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Joan MacLeod Heminway
University of Tennessee College of Law

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Joan M. Heminway

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CAUGHT IN (OR ON) THE WEB: A REVIEW OF COURSE MANAGEMENT SYSTEMS FOR LEGAL EDUCATION

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I. INTRODUCTION

You have to admit it; it truly is slick. It uses current technology and is updated frequently. Its features are intended to enhance the users' efficiency and effectiveness. It comes with written instructions and on-site group or personal training, and despite its technological sophistication, it is reasonably easy to use. It even has environmentally friendly attributes. If it were a web-enabled camera phone, an iPod nano,¹ or a hybrid automobile, you would snap it up in a moment; but you hesitate. Even if you were to believe all of the marketing hype (and you do not), you are just not sure if it is for you.² What is it? "It" is a web-based course management system.

Course management systems are software packages that afford users a prefabricated web site and related tools that can be used to coordinate and execute various functions associated with course administration, teaching, and learning.³ Common features of these products include: segregated folders (internal web pages) for posting course notices, syllabi, assignments, and materials; asynchronous discussion boards; chat rooms; electronic mail distribution centers; testing devices; and areas in which students can deposit finished work in electronic form.⁴ Universities often sup-

¹ Although it may go without saying, this is the newest MP3 offering by Apple Computer, Inc., as of the date of publication of this article. See Apple—ipod nano, <http://www.apple.com/ipodnano/> (last visited Mar. 17, 2006).

² Law professors are likely to express reluctance to changes involving technology and teaching. See Robin A. Boyle, *Employing Active-Learning Techniques and Metacognition in Law School: Shifting Energy from Professor to Student*, 81 U. DET. MERCY L. REV. 1, 4 (2003) ("[L]aw professors generally seem resistant to embracing new teaching strategies."); Michael A. Geist, *Where Can You Go Today?: The Computerization of Legal Education from Workbooks to the Web*, 11 HARV. J.L. & TECH. 141, 143 (1997) ("[M]any faculty members remain somewhat wary of . . . technological changes."); Marie Stefanini Newman, *Not the Evil TWEN: How Online Course Management Software Supports Non-Linear Learning in Law Schools*, 5 J. HIGH TECH. L. 183, 208-09 (noting that 12% of Pace University School of Law faculty members responding to a survey did not use TWEN and explaining why they did not use TWEN); Robert E. Oliphant, *Using "Hi-Tech" Tools In A Traditional Classroom Environment—A Two Semester Experiment*, 9 RICH. J.L. & TECH. 5, 26 (2002-2003), available at <http://law.richmond.edu/jolt/v9i5/Article5.html> ("While skepticism toward the use of 'hi-tech' tools in education is on the decline, there is little to suggest that change will occur at anything more than a glacial pace.").

³ See Anna Belle Leiserson, *The Web Insider . . . The Best Tool for Building a Web Site*, 95 LAW LIBR. J. 303, 304-05 (2003) (identifying and describing course management software as a type of content management software).

⁴ See, e.g., Newman, *supra* note 2, at 201-05 (categorizing and describing many of these features).

port a particular course management tool for use by members of their faculty, including law faculty.⁵ Moreover, each of the two principle vendors of legal research databases includes a specialized web-based course management system as part of its law school product offering.⁶ These include LexisNexis Web Courses (an offering of LexisNexis, a division of Reed Elsevier Inc., based on the popular Blackboard Inc. course management product) and Westlaw's TWEN (The West Education Network, a proprietary system of the West division of The Thomson Corporation).⁷

There is not much empirical evidence of the value of course management systems or other instructional technology in legal education, and relatively few law teachers have written significant, substantive, anecdotal accounts of their experiences as technology users.⁸ This article will not cure the deficiencies in reported empirical research on course management systems and electronic teaching and learning tools, but it does offer primary

⁵ See *infra* note 83. See generally Newman, *supra* note 2, at 200 n.108 (listing well-known course management software products). Of course, the vendors of course management products continually add features based on customer feedback.

⁶ See LexisNexis for Law Schools, *LexisNexis Web Courses*, <http://www.lexisnexis.com/lawschool/webcourses/> (last visited Mar. 17, 2006) [hereinafter *LexisNexis Web Courses*]; Thomson West: Products & Services, <http://west.thomson.com/product/RM150515/product.asp> (last visited Mar. 17, 2006).

⁷ See generally Newman, *supra* note 2, at 200. Information about LexisNexis Web Courses and information about TWEN are available online. *LexisNexis Web Courses*, *supra* note 6; Thomson West, *Law School 2005: Professor's Guide to TWEN*, available at <http://west.thomson.com/product/RM150515/product.asp> (last visited Mar. 17, 2006) [hereinafter *Law School 2005: Professor's Guide to TWEN*]. As this article is being written, Blackboard Inc. has agreed to acquire WebCT Inc., its principal competitor in the provision of course management systems for higher education. The transaction is likely to be the subject of antitrust scrutiny. See Kate Gibson, *Blackboard faces antitrust snag*, THEDEAL.COM, available at <http://www.thedeal.com/NASApp/cs/CS?pagename=NYT&c=TDDArticle&cid=1128454373323> (last visited Mar. 17, 2006).

⁸ See Michael Heise, *Closing One Gap but Opening Another?: A Response to Dean Perritt and Comments on the Internet, Law Schools, and Legal Education*, 33 IND. L. REV. 275, 287 (1999) (noting that "[e]mpirical evidence on the efficacy of virtual classrooms is sketchy, at best, and severely limited by a paucity of data"); Newman, *supra* note 2, at 199-200 (describing one small-scale study correlating TWEN use with increased student grades); Shelley Ross Saxer, *One Professor's Approach to Increasing Technology Use in Legal Education*, 6 RICH. J.L. & TECH. 21, 37 (1999-2000), available at <http://www.richmond.edu/jolt/v6i4/article4.html> (noting that "there is not much evidence that the expense and effort involved in using technology can be justified by a resulting improvement in student learning"); see generally Pearl Goldman, *Legal Education and Technology: An Annotated Bibliography*, 93 LAW LIBR. J. 423 (2001) (cataloguing over 200 articles on law and technology topics).

observations on the use of the two web-based course management systems designed for legal education. As background to these observations, Part II generally describes what, how, and who law schools teach. Part III then describes the author's nonscientific "experiment" with web-based course management systems, which began in August 2002 and continues to the present day. This Part first sets forth the factors that acted as a catalyst for the author's use of course management web sites and then describes the author's decision to use in her courses certain limited features of web-based course management products best tailored to addressing these factors. Finally, Part III relates the reactions and observations of both the author and her students to the use of these products. Part IV concludes the article, offering, among other things, an exhortation that law faculty consider a more widespread use of web-based course management systems in law teaching.

II. WHAT, HOW, AND WHO LAW SCHOOLS TEACH

The potential value of web-based course management systems only can be assessed in context. Accordingly, to evaluate these products for use in legal education, one must consider and understand what is being taught in law schools, how it is being taught, and to whom it is being taught. With those objectives in mind, this Part conveys briefly the history of legal education in the United States, describes generally the current state of the educational system emanating from that history, and offers a profile of the current 21st Century law student.

A. *A Brief History of U.S. Legal Education*

The full history of legal education is laid out in detail and in summary form elsewhere and need not be repeated here.⁹ It is important, however, to note a few key components of that long, rich history for purposes of the ensuing discussion. Classroom teaching of the law is still a somewhat "young" educational system, and changes in curriculum and teaching methods have been

⁹ See, e.g., THE HISTORY OF LEGAL EDUCATION IN THE UNITED STATES, vols. I & II (Steve Sheppard ed., 1999); Ruta K. Stropus, *Mend It, Bend It, and Extend It: The Fate of Traditional Law School Methodology in the 21st Century*, 27 LOY. U. CHI. L.J. 449, 451-55 (1996); Alice M. Thomas, *Laying the Foundation for Better Student Learning in the Twenty-First Century: Incorporating an Integrated Theory of Legal Education into Doctrinal Pedagogy*, 6 WIDENER. L. SYMP. J. 49, 69-73 (2000).

slow.¹⁰ In contrast, however, the availability and use of technology teaching tools has expanded rapidly since their introduction in the latter part of the 20th Century.¹¹

In and prior to the early days of the United States, law was studied through apprenticeships with existing practitioners.¹² The focus of this educational system was on teaching practical knowledge and skills, rather than legal doctrine, theory, or reasoning.¹³ Although the first university was established in the United States in 1636,¹⁴ formal college and university law studies did not exist until over 100 years later.¹⁵ For example, Harvard Law School, the oldest continuously operating law school in the United States, was founded in 1817.¹⁶ Apparently, however, classroom-based legal education in the United States began nearly 40 years earlier with the establishment of a Chair of Law at the College of William & Mary.¹⁷ In the early 19th Century, law schools began to proliferate, and apprenticeship correspondingly declined.¹⁸ Yet, the transition from apprenticeship to class-

¹⁰ See *infra* notes 39 & 40 and accompanying text.

¹¹ See *infra* notes 41-46 and accompanying text.

¹² See Laura I. Appleman, *The Rise of the Modern American Law School: How Professionalization, German Scholarship, and Legal Reform Shaped Our System of Legal Education*, 39 NEW ENG. L. REV. 251, 267 (2005); Karen S. Beck, *One Step at a Time: The Research Value of Law Student Notebooks*, 91 LAW LIBR. J. 29, 30-33 (1999); Stropus, *supra* note 9, at 451-52; Thomas, *supra* note 9, at 69-70.

¹³ See Appleman, *supra* note 12; Beck, *supra* note 12 at 30-33; Stropus, *supra* note 9, at 451-52; Thomas, *supra* note 9, at 69-70.

¹⁴ Harvard was established in 1636, and William & Mary was chartered in 1693. See The Harvard Guide, *The Early History of Harvard Univ.*, <http://www.news.harvard.edu/guide/intro/index.html> (last visited Mar. 17, 2006) (referencing the date Harvard was established in stating that "Harvard University, which celebrated its 350th anniversary in 1986, is the oldest institution of higher learning in the United States"); William and Mary School of Law, *About the School of Law: A Unique History and Tradition*, <http://www.wm.edu/law/abo/historytradition.shtml> (last visited Mar. 17, 2006) [hereinafter *About the School of Law*] (noting that William and Mary was "[c]hartered in 1693 by King William III and Queen Mary II of England" and that "the College is the second oldest institution of higher learning in America").

¹⁵ See Beck, *supra* note 12, at 33-36; *infra* notes 16 & 17 and accompanying text.

¹⁶ See Harvard Law School, *Harvard Law School Facts*, <http://www.law.harvard.edu/about/faq.php#facts> (last visited Mar. 17, 2006).

¹⁷ See Beck, *supra* note 12, at 33 n.24; *About the School of Law*, *supra* note 14 (stating that "[t]he Chair of Law at William & Mary, created in 1779 by the Board of Visitors at the urging of Thomas Jefferson, was the first established in the United States").

¹⁸ Appleman, *supra* note 12, at 267.

room learning occurred gradually and was not complete until the 20th Century.¹⁹

Initially, classroom teaching of the law was accomplished by lecturing the students about existing law.²⁰ This teaching technique remains part of the law school teaching and learning environment today. Later, various interactive verbal techniques (through which the professor and student engage in a dialogue about the law using established legal reasoning elements and techniques), including principally Socratic questioning²¹ and other techniques centering around the case method,²² were added to (and, in some cases, supplanted) the lecture method, enabling students to develop oral advocacy and communication skills and engage in

¹⁹ *Id.* at 252.

²⁰ Professor Ruta Stropus describes this period in U.S. legal education as follows:

Over time, the lecture method of learning replaced the apprentice model. The lecture method purported to teach students legal doctrine (what the law is) within a university setting. Although this approach added a needed dimension to legal training, it did not provide the practical skills training of the previous apprentice model and encouraged student dependence on the professor. Instead of focusing on law as a process, and, therefore, placing a premium on analytical skills, students were encouraged to concentrate on the “rules” as an end in themselves.

Stropus, *supra* note 9, at 452 (footnotes omitted). See Beck, *supra* note 12, at 33-35; Thomas, *supra* note 9, at 70.

²¹ The Socratic method is, perhaps, the most familiar aspect of legal education in popular culture, having been portrayed a number of times in major motion pictures. These movies include, of course, *THE PAPER CHASE* (20th Cent. Fox 1973), <http://www.imdb.com/title/tt0070509/> (last visited Mar. 17, 2006), now a classic film about U.S. legal education, and the more recent *LEGALLY BLONDE* (MGM Pictures 2001), <http://www.imdb.com/title/tt0250494/> (last visited Mar. 17, 2006). See generally Martha Chamallas, *The Shadow of Professor Kingsfield: Contemporary Dilemmas Facing Women Law Professors*, 11 WM. & MARY J. WOMEN & L. 195, 198 (2005); David Ray Papke, *Crusading Hero, Devoted Teacher, and Sympathetic Failure: The Self-Image of the Law Professor in Hollywood Cinema and in Real Life, Too*, 28 VT. L. REV. 957, 966-67 (2004); Nancy J. Soonpaa, *Stress in Law Students: A Comparative Study of First-Year, Second-Year, and Third-Year Students*, 36 CONN. L. REV. 353, 353 (2004); Michael Vitiello, *Professor Kingsfield: The Most Misunderstood Character in Literature*, 33 HOFSTRA L. REV. 955, 955 (2005). These screen depictions of legal education tend to be rather unflattering treatments of the pedagogy. As my research assistant noted, in these films, professors, generally men, stand in front of the room and lecture incessantly about jurisdiction and proximate cause (noting two key first-year cases that have been taught since before this author went to law school in the early 1980s—*Pennoyer v. Neff*, 95 U.S. 714 (1877), and *Palsgraff v. Long Island R.R.*, 162 N.E. 99 (1928)), while students strain to stay awake and alert.

