1-1-2002

From the Paper Chase to the Digital Chase: Technology and the Challenge of Teaching 21st Century Law Students, 43 Santa Clara L. Rev. 1 (2002)

Rogelio A. Lasso
John Marshall Law School

ARTICLES

FROM THE PAPER CHASE TO THE DIGITAL CHASE: TECHNOLOGY AND THE CHALLENGE OF TEACHING 21ST CENTURY LAW STUDENTS

Rogelio Lasso*

---

* Professor of Law, Washburn University School of Law. Visiting Professor, DePaul University College of Law, Fall 2001; J.D., University of Minnesota Law School, 1985; B.S., Mankato State University, 1973. I have been teaching law for eleven years, and currently teach civil procedure, advanced civil procedure, torts, products liability, and complex litigation. Prior to law school, I was a scientist and engineer.

I would like to thank my colleagues at Washburn and former colleagues at DePaul for their insights during the first few drafts of this article, and the participants at faculty workshops held at DePaul, John Marshall, and Washburn law schools. In particular, I thank Barbara Glesner-Fines, Diana Donahoe, Cathaleen Roach, and Megan Ballard for their thoughtful suggestions; Mark Folmsbee for making sure I do not provide incorrect technology information; and members of the Washburn writers' group for their helpful suggestions. Much of the research for this article was conducted while I was a visiting professor at DePaul. Special thanks to Nick Castro for his untiring research assistance. As usual, I am indebted to my wife, Marianne Deagle, for her patient editing suggestions.

I. INTRODUCTION

History reveals that the transition from one dominant medium of communication to another, having different qualities, inevitably shapes the whole human experience. There have been two communication revolutions in recorded history. The first communication revolution began with the advent of printing in the 15th century and, within 100 years, transformed humanity from an oral culture to a textual culture.

The second communication revolution began as television, video games, and computers converged to create a new communication medium: the screen. Screen-based communication is transforming our culture from one that is based on printed-text to one that is based on hypertext. This screen-based communication revolution, only a few decades old, will have as significant an effect on human learning as did the first communication revolution 500 years ago.

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.

This article provides a strategy for law schools to incorporate electronic technology into the curriculum to better achieve the goals of legal education in the 21st century. Part I examines the two communication revolutions of the past 500 years, the printed text and electronic technology revolutions. This section demonstrates that computers, the Internet, and hypertext are affecting the way humans learn in much the same way as printed text did in the 16th and 17th centuries. Part II examines the limitations of teacher-centered pedagogy and concludes that student-centered teaching is more compatible with the goals of legal education.

Part III offers a blueprint for law schools to incorporate electronic technology into the curriculum to more effectively teach 21st century students. This section first asserts that technology is transforming the way 21st century students learn compared to their older counterparts, and proposes that student-centered teaching more effectively reaches these new learners. In addition, this section provides guidance for teachers to integrate electronic technology into a sound pedagogical strategy to assist students in achieving their learning potential. Part IV provides empirical support for the claim that 21st century students identify with and learn better when electronic technology is incorporated into law teaching. Part V provides practical examples showing how law schools can overcome the obstacles of integrating

technology into teaching. This article concludes by urging law schools to incorporate electronic technology to communicate more effectively with their 21st century students.

II. TWO TECHNOLOGY REVOLUTIONS THAT CHANGED HOW HUMANS LEARN

Over the past 500 years, two communication revolutions changed the way humans think, behave, and learn. The first occurred when we evolved from an oral to a printed-text society. The second communication revolution, which began fifty years ago, is transforming us from a printed-text to a hypertext society. We are just now beginning to recognize how significantly this revolution will change the way humans learn.

A. *The First Communication Revolution: from an Oral to a Textual Society*

Printing changed *"the appearance and state of the whole world."*[1]

The first communication revolution began in 1450 with the invention of the printing press, but did not reach full force until the 16th century, when printed text became widely available.[2] Although Francis Bacon made the above observation fewer than 100 years after the introduction of mass-produced printed text, he was astonishingly accurate. Printing changed every aspect of the human condition—from

1. FRANCIS BACON, APHORISMS IN *NOVUM ORGANUM* 370 (Basil Montague, ed. & trans., Parry & MacMillan 1854). In 1620, Francis Bacon ranked printing, along with gunpowder and the compass, as one of the three inventions that had "changed the appearance and state of the whole world." *Id.*

2. *See, e.g.*, Richard J. Ross, *The Memorial Culture of Early Modern English Lawyers: Memory as Keyword, Shelter, and Identity, 1560-1640*, 10 YALE J. L. & HUMAN. 229, 232 (1998). The evolution from an oral to a textual culture arguably began around 800 B.C. with the use of alphabetic print on papyrus by the Greeks. See Alan Purves, *Flies in the Web of Hypertext*, *in* HANDBOOK OF LITERACY AND TECHNOLOGY 235 (Reinking, et al.), *available at* http://encarta.msn.com (last visited Nov. 13, 2001).

In the 11th century, Arabs carried papermaking from China to Europe but until the 1400s, documents were all handwritten by scribes, who were mostly monks working in monasteries. An early version of movable type was invented as early as the 11th century in China and the 13th century in Korea. In 1450, German printer Johannes Gutenberg perfected movable metal type and introduced the first reliable system of typesetting. With typesetting, printing numerous copies of textual information became easier and the number of printing shops grew dramatically over the next century. It was the rapid spread of printed text in the 16th century that lead to widespread literacy. *See, e.g.*, Leah A. Lievrouw, *Communication,* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com/find/concise.asp?mod=1&ti=761564117&page=2#5 (last visited Nov. 13, 2001).

thinking, learning, and language, to science, religion, and government.[3]

The 17th century became known as "the century of genius" in large part due to the explosion of creativity and new ideas fueled by printing.[4] Creativity is often the result of a combination of intellectual activities.[5] For example, reading two books on separate topics and combining their themes in one mind produces a creative interaction.[6] Increased output of printed works led first to the combination of old ideas, and later to the creation of entirely new systems of thought.[7]

The introduction of mass-printed books forever changed the way humans thought and learned. Regularly numbered pages, punctuation marks, headings, indices, and cross-referencing "helped to reorder the thought of all readers, whatever their profession or craft."[8] A different and more efficient approach to learning followed logically from more organized thinking.[9] The burst in thinking and learning fueled by print led to unparalleled scientific innovation, religious transformation, and changes in governance.[10]

Print brought about the first communication revolution. For the first time in history, printed materials permitted the accumulation of knowledge by creating a way to store information. Once the accumulated knowledge and wisdom of the past was permanently fixed in books, human energy was released for the creation of more knowledge. Reading and writing affected the way humans thought, reasoned, remembered events, and even communicated with each other. These changes in thinking, reasoning, and remembering gradually changed the way humans processed information. No longer were humans limited by how much they could remember. Books and other printed materials allowed individuals to process information stored in their heads and in printed text. As print transformed the ability of humans to learn and think, humans, in turn, transformed the world.

---

3. *See, e.g.,* 1 ELIZABETH L. EISENSTEIN, THE PRINTING PRESS AS AN AGENT OF CHANGE: COMMUNICATIONS AND CULTURAL TRANSFORMATIONS IN EARLY MODERN EUROPE 116, 117, 129, 226, 566 (1979) (exploring how the advent of printed text transformed all aspects of human life).

4. *See id.* at 75 note 99 and accompanying text.

5. *See id.* at 75 (citing ARTHUR KOESTLER, ACT OF CREATION (1966)).

6. *See* EISENSTEIN, *supra* note 3, at 75 n.99.

7. *See id.*

8. *Id.* at 105-06.

9. *Cf. id.* at 129-32.

10. Some historians believe that the ideas contained in printed text led to humanity-transforming events, such as the Protestant Reformation and the Industrial Revolution. *See, e.g.,* EISENSTEIN, *supra* note 3.

B. *The Second Communication Revolution: From Printed Text to Hypertext*

The current communication revolution began with the post World War II television broadcasting boom.[11] This revolution led to video games in 1972,[12] and entered its most transformative stage when personal computers became widely available in the 1980s.[13] Today, every American home has at least one television, many have video games, and 51% have personal computers.[14]

Although in its infancy, the current communication revolution, is transforming us from a printed-text society, with knowledge based primarily on printed hard copies of information, to a hypertext screen society, one with knowledge based primarily on information stored as electronic impulses in computers, accessed exclusively through electronic devices, allow us to read from a screen.

The current communication revolution began with television, but its most dramatic effects are the result of the convergence of computers, the Internet,[15] and hypertext. This transition from print-

---

11. *See, e.g.,* Michael Antonoff, *Television,* MICROSOFT® ENCARTA ® ONLINE ENCYCLOPEDIA 1, 3 (2001), *available at* http://encarta.msn.com/find/concise.asp?z=1&pg=2&ti=761559903&page=3 (last visited Nov. 4, 2001).

12. *See, e.g., Electronic Games,* MICROSOFT® ENCARTA ® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com (last visited Nov. 4, 2001).

13. *See* Timothy Law Snyder, *Personal Computer,* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA 1, 1 (2001), *available at* http://encarta.msn.com/find/concise.asp?z=1&pg=2&ti=761557220#5 (last visited Jan. 11, 2002). *The* first Personal Computer (PC) is believed to be the Altair 8800, developed in the early 1970s by Micro Instruments Telemetry Systems (MITS). *See* Christopher LaMore & John Lilly, *Computers: History and Development, in* JONES TELECOMMUNICATIONS & MULTIMEDIA ENCYCLOPEDIA, *available at* http://www.digitalcentury.com/encyclo/update/comp_db.html (last visited Jan. 11, 2002). The Altair appeared on the cover of *Popular Electronics* magazine in 1975 and inspired early computer enthusiasts to establish companies to produce computer hardware and software. In 1977, Steven Jobs and Stephen Wozniak, working out of Jobs' parents' garage, created a keyboard that made computers easy to use. A year earlier, Jobs and Wozniak had named their endeavor the Apple Computer Corporation. In 1981, International Business Machines Corporation (IBM) introduced the IBM PC. Because it was designed with an open architecture that enabled other computer manufacturers to create similar machines, the design of the IBM PC and its clones soon became the PC standard. From 1981 to 1982, the number of personal computers in use more than doubled from two million to 5.5 million. By 1990, fifty million PCs were being used. *See id*

14. *See, e.g.,* UNITED STATES GOVERNMENT, U.S. CENSUS BUREAU ESTIMATES, *available at* http://www.census.gov/ (last visited Aug. 5, 2002). In 2000, two-thirds of households with a school-age child had a computer, and 53% had Internet access. The figure was 77% for White households with school-age children. *See id.*

15. The Internet is a computer-based global information system. "The Internet is composed of many interconnected computer networks. Each network may link tens, hundreds, or even thousands of computers, enabling them to share information with one another and to share computational resources such as powerful supercomputers and databases of information." Douglas E. Comer, *Internet, in* MICROSOFT® ENCARTA®

based text to screen-based hypertext is beginning to have as significant an effect on how humans learn, as did the communication revolution ushered in by the printing press.

