Are there implications for us in the acquisition and use of CIBIT? Jacques Ellul, a Christian French social critic [deceased], argues that there is a whole culture, worldview, and value structure tied to technology, some of which is antithetical to the genuine Christian message.⁶² It is a worldview that seeks perfection, the right technique for any given situation—something not attainable this side of heaven. He argues that technology itself carries an anti-Christian bias. Others, even non-Christians, rage against CIBIT like the Luddites of early England against mechanical weavers, bitterly opposing the use of the computer and the Internet in instruction for its violation of the sacredness of the classroom and distortion of the instructional process.⁶³ David Noble, a leading humanist critic, argues that one only gets a true measure of the individual in person, something impossible over the Net.⁶⁴ This argument is

⁶¹ See Brandon and Hollingshead, p. 115.

⁶² See Jacques Ellul, *The Technological Society* (New York: Knopf, 1964) and *The Technological Bluff* (Grand Rapids: Eerdmans, 1990).

⁶³ See Jeffery R. Young, "David Noble's Battle to Defend the 'Sacred Space' of the Classroom," *The Chronicle of Higher Education* (March 31, 2000), pp. A47-A49. In context, Dr. Noble has struggled against distance education for decades. The Luddites were English craftsmen who attacked and destroyed the early weaving frames introduced to increase productivity and lower costs, but which also diminished the needed skill level of the weaver. Other academics often refer to Dr. Noble as a Luddite because of his incensed and often "overtop" tirades against the use of technology in the educational process.

⁶⁴ See Young, p. A49.

remarkably similar to the issue of the believer modeling Christ to the world in his/her interpersonal interactions. Can and how does an instructor model Christ to students via CIBIT?

What are the implications of removing or at least distancing the person and character of the instructor from the learner via technology? In the early church, the hearers, due to their proximity and the immediacy of the low-tech transmission, knew the character of the individual imparting the information and knowledge.⁶⁵ Individual credibility and character were often shaped in the minds of hearers based on their personal contact with the speaker. Now, with CIBIT we may have to depend on credentials, or the vouching of an institution rather than on personal experience. There is also an argument that HOW we know shapes WHAT we know and WHO we become. While an epistemological argument, it has significant implications for the use of CIBIT for the Christian institution because of the mediation of how we know.⁶⁶ If the incarnation of Christ visible in the instructor is an important element of the educational process in the Christian College, what are the implications for faith-based education when technology creates distance between the instructor and the student?

Is the online environment, CIBIT, simply a means for the transmission of information, or is it another human area, another form of mediated communication, where we can engage in interpersonal relationships and person building? Drawing on J. Stewart's, Bridges Not Walls, Ken White suggests that the quality of an individual's life is the result of the quality of the communication he or she has.⁶⁷ His concept of person building is that people are built through communication and relationships. This perspective is of particular relevance to the Christian business faculty seeking to build complete men and women of Christ, in mind, body, and spirit.

⁶⁵ See David T. Gordon, "Technophilia and Technophobia: Evaluation our Technological Culture," *Contact* (Summer 1993), p. 4.

⁶⁶ See David T. Gordon, "Transformed by the Renewing of the Mind: Resisting Conformity to the World/Age in the Third Millennium," The 2000 Conference on Reformed Theology, Park Woods Presbyterian Church, Overland Park, Kansas, April 28-29, 2000.

⁶⁷ See White, pp.8-9.

One answer may be to consider how we incarnate Christ, or show the character of God, when dealing with people on the phone or in correspondence. Both of these mediated communications cut off visible interaction and curtail nonverbal communication, especially correspondence. The participants cannot draw any visible cues as to the nature of the individual; it is the words one chooses that convey Christ. Perhaps an example rests in the biography of Stonewall Jackson, *They Called Him Stonewall*.⁶⁸ A conversation is recounted where Jackson argued with another officer over the meaning of “pray without ceasing.” General Jackson argued that it was possible and cited many examples, one of which was praying over his correspondence—that God would give him wisdom and a message as he wrote, that God would guard and guide its delivery when he posted it, and that it would bring encouragement and strengthening when it arrived. Clearly Jackson grasped obedience to and representation of Christ to others, even in mediated communication. As several works on E-learning point out, the choice of language, metaphor, and tone through word choice is even more critical in electronic communication than in any other form because of the inability to read nonverbals or offer corrections of misimpressions if the message is misunderstood.⁶⁹

If I may presume once again, did not the Father use mediated communication to reveal His character and nature to us? While as a believer I have a personal relationship with God, including personal conversation through prayer, God the Father largely communicates Himself in the nature of His Son, Jesus Christ,⁷⁰ a mediation. Then the Written Word is the mediation of

⁶⁸ See Burke Davis, *They Called Him Stonewall: A life of Lt. Gen. T. J. Jackson, C.S.A* (New York: Random House, 1998).