²² See, e.g., Thomas, *supra* note 9, at 72 (“The case method is the original method of teaching law and has dominated teaching practices for the last century.”); Torrey, *supra* note *, at 99 n.21.

real-time legal reasoning and analysis in the classroom.²³ Although these interactive techniques remain in use today, the efficacy of some of these pedagogic methods in legal education was, and is, hotly debated.²⁴ Clinical teaching methods (a modern form of apprenticeship), the problem method, seminar discussion methods, externships (another revival of the apprenticeship model, in a limited respect), and simulation exercises later were added to the law-teaching arsenal.²⁵ Taken together, the interactive techniques employed in current legal education are many and diverse, and they are denominated in various ways.²⁶ The key to

²³ See Appleman, *supra* note 12, at 283; Beck, *supra* note 12, at 36-37; Adam Neufeld, *Costs of an Outdated Pedagogy? Study on Gender at Harvard Law School*, 13 AM. U. J. GENDER SOC. POL'Y & L. 511, 519 (2005); Stropus, *supra* note 9, at 452-53; Thomas, *supra* note 9, at 70-72.

²⁴ See, e.g., Benjamin Barton, *The Emperor of Ocean Park: The Quintessence of Legal Academia*, 92 CAL. L. REV. 585, 590 (2004) (book review) (summarizing and citing to some of the varied critiques of the Socratic method); Beck, *supra* note 12, at 37 (noting and characterizing the early debate); Rogelio Lasso, *From the Paper Chase to the Digital Chase: Technology and the Challenge of Teaching 21st Century Law Students*, 43 SANTA CLARA L. REV. 1, 17-18 (2002) (describing and critiquing the debate); Neufeld, *supra* note 23, at 519-20 (setting forth a number of critiques of Langdellian pedagogy); Robert E. Oliphant, *Will Internet Driven Concord University Law School Revolutionize Traditional Law School Teaching?*, 27 WM. MITCHELL L. REV. 841, 860-61 (2000) (summarizing views of proponents and opponents of the Socratic method); Stephen J. Shapiro, *Teaching First-Year Civil Procedure and Other Introductory Courses by the Problem Method*, 34 CREIGHTON L. REV. 245, 247-48 (2000) (noting that while the case method has many benefits, it fails to teach practical skills and puts too much emphasis on decisional, rather than statutory or regulatory, law); W. David Slawson, *Changing How We Teach: A Critique of the Case Method*, 74 S. CAL. L. REV. 343, 344 (2000) (sharing personal observations about the detriments of the case method); Torrey, *supra* note *, at 100 (referencing negative effects associated with the use of the Socratic method in legal education).

²⁵ See, e.g., Robert MacCrate, *Yesterday, Today And Tomorrow: Building The Continuum Of Legal Education And Professional Development*, 10 CLINICAL L. REV. 805, 818-21 (2004) (describing changes in legal education occasioned by the 1992 Report of the Task Force on Law Schools and the Profession: Narrowing the Gap, commonly known as the "MacCrate Report"); Robert MacCrate, *Educating A Changing Profession: From Clinic to Continuum*, 64 TENN. L. REV. 1099, 1131-32 (1997) (describing changes in legal education occasioned by the MacCrate Report); Oliphant, *supra* note 24, at 861-62 (describing the advent of certain of these teaching techniques); William P. Quigley, *Introduction to Clinical Teaching for the New Clinical Law Professor: A View from the First Floor*, 28 AKRON L. REV. 463, 465-71 (1995) (outlining the history of clinical legal education); Shapiro, *supra* note 24, at 248-49 (describing the problem method as an answer to critics of the case method); Torrey, *supra* note *, at 100-02, 109-13 (describing different views on the attributes of, and alternatives to, the Socratic method).

²⁶ See Boyle, *supra* note 2, at 3-6 (describing and denominating various "active learning" strategies and techniques and differentiating them from the Socratic

all of the interactive methods, however, is that they more actively involve student participation, to one degree or another, in legal education.²⁷ A combination of straight lecture and professor-student interactions plays the leading role in current classroom law teaching (with student-student and student-client interactions also playing significant subsidiary roles).²⁸

Although technology has been used as a teaching tool in various settings for many years,²⁹ computer technologies are relatively recent entrants in the legal education race.³⁰ The use of computer technologies in law teaching has tended to increase rather slowly, but at a significantly faster pace than the use of new teaching methods and (on a macro level) in parallel with the use of computer technologies in other aspects of undergraduate and graduate school teaching.³¹ One set of authors summarizes the progression.

method); Stropus, *supra* note 9, at 451-55 (distinguishing the “question/answer methodology” or “Langdellian method” from the Socratic method); Thomas, *supra* note 9, at 72-73 (naming and describing teaching methods comprising and emanating from Langdell’s ideas). See generally Arturo Lopez Torres & Mary Kay Lundwall, *Moving Beyond Langdell II: An Annotated Bibliography of Current Methods for Law Teaching*, 2000 GONZ. L. REV. 1, 50-54 (2000) (categorizing scholarship on law teaching by subject and method).

²⁷ Some of this pedagogy reflects or is supported by research indicating the importance of active learning to concept absorption, understanding, and retention. See Boyle, *supra* note 2, at 4-7; Newman, *supra* note 2, at 190-91.

²⁸ See Deborah Maranville, *Passion, Context, And Lawyering Skills: Choosing Among Simulated And Real Clinical Experiences*, 7 CLINICAL L. REV. 123, 131 (2000) (“[T]raditional courses increasingly incorporate experiential learning in a dizzying array of configurations.”); Rosemary C. Salomone, *The Ties That Bind: An Interdisciplinary Analysis of Gender, Ethnicity, and the Practice of Law*, 3 VA. J. SOC. POL’Y & L. 177, 198 n.57 (1995) (mentioning various methods of law teaching); Thomas, *supra* note 9, at 72-73 (listing teaching methods currently in use in law schools).

²⁹ See Fred Galves, *Will Video Kill the Radio Star? Visual Learning and the Use of Display Technology in the Law School Classroom*, 2004 U. ILL. J.L. TECH. & POL’Y 195, 231-33 (2004).

³⁰ See Ian Gallacher, *Forty-Two: The Hitchhiker’s Guide to Teaching Legal Research to the Google Generation*, at 12, available at <http://law.bepress.com/cgi/viewcontent.cgi?article=3849&context=expresso> (describing the advent of the Lexis and Westlaw legal research databases); Stephen M. Johnson, *www.lawschool.edu: Legal Education in the Digital Age*, 2000 WIS. L. REV. 85, 89-90 (2000) (describing the introduction of technology into legal education); Gary A. Munneke, *Legal Skills for a Transforming Profession*, 22 PACE L. REV. 105, 127 (2001) (“Beginning in the 1980s, technology began to have an impact on legal education.”).

³¹ See Johnson, *supra* note 30, at 89 (“Despite the rosy predictions of virtual law school proponents . . . the integration of technology into legal education has proceeded quite slowly.”); W. Frank Newton & James Eissenger, *Into the New Millennium: Something Old, Something Borrowed, Something New: Law Schools*

Technology is making its way into the legal classroom in a big way. The laptop computer has replaced the pen and notebook. The chalkboard is giving way to the projected image. The linear outline is yielding to the multi-dimensional graphic and Power Point slide show. Lecterns and student desks are being connected to the Internet. Class and office hours are becoming “24/7” with chat rooms and messaging systems. With all these advances and entry points to knowledge, how can the Socratic method survive?³²

B. Law Teaching in the U.S. Today

Law schools are accredited by the American Bar Association (the “ABA”)³³ and, if desired, reviewed for admission to membership by the Association of American Law Schools (the “AALS”).³⁴ The ABA and the AALS have become the standard-bearers in U.S.

of the Future, 63 TEX. BAR J. 32, 34 (2000) (noting the slow pace of computerized technology adoption in law school teaching and suggesting that the increased use of technology in law practice will drive law schools toward technology integration); Paul Rich et al., *Information Communication Technology and the New University: A View on eLearning*, 585 ANNALS AM. ACAD. POL. & SOC. SCI. 134, 137-38 (2003) (describing three stages of the use of technology in higher education, spanning from the early 1980s to the present). Cf. Paul F. Teich, *How Effective Is Computer-Assisted Instruction? An Evaluation for Legal Educators*, 41 J. LEGAL EDUC. 489, 489 (1991) (noting that legal education has been slower to adopt computerized technology in teaching than other professional and graduate educational models). Earlier technological innovations that impacted classroom teaching include audio and video taping, sound amplification, pictorial slide projection, film strips, reel-to-reel movies, cassette tapes, and other audio and video technologies, as well as photocopies, mimeographs, and even (looking back a number of decades) electric and manual typewriter text. See Janice C. Griffith, *The Dean’s Role in Managing Technology*, 33 U. TOL. L. REV. 67, 69 (2001).

³² Alan Heinrich et al., *At the Crossroads of Law and Technology*, 33 LOY. L.A. L. REV. 1035, 1048 (2000).

³³ ABA law school accreditation information is available on the Web. Am. Bar Ass’n, Accreditation Info., <http://www.abanet.org/legaled/accreditation/acinfo.html> (last visited Mar. 17, 2006).

³⁴ AALS membership standards are set forth in the bylaws of the Association of American Law Schools, Inc. The Ass’n of Am. Law Schools, AALS Handbook/Bylaws, http://www.aals.org/about_handbook_bylaws.php (last visited Mar. 17, 2006) [hereinafter AALS Bylaws]. AALS membership standards require ABA accreditation, so AALS membership criteria are deemed to represent a higher and more prestigious standard. See Donald K. Hill, *Social Separation in America: Thurgood Marshall and the Texas Connections*, 28 T. MARSHALL L. REV. 177, 243 (2003) (“AALS standards are presumed higher than the ABA’s criteria and therefore it carries greater significance in terms of academic status and prestige.”). The ABA and AALS send joint review teams to schools every seventh year. American Bar Association, *Law School Site Visits*, <http://www.abanet.org/legaled/accreditation/sitevisit/acvisits.html> (last visited Mar. 17, 2006); OFFICE OF THE CONSULTANT ON LEGAL EDUCATION OF THE AM. BAR ASS’N SECTION OF LEGAL EDUCATION AND ADMISSIONS TO THE BAR, OVERVIEW OF THE ABA ACCREDITATION AND SITE VISIT PROCESS AND MEMORANDUM CONCERNING THE

legal education.³⁵ Both ABA accreditation standards and AALS membership criteria require that law schools meet certain curricular standards.³⁶ Under these requirements and in accordance with deemed “best practices,” all law students complete certain basic doctrinal legal coursework while in law school.³⁷ Despite numerous suggestions for reform in the nature and number of

CONDUCT OF THE SITE VISIT 4 (AUG. 2005), <http://www.abanet.org/legaled/accreditation/conductmemo2005.pdf>.

³⁵ See Thomas D. Morgan, *Admission of George Mason to Membership in the Association of American Law Schools*, 50 CASE W. RES. L. REV. 445, 445 (1999) (“Two important milestones in the development of any law school are its accreditation by the American Bar Association . . . and its admission to membership in the Association of American Law Schools (AALS).”); Maureen Ryan, *Fair Use and Academic Expression: Rhetoric, Reality, and Restriction on Academic Freedom*, 8 CORNELL J.L. & PUB. POL’Y 541, 575 (1999) (referencing the ABA and the AALS as “the two agencies that are responsible for the accreditation of law schools”).

³⁶ See Am. Bar Ass’n, *Standards for Approval of Law Schools and Interpretations*, at chapter 3, <http://www.abanet.org/legaled/standards/chapter3.html> (last visited Mar. 17, 2006) [hereinafter *ABA Accreditation Standards*]; AALS Bylaws, *supra* note 34, section 6-7.

³⁷ See Paul Brest, *Plus Ça Change*, 91 MICH. L. REV. 1945, 1947-48 (1993) (indicating that all law students take certain courses); Daniel Gordon, *Does Law Teaching Have Meaning? Teaching Effectiveness, Gauging Alumni Competence, and the MacCrate Report*, 25 FORDHAM URB. L.J. 43, 48-49 (1997) (“Most law schools require basic courses such as Contracts, Torts, Constitutional Law and Civil Procedure.”); Judith G. Greenberg, *Erasing Race from Legal Education*, 28 U. MICH. J.L. REF. 51, 70 (1994) (“The core of the curriculum in most law schools revolves around traditional common law subjects and statutory courses on corporate, commercial, and tax law.”); Mark L. Jones, *Fundamental Dimensions of Law and Legal Education: A Theoretical Framework*, 26 OKLA. CITY U. L. REV. 547, 620 (2001) (“I understand a law school’s core curriculum to comprise those courses that are required or generally recommended, because they are regarded as being of such fundamental value and importance that, in principle, they should be part of the basic legal education of the students at that school.”); Gerald Paul McAlinn, *Reform in Japanese Legal Education: Reforming the System of Legal Education: A Call for Bold Leadership and Self-governance*, 2 ASIAN-PACIFIC L. & POL’Y J. 15 (2001) (“Virtually every law school offers a core course curriculum that is supplemented by clinical courses that are taken for credit and are conducted under the guidance of clinical professors.”); Michael K. McChrystal, *Central Planning or Market Controls in Legal Education: How to Decide What Lawyers Should Know*, 80 MARQ. L. REV. 761, 765 (1997) (“Law school curricula typically require some courses”); William R. Trail & William D. Underwood, *The Decline of Professional Legal Training and a Proposal for its Revitalization in Professional Law Schools*, 48 BAYLOR L. REV. 201, 214-15 (1996) (“A 1975 study of law school curricula concluded that the courses required for graduation were reasonably uniform among law schools and that an informal required curriculum existed as a result of the topics covered on state bar examinations.”).

required courses in the law school curriculum,³⁸ many standard law school courses have not changed much over the years.³⁹ Some even argue that the doctrinal content of many of these standard (most often, but not exclusively, first-year) course offerings also has remained relatively static.⁴⁰

What are beginning to change, however, are the tools with which law school classes are taught. Although the ABA's accreditation standards set forth a minimum number of instructional hours "in residence" and "in regularly scheduled class sessions,"⁴¹ teaching tools used in the law school classroom are not specifically regulated.⁴² This relatively free market allows for the introduc-

³⁸ See generally Torrey, *supra* note *, at 94 n.2 (noting the resistance of legal education to change).