1. *Differences Between Hypertext and Printed Text*

Hypertext is a term coined by Theodor Nelson in the 1960s to describe a form of electronic text, a radically new communication technology, and a mode of publication.[16] Nelson explained hypertext as "non-sequential writing – text that branches and allows choices to the reader, [which can be] best read at an interactive screen."[17] The distinguishing feature of hypertext is inter-connectivity. Hypertext allows the electronic interconnecting of words, phrases, images, sounds, and other forms of information. This inter-connectivity, sometimes referred to as "intertwining,"[18] allows a reader instant access to information from multiple sources and the ability to travel throughout this information with a click of the mouse.[19] The information may be stored on the reader's computer or on any computer connected to the World Wide Web.[20] The reader can access

---

ONLINE ENCYCLOPEDIA 1,1 (2001), *available at* http://encarta.msn.com/find/concise.asp?z=1&pg=2&to=761579729 (last visited Dec. 10, 2001).

16. *See, e.g.*, GEORGE LANDOW, THE DEFINITION OF HYPERTEXT AND ITS HISTORY AS A CONCEPT 3-4 (1992).

17. *Id.*

18. D.T. Max, *The End of the Book?*, THE ATLANTIC MONTHLY, Sept. 1991, at 61.

19. The composing tool that allows such interconnection is called hypertext markup language, or HTML. *See, e.g.*, Philip A. Storey, *Hypertext Markup Language (HTML), in* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA 1,1 (2001), *available at* http://Encarta.msn.com/find/concise.asp?z=1&
pg=2&ti=761580683 (last visited Dec. 10, 2001). HTML documents are text files that contain two parts: content that is visible on a computer screen and "markup" or "tags," which are codes that determine the text format on the screen and are usually hidden from the reader. Some tags in an HTML document determine the way certain text, such as titles, is formatted. Other tags cue the computer to respond to the reader's actions on the keyboard or mouse. *See id.* For instance, the reader might click on an "icon" (a picture that represents a specific command), and that action might summon another piece of software to display a graphic, play a recording, or run a video. Another important tag, known as a "link," may contain the Uniform Resource Locator (URL) of another piece of information. The URL is the Internet address where a particular document or other information resides. The software programs that permit users to navigate the Web and view HTML-encoded documents are called "browsers." *See id.* Browsers can interpret the HTML tags in a document and format the content for display on a screen. Since HTML is a widely accepted standard, anyone can build a browser without being concerned with the form that various documents will take. HTML is the standard text-formatting language for documents to be accessible on the interconnected computing network known as the World Wide Web or simply, the Web. Most sites on the World Wide Web adhere to HTML standards and, because HTML is easy to use, the Web has grown dramatically over the last decade. *See id.*

20. Developed by British physicist Timothy Berners-Lee in 1989, the World Wide Web

and navigate through information from an almost unlimited number of sources simply by clicking on a hyperlink.[21]

Traditional text is a system of displaying words and images in a two-dimensional format on a sheet of paper or other stationary material surface.[22] In contrast, hypertext is a system of storing and displaying text, images, sound, and other data, allowing direct links between the text and the related information.[23] Reading hypertext differs from reading traditional, typographic text. Traditional text is typically presented in a linear form with a single path to progress through the text, starting at the beginning and reading to the end. Traditional text is static, linear, and two-dimensional. The reader must follow an invariant and predetermined route dictated by the medium: start to finish, left to right, top to bottom.[24] Most readers arrive at the same ending point dictated by the author.[25] By contrast, hypertext allows different readers to end or begin in different places by choosing different links on a screen.

Digitized text is much more than a translation of traditional printed text into binary electronic impulses. While printed text is stationary, hypertext is fluid, multidirectional, and interactive. Hypertext invites, and often requires, nonlinear and multidimensional strategies.[26] Hypertext information is represented in a semantic network in which multiple sections of information are connected to each other. While the reader may read hypertext beginning to end, left to right, and top to bottom, links to other sections of information also

---

is a computer-based network of information resources that allows users to proceed through vast amounts of information by using links from one piece of information to another. *See* Douglas Comer, *World Wide Web,* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA 1,1 (2001), *available at* http://encarta.msn.com/find/concise.asp?z=1&pg=2&ti=761579872#s1 (last visited Dec. 10, 2001).

21. *See id.* The information on the World Wide Web is spread over computers all over the world. The popularity of the Web as a communication tool grew since 1993, when it first became possible to view images and other multimedia on the Internet, a worldwide network of computers. *See* Comer, *supra* note 15 and accompanying text.

22. *See, e.g.,* David Reinking, *Introduction: Synthesizing Technological Transformations of Literacy in a Post-Typographical World, in* HANDBOOK OF LITERACY AND TECHNOLOGY (Reinking, et al. eds., 1998).

23. *See, e.g., Hypertext, in* ENCARTA® WORLD ENGLISH DICTIONARY 1, 1 (North American Edition 2001), *available at* http://encarta.msn.com/find/entry.asp?refid=1861619620 (last visited Nov. 13, 2001).

24. We may reverse the left-right, top-bottom sequence, as we must do to read Hebrew, but these minor variations are also pre-determined by custom. *See, e.g.,* Purves, *supra* note 2, at 236.

25. Some documents, such as newspapers and law review articles, present the reader with options to read sections not in linear sequence, but within each section the reader must still follow a linear path to arrive at the end.

26. *See* HANDBOOK OF LITERACY AND TECHNOLOGY (Reinking, et al. eds., 1998).

allow the reader to move instantly and in multiple directions to other sections containing words, images, moving pictures, sound, or the like. Although the limits of hypertext are the limits of the screen, windowing software allows the reader to look at multiple screens (windows), creating the illusion of moving in three dimensions. Another critical difference between hypertext and printed text is hypertext's almost limitless access to interconnected sources of information from any one computer.

2. *Electronic Technology and Learning*

Electronic technology is a combination of computers, the Internet, and hypertext. Computers and the Internet provide a new vehicle for learning but the essential learning tool is hypertext. Hypertext helps us to become aware of the intimate relation between learning and technology, because it reminds us that printed text is linear and hierarchical—due in part to the technology used to produce it. With printed text, "the writer controls the text, the text controls the reader, and convention controls the writer."[27]

Hypertext's flexibility to interconnect vast amounts of text, images, sounds, and other data constitutes an entirely new way of organizing and presenting information. The reader can choose to travel through textual information linearly or can choose multiple paths—some with texts, some using multi-media information.[28] Therefore, hypertext represents an entirely new way to read, write, and learn.[29]

The electronic technology communication revolution is having a profound effect on two fundamental aspects of human learning: the "center of learning" and the process of learning. Learning is controlled by who or what controls information. This focal point of control is referred to as the center of learning.[30]

In the oral world before printed text, the ceremony was considered the center of learning. Through ceremony and ritual, humans learned to be social and shared the knowledge that helped constitute a culture.[31] Learning occurred by hearing and observing. Whoever controlled the

27. Purves, *supra* note 2, at 242.

28. Although with hypertext the writer establishes the initial order of the information and the original links to other information, the writer cannot control where the original links go or when they end. The original link itself can be linked to innumerable other links not initially contemplated by the writer. Each reader, then, can take a variety of different paths and ignore, reorder, change, delete, or supplement paths. *See id.*

29. *See generally,* Purves, *supra* note 2, at 235-51.

30. *See id.* at 244 (explaining that the center of learning is the focal point for individual humans to learn from and connect with others).

31. *See id.* at 247.

ceremonies controlled knowledge.

About 3,000 years ago, the introduction of the written alphabet shifted the center of learning from the minds and mouth of the people who created the information to the texts that contained the information.[32] The introduction of print 500 years ago eventually shifted the center of learning from the text to the repositories of those texts: libraries.[33] Libraries control knowledge by controlling access to the texts.

Computers and the Internet are shifting the center of learning and the control of knowledge from libraries to individuals. Books, magazines, newspapers, and articles, as well as photographs, movies, and art are being digitized into bytes of information which can be stored in computers in or outside the library and accessed at anytime, day or night, by anyone with a computer and Internet access. As computer memory becomes cheaper and smaller, individuals will be able to own and store more information in their computers. As peer-to-peer networking technology is refined,[34] individuals will have instant access to millions of documents, images, videos, sound, and other information–all reachable from any computer with a click of the mouse.

The electronic technology communication revolution is also

32. The first known alphabet, the Semitic alphabet, is believed to have developed between 1700 and 1500 B.C. *See Alphabet,* in MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com (last visited, Jan. 11, 2002).

33. *See* Purves, *supra* note 2, at 247. With mass-produced printed texts, a few individuals with the financial wherewithal wrestled limited control over the center of learning by purchasing the books they wanted to read. However, as more titles were printed, the libraries became the only place where one could find the expanding body of knowledge. *See id.*

34. Peer-to-peer software allows computers to link and swap information without having to go through a central computer or web site. Currently, to do research on the Internet, an individual has to send a request for the information to a search web site which then broadcasts the request to other web sites containing the information. Peer-to-peer software allows millions of independent computers around the world to be linked in a network to exchange information or engage in other tasks. With peer-to-peer technology, an individual's computer can directly access any other individual computer anywhere in the world containing peer-to-peer software and the information sought. *See, e.g., Peer-to-Peer Pressure* (*Beyond Computers* radio interview by Ahri Birnbaum with Damien Cave, May 1, 2001), *audio available at* http://www.salon.com/audio/col/tech/2001/01/05/technology/index (last visited Nov. 9, 2002). The software Napster used was the first successful peer-to-peer technology, allowing thirty-eight million computers to swap music from each other. Napster's technology, however, still required a central transmission hub. As of yet, peer-to-peer technology remains very crude. Experts predict that it will not be refined enough to be widely used and accepted for several years. Nevertheless, Napster's success among 21st century learners demonstrates the potential for peer-to-peer technology in further changing the center of learning. *See id.*

changing how we learn. Essentially, the human brain learns by processing information received through sensory channels from a vast array of sources.[35] We experience some of these sources "directly and physically as we come into contact with our immediate environment."[36] Others we experience vicariously through film, television, and the Internet, or through symbolic modes such as words or figures.[37] Not all sources, however, provide us with information in the same way. We perceive information from printed text primarily through our visual sense. But electronic technology allows us to perceive information simultaneously with all our senses: visually, aurally, and even haptically.[38] And our brain processes this multi-sensory information differently, and more deeply.[39] As humans obtain more information from television, computers, and the Internet and less from printed text, the way we process that information is transforming the way we learn.

The most critical difference between hypertext and printed text is hypertext's almost limitless access to interconnected sources of information from any one computer. The combination of computers, the Internet, and hypertext provide a completely new way to read information, which, in turn, results in a new way of learning. Reading two or more books and combining their ideas in one mind produced the creative interactions that brought about the first transformation in learning. Electronic technology permits a person to read thousands of books and combine their ideas to produce creative interactions. Even if this was the only difference from reading printed text, electronic technology would greatly affect learning because of the sheer amount of textual information accessible with hypertext and mouse clicks. But electronic technology does much more. Electronic technology enables instant access with a click of a mouse to pictures, video, sounds, simulations, as well as textual information and, even more importantly, others with whom to exchange, discuss, and refine new ideas.