⁶⁹ See Wendy Leibowitz, "Technology Transform Writing and the Teaching of Writing," *The Chronicle of Higher Education* (November 26, 1999), p. A67.

⁷⁰ See Hebrews 1:1-3. In the past God spoke to our forefathers through the prophets at many times and in various ways, but in these last days he has spoken to us by his Son, whom he appointed heir of all things, and through whom he made the universe. The Son is the radiance of God's glory and the exact representation of his being, sustaining all things by his powerful word. After he had provided purification for sins, he sat down at the right hand of the Majesty in heaven. Also see Col. 1:15, 19, 20. He is the image of the invisible God, the firstborn over all creation. For God was pleased to have all his fullness dwell in him, and through him to reconcile to himself all things, whether things on earth or things in heaven, by making peace through his blood, shed on the cross.

Christ to us who did not have firsthand interaction with Him during His ministry,⁷¹ even though, once again, we have personal conversation via prayer. And now we are the mediated embodiment of Christ to the world around us, Christ with skin on.⁷² Is one more step, the use of CIBIT, going to hinder the process? Can we not embody Christ to others through technology? While anecdotal, one practitioner of the art of online education for a denomination, Rev. Richard LaFountain, missionary, pastor, past director of online learning for the Christian and Missionary Alliance denomination, believes this is largely a non-issue. He sees God's mission for us as reaching the world. CIBIT is merely a tool, a venue, to which we may need to adapt, but it is not a barrier to the accurate representation of Christ to the world. He believes it has been done, even across cultures.

Conclusion

Some believe the real impact of CIBIT will be similar to that of the cell phone on regular telephone service—a fiscal and structural reformation of the industry. It will not be an eradication or transformation of traditional models of higher education, but a massive opening of access, reducing costs by leap-frogging the need for physical infrastructure and permanent staff and significantly impacting pricing structures.⁷³

Some colleagues may equate face-to-face classroom instruction with their mission of building students rather than realizing that it is the means, not the mission, they are struggling with. They are saying that it is the incarnation of Christ in the instructor that is as important as any other aspect of the educational process, which is true. And they fear that CIBIT, etc.,

⁷¹ See John 1:1-2, 14. In the beginning was the Word, and the Word was with God, and the Word was God. He was with God in the beginning. The Word became flesh and made his dwelling among us. We have seen his glory, the glory of the One and Only, who came from the Father, full of grace and truth.

⁷² See 1 Peter 3:15. But in your hearts set apart Christ as Lord. Always be prepared to give an answer to everyone who asks you to give the reason for the hope that you have. But do this with gentleness and respect. Philip. 2:1-2. If you have any encouragement from being united with Christ, if any comfort from his love, if any fellowship with the Spirit, if any tenderness and compassion, then make my joy complete by being like-minded, having the same love, being one in spirit and purpose.

⁷³ See Michael Barker, "E-Education is the New New Thing," *Strategy and Business* (1st Qtr, 2000), p. 108.

removes that incarnational aspect of the learning process. But this is an argument as old as education. When the sophists first came on the scene, Plato, Socrates and other classical teachers vilified them because they changed who had access to education. Many of the sophists were highly moral men but they would teach anyone, not just the aristocracy. They changed the venue and thereby the audience of the educational process. Today, we remember their descriptor as a negative, but we owe widespread access to education to their “heresy” of changing the venue of education.⁷⁴ Our mission is to reach the world through Christ by building the mind, body, and spirit of the individual believer through teaching spiritual discipline, character, dependence on Christ, critical thinking, problem-solving, and self-reliance. Whether that is done on a campus or via a modem are issues of method, not purpose. When we tie the two together we blind ourselves to innovation that could allow us to more faithfully and effectively fulfill the great commission.

The critical issues are making the most of limited resources, developing faculty, preparing students for the changes in pedagogy, and working through theologically and practically how we will incarnate Christ to the world via CIBIT. Consideration, research, and discussion of these three issues will strengthen and focus Christian business education programs and institutions of higher learning, regardless of final decisions. It is in the process of struggling with these issues, revisiting what it is that we do, that will enable us to remain relevant to the lost world and faith to Christ.

⁷⁴ See James L. Golden, *Rhetoric of Western Thought* (Kendall/Hunt: 1996).