³⁹ John H. Garvey, *The Business of Running a Law School*, 33 U. TOL. L. REV. 37 (2001) ("When Boston College Law School opened its doors in 1929 its first-year curriculum was not very different from what it is today."); Claudio Grossman, *Building the World Community: Challenges to Legal Education and the WCL Experience*, 17 AM. U. INT'L L. REV. 815, 826 (2002) ("A brief look at Langdell's curriculum at Harvard indicates that changes to the first-year legal training have been moderate at best."); Michael I. Swygert, *Valparaiso University School of Law, 1879-2004: A Contextual History*, 38 VAL. U. L. REV. 627, 803 (2004) ("[T]he first-year curriculum of 1928-1929 was quite similar to the School of Law's curriculum today. Moreover, it parallels what the vast majority of law schools require and have considered for decades to be 'core' courses."); Kellye Y. Testy, *Adding Value(s) to Corporate Law: An Agenda for Reform*, 34 GA. L. REV. 1025, 1026 (2000) ("The typical law school curriculum today looks much as it has for decades."); Torrey, *supra* note *, at 99 (noting that legal education "hasn't changed much for over 100 years"). Yet, the number of elective upper division law school courses has increased significantly over the years. See Garvey, *supra*.

⁴⁰ See John M. Conley, *How Bad is it Out There?: Teaching and Learning About the State of the Legal Profession in North Carolina*, 82 N.C. L. REV. 1943, 1984 (2004) ("All of us went to law school, where we took essentially the same first-year courses probably taught in essentially the same way."). As my research assistant for this project noted in our discussions on this point, contracts still require an offer, an acceptance, and consideration, and the elements of negligence also have remained essentially unchanged. *But see* John C. Weistart, *The Law School Curriculum: The Process of Reform*, 1987 DUKE L.J. 317, 320-22 (1987) (noting changes in course content and teaching methods in the first-year curriculum). Of course, the content of doctrinal courses must and does change in response to changes in the applicable legal doctrine. See Weistart, *supra*.

⁴¹ ABA Accreditation Standards, *supra* note 36, at Standard 304, Course of Study and Academic Calendar. There also are standards defining and circumscribing distance education. ABA Accreditation Standards, *supra* note 36, at Standard 306, Distance Education.

⁴² Both the ABA and the AALS do endeavor to regulate overall teaching competence and effectiveness through their accreditation standards, however. "The faculty shall possess [sic] a high degree of competence, as demonstrated by its education, experience in teaching or practice, teaching effectiveness, and

tion of innovative teaching methods and tools, including technology tools, into the classroom instructional setting on a class-by-class basis.⁴³ Many of the new technology tools require that law schools be rewired and equipped with computer hardware and software to handle the technology demands of both instructors and students.⁴⁴ Law schools have moved relatively swiftly to provide the necessary infrastructure and institutional supports.⁴⁵ Some law schools go one step further and mandate that students own or have access to laptop computers that are not owned or provided by the institution.⁴⁶

scholarly research and writing.” *ABA Accreditation Standards, supra* note 36, at Standard 401, Qualifications. The ABA standards also require that accredited law schools shall “ensure effective teaching by all persons providing instruction to students.” *ABA Accreditation Standards, supra* note 36, at Standard 403. Under the AALS Bylaws, faculty competence is measured, in part, by the “[q]uality of teaching and attention given to law students both as individuals and as a group.” AALS Bylaws, *supra* note 34, at Section 6-4(c)(i). These standards may have an impact on teaching methods and tools. See Howard O. Hunter, *Thoughts on Being a Dean*, 31 U. Tol. L. Rev. 641, 642 (2000) (noting that the ABA regulatory scheme encourages conservatism in legal education).

The ABA inspection process encourages law teachers to conform their teaching methodologies to the expectations of the ABA inspection team members. New law schools are most likely to receive approval if their professors’ teaching approaches are similar to what the inspectors have seen in other ABA law school classrooms. Because ABA approval determines the success or failure of new law schools, the incentive to conform is likely to overwhelm innovation.

Michael Hunter Schwartz, *Teaching Law by Design: How Learning Theory and Instructional Design Can Inform and Reform Law Teaching*, 38 SAN DIEGO L. REV. 347, 362 (2001).

⁴³ See *supra* notes 30-32.

⁴⁴ See Galves, *supra* note 29, at 214 (listing the equipment needed to use computer-generated images in the classroom).

⁴⁵ See, e.g., H. Reese Hansen, *Except for the Problems, Being a Dean is a Very Good Job*, 33 U. Tol. L. Rev. 77, 80 (2001) (“[W]e have moved vigorously at the law school to capitalize on technology’s advantages.”).

⁴⁶ See, e.g., Florida State Univ. College of Law, First-year Requirement, Laptop Requirement, http://www.law.fsu.edu/admitted_students/laptop.html (last visited Mar. 17, 2006) (“All incoming students are required to have access to a laptop computer”); George Washington Univ. Law School, Notebook Computer Requirement, <http://www.law.gwu.edu/Admitted+JD+Applicants/Notebook+Computer+Requirement.htm> (last visited Mar. 17, 2006) (“All Juris Doctor degree students entering as 1Ls in Fall 2006 are required to have a notebook computer for personal use. This will enable students to take full advantage of the Law School’s technologically-advanced learning environment.”); Univ. of Florida Levin College of Law, Technology Services, University of Florida Levin College of Law Mandatory Notebook Computer Policy, <http://www.law.ufl.edu/services/mandatory.shtml> (last visited Mar. 17, 2006) (“[T]he [college] requires that all entering J.D. students own a portable (notebook or laptop) computer.”). These schools generally require that the laptops meet certain

Yet, neither the ability to exercise academic freedom as to teaching tools nor the institutionalization of technology in law schools has created significant change in momentum toward the regular, pervasive use of technology in classroom teaching.⁴⁷ The reasons for this are myriad. Some faculty likely are just too lazy or set in their ways to even think about employing new teaching tools, especially if they perceive the change to require a significant investment of time or money.⁴⁸ Some faculty are not convinced that the use of instructional technology would improve their teaching or enhance their students' learning experiences in light of the admittedly scant evidence of those improvements and enhancements in the scholarship of teaching and learning.⁴⁹

specifications. *Id.* Many law schools also offer special laptop purchasing programs. *See, e.g.*, Northwestern Univ. School of Law, Notebook Program, <http://www.law.northwestern.edu/infosys/notebook/> (last visited Mar. 17, 2006); UConn Co-op, Technology Division, Univ. of Connecticut School of Law Students, <http://www.bookstore.uconn.edu/law.html> (last visited Mar. 17, 2006); Univ. of Minnesota Law School, Law School Laptop Program, <http://www.law.umn.edu/laptop/index.html> (last visited Mar. 17, 2006). Still other law schools provide assistance to their students in selecting laptops appropriate for the students' perceived needs. *See, e.g.*, Hofstra Univ. School of Law, Hofstra Univ. School of Law, Information Systems Department, Computer Purchase Recommendations, http://www.hofstra.edu/Academics/Law/law_computer_buy.cfm (last visited Mar. 17, 2006); Saint Louis Univ. School of Law, Law School ITS, <http://law.slu.edu/technology/FAQ/laptop.html> (last visited Mar. 17, 2006); Univ. of Colorado School of Law, Student Services, Technology—Computing Recommendations for Law Students, <http://www.colorado.edu/law/students/computing.htm> (last visited Mar. 17, 2006).

⁴⁷ *See generally* Geist, *supra* note 2, at 143.

⁴⁸ *See generally* Frances Lee Ansley, *Race and the Core Curriculum in Legal Education*, 79 CAL. L. REV. 1511, 1590 (1991) ("It is costly for teachers to change the ways they teach; time spent developing new materials and approaches is time not spent on all the other things that professors do. These are not trivial obstacles."); Steven I. Friedland, *How We Teach: A Survey of Teaching Techniques In American Law Schools*, 20 SEATTLE U. L. REV. 1, 39-40 (1996) (reporting, based on a survey of law teachers, that the longer a law professor has been teaching, the less likely he or she is to modify his or her teaching methods); Hunter, *supra* note 42, at 642 ("Faculties naturally tend to resist change in pedagogy and curriculum. Law teachers have substantial investments in their current courses and are accustomed to doing things in certain ways."); Michael Penn, *Feminist Pedagogy as Praxis*, 4 DUKE J. GENDER L. & POL'Y 217, 217 (1997) (book review) ("Teaching is inherently conservative. Teachers tend to lecture, run seminars, and grade exams the way they were lectured to, precepted, and graded."); Torrey, *supra* note *, at 105 (referencing "lazy professors" as a reason for the persistence of the Socratic method).

⁴⁹ *Cf.* Attiya Malik, *Are You Content with the Content? Intellectual Property Implications of Weblog Publishing*, 21 J. MARSHALL J. COMPUTER & INFO. L. 439, 448 (2003) (noting critiques of course management systems as inflexible tools); Newman, *supra* note 2, at 195 ("Law schools might be more eager to adopt electronic technology if there were a number of large-scale studies showing

Some may consider the use of technology in teaching at best a distraction from the perceived teaching task at hand.⁵⁰ Others are concerned that the use of technology in classroom teaching is beyond their limited capacity for technological know-how.⁵¹ Still others may resist the adoption of technology to the extent they believe that its use represents a loss of academic freedom or independence.⁵²

Having gotten to this point in the progression of legal education and teaching technology, one legitimately might ask where, ideally, law teachers should take the use of technology in legal education in the future. If the goal of legal educators is to best ensure that law students have the ability to learn what law schools and their faculty determine to teach in the way that faculty determine to teach it, then the answer to that question requires an understanding of those we teach—early 21st Century law students.

C. *Current 21st Century Law Students*

Teaching effectiveness is related to the way in which students learn.⁵³ Accordingly, significant recent developments in learning theory have been learner-centric.⁵⁴ The results of this body of research have included, among other things, a validation of the efficacy of active learning processes, a nuanced and applied knowledge of learning styles, and a heightened awareness of the possi-

incontrovertibly that students learn better when technology is introduced into the law school curriculum.”); sources cited *supra* note 8. Faculty also may fear that technology will decrease their teaching effectiveness. See Rich, *supra* note 31, at 141 (referencing a study on distributed education that indicates “decreases in instructional quality brought about by increased faculty workload, problems of adapting to technology, difficulties with online course management, and other related matter”).

⁵⁰ Cf. Galves, *supra* note 29, at 231-34, 242 (addressing generally the fear that technology fundamentally will change the nature of teaching and acknowledging that some uses of technology in the law school classroom are distracting); Saxer, *supra* note 8, at 22 (“Some students, however, find technology to be distracting and a hindrance to class discussion.”).

⁵¹ See Saxer, *supra* note 8, at 5, 8; Leslie T. Thornton, *Beyond the Blackboard: Regulating Distance Learning in Higher Education*, 3 VAND. J. ENT. L. & PRAC. 210, 211 (2001).

⁵² See, e.g., Ansley, *supra* note 48, at 1591 (“In addition to problems of inertia and the costs of innovation, issues of teacher autonomy pose problems. Professors are rightly jealous of their freedom to teach what and how they think best . . .”).

⁵³ See Friedland, *supra* note 48, at 3 (“Only by focusing on how students learn can a teacher truly be effective.”).

⁵⁴ See Newman, *supra* note 2, at 189-93 (describing and summarizing research regarding learner-centered education, learning styles, and personality types).

ble effects of personality types on learning.⁵⁵ Law scholars have begun to integrate these findings into broader theories of legal education in an effort to bring some rationality to legal pedagogy.⁵⁶ This scholarship on teaching and learning, when analyzed in light of the demographics of the current law student body, provides a basis for hypotheses and anecdotal and empirical observations on the potential and actual value of different teaching methods and tools.⁵⁷

What are those demographics? The student body of most law schools has been quite homogeneous until quite recently. Specifically, until the 1960s, law schools were composed, almost exclusively, of wealthy or upper-middle class white males.⁵⁸ Current

⁵⁵ See, e.g., *id.*; see generally Robin A. Boyle & Rita Dunn, *Teaching Law Students through Individual Learning Styles*, 62 ALB. L. REV. 213 (1998) (describing research on learning styles and reporting on a law school application of that research); David W. Champagne, *Improving Your Teaching: How do Students Learn?*, 83 LAW LIBR. J. 85, 86-88 (1991) (describing different types of learners); Vernellia R. Randall, *The Myers-Briggs Type Indicator, First Year Law Students and Performance*, 26 CUMB. L. REV. 63, 70-77 (1995-1996) (reporting on a study exploring the relationship between personality type and performance in first-year law students); Torrey, *supra* note *, at 103 (“[I]t is widely accepted that active, or participatory, student learning is the most effective pedagogy.”).

⁵⁶ See generally Thomas, *supra* note 9 (calling for an integrated theory of legal education to encourage thoughtful innovation in law teaching).

⁵⁷ As earlier noted, empirical studies in this area are few and far between. See *supra* note 8 and accompanying text. In suggesting more empirical studies of the use of technology in legal education, one law professor notes:

[L]egal educators need to get a better sense about whether the Internet will assist law students to learn and, if so, how. Those who study technology’s role in education (not legal education per se, but rather education generally) readily acknowledge that no one really knows whether the technology deployed in today’s classrooms help students learn better or more. Empirical evidence on the efficacy of virtual classrooms is sketchy, at best, and severely limited by a paucity of data.