Newly recognized cognitive abilities and disabilities are evidence of this learning transformation. The ability to use dominant modes of reading and writing is becoming the defining characteristic of new forms of learning.[40] An inability to use dominant modes can label an

35. *See e.g.*, KEN SPENCER, MEDIA AND TECHNOLOGY IN EDUCATION: RAISING ACADEMIC STANDARDS 65-66 (Manutius Press 1996).

36. *Id.* at 65.

37. *See id.*

38. *See id.* at 66.

39. *See id.* (explaining that to modify a popular phrase, in order to process the information transmitted by one picture, the brain needs a thousand words, while to process the information transmitted by a moving picture with sounds, the brain requires much more).

40. *See* Betram C. Bruce & Maureen P. Hogan, *The Disappearance of Technology:*

individual as learning "disabled." For example, lack of fluency in English is considered a learning disability when using the World Wide Web because most Web content and Web-based authoring tools are in English.[41] Students who lack basic computer skills are finding it difficult to obtain a college education.[42] Learning today, therefore, must seriously consider current and emerging learning technologies.

III. LEGAL EDUCATION TODAY

To understand how electronic technology can be used to reach new learners, law professors must first assess how they teach and whether law schools are meeting the goals of legal education.

A. *The Goals of Legal Education: Teaching for the Profession*

The primary goal of law schools is to prepare students for the practice of law.[43] To prepare students for the practice of law, law schools should train students to develop the competencies that will make them good lawyers. Good lawyers possess four competencies:

Toward an Ecological Model of Literacy, *in* HANDBOOK OF LITERACY AND TECHNOLOGY 269, 271 (Reinking, et al. eds., 1998).

41. *See id.*

42. *See id.*

43. All law schools assert, at least on their brochures or web sites, that one of their most important goals is to prepare students for law practice. *See, e.g.*, John O. Mudd, *Beyond Rationalism: Performance-Referenced Legal Education*, 35 J. LEGAL EDUC. 189, 191 (1986). Some commentators even suggest that preparing students to become good lawyers is the primary role of legal education. *See, e.g.*, Paul Brest, *Plus Ça Change*, 91 MICH. L. REV. 1945 (1993) ("Our primary aim is to prepare students to become skillful and responsible practicing lawyers, policymakers and judges."). *See also* ROBERT B. STEVENS, LAW SCHOOL: LEGAL EDUCATION IN AMERICA FROM THE 1850S TO THE 1980S 270 (1983); HERBERT L. PACKER & THOMAS EHRLICH, NEW DIRECTIONS IN LEGAL EDUCATION 22 (1972) (asserting that the primary mission of law schools is the education of students for entry into the legal profession). Yale Law Professor Erwin Griswold contends that law professors

> should concentrate . . . on method, technique, vocabulary, approach, arts, and the other things that go to make up a lawyer who will be qualified to dig into problems, learn their details, and handle them well when problems come before him in later years—for the most part, problems the details of which we could not possibly teach him now, no matter how hard we tried.

Erwin Griswold, *Some Thoughts About Legal Education Today*, *in* FRONTIERS IN LAW AND LEGAL EDUCATION: ADDRESSES GIVEN AT THE UNIVERSITY OF MICHIGAN LAW CENTENNIAL (Oct. 22-24, 1959).

Explicit in the recent MacCrate Report is the premise that the fundamental mission of law schools should be to provide students with the fundamental lawyering skills and professional values necessary to represent clients in our society. *See generally Legal Education and Professional Development – An Educational Continuum, Report on the Task Force on Law Schools and the Profession: Narrowing the Gap*, 1992 ABA Sec. of Legal Educ. and Admissions to the Bar [hereinafter MacCrate Report].

knowledge, skill, perspective, and personal attributes.[44]

The first competency–knowledge–involves technical and general knowledge.[45] This competency involves the cognitive and analytical skills that have been the principal focus of legal education since the advent of law schools. The second competency involves two types of lawyering skills: "those needed to obtain and process information and those which enable the lawyer to transform existing situations into those that are preferred."[46] The third competency is perspective, which is the ability to consider the historical, political, ethical, and moral aspects of a legal problem and its possible solutions.[47] The fourth competency refers to qualities of character which pertain to the way lawyers go about their professional activities and relate to others.[48]

B. *The Law School Experience: How We Seek to Teach*

1. *The Casebook and the Case Method*

Law school professors receive little or no instruction on how to teach.[49] The only model for teaching law school was provided by their law professors. As a result, most law professors teach in much the same way they were taught, which has not changed for more than half of a century.[50] The teaching tools most law professors have used since the middle of the 20th century are the casebook and the Socratic or

---

44. According to the MacCrate Report, successful lawyers possess the following skills: (1) problem solving; (2) legal analysis and reasoning; (3) legal research; (4) factual investigation; (5) communication; (6) counseling; (7) negotiation; (8) litigation and dispute resolution procedures; (9) organization and management of legal work; and (10) recognizing and resolving ethical dilemmas. *See* MacCrate Report, *supra* note 43, at 138-41. *See, e.g.*, Robert MacCrate, *Preparing Lawyers to Participate Effectively in the Legal Profession*, 44 J. LEGAL EDUC. 89, 90 (1994); Mudd, *supra* note 43, at 198-203 (citing several descriptions of what lawyers do).

45. *See* Mudd, *supra* note 43, at 203.

46. *Id.* at 203-04.

47. *See id.* at 204.

48. *See id.*

49. *See, e.g.*, 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, 365 (2001).

I started teaching law after eight years of working as a scientist and engineer, three years of law school and six years of law practice. My pedagogical training was limited to attending the Association of American Law Schools (AALS) "Workshop for New Law Teachers," where my instructors were other pedagogically untrained law professors.

50. Christopher Columbus Langdell first introduced his "case-method" of teaching in 1870 at Harvard but it was not until the middle of the 20th century that the casebook and the case method of dialogue became "the dominant tools of the American law school." *See* Steve Sheppard, *Casebooks, Commentaries, and Curmudgeons: An Introductory History of Law in the Lecture Hall*, 82 IOWA L. REV. 547, 598-614 (1997).

case method of classroom dialogue.[51]

To train students to develop the cognitive and analytical skills needed to become competent lawyers, all professors teaching first year courses use essentially the same approach: guiding the students' use of time outside classroom to better instruct them in class.[52] Most law school professors use a methodology that consists of the teacher attempting to convey a legal concept, including its doctrinal rules and legal analysis, by assigning students readings from certain sections of a casebook. Professors expect students to learn from the readings[53] and demonstrate their grasp of doctrinal rules and critical analysis by engaging in some form of pseudo-Socratic dialogue with the professor.[54]

Whatever classroom methodology professors use, the casebook

51. Ninety-seven percent of responders to Professor Sheppard's 1995 survey indicated they use a casebook as the primary textbook and nearly 90% indicated that at least half of class time is spent on some form of Socratic dialogue. *See id.* at 592-93.

52. *See id.* at 551.

53. *See, e.g.*, Schwartz, *supra* note 49, at 352-53. Professor Schwartz points out that law teaching requires students to teach themselves, at best referring them to outside resources like hornbooks and encouraging them to form study groups to enhance their self-teaching. *See id.*

54. The case method is often referred to (wistfully but improperly) as the Socratic method. Webster's Dictionary defines the Socratic method as Socrates' "philosophical method of systematic doubt and questioning of another to reveal his hidden ignorance or to elicit a clear expression of a truth supposed to be implicitly known by all rational beings." WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 1119 (Frederick C. Mish et al. eds., 1986). In the law school context, the Socratic method has been described as "involving a teacher asking a series of questions, ideally to a single student, in an attempt to lead the student down a chain of reasoning either forward, to its conclusions, or backward to its assumptions." Susan H. Williams, *Legal Education, Feminist Epistemology, and the Socratic Method,* 45 STAN. L. REV. 1571, 1573 (1993).

Whatever happens in most law school classrooms, however, is hardly related to what Socrates practiced 2,600 years ago. The Greek philosopher Socrates lived between 469-399 B.C., almost 2,000 years before the advent of the printed text. *See, e.g., Socrates,* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com (last visited Nov. 7, 2001). Socrates' idea of dialogue was to hang-around the marketplace and other public places of Athens, engaging in spoken exchanges and arguments with anyone who would submit to his cross-examinations. *See id.* His Socratic dialogues were one-on-one encounters in which both teacher and student were in search of a truth unknown to both. *See generally* J.T. Dillon, *Paper Chase and the Socratic Method of Teaching*, 30 J. LEGAL EDUC. 529 (1980).

Most law school discussions are not true Socratic dialogues. Most classroom exchanges between professor and student are either simple recitations or simple question and answer periods where the teacher does all the asking and the student does most of the answering based on previous readings. *See, e.g.*, Peter Dewitz, *Legal Education: A Problem of Learning from Text*, 23 REV. OF L. & SOC. CHANGE 225, 243 (1997). The size of most law school classes, particularly first year classes, precludes any extended dialogue between the professor and one student. *See id.*

remains the bedrock of the classroom experience,[55] and most casebooks are remarkably similar. The typical casebook introduces a legal concept with a heading, followed by at least one edited case that exemplifies the concept. The case is often followed by a "notes and problems" section which discusses and refines the concept and often contains questions and/or hypothetical problems designed to ascertain the students' comprehension of previously discussed concepts.[56]

C. *Why We Are Not Achieving Our Teaching Goals: The Teaching-Centered Approach*

Law schools today are not achieving the primary goal of legal education. There is almost universal agreement that law schools do not adequately prepare students for the practice of law.[57] Most professors regularly complain about their students' poor performance on law school examinations.[58] Legal education is failing if Professor Benjamin Bloom's assertion is correct. Bloom contends that effective teaching requires that at least 80% of the students learn 80% of the

---

55. *See* Sheppard, *supra* note 50, at 592-93 (97% of respondents of Professor Sheppard's 1995 survey indicated they use a casebook as the primary textbook).

56. For example, Dobbs and Hayden's fourth edition "Torts and Compensation" casebook introduces students to the false imprisonment claim with a heading entitled "False Imprisonment," followed immediately by a case, *McCann v. Wal-Mart Stores*, that discusses the elements of the tort. The case is followed by a "notes" section that further examines the elements of false imprisonment and contains a couple of hypothetical scenarios where the student is to determine whether there is false imprisonment. *See* DAN B. DOBBS & PAUL T. HAYDEN, TORTS AND COMPENSATION 63-66 (4th ed. 2001).

Likewise, Stephen Yeazell's Civil Procedure casebook introduces students to the minimum contacts test for personal jurisdiction with a heading entitled "The Modern Constitutional Formulation of Power," containing a short paragraph that advises students that the following section "traces the evolution of [the elements of power, consent, and notice] in the modern law of personal jurisdiction."
STEPHEN C. YEAZELL, CIVIL PROCEDURE 94-103 (5th ed. 2000).

Next is the subheading "Redefining Constitutional Power," which critiques *Pennoyer v. Neff*'s presence test and introduces *Int'l Shoe v. Washington* with an admonition that "[t]he following landmark case rearranges the landscape of personal jurisdiction; most contemporary debate concerns its application and interpretation, and it thus bears careful study." Following the case, a section entitled "notes and problems" which contains questions about *Int'l Shoe* and general versus specific jurisdiction, as well as several hypothetical scenarios that test personal jurisdiction concepts. *See id.*

57. *See, e.g.*, MacCrate, *supra* note 43, at 93 (noting that many young lawyers lack the skills and values to handle "clients' legal affairs"); Mudd, *supra* note 43, at 189 ("law professors do not prepare their graduates adequately for law practice"). *But see* John J. Costonis, *The MacCrate Report: Of Loaves, Fishes, and the Future of American Legal Education*, 43 J. LEGAL EDUC. 157 (1993) (denying that there is any need to reform American legal education).

58. *See, e.g.*, Jay Feinman & Marc Feldman, *Pedagogy and Politics*, 73 GEO. L. J. 875, 881 (1985).

material.[59] As Professors Feinman and Feldman note, most law professors are satisfied if a small percentage of students excel, most perform almost adequately, and some fail.[60] If we measure law school success by the bar passage rate, this too indicates legal education is deficient.[61] If the measure is law student satisfaction, legal education also is surely failing.[62] Law students across the country complain that their legal education leaves much to be desired.[63]

There are two primary reasons law schools are failing to meet the goals of legal education: what law schools teach and how well they teach.[64] What law schools teach has been the subject of much criticism, ranging from failure to teach lawyering skills[65] to failure "to

59. *See* BENJAMIN S. BLOOM, ALL OUR CHILDREN LEARNING: A PRIMER FOR PARENTS, TEACHERS, AND OTHER EDUCATORS (1981); *see also* Feinman & Feldman, *supra* note 58, at 895-96 (citing Bloom, HUMAN CHARACTERISTICS AND SCHOOL LEARNING (1976).

60. *See* Feinman and Feldman, *supra* note 58, at 895. Professor Barbara Glesner-Fines goes further, arguing that legal education considers as failures faculty who do not achieve a bell curve in grading. *See* Barbara Glesner-Fines, *Competition and the Curve*, 65 UMKC L. REV. 879, 888-93 (1997).

61. Overall bar passage rates are mediocre and are declining for most schools. *See, e.g.,* Gwendolyn Glenn, *Reinventing Howard's Law School; Alice Gresham Bullock, Dean*, Black Issues in Higher Education 24 (Apr. 12, 2001) (noting that according to the National Conference of Bar Examiners, the overall bar passage rate for all test takers was 66% in 1999). *See also* Schwartz, *supra* note 49, at 357.

62. Although mostly anecdotal, there is significant evidence that most law students are not satisfied with the quality of their legal education. *See, e.g.,* Alan Watson, *Legal Education Reform: Modest Suggestions*, 51 J. LEGAL EDUC. 91-2 (2001) (describing that few students have much good to say about their legal education).

63. *See, e.g.,* Rodney O. Fong, *Generation X: Students in the 21st Century, The Challenges of Connecting with 21st Century Students*, Opening Plenary: Workshop: Do You Know Where Your Students Are? Langdell Logs on to the 21st Century, AALS 2002 Annual Meeting, New Orleans, Jan. 2, 2002, *available at* http://www.aals.org/am2002/workshop.html. Professor Fong detailed information shared during a three-day deans' workshop in 1997. One of the prevailing observations is that Generation X students, who see themselves as consumers and law school as an investment toward a career in law, are generally unsatisfied with the quality of the education they are receiving in exchange for the thousands of dollars they are paying to attend law school. *See id.*

Even students at Harvard Law School are less than satisfied with the quality of their legal education. Considering that a good job is virtually assured with a Harvard Law School degree, it is telling that even students there have little good to say about their educational experience. *See, e.g., Class Size, Lack of Feedback Hurt Morale, Harvard Law Students Say*, THE CHARLESTON GAZETTE, July 12, 1999 at 7A (noting that despite the acknowledgement value of their law degree, a 1994 survey by National Jurist and Princeton Review ranked HLS 154th out of 165 law schools in overall student satisfaction).

64. *See* Andrew J. Pirie, *Objectives in Legal Education: The Case for Systematic Instructional Design*, 37 J. LEGAL EDUC. 577, 578 (1987) (refering to the problems of what we teach as subject-matter or curriculum concerns and the problems of how we teach as pedagogical concerns).

65. *See generally* MacCrate Report, *supra* note 43. The essential message of the

include important political perspectives in the curriculum."[66] This article will primarily address the problem of how law schools teach.

1. *Our Focus on Teaching Methods is Misplaced*

For many years, law school professors have debated the issue of which teaching method best achieves the pedagogical goals of legal education. The focus of these debates has been on the Socratic or case method of teaching. While it certainly has its proponents,[67] the Socratic method has many detractors. Some critics argue that the Socratic method is ineffectual.[68] Some point out that the Langdellian case-method is both distinguishable from the Socratic method and inadequate.[69] Others claim that employing the Socratic or case method to the exclusion of other methods mistakenly assumes that all students will learn "in a parallel fashion from any given exchange between student and instructor."[70] Still others maintain the Socratic method alienates some women and persons of color,[71] and is "infantilizing, demeaning, dehumanizing, sadistic, self-serving, and destructive of positive ideological values."[72] Still others advocate abandoning the case method in favor of a problem method.[73]

This debate misses the point. Studies demonstrate that barriers to learning have more to do with whether the methodology is teacher or

---

MacCrate Report is that law schools should integrate more skills instruction into the law school curriculum. *See id.*

66. Pirie, *supra* note 64, at 579.

67. *See, e.g.*, James M. Dente, *A Century of the Case Method: An Apologia*, 50 WASH. L. REV. 93, 96 (1974); Steven Allen Childress, *The Baby and the Bathwater: Salvaging a Positive Socratic Method*, 7 OKLA. CITY U. L. REV. 333, 336 (1982); Edwin W. Patterson, *The Case Method in American Legal Education: Its Origins and Objectives*, 4 J. LEGAL EDUC. 1, 23-24 (1951).

68. *See, e.g.*, Pierre Schlag, *Essay: Hiding the Ball*, 71 N.Y.U. L. REV. 1681 (1996).

69. Langdell introduced the case-method in 1870. *See supra* note 50. *See also* 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, 453-57 (1996).

70. Paul F. Teich, *Research on American Law Teaching: Is There a Case Against the Case System?*, 36 J. LEGAL EDUC. 167, 169 (1986).

71. *See, e.g.*, Lani Guinier et al., *Becoming Gentlemen: Women's Experiences at One Ivy League Law School*, 143 U. PA. L. REV. 1, 3-4, 63-65 (1994); Cathaleen A. Roach, *A River Runs Through It: Tapping into the Informational Stream to Move Students from Isolation to Autonomy*, 36 ARIZ. L. REV. 667, 669-70 (1994).

72. Alan A. Stone, *Legal Education on the Couch*, 85 HARV. L. REV. 392, 407 (1971).

73. *See, e.g.*, John S. Elson, *The Regulation of Legal Education: The Potential for Implementing the MacCrate Report's Recommendations for Curricular Reform*, 1 CLINICAL L. REV. 363 (1994) (suggesting that to achieve a narrowing of the gap between legal education and legal practice, the case method should be abandoned and the problem method implemented); Myron Moskovitz, *Beyond the Case Method: It's Time to Teach with Problems*, 42 J. LEGAL EDUC. 241, 250 (1992).

student centered.[74] Moreover, despite its many critics, an overwhelming number of professors who teach basic first year classes use the Socratic or case method of instruction to conduct their classes.[75]

Teacher-centered pedagogy impedes success in the classroom, the principal flaw being that it focuses on how teachers teach without taking into account how students learn. Teacher-centered learning requires all students to adjust their diverse learning styles to fit the professor's teaching style. This does not take into account that different students learn differently.[76] The teaching style of any one instructor will not relate to all of her or his students. A professor's teaching method will be most effective in reaching students whose learning style matches the professor's teaching style.[77] Therefore, students may not be failing due to lack of ability or effort but because linear teaching is often incomprehensible to many of today's more technologically interactive law students.[78]

---

74. *See* Teich, *supra* note 70, at 185 (concluding that research proves that "different [teaching] methods have an equivalent influence on student achievement"); John D. Blackburn & Edward Niedzwiedz, *Do Teaching Methods Matter? A Field Study of an Integrative Teaching Technique*, 18 AM. BUS. L.J. 525, 546-47 (1981) (concluding that student achievement is not influenced substantially by methodology used); Steven Hartwell & Sherry L. Hartwell, *Teaching Law: Some Things Socrates Did Not Try*, 40 J. LEGAL EDUC. 509, 522 (1990); Edward L. Kimball & Larry C. Farmer, *Law School Developments: Comparative Results of Teaching Evidence in Three Ways*, 30 J. LEGAL EDUC. 196, 208-10 (1979).

75. *See* Steven I. Friedland, *How We Teach: A Survey of Teaching Techniques in American Law Schools*, 20 SEATTLE U. L. REV. 1, 28 (1996). Ninety-seven percent of respondents to Professor Friedland's 1994-95 survey of teaching methods use some version of what they describe as the Socratic method at least some of the time in first year classes. *See id.* at 27-31. To a much lesser extent, law professors use the lecture method, small groups and other classroom approaches. *See id.*

76. *See generally*, ALFRED G. SMITH, COGNITIVE STYLES IN LAW SCHOOLS (1979). *See also* Roach, *supra* note 71, at 682. ("[S]ome [students] learn best by visual methods (writing, charts, etc.); some learn best by auditory methods (lecture or student verbalization). Some students are abstract thinkers; others are concrete thinkers."); John B. Mitchell, *Current Theories on Expert and Novice Thinking: A Full Faculty Considers the Implications for Legal Education*, 39 J. LEGAL EDUC. 275 (1989); BERNICE MCCARTHY, THE 4MAT SYSTEM: TEACHING THE LEARNING STYLES WITH RIGHT/LEFT MODE TECHNIQUES (1980).