Heise, *supra* note 8, at 287.

⁵⁸ See Mary L. Clark, *The Founding of the Washington College of Law: The First Law School Established by Women for Women*, 47 AM. U. L. REV. 613, 626 (1998) (noting that “Gillett was one of two white women students at Howard Law in the early 1880s; at that time, every other Washington law school excluded females”); *id.* at 615 (noting that “there were no African-American students at WCL before 1950”); Ann C. McGinley, *The Emerging Cronyism Defense and Affirmative Action: A Critical Perspective on the Distinction Between Colorblind and Race-Conscious Decision Making Under Title VII*, 39 ARIZ. L. REV. 1003, 1038 n.214 (1997) (noting that “the law school environment itself, especially in the most prestigious of law schools, is decidedly white and male”); Deborah Jones Merritt & Barbara F. Reskin, *Sex, Race, and Credentials: The Truth About Affirmative Action in Law Faculty Hiring*, 97 COLUM. L. REV. 199, 298 (1997) (“As late as 1961, several law schools maintained policies explicitly limiting admission to white students, while a number of others had just lifted those barriers.”); Randall, *supra* note 55, at 66 n.4 (referencing a time in legal

law school classes at many schools are comprised of approximately 50% women and a growing percentage of students of color.⁵⁹ The

education “when all the entering students had essentially the same background - white, upper-middle class, male”); Daniel M. Schneider, *Interpreting the Interpreters: Assessing Forty-Five Years of Tax Literature*, 4 FLA. TAX REV. 483, 495 (1999) (“Women, and members of minority groups, did not appear in substantial numbers in law schools until the late 1960s. Until then, most law students were white men.”); Carroll Seron et al., *A Report of the Perceptions and Experiences of Lawyers, Judges, and Court Employees Concerning Gender, Racial and Ethnic Fairness in the Federal Courts of the Second Circuit of the United States*, 1997 ANN. SURV. AM. L. 415, 442 n.34 (1997) (noting that “the upsurge in the attendance of law school by white women and minorities began after 1976”); Ellen K. Solender, *The Story of a Self-Effacing Feminist Law Professor*, 4 AM. U. J. GENDER & LAW 249, 249 (1995) (“Twenty-five years ago law schools looked quite different from the law schools of today The faculties and student bodies were monochromatic and largely male.”). The whiteness of law students has not changed as dramatically as the gender of law students. See Dennis W. Archer, *The Value of Diversity: What the Legal Profession Must Do To Stay Ahead of the Curve*, 12 WASH. U. J.L. & POL’Y 25, 27 (2003) (“Presently, over eighty-nine percent of the legal profession and eighty percent of enrolled law school students are white.”).

⁵⁹ See, e.g., Mark R. Brown, *Gender Discrimination in the Supreme Court’s Clerkship Selection Process*, 75 OR. L. REV. 359, 367 n.40 (1996) (“[T]he ratio of male students enrolled in elite law schools during the 1990s was .58137.”); Justice Ruth Bader Ginsburg, *Remarks on Women’s Progress at the Bar and on the Bench*, 89 CORNELL L. REV. 801, 804 (2004) (“Today, women are more than fifty percent of the entering law school population”); Cheryl I. Harris, *What the Supreme Court did not Hear in Grutter and Gratz*, 51 DRAKE L. REV. 697, 701 (2003) (“The school that I attended, Northwestern Law School, now has over fifty percent women in the entering class, as do many of the leading law schools.”); William C. Kidder, *The Rise of the Testocracy: An Essay on the LSAT, Conventional Wisdom, and the Dismantling of Diversity*, 9 TEX. J. WOMEN & L. 167, 179 (2000) (“Boalt is one of the few elite law schools where women have comprised a majority of law students in recent years.”); Miguel A. Mendez & Leo P. Martinez, *Toward a Statistical Profile of Latina/os in the Legal Profession*, 13 LA RAZA L.J. 59, 77 (2002) (“The percentage of minority law students has increased significantly in the last twenty years: from 8.8% in 1980, to 13.6% in 1990, to 20.2% in 1999.”); Paula A. Monopoli, *Foreword*, 4 U. MD. L.J. RACE RELIGION GENDER & CLASS 207, 207 (2004) (“More than fifty percent of American students entering law schools are now women.”); Abbie Willard Thorner, *Legal Education In The Recruitment Marketplace: Decades Of Change*, 1987 DUKE L.J. 276, 284 n.20 (1987) (“Enrollment figures at ABA-approved law schools show continuing increases in the percentages of women and minority law school students. Forty percent of the students enrolled in J.D. programs in 1985 were women, and 10.4% were minority students.”); Torrey, *supra* note *, at 104-05 (“Today, women constitute almost half of all law students, and the minority population, while still too small, is substantial.” (footnote omitted)); Reynaldo Anaya Valencia & Miguel A. Ortiz, *The Persistent Challenge of Gender and Law: Views From One Law School’s Student Body*, 3 SCHOLAR 157, 163 (2001) (“[I]n 2001 for the first time in U.S. history, women comprised over one half of all entering students in the nation’s law schools.”); David B. Wilkins, *From “Separate is Inherently Unequal” to “Diversity is Good for Business”: The Rise of Market-Based Diversity Arguments and the Fate of the Black Corporate Bar*, 117

relationship between the gender and racial compositions of the law school classroom and teaching and learning in the law school environment is being explored by researchers and has been documented and reflected upon at length elsewhere.⁶⁰ Scholars and others also have identified ways in which socio-economic class impacts teaching and learning.⁶¹ An understanding of how these changes interact with each other and with other demographic factors may lead to new understandings about the efficiency and efficacy of teaching methods and tools.⁶²

HARV. L. REV. 1548, 1583-84 (2004) ("To be sure, the percentage of minority students in law school has increased significantly since the initial affirmative action programs.").

⁶⁰ See, e.g., Charles R. Calleros, *Training a Diverse Student Body for a Multicultural Society*, 8 LA RAZA L.J. 140, 140 (1995) (exploring "the benefits of raising issues in culturally diverse contexts in the law school classroom" and examining "techniques for doing so effectively"); Timothy T. Clydesdale, *A Forked River Runs Through Law School: Toward Understanding Race, Gender, Age, and Related Gaps in Law School Performance and Bar Passage*, 29 LAW & SOC. INQUIRY 711, 715-16 (2004) (summarizing some of the scholarship "on varying outcomes across gender and racial categories"); see generally Lorena Fries & Veronica Matus, *Why Does the Method Matter?*, 7 AM. U. J. GENDER SOC. POL'Y & L. 291, 291-95 (1998/1999) (regarding gender and teaching methods); see generally Lani Guinier et al., *Becoming Gentlemen: Women's Experiences at One Ivy League Law School*, 143 U. PA. L. REV. 1, 2-6 (1994) (regarding gender and the law student experience); Sandra Janoff, *The Influence of Legal Education on Moral Reasoning*, 76 MINN. L. REV. 193, 194 (1991) ("present[ing] the results of a study that included the experiences of women in its investigation of the impact of legal education on moral reasoning"); Torrey, *supra* note *, at 105 ("[W]omen and minority men report a loss of confidence in classes utilizing the Socratic Method, and a loss of confidence translates into lower performance."); but cf. Robert E. Oliphant, *supra* note 2, at 22, arguing that:

Supporters of Socratic teaching often reject suggestions that classroom teaching should be varied because law students may process information differently, or possess a variety of personality characteristics that may affect their ability to learn the law. Only modest attention is paid to suggestions that learners may have different cognitive strengths and styles or that cultural diversity, and levels of worldly knowledge may affect individual learning.

⁶¹ See, e.g., Clydesdale, *supra* note 60, at 735 (noting that "law students attending third-tier, mostly private law schools have the highest first year dropout rate (15.1%), low degree completion rates (87.4%), . . . low bar passage rates (72.8%) [and] . . . are more likely to attend part time, plan more hours of paid employment, have high levels of family responsibilities, and come from lower socioeconomic origins"); Portia Y. T. Hamlar, *Minority Tokenism in American Law Schools*, 26 HOW. L.J. 443, 551-53 (1983) (describing and citing commentary on cultural bias, curriculum, and teaching methods in legal education).

⁶² Oliphant, *supra* note 2, at 8 (noting that more men than women enrolled in an experimental program relating to the use of technology in law teaching).

Of more immediate relevance to this article, perhaps, are the demographics of the current law student population that relate more directly to involvement with technology. Many 21st Century law students expect the use of technology in legal education because they grew up with technology and use it in nearly every aspect of their daily lives.⁶³ Computer-oriented classes and assignments (keyboarding, Internet research, PowerPoint slide preparation, and other offerings) may have been a required part of their elementary, secondary, or undergraduate curricula;⁶⁴ handwritten papers and typewriters are obsolete (and, to many, virtu-

⁶³ See Andrea L. Johnson, *Distance Learning and Technology in Legal Education: A 21st Century Experiment*, 7 ALB. L.J. SCI. & TECH. 213, 226 (1997) ("Entering law students have a basic aptitude for computers and know how to use the Internet. Students also have the expectation of using both tools as integral parts of their law school experience."); Richard K. Sherwin et al., *Law in the Digital Age: How Visual Communication Technologies are Transforming the Practice, Theory, and Teaching of Law*, at 46, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=804424 (last visited Mar. 17, 2006) ("They have been going to the movies, watching television, playing video games on their PCs or gaming hardware, and surfing the Web."); Garner K. Weng, *Type No Evil: The Proper Latitude of Public Educational Institutions in Restricting Expressions of Their Students on the Internet*, 20 HASTINGS COMM. & ENT. L.J. 751, 765-66 (1998) (describing personal uses students make of the Internet). One commentator summarizes the involvement of current students with technology:

Students now entering law school grew up watching television, playing video games, and viewing computer screens. In a few years, students reared almost entirely on digital information will be arriving in law schools. These 21st century students think, behave, and learn differently than their predecessors and professors, who learned primarily from printed text. This learning transformation presents significant challenges to legal education.

Lasso, *supra* note 24, at 3.

⁶⁴ One legal scholar explains the education technology landscape for today's students in the following manner:

Students in kindergarten spend some portion of their week in the computer lab. By the time kids reach their middle- and high-school years, many are well-versed in word processing programs, e-mail, and surfing the Internet. Elementary school teachers are trained and encouraged to use multi-media software, the Internet, and other technology in their classrooms because not all students learn effectively using only auditory skills, nor do all students respond to a "chalk and talk" teaching style. Undergraduate professors in business, science, religion, and other subjects commonly use presentation software to illustrate substantive concepts with formulas, maps, and text. Students are encouraged and trained to utilize technology in class projects and presentations.

Saxer, *supra* note 8, at 1 (footnote omitted); see also Lasso, *supra* note 24, at 12 ("Students who lack basic computer skills are finding it difficult to obtain a college education."); Lucia Ann Silecchia, *Of Painters, Sculptors, Quill Pens, and Microchips: Teaching Legal Writers in the Electronic Age*, 75 NEB. L. REV. 802, 808 (1996) ("The proliferation of computers in elementary schools, secondary education, college courses, and homes has resulted in a new generation of law

ally unknown).⁶⁵ Many of these students already have encountered technology in higher education classrooms or experiences.⁶⁶ Current law school students were exposed to the Internet and electronic mail at an early age, and they are routine users of these technologies.⁶⁷ Instantaneous communication is an everyday occurrence for many, if not most, law school students, who are making use of instant electronic messaging (e.g., AOL Instant Messenger, MSN Messenger, etc.), rather than “snail mail” (or even—dare I use the term—“traditional” electronic mail) to communicate with friends and family and make educational and commercial contacts.⁶⁸

students ready to work with technology and eager to explore how technology will change their studies and practice.” (footnotes omitted)).

⁶⁵ A law professor summarizes the technological progression in legal writing:

In the past, legal writing, like most writing, was done “manually.” That is, first drafts of memoranda, letters, pleadings, motions, briefs, and contracts were written on paper - usually on the ubiquitous yellow legal pad - and were then typed up in their final version. This process would commit the work to a final form difficult to edit or alter except by complete retyping.

However, such days are past, and legal writers now accomplish most of their writing on a word processor. According to a 1993 survey, “seventy-six percent of the lawyers in reporting firms have a computer or terminal on or near their desks.” This is a staggering increase from the seven percent of attorneys who were so equipped in 1986. There can be no doubt that use of such technology will increase and continue to become a pervasive and essential part of a competent lawyer’s practice. This is true of law students as well as attorneys.

Silecchia, *supra* note 64, at 805-07 (footnotes omitted).

⁶⁶ Ian Gallacher, *‘Getting to Know You’: Results from a Pilot Survey of Incoming Law Students*, at 15-16, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=832206 (“The use of emails among the responding students is predictably universal.”). Another scholar notes:

A 1995 survey showed that 24% of college classes are taught in computer-equipped classrooms, and 20% of faculty use E-mail. Some experts believe that information technology has emerged as a “permanent, respected, and increasingly essential component of the college experience.” This suggests that technology will likely impact legal education in the same way.

Johnson, *supra* note 63, at 227 (footnotes omitted).

⁶⁷ See, e.g., Gallacher, *supra* note 30, at 12 (“[W]e have reached the point where law students cannot remember a time when computers were not an integral part of their academic lives.”); Gallacher, *supra* note 66, at 12; Dennis M. Kennedy, *Ten Things Missouri Lawyers Must Know About the Internet*, 54 J. Mo. B. 91, 93 (1998) (“It is difficult to find a law student who is not a regular user of the Internet.”); Saxer, *supra* note 8, at 1.

⁶⁸ See Gallacher, *supra* note 66, at 12-13; Thomas Keefe, *Teaching Legal Research from the Inside Out*, 97 LAW LIBR. J. 117, 126 (2005) (“[W]ithin two years of its launch, instant messaging accounted for 80 percent of law student interaction with West reference attorneys.”). In a 1997 article, one commentator noted the already prevalent use of electronic mail in the law school setting.