77. *See* SMITH, *supra* note 76, at 106. Additionally, top students are likely to learn despite having learning styles that do not match the professor. As a matter of fact, top students will learn despite the instructor's teaching weaknesses. *See id.*

78. Law professors regularly complain that too many recently arriving students are incapable or unwilling to learn what professors are teaching. Although most conclude that they are simply teaching a generation of slothful and less qualified students, some teachers recognize that it is possible our teaching is not connecting with many students today. Most of today's teachers learned in law school by reading books, listening to lectures, and watching others recite legal concepts or engage in discussions with professors. *See* Diana R. Donahoe, *Bridging the Digital Divide Between Law Professor and Law Student*, 5 VA. J.L. & TECH. 13, at para. 4-7 (2000). To learn about something, we generally head to a library and read books. We access information in a linear manner, because that is how libraries and

IV. TURNING IT AROUND: STUDENT-CENTERED LEARNING AND TECHNOLOGY

A. *21st Century Students*

In some ways, students entering law school today are not much different than they were when I attended law school twenty years ago. For example, most students today come to law school immediately following undergraduate school and are in their mid-twenties.[79] In other ways, however, today's law students differ from their predecessors twenty years ago because they are more ethnically diverse, their educational background is more varied, and a majority of them are women.[80] In addition, students entering law school today differ from their predecessors of twenty years ago because they are very technology savvy.

In 1982, computers were little more than word processors and the number of law students who owned a computer could be counted on one hand.[81] The so-called "information superhighway" was a two-lane country road,[82] video-games were almost non-existent,[83] music could

---

books are organized. We refer to the card catalog, the index to legal periodicals, or other hard-copy sources, and search by subject, author, or title. When we use a computerized catalog or index, we search for a hard copy of the material in order to feel it and read it. Even when we conduct research online, we usually print the information so we can read it in hard copy form. These materials all progress linearly in the order in which they were arranged by the author. *See id.* at 7-12. Our learning is passive and linear. And, not surprisingly, so is our teaching. *See id.*

79. The average age of law students in my 1982 entering class was twenty-four. The average age of the entering students at DePaul in the fall of 2001 was twenty-four and at Washburn Law School twenty-seven.

80. In 1982, my classmates were overwhelmingly young, predominantly White men, most of whom had studied political science or English in college. In the fall of 2001, my first year law students at DePaul were almost 25% non-White, 54% were women, and they had received college degrees in subjects ranging from international affairs and theater to computer science and religious studies.

81. In 1982, there were only about five million computers in the United States. At the University of Minnesota Law School, I was one of a handful of students who owned a computer. It had a black and white screen, no memory to speak of, a very slow processor, and only one program, the word-processing software "Wordstar." The law school's "computer lab" contained approximately six computers and was usually not even half full.

82. The information superhighway is one of the terms used to describe the high speed networks that laid the networking foundation for the World Wide Web. *See* Barry M. Leiner, et al., *A Brief History of the Internet*, *at* http://www.isoc.org/internet-history/brief.html (last visited Jan. 12, 2002).

83. The only video game available was the two-dimensional PONG, introduced by Atari in 1973. In PONG, based on table tennis, a ball and paddles are represented by lights on the screen; the ball is set in motion, and by blocking it with the paddles, players knock it back and forth across the screen until someone misses. *See Pong-Story*, *available at* http://www.pong-story.com (last visited Jan. 12, 2002) (maintained by David Winter).

only be recorded from a vinyl record or the radio, and the U.S. Postal Service carried all our mail.[84] In law school, students had limited and cumbersome access to the Westlaw and Lexis databases.[85]

By contrast, almost all entering law students today own a computer and are computer literate.[86] In a matter of two or three years, all students entering law school will have had access to computers and the Internet their entire life. These students will be more computer literate than are most law school technical staff now. Today's entering law students consider "the 'screen' the center of [their] universe."[87] As infants, these students were introduced to the world by watching a television screen.[88] As toddlers, they watched Sesame Street and MTV.[89] As teenagers, they sharpened their hand-to-eye coordination

84. Twenty years ago, electronic mail (e-mail), the electronic transmission of messages, letters, and documents from one computer to another, was not available to law students—or professors for that matter. Electronic mail did not become widely available until the early 1990s. *See E-Mail*, MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com (last visited Jan. 12, 2002).

85. In 1982, Lexis and Westlaw could not be accessed with a personal computer. Instead, they had to be accessed individually through bulky dedicated terminals provided by the vendors. The University of Minnesota Law School had one dedicated Lexis terminal and, because West was headquartered in St. Paul, two dedicated Westlaw terminals. To do any computerized research, students were required to sign up to use a dedicated terminal for no more than one hour at a time. As a result students had very limited access to Westlaw and Lexis.

86. I have been conducting a technology survey of entering law students at Washburn since 1996. The number of students who own computers has increased steadily. In 1996, 67% of entering students in my torts class at Washburn owned a computer and 80% of the students regularly navigated the Internet. By 2000, all but one of my tort students owned a computer and they all navigated the Internet. In the fall of 2001, 95% of entering students at DePaul owned a computer, and nearly all of them used the Internet.

87. Donahoe, *supra* note 78, at 23. I have conducted surveys of entering law students at Washburn for the past six years and at DePaul in the fall of 2001. My surveys show that almost 100% of first year students at Washburn and almost 95% of entering students at DePaul own a computer.

88. When the typical law student today was born (between 1974 and 1980), television was available in 75% of American households. *See* Eric Taub, *Eureka! A History of Video Technology,* VARIETY (Apr. 1996), *available at* http://members.tripod.com/jonchew_producer/History_of_Television.htm. By the time these students were ten, 98% of U.S. homes contained at least one television. *See* Kit Boss, *TV: Who Needs It?*, THE SEATTLE TIMES, Oct. 27, 1991, at A1 (citing Nielsen Media Research).

89. The Children's Television Workshop launched the Sesame Street™ television program in 1969. *See PBS Kids History Timeline*, *available at* http://pbskids.org/did_you_know/backstage/back_timeline.html (last visited Jan. 12, 2002). MTV™, the music video station, went on the air in 1981. *See Music Television,* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com/find/Concise.asp?z=1&pg=2&ti=761555138 (last visited Jan. 12, 2002).

Pre-school children spend a great deal of time watching television and school-age children spend more hours watching television than attending school. *See* COMMISSION ON BEHAVIORAL AND SOCIAL SCIENCES AND EDUCATION, HOW PEOPLE LEARN: BRAIN,

playing Super Mario Brothers and the Legend of Zelda video games.[90] By college age, their primary mode of entertainment, communication, and learning was the computer screen.[91]

Today, students use their computers to play hundreds of complex three-dimensional video games alone, or engage in elaborate games with others across the room or across the world. Today's students also use computers to access unlimited sources of digitally recorded music, which they can download and listen to or they can "burn" (record) on a "CD" (compact disc). Unlike their predecessors, electronic technology allows today's students to develop "multiprocessing" skills incomprehensible to most adults. Students today listen to music while completing their homework, conducting research, and simultaneously communicating with one another by e-mail, "visiting" small or large virtual "chat rooms," and conversing on computer-based phones.[92]

Today's students conduct research almost exclusively in "cyberspace," using computers to obtain information from libraries

---

MIND, EXPERIENCE, AND SCHOOL, 147-49 (2000), *available at* http://books.nap.edu/books/0309070368/html/1.html (last visited Oct. 16, 2001). For example, while school-age children spend 14% of their time each year in school, they spend 18% of their time watching television. *See id.*

90. Video games require a computer to play them. The games may be played on a computer or by linking a computerized video game console to a television screen. Nintendo™, a Japanese company, introduced the Nintendo Entertainment System (NES) in the mid-1980s. The NES touched off a boom in home video games, due primarily to two game series: Super Mario Brothers™ and The Legend of Zelda™. *See, e.g., Electronic Games,* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com (last visited Nov. 6, 2001).

91. The average high school graduate spends 15,000 to 18,000 hours in front of the television. *See* Shelly Belcher, *Watching TV Doesn't Help Children Watch Their Weight, at* http://www.jhbmc.jhu.edu/OPA/baynews/sp1998/weight.html (last visited Nov. 30, 2002). According to the U.S. Census Bureau, by 1999, 89% of American college students used a computers. *See* Eric C. Newburger, *Home Computers and Internet Use in the United States, at* http://www.census.gov/prod/2001pubs/p23-207.pdf (last visited Nov. 30, 2002). At most American community colleges, colleges, and universities today, students have access to computers not only in the classroom but throughout the campus. Additionally, students can access the Internet from a number of locations on campus, including dorms and classrooms.

92. Research at the Palo Alto Research Center (PARC) demonstrates that today's students can concentrate on multiple contexts in much the same way as top managers, who work on environments that require fast context-switching. *See* John Seely Brown, *Growing Up Digital: How the Web Changes Work, Education, and the Ways People Learn,* CHANGE, 11, 13 (Mar./Apr. 2000), *available at* http://www.aahe.org/change (last visited Oct. 26, 2001).

My thirteen-year-old nieces are masters of multiprocessing—they can use their computers to simultaneously conduct research for and write a homework assignment, listen to a CD they previously recorded from the Internet, engage in real-time electronic "conversation" with their friends in a private "chat room," send e-mails to friends, and talk in a computer-based-phone with other friends. Their responses to my questions about their homework make it clear they can do all this in parallel, seamlessly, and unobtrusively.

across the country or remote computers around the world.[93] 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. In addition, students use computers to access information in a non-linear, dynamic, and interactive way. Computer research is accomplished by word searches, not subject matter indices.[94] Computer-based research also permits students to access information in multiple formats, such as text, pictures, graphics, sounds, animation, and video. Moreover, hypertext allows students to "intertwine," which is the ability to access "a vast linkage of electronic information across databases worldwide."[95] Most importantly, electronic technology gives students complete control over the information they access. Together computers, the Internet, and hypertext offer students the opportunity to instantaneously access multimedia information from multiple sources in multiple places and, if they choose, to quickly travel back and forth throughout this information.[96]

B. *How 21st Century Students Learn: "The Medium is the Message"*[97]

More than thirty years ago, Marshall McLuhan understood that the form and content of information are inextricably tied to our understanding of the information. In other words, our understanding of information depends not only on the information itself, but also on the medium communicating the information. The dynamic and interactive nature of electronic technology is transforming how students process information.[98] Learning information from screen-based media involves cognitive processes quite different from learning the same information from traditional printed media.[99]

---

93. *See* Donahoe, *supra* note 78, at 23.

94. *See id.*

95. D.T. Max, *The End of the Book?*, THE ATLANTIC, Vol. 274, No. 3, Sept. 1994, at 61.

96. *See* Donahoe, *supra* note 78, at 29.

97. MARSHALL MCLUHAN, UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN 7 (1964).

98. *See* Jay David Bolter, *Hypertext and the Question of Visual Literacy*, *in* HANDBOOK OF LITERACY AND TECHNOLOGY: TRANSFORMATIONS IN A POST-TYPOGRAPHICAL WORLD 1 (Reinking, et al. 1998).

99. *See, e.g.*, PATRICIA MARKS GREENFIELD, MIND AND MEDIA: THE EFFECTS OF TELEVISION, VIDEO GAMES AND COMPUTERS (1984) (demonstrating how persons who grew up with television, video games, and computers learn differently than those who grew up with text and arguing that educators should incorporate electronic media into education). *See also supra* notes 35-40 and accompanying text.