Moreover, many students currently enrolled in law school are savvy Internet surfers who can research a plethora of non-law (and, in some cases, law and law-related) topics in short order.⁶⁹ Even tried-and-true library card catalogs are now electronic, often with enhanced capabilities that allow the researcher to access an electronic copy of the located resources or to more easily find the hard copy of the located resources.⁷⁰ If left in a library without a computer—having access to only a hardcopy card catalog and the

The development of e-mail as a ubiquitous form of communication in many law schools is instructive. Today, students and faculty alike regularly employ the speed and convenience that e-mail provides. Lines of students accessing their e-mail accounts is a common sight at many law schools as e-mail has become a favored means of communication. The widespread use of e-mail within the law school community is a relatively recent development, however. Its growth is attributable, in large measure, to the fact that it has achieved a critical mass. With the majority of the typical law school community using e-mail to communicate, all members of the community must consult their e-mail boxes frequently to ensure that they receive their messages.

Geist, *supra* note 2, at 160.

⁶⁹ See, e.g., Gallacher, *supra* note 30, at 8 (“For our students, though, books are substantially less important than they were to us and electronic research has been a successful strategy for them up to the point where they encounter legal research instruction.”); *id.* at 12 (citing to data from a recent survey conducted by the Pew Internet and American Life Project relating to students and Internet research); Gallacher, *supra* note 66, at 13-15; Heise, *supra* note 8, at 289-90 (“Most law students now arrive at law school already Internet savvy and possessing relatively sophisticated cyberspace navigational skills. Increasingly, they lever these skills in their efforts to learn the law, particularly as the skills relate to manipulating vast sources of information. The Internet’s influence within law schools will assuredly increase over time.”); Lasso, *supra* note 24, at 21-22 (“Today’s students conduct research almost exclusively in ‘cyberspace,’ using computers to obtain information Students can conduct research from home, the park, or the beach. They access all the information they need without ever going to a library, opening a book, or reading a newspaper.”).

⁷⁰ See Gail M. Daly, *Bibliographic Access to Legal Research Databases Reconsidered*, 87 LAW LIBR. J. 192, 200 (1995) (“Yesterday’s old card catalog has evolved into the new, improved online public catalog”); William A. Hilyerd, *Using the Law Library: A Guide for Educators Part IV: Secondary Sources to the Rescue*, 34 J.L. & EDUC. 273, 288 (2005) (“In the age of the Internet, it is not even necessary for a researcher to travel to a library to search its catalog (although a visit to the library will be necessary to obtain the book), as the ‘card’ catalogs for all major libraries, including law libraries, are available online.”); Christian C.M. Beams, Note, *The Copyright Dilemma Involving Online Service Providers: Problem Solved . . . for Now*, 51 FED. COMM. L.J. 823, 824 (1999) (“Gone are libraries’ card catalogs, as online computer terminals have replaced them.”); Niva Elkin-Koren, *Cyberlaw and Social Change: A Democratic Approach to Copyright Law in Cyberspace*, 14 CARDOZO ARTS & ENT. L.J. 215, 267 (1996) (“Libraries are gradually being converted to electronic form, first by changing their card catalogs to electronic inventories accessible from remote terminals”). One student commentator describes the advent of electronic information

Dewey decimal system—to perform the same research, no doubt many 21st Century law students would be unable to complete the task.⁷¹

Technology is fast (and getting faster), and the 21st Century law student has come to rely on its speed. Television, once the cutting edge of communication, is no longer fast enough in many situations. Many people, law students included, get their news and information from the Internet.⁷² Students today can turn on the computer or one of many 24-hour cable news channels and find

delivery and retrieval by reference to the overall progression of computer systems in the 20th Century:

Computers have been in use for decades, but their size and expense limited their use to military and academic research applications. The advent of small, inexpensive personal computers resulted in an explosive proliferation of computer equipment and changed the office environment completely, rising to prominence in the mid-1980s. In the years since, “PC’s” have become the dominant tools for word processing, “spreadsheet” mathematical calculation, and databases for the management of inventory and information. Manual equipment and systems such as typewriters and index-card catalogs have quickly fallen into disuse.

Michael A. Forhan, Note, *Tasini v. New York Times: The Write Stuff for Copyright Law?*, 27 CAP. U.L. REV. 863, 869 (1999) (footnotes omitted).

⁷¹ See Keefe, *supra* note 68, at 119 (“Entering law students have not been exposed to traditional research tools such as a card catalog or the *Reader’s Guide to Periodical Literature*, and thus lack these as a backdrop for learning legal research using the specialized print sources of the legal field.”).

⁷² See generally David Broder, *The New World of News Media*, 23 U. ARK. LITTLE ROCK L. REV. 25, 27-29 (2000) (describing, among other news outlets, cable television and the Internet and commenting on the rapid release of news information in the current environment); H. Mitchell Caldwell et al., *The Art and Architecture of Closing Argument*, 76 TUL. L. REV. 961, 1048-49 (2002) (noting that some jurors “get most of their news from television or the Internet”); John Grady & Jane Boyd Ohlin, *The Application of Title III of the ADA to Sport Web Sites*, 14 J. LEGAL ASPECTS OF SPORT 145, 145 (2004) (“Using the Internet has become a prominent way that Americans access news, shop, and transact business.”); The Honorable Susan Ness, *Keynote Address*, 53 AM. U.L. REV. 533, 537 (2004) (“[T]here are hundreds of channels of cable programming, and the Internet enables us to get news anytime, anyplace.”). Cf. Kelly M. Doherty, *WWW.OBSCENITY.COM: An Analysis of Obscenity and Indecency Regulation on the Internet*, 32 AKRON L. REV. 259, 262-63 (1999) (describing the effects of the Internet release of Independent Counsel Kenneth Starr’s report to Congress on the alleged relationship between President Bill Clinton and Monica Lewinsky). Some people rely on Weblogs for some or all of their news consumption. See Dan Hunter & F. Gregory Lastowka, *Amateur-to-Amateur*. 46 WM AND MARY L. REV. 951, 956 (2004) (“[D]uring the past few years, weblogs have become a regular source of popular news, information, and commentary. Weblogs are thus displacing, at least to some degree, the information and communication space previously occupied by traditional media such as television, radio, and newspapers.” (footnote omitted)); Christopher P. Zubowicz, *The New Press Corps: Applying the Federal Election Campaign Act’s Press Exemption to Online Political Speech*, 9 VA. J.L. & TECH. 6, 28-29 (2004), available at <http://>

any information that they want in a matter of minutes.⁷³ Although law professors do not compete directly with these sources of information, the methods and tools of legal education invariably are perceived by law students through a lens that factors in the speed and nature of mass media communications. If a law student can gain instantaneous information with minimal effort in one aspect of his or her life, then a long, drawn out, “hide-the-ball”⁷⁴ Socratic dialogue on a narrow legal principle may miss its pedagogic mark.⁷⁵ Many law students expect instantaneous

www.vjolt.net/vol9/issue2/v9i2_a06-Zubowicz.pdf (describing consumer publication of and access to Weblog news).

⁷³ Eric Klinenberg, *News Production in a Digital Age*, 597 ANNALS AM. ACAD. POL. & SOC. SCI. 48, 54 (2005) (“The advent of twenty-four-hour television news and the rapid emergence of instant Internet news sites have eliminated the temporal borders in the news day, creating an informational environment in which there is always breaking news to produce, consume, and—for reporters and their subjects—react against.”).

⁷⁴ The author credits her research assistant for this observation. See *supra* note *; see also Dorothy H. Evensen, *To Group or Not to Group: Students’ Perceptions of Collaborative Learning Activities in Law School*, 28 S. ILL. U. L.J. 343, 374 (2004) (describing student perceptions of classroom use of the Socratic method and resulting effects); Kristin B. Gerdy, *Teacher, Coach, Cheerleader, and Judge: Promoting Learning through Learner-Centered Assessment*, 94 LAW LIBR. J. 59, 76 (2002) (“When teachers get away from the ‘hide the ball’ mentality, students are more inclined to work hard to achieve success.”); Lasso, *supra* note 24, at 38 (“An almost universal complaint of first year law students is that their professors ‘hide-the-ball.’”); Andrew J. McClurg, *The Ten Commandments of [The First-Year Course of Your Choice]*, in TECHNIQUES FOR TEACHING LAW 29, 31 (Gerald F. Hess & Steven Friedland eds., 1999) (“From a student’s perspective, the Socratic method might be defined as follows: ‘The professor hides the ball and then tries to embarrass students who can’t find it.’”); Torrey, *supra* note *, at 102 (noting teacher and student perspectives on the Socratic method that are consistent with this description); Vitiello, *supra* note 21, at 969 (“The modern Socratic dialogue resembles a game of ‘hide the ball’ in which the professor asks questions that he knows the answers to while his students do not.” (footnote omitted)).

⁷⁵ For law professors that see value in well honed Socratic dialogue and other properly developed and employed forms of student-teacher classroom interaction (and the author counts herself among this group), this observation may conjure a mixed emotional response consisting of (among other things) some anger, frustration, and sadness. For others, the observation may result in agreement, relief, and excitement about prospects for change. A number of commentators have observed that student misperceptions of the intent and value of Socratic dialogue emanate from, among other things, poor uses of the method, a failure to clarify assignments or foundational concepts, and a failure to communicate the educational purpose of the teaching method to students, creating or reinforcing faulty expectations. See, e.g., Evensen, *supra* note 74, at 374-75; Alfred R. Light, *Civil Procedure Parables in the First Year: Applying the Bible to Think Like a Lawyer*, 37 GONZ. L. REV. 283, 287-89 (2001-02).

results, clear answers, and easy access to information.⁷⁶ There is evidence that the attention span of students is shrinking⁷⁷ as technology becomes faster. These demographic factors present immediate and difficult challenges for all educators, including law teachers.

As a result, it may seem natural that technology is infiltrating legal education. Under ABA accreditation standards, law schools must provide students with “substantial instruction in . . . (2) legal analysis and reasoning, legal research, problem solving, and oral communication” and “(3) writing in a legal context, including at least one rigorous writing experience in the first year and at least one additional rigorous writing experience after the first year.”⁷⁸ These areas of instruction are increasingly characterized by computerized legal research and electronic interaction. In many legal research and writing classes, the traditional book methods of legal research are taught along with online research methods (mostly use of the LexisNexis and Westlaw databases,

⁷⁶ See Lasso, *supra* note 24, at 39. This does not mean that law professors should sacrifice their pedagogic objectives in order to meet student expectations or demands, despite financial and other incentives to accede to those demands. See Mary Keyes & Richard Johnstone, *Changing Legal Education: Rhetoric, Reality, and Prospects for the Future*, 26 SYDNEY L. REV. 537, 554 (2004) (“Although some student demands are justified and require attention in curriculum development, others may undermine important educational goals.”); see also Michael Jordan, *Law Teachers and the Educational Continuum*, 5 S. CAL. INTERDISC. L.J. 41, 43 n.4 (1996) (citing MARK GALANTER & THOMAS PALAY, *TOURNAMENT OF LAWYERS: THE TRANSFORMATION OF THE BIG LAW FIRM* 15-18 (1991)); Robert M. Lloyd, *Hard Law Firms and Soft Law Schools*, 83 N.C. L. REV. 667, 680-81 (2005) (describing and noting the perils of a vicious cycle fed by student demand for courses lacking in intellectual rigor).

⁷⁷ See, e.g., Philip N. Meyer, “*Fingers Pointing at the Moon*”: *New Perspectives on Teaching Legal Writing and Analysis*, 25 CONN. L. REV. 777, 781 (1993) (referencing the “jaded and compressed post-literate attention spans” of law professors and law students); Kevin H. Smith, “*X-File*” *Law School Pedagogy: Keeping the Truth Out There*, 30 LOY. U. CHI. L.J. 27, 50 (1998) (advising law professors, albeit sarcastically, not to “[f]orget that you are teaching the MTV and video generation” and not to “[f]orget that many of these students have the attention span of a two-year old and the same need to be entertained”); Vitiello, *supra* note 21, at 984-85 (“Many well-meaning professors, writing about their teaching, emphasize the need to reach Generation X students, students who have been raised on the media, with shorter attention spans, with less motivation than earlier generations.”). Of course, student attention spans generally may be limited. See William W. Bratton, Jr., *Corporate Finance in the Law School Curriculum*, 1985 DUKE L.J. 237, 246 n.42 (1985) (book review) (noting “the limited attention spans of some law students”); John H. Reese & Tania H. Reese, *Teaching Methods and Casebooks*, 38 BRANDEIS L.J. 169, 173 (2000) (mentioning the “relatively short” attention span of students).

⁷⁸ ABA Accreditation Standards, *supra* note 36.

but including, in some cases, web research techniques⁷⁹). After receiving this instruction, many students believe (sometimes wrongly) that they can most efficiently and adequately research any legal issue using a computer.⁸⁰ With each passing year and each technological innovation, it becomes harder for students to see the value of learning and understanding how to use traditional hardcopy legal research methods.⁸¹

Undoubtedly, the 21st Century law student is a technological being, both influenced by, and contributing to, an electronic age. If teaching and learning in the law school setting are to be successful, they must take into account these demographics as well as other attributes of the law student population that influence the ability to learn.

⁷⁹ Diana R. Donahoe, *www.teachinglaw.com: Bridging the Digital Divide between Law Professor and Law Student*, 5 VA. J.L. & TECH. 13, 77-87 (2000) (describing the current state of legal research and writing courses), available at <http://www.vjolt.net/vol5/issue3/v5i3a13-Donahoe.html>; Suzanne E. Rowe, *Legal Research, Legal Writing, and Legal Analysis: Putting Law School into Practice*, 29 STETSON L. REV. 1193, 1200 (2000) ("Many schools begin teaching legal research using the books in the library. Computer sources are added throughout the year.").