By contrast, most law professors are 20th century learners.[100] Printed text is the communication medium of choice.[101] As a result, law school teaching generally rewards only our outmoded type of literacy: printed text literacy. Entering law students, however, are increasingly more screen-based literate. Screen-based literacy involves the ability to experience and comprehend new, multimedia genres.[102] Screen-based literacy is "abstract, textual, visual, musical, social, and kinesthetic."[103]

Law schools must consider how the current communication revolution is transforming how 21st century students learn.[104] Entering law students learn better when they receive information through a medium that is more dynamic, interactive, and creative than printed text.[105] If entering law students learn more efficiently when they receive information electronically, it would behoove law schools to integrate that technology to assist students' transition to the linear, printed-text based legal profession.

In order to achieve the goals of legal education, however, it is essential to integrate electronic technology in a pedagogically sound way or we will accomplish little more than technologizing unsound teaching. To achieve the goals of legal education, the integration of technology must have a solid base in learning theory.

C. *Achieving Teaching Goals By Focusing on How Students Learn*

Learning theory considers the learner as fundamental to proper instructional design.[106] "Learning theory is the science of how people learn."[107] The learning theories pertinent to legal education are those which determine how adult students "receive and integrate the knowledge, information, and material."[108] Although there are a number of adult learning theories, "cognitive learning theory" in particular focuses on how average adult learners respond to the classroom experience.[109] Cognitive learning theory describes how adult students

100. *See id.*

101. *See* Donahoe, *supra* note 78, at 7.

102. *See* Seely Brown, *supra* note 92, at 14.

103. *Id.*

104. *See* Betram C. Bruce & Maureen P. Hogan, *The Disappearance of Technology: Toward an Ecological Model of Literacy*, *in* HANDBOOK OF LITERACY AND TECHNOLOGY 271 (Reinking, et al. 1998).

105. *See* Friedland, *supra* note 75, at 23.

106. *See, e.g.*, Schwartz, *supra* note 49, at 362-63 (arguing that teaching methods should be consciously related to the learning process).

107. Roach, *supra* note 71, at 680.

108. Friedland, *supra* note 75, at 4.

109. *See id.*

"obtain, process, store and recall information."[110] This theory recognizes that each student's ability to learn is subject to many influences, from innate ability, individual life experiences, and habits, to motivation, self-image, and method of processing new information.[111] Because students have various learning styles grounded in differing cognitive structures, professors should tailor the delivery of legal education to how most of their students learn best rather than on how their best students learn the most.

1. *How Students Learn From Casebooks*

Since the overwhelming majority of professors teaching basic first year and upper level courses use the casebook as the primary teaching tool,[112] it is critical to understand how law students learn from reading casebooks. Casebooks typify complex legal text.[113] Learning from reading complex text "is the product of word recognition and comprehension."[114] Word recognition is the skill needed to identify words.[115] For most law students, word recognition is an automatic process which employs "knowledge of letters, sounds, word parts,

110. *Id.* Cognitive learning theory recognizes that students fall into one or more of the following interrelated cognitive learning approaches: (1) schemata; (2) domain specific versus generic thinking; (3) orders of thinking; and (4) cognitive boundaries and context. *See id.* at 5.

111. The schemata approach contends that "knowledge is not [simply] a basket of facts," but rather, it "exists in categories or schema." *Id.* According to this approach, as students receive information, their expectations create a structure to organize and store that information. *See generally id.* Once stored, students can readily retrieve and reconstruct the information consistently with the same expectations. *See id.* at 5-6 (citing Richard C. Anderson, *Some Reflections on the Acquisition of Knowledge,* EDUC. RESEARCHER, Nov. 1984, at 5. The strength of each student's schema, as well as environmental factors such as gender, class, and culture, influence the student's capacity for learning). *See id.* at 6.

The "domain specific versus generic thinking" approach suggests that the quality of students' thinking "depends on the particular context or domain in which that thinking occurs" as well as on the person doing the thinking. *See id.* (citing Paul T. Wangerin, *Alternative Grading in Large Section Law School Classes*, 6 FL. J. OF L. & PUB. POL'Y. 53 (1993) and RAYMOND S. NICKERSON ET AL., THE TEACHING OF THINKING 57-59 (1985)). The "orders of thinking" approach suggests that types of thinking can be identified based on levels of complexity. *See id.* at 7 (citing TAXONOMY OF EDUCATIONAL OBJECTIVES, HANDOUT I: COGNITIVE DOMAIN (Benjamin S. Bloom et al. eds., 1956)). These orders of thinking include knowledge, comprehension, application, analysis, synthesis, and evaluation. *See id.* Finally, the "cognitive boundaries and context" approach to cognitive learning theory contends that orders of thinking are placed in context by many factors in the student's life. *See id.* at 7-8.

112. *See supra* note 51 and accompanying text.

113. *See, e.g.,* Dewitz, *supra* note 54. Professor Dewitz is an educational expert, who has conducted extensive research on how law students learn from casebooks. *See id.*

114. *Id.* at 225.

115. *See id.*

whole words, and contextual constraints in a seemingly effortless act."[116] For most law students, "word recognition is well developed and fluent."[117]

Recognizing a word, however, is not enough.[118] This is particularly true in complex textual domains like casebooks, which are replete with words that are new or represent legal concepts that are foreign to most students. Few new law students are familiar with words like "res ipsa loquitur" or "remittitur," and fewer yet know the legal meaning of "future interest," "clouds on title," or "proximate cause."

There are four types of knowledge that affect a student's ability to comprehend text: (1) real world knowledge; (2) text structure knowledge; (3) grammatical knowledge; and (4) strategic or procedural knowledge.[119] Real world knowledge is the most important factor affecting comprehension.[120] What students already know plays a significant role in what they comprehend. Because most new law students lack prior knowledge in the complex domain of law, they often cannot make sense of new information in this area.[121] Law is a "complex and often ill structured domain."[122] To comprehend information in a complex domain like law, students must "attain a deeper understanding of content material, reason with it, and apply it flexibly in diverse contexts."[123] To comprehend law, students must not only activate existing knowledge structures, they must create new schemata or knowledge and apply this acquired knowledge to new factual problems.[124]

---

116. *Id.* at 226. Students for whom English is not the first language, and students who come from significantly disadvantaged environments are likely to posses less developed word recognition skills. *See id.*

117. *Id.*

118. *See id.*

119. *See* Dewitz, *supra* note 51, at 226-28.

120. *See id.* at 226 ("Reading is a constructive process in which the reader builds an interpretation of a text based on information provided by the author and knowledge that the reader possesses. ").

121. As Cathaleen Roach has noted, new law students "try to store the massive amount of incoming information in law school via their existing contexts . . . [which are] insufficient because [they are] based upon undergraduate strategies without experience in the law." Roach, *supra* note 71, at 682.

122. Dewitz, *supra* note 54, at 226. Law is an ill structured domain "because many different concepts are pertinent to a specific case, and the combination of concepts changes constantly from one case to another." *See id.*

123. *Id.* at 227 (quoting Rand J. Spiro, *Cognitive Flexibility Theory: Advance Knowledge Acquisition in* ILL-STRUCTURED DOMAINS, THEORETICAL MODELS & PROCESSES OF READING 602, 603 (1994)).

124. *See id.*

The second type of knowledge required to comprehend legal text is "text structure knowledge."[125] "Text structure knowledge is the map [students] follow to locate and focus on important information."[126] The more the student knows about the organizational structure, or context, of a text, the better he or she can comprehend it. However, casebooks, replete with statutory rules, edited cases, and legal problems, introduce entering law students to new text structures, most of which they have never before encountered. To new law students, statutes appear to be written by a machine that arranges words in a random order and in sentences that never end.[127] Law students also find that case structure is difficult to follow.[128] To grasp casebook readings, law professors need to provide students with the underlying structure knowledge or context critical for organizing this complex legal text.

The third type of knowledge needed for comprehension of complex text is grammatical knowledge.[129] "[G]rammatical knowledge helps the reader understand the relationship among concepts within a sentence."[130] Most law students who speak English fluently have well developed grammatical knowledge. However, legal text, particularly statutes and cases, often contain syntax that is so complex that students "must strain to parse the ideas within [a] sentence into some logical relationship."[131]

The final type of knowledge needed for comprehension is strategic or procedural knowledge. Strategic or procedural knowledge "is a set of mental processes used by the reader to achieve a

125. *Id.*

126. *Id.*

127. The operative provision of Federal Rule of Civil Procedure 56(c), for example, states that

> [t]he judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, togetherwith the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.

FED. R. CIV. P. 56(c).

Few first year students would be able to fully understand Rule 56 or how to apply it by merely reading the rule. Of course, students will likely encounter even more impenetrable statutory provisions. One of the most impenetrable is the Equal Employment Opportunity Act of 1972. *See* 42 U.S.C. § 2000e-5(f)(1) (1972). This provision uses half a page of dense language to say that a complainant can file a judicial action if the EEOC does not process the complaint within 180 days. *See id.*

128. Cases are supposed to contain facts, a procedural history, issue(s) in dispute, a rationale for the holding, a decision or holding, and a rule. However, the structure of the edited cases students read in law school is often difficult to follow, even for the experienced lawyer.

129. *See* Dewitz, *supra* note 54, at 228.

130. *Id.*

131. *Id.*

purpose."[132] When reading most materials, we use reading strategies in a relatively unconscious manner. However, when reading complex text, students are forced to be more intentional and more conscious of reading strategies.

There are three categories of reading strategies that students employ as they move through text: (1) problem formation strategies; (2) default strategies; and (3) rhetorical strategies.[133] All students use strategies to comprehend text. How effectively they use them, however, "depends on the difficulty of the reading material, the maturity of the reader and the context of the reading."[134] Reading legal text requires more than the acquisition of knowledge; it is a process of thinking that demands the reconstruction of ideas and a critical mind. To comprehend legal texts, students must have "knowledge of case law, jurisprudence, legal theory and so forth."[135]

Most entering law students find reading legal text difficult.[136] Because reading legal text from casebooks is the principal tool currently used in law schools to teach, professors must utilize teaching approaches designed to improve their students' understanding of the complex domain of law.

Students attend law school with the expectation that professors will provide them with the tools to comprehend legal texts.[137] Law school professors, however, expect students to learn complex legal concepts and develop analytical skills primarily by reading the

---

132. *Id.* "Readers act strategically when they set a purpose for reading, self-question, search for important information, make inferences, summarize, and monitor the developing meaning." *Id.*

133. *See id.* (citing Dorothy H. Deegan, *Exploring Individual Differences Among Novices Reading in a Specific Domain: The Case of Law*, 30 READING RES. Q. 154, 161 (1995)). Students "use problem formation strategies to set expectations for a text. They ask themselves questions, make predictions, and hypothesize about the developing meaning." *Id.* at 228-29.

Default strategies represent the summarizing, paraphrasing and retelling that students employ to build an on-going sense of the text. Students build mental text models with these default strategies. To build their own version of the text they are reading, students make inferences using information from personal background knowledge. Using rhetorical strategies, students go beyond the text itself to comment and evaluate the ideas presented. *See id.* at 229. When they read case law, students may "try to fit the case in a historical setting, question the decision or the rationale, and comment on the clarity of the judge's writing." *Id.*

134. *Id.*

135. Dewitz, *supra* note 54, at 226.

136. Author and lawyer Scott Turow's description of how hard first year students find reading cases is still apt. In his book ONE L, Turow compared reading cases as a first year student to "something like stirring concrete with my eyelashes." SCOTT TUROW, ONE L 31 (1978).