⁸⁰ See Marjorie E. Kornhauser, *A Taxing Woman: The Relationship of Feminist Scholarship to Tax*, 6 S. CAL. REV. L. & WOMEN'S STUD. 301, 314 n.39 (1997) (noting that "computer research gives an impression of accuracy that belies the reality"); Joan L. Axelroth, *The Paperless Society? Law Libraries Move into the 21st Century*, 56 OR. ST. B. BULL. 9, 11 (1996) (observing that "most librarians and lawyers concluded that efficient and cost-effective legal research requires access to both print products and online services"); see also Gallacher, *supra* note 30, at 24 (stating that most students "are heavily biased in favor of computerized research and many might be, at best, inattentive to a discussion of print-based research tools"). Internet research has its own set of pitfalls:

Not all material on Internet law sites is entirely accurate The quality of research material can, and does, vary. Misprints and mistakes often go uncorrected, and material can be undated or out-of-date. It can often be difficult to locate relevant information, and the timesaving tools such as key numbers, core terms, linkage, and connected citators are missing. Furthermore, sites can, and do, change their addresses. Hence, it can be difficult to replicate your previous search. The information on the free Internet rarely includes page breaks or paragraph numbering. This oversight makes it difficult to pinpoint a citation or a quote.

Alvin M. Podboy, *The Shifting Sands of Legal Research: Power to the People*, 31 TEX. TECH L. REV. 1167, 1181 (2000) (footnotes omitted).

⁸¹ Cf. Gallacher, *supra* note 30, at 24 ("Students must learn, at a minimum, what the principal, secondary, and primary sources of law are in both paper and electronic form, and they must learn how to use those sources in a coordinated way.").

III. THE INITIALIZATION AND EARLY-STAGE RESULTS OF A LIMITED EXPERIMENT⁸²

Understanding the foregoing and having taught full time in the law school setting for two years, I am determined to make a technological leap to bridge the apparent gap between the tools used in my teaching and the tools that might best enhance my students' learning. I initially concluded that this leap would involve a limited introduction of PowerPoint slides and hardcopy document projection (using a document camera) in the classroom. However, in thinking the matter over more carefully, I realized that I had experienced some inefficiencies—time and money wasters for me and my students—that also could be eliminated or reduced through the use of technology in and outside the classroom. Because these inefficiencies principally related to intra-class communication and the dissemination of supplemental course materials, course management systems then entered the picture.

A. *Selecting Course Management Systems and Features*

I first decided that I was interested in test-running one or both of the made-for-legal-education course management systems in my courses for the 2002-2003 academic year. I chose the legal education products over their more generic counterparts⁸³ for several reasons. The most important of these reasons is the relative ease of access that these tailored products offer to the related legal research databases, which I wanted to encourage my students to use more frequently in preparing for class and completing class assignments.⁸⁴ Another important factor in choosing the legal

⁸² This Part of the article shifts in principal part to a first-person recounting of the author's own experience in adding course management systems to her teaching at The University of Tennessee College of Law.

⁸³ The University of Tennessee currently supports Blackboard course management software (<http://www.blackboard.com/us/index.aspx>), an offering of Blackboard Inc. that also is the platform for the LexisNexis Web Courses product. The College of Law also provides limited in-house support for both Web Courses and TWEN. See *supra* note 6. Boston College Law School, at which I am visiting for the fall 2005 semester, supports both WebCT and TWEN. See Blackboard, Blackboard Backpack, <http://www.blackboard.com/us/index.aspx> (last visited Mar. 17, 2006); *supra* note 6.

⁸⁴ I did not want the students to use electronic research to the exclusion of other research methods. In fact, I emphasize in my teaching the value of using a combination of traditional hardcopy research, electronic methods, and human resources in legal problem-solving. My objective in facilitating links to the electronic services merely represents my desire that students take a more active and entrepreneurial role in their learning process by linking assigned reading and class discussions to a larger body of law and greater legal principles. I likely

education products was the availability of convenient, on-site, user-friendly instruction. Representatives of both LexisNexis and Westlaw held customized group promotion and training sessions in our law school building during summer lunch hours. Food was served. In contrast, group training for the University-supported Blackboard product is scheduled by the University at a location outside the law school at relatively inconvenient times.

Having sat through presentations by both law-related product vendors, I committed to a one-semester pilot use of both systems, although I knew that I would continue the experiment for the second semester (with at least one product) if using web-based course management in the first semester did not represent a distraction in (or otherwise have negative effects on) the education of my students. I believed that the effect of these products on teaching and learning could best be assessed only after continuous, experienced use. I decided to use LexisNexis Web Courses for my Corporate Finance class (because I effectively required that students use certain specific Lexis databases in completing the course requirements) and TWEN in my Business Associations class (because I do not require the use of a specific research database for that course).⁸⁵

I next determined the features of each product that I desired to use. A principal motivating factor in my decision to use web-based course management was my desire to encourage and streamline communication between me and my students and among my students on legal issues related to the course content. I have found that students can best identify what they know about law and what they do not know about law by talking or writing about law.⁸⁶ Yet, especially in larger classes, few of my students volun-

will never know whether this objective was achieved, but at worst, the ease of access of electronic resources should be a neutral factor in determining which course management system to use.

⁸⁵ In the second semester, I used the LexisNexis product in my Representing Enterprises (transaction simulation) class (chosen because of the need for student use of the same databases used in my Corporate Finance course). The following academic year, I introduced TWEN in my Securities Regulation class. I continue to use these same systems in each of these courses to the present day. Also, in the past year, I have taught two new courses (an Animals & the Law seminar and a Mergers & Acquisitions course), both of which used TWEN Web sites.

⁸⁶ See generally Laurel Currie Oates, *Beyond Communication: Writing as a Means of Learning*, 6 LEGAL WRITING 1 (2000) (analyzing writing as a learning device); Judith Wegner, *Better Writing, Better Thinking: Thinking Like A Lawyer*, 10 LEGAL WRITING 9, 19-20 (2004) (indicating that students learn through student-teacher dialogue in the classroom).

teer to participate in class discussions. While I generally call on students at random in class, relatively few students get a direct chance to interact with me or engage with classmates during each class meeting.⁸⁷ Communication outside the classroom was also somewhat limited before I began using course management. Although a number of students did take advantage of my office hours and my general availability for student conferences, many others did not. Accordingly, I sought out features in the Web Courses and TWEN products that would allow me to communicate more, and more effectively, with my students and to give my students easier access to each other for extended communication on course-related topics. Each product has some type of discussion board that allows for asynchronous "conversations." I put this feature on my "yes" list.

On a simpler level, I wanted to increase my ability to get in touch with students outside class on a more immediate basis. Often, I find that a question is asked or a conversation takes place in class that requires or begs for a follow-up of some kind (e.g., a supplemental answer, additional factual information, or further development of a point of law). Frequently, it is not desirable to wait until the next class to provide this follow-up. By that time, the students may have forgotten the question or the conversation, making the follow-up less meaningful (if not meaningless).

Also, in my two years of teaching prior to the course management system experiment, when a relevant current event would occur and was publicized between classes, I typically would handle use of the current event in one or more of the following ways: make copies of related news articles for all and distribute them in class, circulate a limited number of copies of related news articles in class, read from a copy of one or more of the related news articles in class, make copies of the related news articles available for interested students after class, or post a hard copy of each related news article on my faculty bulletin board. None of these was an optimal way of using or disseminating the news media or the information in it. In most cases, the point of a current events article, if ever absorbed by the student, was lost, arrived late, or was

⁸⁷ I attempt to ensure that each student speak at least twice in each of my larger lecture classes over the course of the semester. (More frequent participation generally is not an issue in my smaller classes.) I also require that each student write about the applicable law at least twice during the semester in each of my courses, including my lecture courses. The forms of these writing assignments vary based on the course and the purpose and timing of the assignment.

not easily recoverable for reference later in the semester (unless the student had obtained or retained any hard copy of the material that I may have referenced or given to him or her).

As a result, I desired to communicate with my students from time to time by electronic mail in between classes. In this way, I could both efficiently provide desired follow-up to in-class questions and discussion and include electronic links to, or cut-and-pasted text from, current events articles. Both the Web Courses product and the TWEN product include a web-accessible electronic mail distribution list that is automatically constructed from the students' preferred electronic mail addresses⁸⁸ (in my case, as supplied by the students when they register for the applicable course management service⁸⁹). Other resources at The University of Tennessee did not permit me to efficiently and effectively communicate with students by electronic mail, especially when I was off site.⁹⁰

Moreover, I produce a significant number of course-related materials (course and reading syllabi, assignments, problems, out-

⁸⁸ See LexisNexis, *LexisNexis Web Courses for Law Students*, at 1-2, <http://www.lexisnexis.com/lawschool/learning/reference/pdf/2004/LA10811-0.pdf> (last visited Mar. 17, 2006); Westlaw Law School 2005: *Professor's Quick Guide to TWEN*, at 4, <http://west.thomson.com/documentation/westlaw/wlawdoc/lawstu/twqrpr05.pdf> (last visited Mar. 17, 2006) [hereinafter *Professor's Quick Guide to TWEN*].

⁸⁹ Self-enrollment is an option in both Web Courses and TWEN. Although some faculty may want to create their own distribution lists, I find that the self-enrollment feature is a time-saving device that works well for both me and my students.

⁹⁰ At The University of Tennessee College of Law, unless an instructor independently collects the preferred electronic mail addresses of his or her students, the students would not be assured of getting electronic mail messages from the instructor at that preferred address. Moreover, class rostering is not connected in any way to electronic mail distribution at the College of Law, so instructors also would have to create and maintain a group distribution list using these preferred e-mail addresses in order to send a message to the entire class at once. (However, at Boston College Law School, at which I was visiting during the fall 2005 semester, class rosters are connected to student electronic mail addresses and faculty can easily send an electronic mail message to an entire class without the use of a course management device.) Although an electronic mail distribution list for students does exist at The University of Tennessee College of Law, it is not accessible on a class-by-class basis, and it is built using the students' University electronic mail addresses, which are not necessarily the students' preferred contact addresses. Many professors do not take the time to build class lists, and many students do not check their University electronic mail accounts on a regular basis. Also, the College of Law's electronic mail distribution lists are not available remotely (unless the user has a remote network connection); they are only available for those working on the University's computer network.

lines, charts, diagrams, etc.) in word-processed, PowerPoint, portable document, and other formats. In my days as a law teacher before using course management systems, I found that my students and I accumulated a lot of paper over the course of the semester. This accumulated paper represented an extra financial and non-financial burden on the University and the students. Although The University of Tennessee College of Law allows faculty to make limited photocopies of course materials for student use, a policy restricts on-site bulk photocopying.⁹¹ This policy forces instructors to construct packets of supplemental materials that students then must purchase at an additional cost.⁹² The instructor must construct the materials at the beginning of the term (or at another time sufficiently in advance of the class meetings at which they will be used) and arrange, either alone or together with an administrative or research assistant, with a local photocopy shop for the duplication and sale of the materials. This process tends to make the supplemental materials less dynamic (less reactive to the ongoing classroom experience) and creates additional work for the faculty member and his or her assistants.

Hardcopy handouts also resulted in other inconveniences and inefficiencies. Students took handwritten notes on many of these hardcopy materials to customize them for their use in exam preparation and actual testing.⁹³ These important papers created document organization and retention issues for my students. Folders and individual papers would be lost or absconded with, creating the need for more printed copies and reconstruction of customized notations.⁹⁴ In addition, when students were traveling for job interviews or personal reasons, they often needed to take these important (but unwieldy) papers with them in order to have

⁹¹ See e-mail from Teresa Peterson, Budget Director, The University of Tennessee College of Law, to Joan Heminway, Associate Professor, The University of Tennessee College of Law (Feb. 14, 11:49:14 AM EST) (on file with author) (“[C]ollege policy is that all handouts of 15 pages or less will be duplicated in-house at no charge to the students. Any handouts larger than 15 pages should be . . . for purchase by the students unless advance permission has been granted.”).

⁹² *Id.*

⁹³ My examinations (for courses in which I use an examination for evaluation) are open-book exams because an open-book exam best simulates practice in those areas of law.

⁹⁴ Lost, stolen, and forgotten paper copies frequently result in related inefficiencies in the form of telephone calls and electronic mail messages to fellow students and faculty to recover needed information.

access to their contents. I wanted to increase the accessibility and flexibility, for me and my students, of my course syllabus, reading syllabi, assignments, and supplemental course materials and decrease use and waste of paper products in my classes. I knew that I would deploy the electronic document posting features of each product, so that students would have both ongoing access to these documents from multiple locations and the ability to manipulate documents for their own use and save them to their hard drives or other storage media for future use.⁹⁵

B. Implementation and Use of the Chosen Systems and Features

Having determined the products and features that I desired to use, I sat down to create my course web sites on each system, with books and online tutorials for each product as my primary support system.⁹⁶ Setting up the sites on each system was far easier than I had thought it would be. Each system is menu driven, so the actual construction of the site was much like answering an online survey.

TWEN has a "Course Creation Wizard," a series of page screens that take the user through the process of creating the class web site.⁹⁷ After the user enters some basic course information—the name of the course, the semester in which the course is being offered, and the course topic⁹⁸—the software allows the user to either skip around among the steps by clicking on a button bar that runs along the side of each page or engage the steps in sequence by complying with the instructions on the page and clicking "next" at the bottom of the page. (Information and features can be changed or added later, as described below.) Among the items one can accomplish through the Wizard are: organizing the administration of the course (adding instructors, determining faculty, student, and guest access, etc.), setting up communication

⁹⁵ Of course, storage that is not backed up on a regular basis is no better than hard copies. In other words, students can and do lose electronic documents, too.

⁹⁶ Although I did not use them frequently in my Web site construction, human resources also are important in the overall web site implementation and maintenance processes. Representatives of both Westlaw and LexisNexis have been very helpful to me on an ongoing basis, and the presence of Westlaw's dedicated TWEN experts and 24-hour customer service have been both a comfort and a help over the years.

⁹⁷ See *Professor's Quick Guide to TWEN*, *supra* note 88, at 2.

⁹⁸ This information is all that is required in order to create a class Web site. See *infra* note 101. If this is all the user does, the Web site set-up takes only a minute or two.

forums (discussion threads on different topics), creating pages for posting different kinds of course materials, generating a course calendar, establishing online quizzes, and downloading Computer-Assisted Legal Instruction (“CALI”) lessons.⁹⁹ If the user chooses to use all of the features of the Wizard (as I did and do), he or she then has built the basic structure of the class web site. The first time I created a TWEN course, the process took me about 20 minutes, working slowly and carefully.¹⁰⁰ After setting up the features of the web site in this manner, I was ready to add my initial course content (consisting of my course syllabus, initial reading syllabus, and any course materials for the first few class meetings).

Class web site creation is similar using the Web Courses product. Using the “Web Courses Creation/Deletion Form,” basic course information (course subject and name, start and end dates, and number of students), the web site automatically is created.¹⁰¹ This task takes a minute or two. The administrative and content features of the web site are pre-programmed by default, but specific features can be removed using the “Manage Course Menu” area of the Web Courses “Control Panel,” a feature of the Web Courses product that is available to the instructor, but not the students.¹⁰² Only after I had created the course, accessed the Control Panel, and removed the undesired features had I established the basic structure of the class web site, making it ready for the addition of content. It took me about 30 minutes to build that basic structure the first time I created a Web Course.¹⁰³

⁹⁹ For more information about CALI, see The Center for Computer-Assisted Legal Instruction, <http://www.cali.org/> (last visited March 17, 2006).

¹⁰⁰ No doubt, some new users take less time and some take more time in setting up a course than I did. Moreover, it is important to note that I decided to employ only a limited number of features of the system, which impacted the amount of time that I spent in establishing my first class Web site. I do remember marveling (and feeling relieved) that the process was so simple and quick.

¹⁰¹ With TWEN, one can stop use of the Wizard at any time after the initial, general course information has been entered. If the instructor chooses that route, the Web site creation systems are quite similar. The option to seamlessly continue with course creation beyond that point (i.e., by choosing the administrative and content features of the class Web site) exists only in the TWEN product.

¹⁰² The Control Panel feature is what its name promises: the command-and-control area from which the structure of the class Web site is built and the content managed.

¹⁰³ See *supra* note 100. Admittedly, I did not find the course modification categories in the Control Panel area intuitively obvious, which slowed me down a bit in creating my first Web Course. Moreover, the Web Courses set-up process

In both course management systems, the available tools (those you have selected for use in—or failed to remove from—your class web site) are listed vertically along the left side of the pages in the web site and are available with one click.¹⁰⁴ Both products allow the user to customize the order of these listed items (and the Web Courses product also allows color and style customization), which are visually presented as distinct buttons. With Web Courses, a user can hide this list to provide more screen space for course content.

I then began adding substantive content to my skeletal web sites. In each system, I constructed and posted a simple welcoming message as a permanent announcement, a page with my contact information,¹⁰⁵ my syllabi, my first class assignment (which I also posted in hardcopy format on my faculty bulletin board), and any other early-term course materials. I already had created each of these items in word-processed form for use in the course. In my first year using course management systems, I posted most of my text documents in WordPerfect (which has been the preferred word-processing package at the College of Law since I began teaching there in 2000).¹⁰⁶ I did post a small number of text documents in Word (and in later years, in rich text format), and I also posted a few sets of PowerPoint slides and some portable document format files. I now post almost all text documents in Word format.¹⁰⁷

Early on in my course management experiment, I also began to use the electronic mail and discussion board features of the class

involved more clicks overall than the question-and-answer course creation through TWEN's Wizard.

¹⁰⁴ See Westlaw, *Professor's Guide to TWEN*, at 127, <http://west.thomson.com/documentation/westlaw/wlawdoc/lawstu/twgdpr05.pdf> (last visited Mar. 17, 2006) [hereinafter *Professor's Guide to TWEN*]; LexisNexis, *Getting Started with LexisNexis Web Courses*, at 1, <http://www.lexisnexis.com/lawschool/webcourses/LA10815-0.pdf> (last visited Mar. 17, 2006).

¹⁰⁵ As an aside, I will note that I did not include a picture of any kind with my contact information on the class Web sites in that first year. However, I later added my faculty picture to one of the introductory Web pages for each course. (I do this less for the benefit of my law students than for the benefit of others who may use the site, since I allow open registration.) I know others who post clip art and other visuals to this and other pages in their class Web sites, I assume based on some pedagogic purpose.

¹⁰⁶ See *infra* note 125. The steps involved in posting word-processed documents to a class Web site is similar in each system and roughly approximate the steps involved in attaching a word-processed document to an electronic mail message (although there are a number of other options to accept or reject along the way, which differ from product to product).

¹⁰⁷ *Id.*

web site. I continued class discussions by injecting new information or synthesizing class material in a new way. I posted on the discussion board relevant current events articles, form agreements or agreement provisions, statutes, rules, law review articles, and cases and asked related questions (many of which, while not intended to be merely rhetorical, went unanswered).¹⁰⁸

At the end of the semester, I request that each course be archived (or allow the software to archive the course for me, effective as of a preset date) for later revival or duplication. Course revival and changes are relatively simple using TWEN. Each semester, I generally duplicate my class web sites from those set up for the prior year and then proceed to update the contents (although I also have revived prior web sites for reuse). Both systems allow courses to be accessed by, and made available to, students at schools other than the faculty member's home institution (when, for example, the faculty member is visiting at another institution or offering a distance learning experience).¹⁰⁹ The processes for duplication, revival, and course sharing are somewhat more complicated than I would like (although I understand that they have improved significantly over time), and frequently involve multiple interactions with LexisNexis and Westlaw staff members.¹¹⁰

C. *Instructor and Student Reactions*

Although my web-based course management experiment is not scientific, there are reportable results. Because I chose to work with only two products and the use I made and make of these products is limited and personally tailored, my anecdotal experiences may or may not be applicable to another professor's possible or actual use of the same or other products. In addition, my reporting of both my own reactions and observations, and perhaps

¹⁰⁸ This is as disappointing in the virtual law school world as it is in the live law school classroom. However, I have noticed that students come back to some of these questions in later class discussions or in connection with exam preparation as additional ways of testing their understanding of the material.

¹⁰⁹ See *Law School 2005: Professor's Guide to TWEN*, *supra* note 7.

¹¹⁰ For example, I had a positive experience transferring my Securities Regulation Web site from TWEN at The University of Tennessee College of Law to TWEN at Boston College Law School for my visitorship in the fall 2005 term. The process did involve human interaction and intervention, but it was exceptionally smooth. The transfer of the Boston College Law School TWEN course back to The University of Tennessee College of Law, however, was not as smooth due to the travel and holiday vacation schedules of myself and the involved individuals at Westlaw.

more acutely those of my students, is likely subject to cognitive biases that may impact the contents of the report and the applicability of the reported results to other users. However, I believe that sharing these comments with other law teachers contributes positively to the discourse on law teaching and is likely to be instructive to some, if not many.

1. Instructor reactions and observations

From my standpoint, the course management experiment was a positive experience from the first semester on. Both course management systems met my initial pedagogic and personal objectives and continue to meet my needs to the present day. I am able to reach students in new ways that are, for some, better catered to the way they are accustomed to taking in information and communicating. While doing this, I am able to continue to interact with students in the same way that I did before using course management systems (e.g., through classroom dialogue, office-hours, scheduled conferences, written comments on papers, etc.). The electronic mail and discussion board features of the course management products permit more frequent out-of-class connections with and among students, allowing collaborative, cooperative teaching to continue beyond the walls of our brick-and-mortar classroom.¹¹¹ Finally, the course management systems streamline distribution of syllabi, assignments, handouts, and current events articles, saving duplication and distribution time for me and the staff at the College of Law and saving The University of Tennessee's, and students', money and other resources spent on photocopying and disseminating hardcopy materials.

Of course, there is a tradeoff. It takes time to set up, maintain, archive, and revive a class web site in either system. It takes me longer to perform those functions on the LexisNexis Web Courses product than it does on TWEN, and it took me the longest amount

¹¹¹ I have observed that student questions on the class Web site discussion boards present the same opportunity for, and types of, "teaching moments" that one experiences in more traditional oral and written pedagogy. For example, through electronic interactions, students in my classes have been corrected in their misapprehensions of substantive law, have received feedback on the elements and ordering of their legal reasoning, and have built bridges between the contents of my courses and those of others in the law school curriculum. As often happens in the classroom, some of the teaching in this regard is done by the instructor, and some is done by fellow students.

of time in the first two years.¹¹² (In no case did I spend more than 30 minutes setting up any class web site, however.) Regardless, I view class web site maintenance time as an investment: the more active I am on the web site, the more active the students are. A static class web site is little better than hardcopy distribution and posting.

This active engagement comes at a personal cost, however. Although it is impossible for me to verify this, I am reasonably confident that I spend more time educating students now than I did before I began to use course management systems. Even in the two years prior to my experiment with Web Courses and TWEN, I engaged in educational activities between classes that extended beyond immediate class preparation tasks. For example, I selected and prepared current events materials for the students, met with students, and answered students' phone calls and electronic mail messages.¹¹³ All of these activities continue in my current teaching. However, I now also post the following on the class web page: discussion items; responses to students' questions;¹¹⁴ follow-up materials (including links to cases discussed in class that are not in the class reading materials); and links to current events articles. It is a safe bet that this additional student interaction time exceeds the time that I save on duplicating

¹¹² In general, while I find that the Web Courses product has more features and display options (although TWEN has come a bit closer over the past few years), overall Web site management requires fewer clicks on TWEN than on Web Courses. The need to use the Control Panel feature for tasks performed in the Web Courses product typically adds two clicks per task (depending on the task) to the number of clicks needed to perform the same function in TWEN.

¹¹³ In many cases, I now request that students post some or all of our office-based or electronic mail discussions on the class Web site discussion board so that others also can learn from the dialogue. Students generally have obliged me on these requests, even in classes that involve blind grading.

¹¹⁴ Although this may be due to factors other than the use of course management software, I find that now students contact me more in between classes than they did in my first two years of teaching. Interestingly, fewer students line up to see me in my office the week before the exam than did in those first two years. Many of the clarifications they need on substantive matters covered in the course are handled by discussion board postings and responses. Although both methods of responding to student inquires are time consuming (if not exhausting), the discussion board method allows me to give the same answer to everyone at the same time (potentially educating more students and avoiding equity issues that potentially are created when a professor gives a key answer to one student that others did not hear) and permits me to respond in a more considered manner, when I am ready to do so. I do set up a time, typically 11:00 P.M. on the night before the examination is to be given (I am a night owl, so this time works well for me), after which I will no longer answer questions on the Web site discussion board.

materials for distribution in class (a task that could be delegated to staff, under most circumstances). However, I spend this extra educating time voluntarily—even eagerly—and it is not typically deadline-oriented work.

A key attribute of these benefits and detriments is the 24/7 availability of the class web site. With this observation, I offer cautionary advice to new users. Control your use of the technology; do not allow the technology to control your life. Like the use of cellular telephones and electronic mail, web surfing, blogging, and blog-watching, class web site management and interactions could approximate addictive behavior, overtaking your professional or personal life and leaving too little time for class preparation, course development, scholarship, service, friends, family, and solitude.¹¹⁵ Accordingly, I recommend that users block out specific times each day for updating or otherwise maintaining or participating in the web site.¹¹⁶

I should note that I generally am disappointed in, but not surprised by, the (sometimes lengthy) periods of student inactivity on the discussion boards over the course of the semester.¹¹⁷ Accordingly, there are times in the semester during which I am making the only web site discussion board postings or the only postings resulting in a discussion thread.¹¹⁸ One semester, in an attempt to encourage student conversations on the web site, I told students that I would not respond to a discussion board question unless and until at least one other person from the class responded. Although this technique sparked a few good web conversations early in the semester, the frequency and overall number of student discussion board postings decreased after those first few postings. Some wor-

¹¹⁵ See Sharon D. Nelson, *Stop the World – I Want to Get Off! Practicing Law in the 21st Century*, THE NEB. LAW. 10 (March 2005), available at <http://www.nebar.com/pdfs/nelawyer/2005/MARCH/0305d.pdf> (offering advice to practicing attorneys on limiting intrusions on personal life that are facilitated by communication technology).

¹¹⁶ The TWEN product has an interesting feature in this regard. One can (and I do) sign up for a daily electronic mail message that indicates discussion board and course materials postings from the previous day. This message often is what prompts me to check the Web site.

¹¹⁷ However, I also have noted in the classroom that my students, as a group, tend to go through collective periods of unpreparedness and underpreparedness over the course of the semester.

¹¹⁸ See *supra* note 108 and accompanying text. It is significant to note that the Web Courses product, unlike TWEN, does not allow students to start discussion threads unless a forum has been created for that purpose. Accordingly, the instructor must set up one or more forums for discussion.

thy, substantive student questions went unanswered for a few weeks due to the failure of students to respond.

These types of experiences led me to talk to students about their electronic participation. I learned from these conversations that students need (and, in some cases, actively desire) to be driven to the class web site. They will not necessarily visit the site regularly on an entirely voluntary basis (except to check the online syllabus to get or confirm a reading or writing assignment) but generally will go to the site when prompted. I learned that electronic mail prompts are more effective at driving traffic to the web site than in-class oral prompts.¹¹⁹ I also learned that, despite the need and desire for prompting, one could prompt students too much, effectively nagging or spamming them. Moreover, I learned that one could be criticized both for too little prompting and for too much prompting by students in the same class during the same semester.