137. *See e.g.*, Schwartz, *supra* note 49, at 352.

casebook and attending classes.[138] This approach is sometimes described as the "vicarious learning/self-teaching model."[139] This model forces students to teach themselves not only what they need to learn but also how they need to learn it.[140] However, not all students develop the same level of self-teaching competence. Some students are capable self-teachers and likely to perform well on law school exams. Most law professors managed to learn by this sink-or-swim model. However, this model does not work well for most, completely fails some, and is frustrating to all students.[141] If the ultimate goal of legal education is to train students to practice law on their own, we must assist all students in learning the law on their own.[142] Law professors can do this by providing students the tools necessary to learn on their own.[143]

D. *Assisting Students' Learning Before They Read Complex Text*

A teacher "has three opportunities to affect a student's understanding [of text:] before the text is read, while the text is being read, and after the text is read."[144]

1. *Providing Foundation Knowledge and Scaffolds*

Research on expert and novice readers reveals that the knowledge

---

138. *See id.*

139. *Id.* at 351.

140. *See id.* at 352.

141. Professor Alan Watson's law students have consistently concluded that their first year classes were terrifying, mostly because they received "no guidance as to what they were supposed to be doing[, or] . . . what was expected [of them]." Watson, *supra* note 62, at 91. I have for years asked second year students to share with me their impressions of their first year. Regardless of how well they performed, their response has remained consistent and discouraging. Their repeated complaint is that they were constantly frustrated by their professors' expectations that students must find out what they need to learn with no guidance from their professors. Even students who perform above the average often cannot articulate why they received the grades they did. There are also many intelligent and capable students who are just as incapable of articulating why they performed poorly.

142. *See* Roach, *supra* note 71, at 683.

143. *See id.* Some professors complain that this is nothing more than spoon-feeding students. I disagree. It is our duty to prepare most, if not all, our students for the practice of law. Providing all students with the tools to become better self-teachers is more pedagogically sound than expecting students to learn on their own, both what they need to learn to be competent lawyers and how to learn it. However, for professors whose goal is to teach only those who already possess the tools to learn on their own, or—as one of my former colleagues stated, to "teach to the top students in order to compel the rest to reach for the top"—then perhaps providing all students with the tools to learn on their own is "spoon-feeding."

144. Dewitz, *supra* note 54, at 336.

a reader brings to a text will strongly influence what he or she can learn from the text.[145] What instructors present to students before they read complex text can greatly influence subsequent understanding of the material.[146] For students who are novice readers of legal text, comprehension occurs when they can mentally reconstruct key concepts of the text.[147] To facilitate this construction, professors should provide two types of instruction.[148] First, professors should provide students with the foundation knowledge or context necessary to reconstruct previously read complex legal text.[149] Because casebooks are often incomplete,[150] presenting foundation knowledge helps students make inferences that build coherence and understanding.

Professors can provide students with foundation knowledge either orally or in writing. An oral preview of the assigned reading materials may be enough to facilitate students' subsequent reading of the casebook.[151] However, because today's law students tend to be visual learners, handouts are more effective tools to preview the readings.[152] Handouts also save valuable classroom time that can be used for additional discussions. Each handout should contain a short introduction to the key legal concepts to be studied in a given section of the casebook, followed by the name of the cases that discuss and develop the concept and the pages in the casebook where the cases are located.[153] Following each named case, the handout should instruct students to brief the case and to answer one or two questions designed to help students focus their analytical reading of that particular case.[154]

---

145. *See, e.g., id.*

146. *See id.*

147. *See id.*

148. *See id.*

149. *See id.*

150. *See infra* Part III.B.1. Casebooks contain little or no introductory information regarding key legal concepts. The students are expected to extract legal concepts by reading edited cases that exemplify the concepts.

151. *See* Dewitz, *supra* note 54, at 237.

152. Whether orally or in writing, the foundation knowledge provided will guide the students' reading of the casebook and better prepare them for class discussion.

153. Professor Jane Larson gave me the idea of providing handouts to guide students' casebook readings soon after I started teaching. She is a former law school classmate who became a law school professor several years before me. It was Jane who urged me to consider teaching and who has inspired me with her continuous efforts to improve her teaching. At first, the handouts were bare-bone guides to the readings, containing little more than the case names and a question or two to focus the students' reading.

154. Sharpening the students' analysis is critical. As novice readers of legal text, entering law students lack the background knowledge necessary to prioritize the concepts they read in casebooks.

In reviewing my first year students' case briefs years ago, I found that very few could regularly identify solely the key concepts in the case. Many students labeled as key

The handouts should also include hypothetical problems intended to help students assess their ability to apply the previously studied legal concept to new sets of facts. The handouts may also include references to statutes, cases, and other materials to help students comprehend the readings or assist them in further developing their analytical skills. To help students organize the concepts they read in the casebook, the handouts should be in an outline format that generally follows the syllabus and arranges the materials in hierarchical, temporal, or causative ways.[155]

The second type of pre-reading instruction professors should provide is scaffolding to support the students' newly acquired knowledge.[156] Scaffolds include graphic organizers[157] (flowcharts, graphs, diagrams) and textual organizers (outlines) that assist students in making visual representations of complex concepts.[158] Flowcharts and outlines give students a visual image of complex concepts, such as proximate cause or personal and subject matter jurisdiction.[159]

2. *Using Technology to Guide Students Before They Read the Casebook*

An effective way to provide the handouts, flowcharts, and outlines to 21st century students is to post them on the course web page early in the semester. Because most law students today own computers and are

---

all the concepts discussed by the court, including those that were not at all relevant to the issue we were studying. Some students were consistently unable to identify the key concepts, often completely ignoring them in favor of irrelevant ones.

Without some guidance, most students find it impossible to ascertain key legal concepts from the cases they read. The handouts help students to concentrate their analysis on the key legal concepts. This supplement not only makes their reading more efficient, it reduces their frustration at not knowing what is expected of them in the classroom.

155. A section from my handout on proximate cause is included as Figure 1 following this article. The handout coverage can be class-based or concept-based. Class-based handouts are designed to each cover the readings for one class, a week of classes, or some other period of classes. Concept-based handouts are designed to each cover the readings for a legal concept. I started using class-based handouts but found that the amount of materials covered in any one class period varied from year to year. About five years ago, I switched to handouts that cover a particular legal concept. This change has reduced the time required to update the handouts from year to year.

156. *See* Dewitz, *supra* note 54, at 237.

157. Graphic organizers are visual systems that organize and present information. They can help some students better understand and remember complex legal text by clarifying and explaining complicated relationships among legal concepts.

158. *See* Dewitz, *supra* note 54, at 237 (citing CORINNE COOPER, GETTING GRAPHIC 2: VISUAL TOOLS FOR TEACHING AND LEARNING (1994)).

159. *See, e.g.*, Roach, supra note 71, at 691-92 (experts in how law students learn assert that flow charts, outlines, and other spatial learning strategies are some of the most important tools for developing the analytical skills necessary to succeed in law school).

very comfortable "surfing" the Internet,[160] a course web page is a critical tool to reach these screen-raised students.

a. *The Course Material Web Page*

i. Advantages of a Course Web Page

Posting materials on the Web has many practical and pedagogical advantages over providing them in hard copy. Students can access the materials twenty-four hours a day,[161] seven days a week,[162] which accommodates students' varying studying habits and learning styles.[163] Providing the materials online also can reduce wasting paper.[164] Perhaps more importantly from a pedagogic standpoint, materials on the Web can be hyperlinked to related information, making it more likely that students will understand the legal concepts and their interrelationship. For example, by linking the handouts to the applicable statutory provisions, the full opinion of seminal cases, and even to secondary explanatory materials and pertinent computer-

160. I have been conducting a technology survey of entering law students at Washburn since 1996. The number of students who own computers has been increasing dramatically. In 1996, 67% of entering students in my torts class at Washburn owned a computer, but 80% of the students regularly navigated the Internet. By 2000, all but one of my tort students owned a computer and they all navigated the Internet. In the fall of 2001, 95% of entering students at DePaul owned a computer and nearly all of them used the Internet.

161. The web site's tracking software noted that students access class materials twenty-four hours a day, seven days a week. For example, there were 168 students in the two sections of my civil procedure class at DePaul in the fall of 2001. Tracking their access over the whole semester of the handout that covered personal jurisdiction showed that students accessed the materials all day and night, with 11% accessing the handout between midnight and 9 a.m.; 54% between 10 a.m. and 4 p.m.; and 30% accessing it between 5 and 11 p.m. The software did not track any student access between 2:30 and 3:30 a.m., probably due to server maintenance.

162. The same tracking software showed that students accessed the handout seven days a week, with 24% of the students accessing it on Mondays, 16% on Tuesdays, 20% on Wednesdays, 12% on Thursdays, 6% on Fridays, 8% on Saturdays, and 14% on Sundays.

163. In the civil procedure course I taught at DePaul in the fall of 2001, the handout on personal jurisdiction was accessed a total of 1,560 times over the semester, with some students accessing it only three times and others accessing it almost two dozen times. Interviews with students revealed that a number of students read the eight-page handout exclusively online, many printed it and also read it on the Web, and a number of them printed it and did not read it online.

164. First, some students read the materials only on the web page and never print a hard copy. Second, students who print the materials at home are less likely to misplace it. Third, because many schools limit the number of free printing allowed per student, even those who print them in school are more careful of the whereabouts of their materials. When I provided handouts exclusively in hard copy, I had to print between 10% and 20% more handouts than the number of students in the class due mostly to students misplacing their materials. I now provide the handouts exclusively on the Web and provide a hard copy to students only upon individual request. I provide only a few hard copies of each handout.

generated exercises, students are more likely to explore these related materials to help them understand the legal concepts being introduced.[165] Professors can create and maintain a separate course web page for each course they teach.[166] In addition, if two or more professors are teaching the same course, they can cooperatively maintain one course page.[167]

ii. Web Page Design and Content

The design of course web pages can be very simple or quite elaborate. The content of course web pages ranges from the very simple, with only a few features and limited content, to the very elaborate with numerous features and extensive content.[168] However,

---

165. Although students can clearly read the hard copies of the handouts, cases, statutory provisions, law review or American Law Reports (ALR) articles, and even computer-generated exercises, a simple click of the mouse is much less time-consuming. The ease of access of the interconnected information means it is more likely that already time-constrained students will read materials on the Web than spend the time schlepping through the library looking for the related materials, which may or may not be available when the students want them.

166. At any given time, I maintain web pages for each class I teach. Every semester I update old pages for each current class and move them to the "current course materials" web site. The previous semester's web pages are moved to the "past course materials" page, but they remain available.