My course management experiment had several unintended beneficial effects on my pedagogy. For instance, my interactions with students now approximate the range of interactions that my students will have with colleagues (and clients) in their post-law-school professional lives. These interactions provide students with technological and other skills that should help them transition more fluidly to the practice of law.¹²⁰ This benefit also may be achieved to some extent through electronic mail messaging, but its effects then only would be felt between the sender and the recipient of the messages (as opposed to, on some level, the entire class).

In addition, in those courses in which student projects are required, the web site provides a place for those projects to be

¹¹⁹ Of course, both course management systems have electronic mail communication features. The TWEN product also offers instructors the opportunity to check a box when making a discussion board or course materials posting to send an automatic electronic mail blast notifying their students of the posting. Although the same type of electronic mail notification can be generated from the Web Courses product, the user must exit the course materials posting area and send the message as a separate task from the electronic communications area of the Web site.

¹²⁰ For example, the etiquette and ethical propriety of electronic communications among lawyers and between lawyers and their clients regularly has been discussed and debated in my classes in the years since I introduced Web-based course management into my teaching. Moreover, the increased use of both electronic data rooms for due diligence investigations in transactional practice and electronic discovery and evidence in litigation practice is noted and discussed in context.

showcased and made available to other students in the class on a continuing basis. This extends the student-teaching-student aspect of the web site beyond the discussion board feature. For example, I routinely post student-generated PowerPoint presentations on my Corporate Finance class web site, and I have done the same in past years in my Representing Enterprises (transaction simulation) class and my Animals & the Law seminar.

Finally, I have learned that remote access to the web site can be very useful for students who are ill or are attending to an ill family member, are contending with the birth of a child, are traveling for job fairs or interviews, or are off campus for other reasons. They more easily can pick up new assignments, hand in work, keep abreast of the class, and communicate with instructors and classmates through the web site. Similarly, on two occasions over the past three years, I have had to miss class on an important day under circumstances that made a make-up session impossible or impracticable. On those occasions, I conducted class on the web site by changing the nature of the assignment and actively engaging the students in a web-based discussion with me or amongst themselves (or both).

Of course, I also have lingering concerns about pedagogic technologies generally, and electronic course management specifically, that are not fully resolved by my unscientific experiment. For example, there is a real possibility that technology in and outside the classroom (especially when its use is not carefully tailored to a pedagogic aim or is compromised by server or software glitches) does present a distraction for instructors or students that may outweigh its benefits. Certainly, proprietary server maintenance and well developed software employed by an experienced and confident (as to technology, law, and pedagogy) teacher decreases the probability that significant distractions will occur.

I have not identified any significant distractions created by my use of web-based course management. Although my class web sites have not always been available when I need them, they are very infrequently "down" and typically come back on line quickly. Moreover, the largest software glitch I have faced is imperfect hypertext markup language ("html") conversions using the TWEN product.¹²¹ These are more inconveniences than they are distractions.

¹²¹ See *infra* note 125. The limitations associated with html conversions have been widely acknowledged. See, e.g., Lasso, *supra* note 24, at 52 n.267; Clint F.

Moreover, there is a potential for decreased human contact with students. Indeed, there is a possibility that students who otherwise might ask valuable questions in class or during office hours will hold off until they can ask them anonymously by computer, missing an opportunity for real-time legal reasoning and substantive interaction.¹²² In my view, however, if a teacher effectively controls the interactive activities conducted in the classroom and makes himself or herself available and approachable to students, opportunities for real-time legal reasoning and substantive interaction in the classroom still abound. The computer interactions then merely add to the classroom experience.

2. Student reactions and observations

For some students in my classes, my introduction of electronic course management apparently was a non-event. Either they had been introduced to course management of this kind in another course (in or prior to law school) or they otherwise expected electronic organization and communication of this kind.

However, a number of students noted the use of the course management system as a new wrinkle in their legal educations. From these students, I received informal, oral and written feedback (with the written feedback generally provided on the long-form teaching evaluations used at the College of Law).¹²³ Some students offered unsolicited, positive, oral feedback during the course of the semester, noting (among other things) that they had used these systems in their undergraduate or graduate institutions or that their friends at other law schools had access to these tools in their classes. Other students initially complained that they were having trouble registering to use the product (or finding the course) or downloading documents from the web site. Interestingly, both the praises and the criticisms were most pronounced in

Sare, *CD-ROM Filings at Trial and Beyond*, 1999 COMP. L. REV. & TECH. J. 1, 9-10 (1998/1999).

¹²² Although, it is also possible that certain students who would never ask questions in class or during office hours are those who are now asking anonymous questions on the class Web site discussion board.

¹²³ In the first year that I used Web-based course management, before leaving the classroom on the day of the evaluation, I affirmatively asked students to provide me with any comments they might have on the utility of the class Web site.

the first two semesters of the experiment, perhaps because the students were new users or were aware that I was a new user.¹²⁴

Written feedback from the long-form teaching evaluations generally has been positive, although there have been a number of negative responses, especially in the first year.¹²⁵ In the first year of the experiment, for example, 23 students commented on the class web sites in their written teaching evaluations.¹²⁶ Of those students, 20 had favorable or encouraging comments¹²⁷ and three had negative or discouraging comments.¹²⁸ In the second and third years of the experiment, fewer written comments on the web

¹²⁴ I did explain to the students in class at the beginning of the semester during the first year of the experiment that the class Web site was a new or relatively new tool for me, asking them to let me know how to make the class Web site more useful for them. I now invite students to comment on the utility of the class Web site in a sentence or two on the front page of the Web site, generally without repeating that invitation orally in class. I do, however, use a few minutes of class time over the course of the semester to remind the students that they should be checking the Web site and using the Web site. *See supra* note 119 and accompanying text.

¹²⁵ Recall that, during this first year, I posted most of my text-based handouts in WordPerfect format. *See supra* note 106 and accompanying text. My use of WordPerfect format was problematic for a number of students, especially those who did not own or plan on investing in a copy of WordPerfect. For these students and for others who desired to access course materials from computers that did not have WordPerfect software (e.g., when traveling without their own computers), my handouts were inaccessible. *See infra* note 128. Accordingly, in succeeding years, I experimented with the creation and posting of text materials in rich text format and Word. I now post all of my text-based handouts in Word. This has proven to be the best format for student access. Also, the html conversion program embedded in the TWEN product works best (although still not perfectly) with Word documents. *See supra* note 121 and accompanying text.

¹²⁶ Sixty-four of the 97 students in my classes that year completed long-form teaching evaluations. (These evaluations are voluntary, and many students chose not to participate. Moreover, those that do participate often skip the long-form evaluation, answer only one or two questions, or offer uninspired, uncaring remarks.) There was a small overlap of students in two of the three classes.

¹²⁷ Representative positive comments included:

"TWEN was a good idea."

"I *really* liked using TWEN."

". . . the Twen charts really helped me organize my readings/notes."

"The electronic syllabi/assignments worked—stick with them."

"The Lexis page was *very* helpful."

"The Lexis program is helpful but could be more accessible if in Microsoft Word."

"I did not have any problems with the website and I liked the 'virtual law firm.'"

¹²⁸ The three negative comments were:

"I really don't like the TWEN thing. Why not just do a \$5 supplement that we can buy instead of fooling around w/ the computer that never prints right every day?"

site were received overall,¹²⁹ but those received generally remained positive.

I now am in my fourth academic year of using course management systems. Unsolicited student feedback on the use of these programs has slowed to a trickle. More students now seem to find course management systems a common element in the range of legal education tools to which they are exposed, perhaps because more faculty are using them in and outside the law school setting.

IV. CONCLUSION

The pace of change in law school curricula and law pedagogy may be slow. Moreover, debates over the merits of various law school courses and teaching methods may be incessant. It is unlikely that empirical studies or other forces will rapidly or measurably alter these attributes of legal education, although they undoubtedly will contribute positively to the debate over the components of effective law teaching and improve our knowledge of the success of various experimental curricula and teaching methods.

Law schools, as educational institutions, and law faculty, as educators, must not, however, use these characteristics of legal education as an excuse to ignore or lightly discard developments in educational technology and other law teaching tools. Although not every law teacher is or will become comfortable with technology in and outside the law school classroom, existing legal education course management systems are relatively easy to use (especially for those who are accustomed to responding to online surveys or sending electronic mail messages with attachments), and the professionals that market these products to law faculty are, as a general matter, knowledgeable and helpful. When law faculty use course management software, students generally seem to appreciate that their teachers are reaching out to them on their own terms.

My experiences with legal education web-based course management systems over the past three-and-one-half academic years

“Spam of info on computer → might be better to supply less and demand more of it.”

“Internet site → had problems downloading, parts of file were different or missing, needed Word format . . . maybe hand out docs in class.”

In one of the three classes, my Corporate Finance class, none of the students had unfavorable comments on the class Web site.

¹²⁹ See *supra* note 126 and accompanying text.

lead me to recommend them for broader use in law teaching. The course management systems tailored for use in legal education represent flexible tools—ones that law teachers will want to have in their pedagogic toolboxes.¹³⁰ As a consolidating platform for other teaching and learning technology, course management systems can be used in many different ways and to many different degrees.¹³¹ They do not force law faculty to change what they teach or, in any fundamental sense, how they teach. They can be used in teaching: established and emerging statutory and decisional law doctrine; jurisprudence; legal process, theory, and reasoning; policy; and a variety of related lawyering skills. They can be used to support traditional lectures, Socratic and other classroom dialogue, problem-method pedagogy, simulations, and clinical teaching methods.

Benefits inure to both faculty and students who use course management systems. Most importantly, the web-centered collaboration facilitated by course management software provides teachers and learners with more ways to communicate about the subject matter of the course. Effectively, the classroom experience extends beyond the classroom.¹³² Significantly, when these communications are conducted on a discussion board, the entire class can learn from the interactions, and the content is preserved for later use. These faculty-student communications experientially teach students that there is a value to using human resources (in addition to hardcopy and electronic resources) in the study and application of law. Moreover, money, time, and trees can be saved through the efficient electronic communication of ideas and assignments and through ongoing course materials access on the

¹³⁰ I am reminded here of Swiss Army Knives (known also as “multi-tools”). See Victorinox Swiss Army, *Multi-tools*, <http://www.swissarmy.com/MultiTools/default.htm?category=multitools&> (last visited Mar. 17, 2006). These compact devices include many different tools in one product, much as a Web-based course management system includes many teaching and communication applications in one product.

¹³¹ The features on which my Web sites focus represent very few of the features available to users. I continue to experiment with the use of additional features, and more features are added by each product vendor on an annual basis.

¹³² See John L. Lahey & Janice C. Griffith, *Recent Trends in Higher Education: Accountability, Efficiency, Technology, and Governance*, 52 J. LEGAL EDUC. 528, 535 (2002) (“Outside of class, the use of electronic discussion lists will extend class to nonclass hours. Faculty and students now use this capability to discuss legal issues online at times convenient to them during nonclass hours.”).

web.¹³³ Materials can be accessed anywhere that the web can be accessed, allowing faculty and students to communicate with each other, check on course requirements, and use course materials in the classroom, elsewhere at the law school, at home, and on the road.

While a number of these benefits can be achieved by cobbling together existing systems available at many, if not most, law schools (e.g., electronic mail, web site creation software, electronic bulletin boards), web-based course management systems offer one-stop shopping—a single, dedicated, electronic destination driven by easy-to-use, menu-driven prompts for web site construction, maintenance, and access. The faculty-student benefits are even greater for the systems created for use in legal education, LexisNexis Web Courses and TWEN, than they are for course management software fashioned for general use. These systems facilitate comprehension of course materials and related legal research by offering easy connectivity between course web sites and legal research databases.¹³⁴ Moreover, the tools provided by these services are somewhat more tailored to legal education than those of their more generic counterparts.¹³⁵

Having said all of this, it bears mentioning that neither TWEN nor a LexisNexis Web Course is a panacea for the perceived ills of legal education or for bad teaching.¹³⁶ Neither product, in and of itself, necessarily changes what or how we teach in the law school setting—unless the instructor wants it to. To this point, Professor Gerald Hess notes: “Most teachers have deeply ingrained assumptions about teaching and learning, which affect the teachers’ day-to-day behavior in the classroom. Professional growth occurs when teachers eliminate or modify old ideas that shape behavior and

¹³³ See *id.* (noting that “[v]aluable information, such as additional class materials, old exams, and syllabi, can be posted on a teacher’s Web site”).

¹³⁴ Another benefit of the Web Courses product is the relatively easy connectivity to Lexis case book supplements, which conveniently are published online by LexisNexis on its law school site as well as in hard copy (paperback) format.

¹³⁵ For example, statutory, case law, and law review citations included in syllabi and other course materials posted on a TWEN Web site automatically are hyperlinked to the relevant document page in the Westlaw research database. This enables students to review the cited documents in one click from the class Web site.

¹³⁶ Galves, *supra* note 29, at 237-38 (making this same point regarding the use of visual display technologies in the law school classroom).

replace them with new ideas.”¹³⁷ As a “new idea,” web-based course management systems could and should serve as a catalyst for faculty to reconsider course content and teaching methods. These products provide law teachers with options and flexibility that allow them to discard or improve upon “old ideas” and experience professional growth, for the betterment of teaching and learning. This certainly would be a desirable side-effect of the use of course management in law schools. Fresh, thoughtful, engaged instruction is likely to be well received by learners. Law teachers should take advantage of this opportunity to sustain meaningful, substantive connections with their students, save personal and institutional time and money, and . . . grow.

¹³⁷ Gerald F. Hess, *Learning to Think Like a Teacher: Reflective Journals for Legal Educators*, 38 GONZ. L. REV. 129, 136 (2002/2003) (footnotes omitted).