167. For example, if two professors are teaching torts at the same time, (at the same or at different schools) using the same textbook and materials, they can share the same course web page and expand the discussions to include students from both classes. I have taught a products liability course at Washburn coordinated with a colleague's civil obligations course at the University of Limerick. We have shared a web page/discussion list and the input and perspective from the colleague and his students expanded our discussions greatly.

168. Simple course web pages provide students with little more than access to a syllabus and a list of materials to read. *See, e.g.,* Professor Len Biernat, *Family Law Course Page*, *at* http://web.hamline.edu/personal/lbiernat/sectA.htm (last visited Dec. 9, 2001) (containing only a syllabus). *But see* New York University Professor Yochai Benkler, Communications Law course page, *at* http://www.law.nyu.edu/benklery/communicationslaw/index.html (last visited Dec. 9, 2001) (providing a course description, administrative information, syllabus, and access to a discussion board).

Elaborate web pages contain a course syllabus, assignments, class announcements, handouts, articles, cases, practice exams, model exams with answers, interactive exercises, streamed lectures, discussion groups, and links to reference materials. *See, e.g.,* Professor Vernellia Randall, *Race, Racism & the Law Course Page, at* http://academic.udayton.edu/race/syllabi/race/index.htm (last visited Feb. 14, 2002); Professor Pedro Malavet, *Civil Procedure Course Page*, *at* http://nersp.nerdc.ufl.edu/~malavet/civpro/cpmain.htm (last visited Feb. 14, 2002); Professor Barbara Glesner-Fines, *Remedies Course Page*, *at* http://www.law.umkc.edu/faculty/profiles/glesnerfines/bgf-rem.htm, Professor Rogelio Lasso, *Products Liability Course Page*, *at* http://classes.washburnlaw.edu/lass/coursemat/2002/Pro_Lia/WebPro_Lia'02.html [hereinafter Lasso Products Liability Web Page].

keeping the format and design of the pages simple makes them easier to access and navigate for students who do not have high-speed Internet access.[169]

The course web page should contain general information about the course, including a syllabus[170] and class policies and procedures,[171] as well as handouts to guide students through the readings, extra problems with sample answers, and interactive computer exercises.[172] In addition, the course web page can include helpful information on exam taking techniques,[173] links to web pages containing course resources,[174] old exams with sample answers, or even web pages maintained by other professors who teach the same or related courses.[175] The course web page may also contain a class discussion list or board that can be used to engage in further deliberations about particularly difficult concepts.[176]

---

169. Pages should have a simple design, one or two colors, and contain no pictures or other data that will slow downloading with slow phone line modems. *See, e.g.,* Professor Rogelio Lasso, *Civil Procedure Web Page, at* http://classes.washburnlaw.edu/lass/coursemat/2000fall/C_P2_Fa/WebP-Trial.'00.htm [hereinafter Lasso Civil Procedure Web Page].

170. Syllabi should contain detailed information regarding the subject matters or concepts covered in the course, including required and suggested course materials, reading assignments, and class coverage.

171. These procedures should include, at a minimum, course description and objectives, office hours, class participation and attendance policies, grading policy and criteria, and procedures for dealing with students with disabilities.

172. These exercises can include not only homemade exercises but also Computer Assisted Instruction (CAI) exercises provided by the Center for Computer-Assisted Legal Instruction (CALI). *See* The Center for Computer-Assisted Legal Instruction *at* http://cali.org (last visited Nov. 18, 2002). For more information on CALI, *see infra* notes 240-43 and accompanying text.

173. These techniques can include monographs or articles on case reading and briefing, exam taking hints, outlining tutorials, etc. Over the years I have written a comprehensive article that covers all these issues. It is entitled *The Process to Law School Success*, and I try to update it with suggestions from students and information I develop or borrow from others. *See The Process to Law School Success* (1999), at http://classes.washburnlaw.edu/lass/process.html.

174. For example, my civil procedure web page contains links to the Federal Rules of Civil Procedure, the Model Rules of Professional Conduct, relevant articles, and sometimes to other civil procedure web pages. *See* Lasso Civil Procedure Web Page, *supra* note 168.

My products liability web page contains links to the Consumer Product Safety Commission, the National Highway Traffic Safety Administration, and other sites related to the class study of product-related harms. *See* Lasso Products Liability Web Page, *supra* note 169.

175. When I find a course web page that contains helpful materials for my students, I will ask permission to link it to my class materials' web page.

176. A class discussion list or listserv is a program that permits each person on the list to send an e-mail message to every person on the list. Class listservs permit the professor or any student to send a message to the whole class. Members of the list can respond to messages either to the whole class, to selected members of the list, or to the message sender.

a. Online Discussion Groups

An online "discussion group" or "discussion board" is an electronic bulletin board that uses Internet technology.[177] A threaded online course discussion group is an easy way to extend class interaction beyond the limits of the physical classroom.[178] As Professor Richard Warner points out, online "discussion groups can expand the walls of the classroom by facilitating continuing contact between professor and student."[179] Online discussion groups can be synchronous (time sensitive) or asynchronous (time independent).[180] Synchronous discussion groups are like private chat rooms,[181] where a "live" discussion takes place in real time entirely by electronic mail. These discussions are held at predetermined times and class "participation" may be voluntary or mandatory. Asynchronous threaded discussion groups allow the students and professor to leisurely

---

I use class list servs for several purposes. Before the class meets, I can send questions or hypotheticals to the whole class advising students that we will discuss their answers in class. I can also use the listserv to clarify concepts from a previous class that seem to still be unclear to some students. If a student sends me a particularly good question on a given concept, I can remove the student's identification and answer the question to the whole class.

A discussion board is a section of the class materials web page where professor and students can post messages and respond to each other. For example, I use the discussion board to post hypothetical problems and urge students to post their answers, anonymously if they prefer, and to respond or comment on each other's answers. I monitor the discussions, helping to focus the students' answers, and, if necessary, will put a sample answer.

177. *See* Richard Warner, et al., *Teaching Law with Computers,* 24 RUTGERS COMPUTER & TECH. L.J. 107, 148 (1998). "When you access a discussion group, your screen will display all of the messages that have to date been posted by participants in the group. Typically, messages are listed, or 'threaded' by topic and, within topics, by date and time." *Id.*

178. *See, e.g.,* Michael A. Geist, *Where Can You Go Today?: The Computerization of Legal Education from Workbooks to the Web*, 11 HARV. J. LAW & TECH. 141, 169 (1997).

179. Warner et al., *supra* note 177, at 143-44.

180. Synchronous discussions occur when all participants engage in the discussion at the same time or within a limited time period. Asynchronous discussions allow participants to engage in the discussion at a time of their choosing. *See, e.g.,* Gregory Kent Laughlin, *Who Owns the Copyright to Faculty-Created Web Sites?: The Work-for-Hire Doctrine's Applicability to Internet Resources Created for Distance Learning and Traditional Classroom Courses*, 41 B.C. L. REV. 549, 554-55 (2000). "[N]ew technologies permit both synchronous (or immediate response) and asynchronous (or delayed response) elements to be a part of the same course. For example, 'e-mail, threaded discussion, and self-paced testing' can be used for asynchronous education while 'chat rooms and streaming audio' can provide synchronous elements." *Id.*

181. A chat room is a virtual "area" within the Internet in which participants exchange comments or information in real time. *See* ENCARTA® WORLD ENGLISH DICTIONARY, *at* http://dictionary.msn.com/ (last visited Feb. 12, 2002). A private chat room is one in which participation is allowed only to those who have permission to participate. *See id.*

continue the classroom discussion beyond the class period.[182] Discussion groups provide opportunities to pose additional hypotheticals, address policy issues or doctrinal subtleties if insufficient for their discussion.[183] Discussion groups also offer an opportunity to clarify concepts about which students are confused.[184] As with Computer-Assisted Instruction (CAI) exercises, a discussion group is an electronic tool that permits teachers to reach students with varying abilities and learning styles.[185]

b. Authoring a Course Web Page

Authoring a course web page today is relatively easy, even for professors who possess little or no technological expertise.[186] Both Lexis and Westlaw offer free course web page authoring software and a number of other vendors sell sophisticated but easy to use software to build course web pages.[187] All of these providers offer hands-on

182. As a way to extend the classroom discussions, I use the "discussion board" feature of the Lexis Web Course to provide extracurricular opportunities for students to apply the legal rules analyzed in class to new problems and to discuss their respective answers. Students can post their answers anonymously or can identify themselves. The Westlaw TWEN Web course also contains a similar discussion board feature.

183. *See* Warner et al., *supra* note 177, at 144.

184. *See id.*

185. Students who never volunteer to participate in classroom discussions are sometimes active participants in cyber-conversations in the discussion group. *See infra* note 240.

186. Ten years ago, course materials could only be posted on the web by someone who could program in HTML. Not surprisingly, only a handful of law professors maintained course web pages. In 1992, Lexis began to offer web course-authoring software called Folio Views. *See, e.g.*, Andrea L. Johnson, *Distance Learning and Technology in Legal Education: A 21st Century Experiment*, 7 ALB. L.J. SCI. & TECH. 213, 236-37 (1997). Currently, Lexis offers a web course authoring software powered by Blackboard. *See* LexisNexis Web Courses, *at* http://webcourses.lexisnexis.com/ (last visited Dec. 9, 2001). Soon after Lexis, Westlaw introduced TWEN and today, there are other vendors, like Blackboard™, and WebCT™, which provide web course authoring software and services.

187. "Lexis-Nexis Web Courses" is Lexis' Web course-building software. It is powered by Blackboard and can be found at http://webcourses.lexisnexis.com/. West's course-building software is called TWEN and can be accessed from the West web page, *at* http://lawschool.westlaw.com/. Additionally, there are several Web-course-building programs available from private vendors. DePaul University uses Blackboard, which can be accessed from http://www.blackboard.com and Washburn University uses WebCT, which can be accessed from http://www.webct.com/. All these course-authoring programs have one thing in common: the providers at locations remote from the law schools maintain the web sites.

Lexis and Westlaw currently provide the software and support services without charge to either the professors or students. Blackboard charges the university for providing the software. The software for Blackboard, WebCT, and for both Lexis' Web Course and Westlaw's TWEN provides templates for teachers to easily post course materials on a web site that can be accessed by students using a password. The template is predetermined by the provider but the content is controlled by the professor. Additionally, the course software permits the professor to communicate with all her or his students with a few mouse-clicks.

training for their Web authoring software.[188] Of course, technologically savvy professors can build their own course web pages using HTML, XML, or SGML.[189] A small but growing number of law teachers currently have at least a course syllabus posted on the World Wide Web.[190] Moreover, every year more law schools become wired, course web pages become more elaborate and sophisticated, and more faculty jump on the Internet bandwagon with course web pages.

E. *Assisting Students' Learning As They Read Complex Text*

1. *Instructing Students How to Read Complex Text*

Most entering law students do not know how to read complex text.[191] Studies indicate that showing students how to read and analyze

---

Lexis and Westlaw both provide the servers where the course pages are maintained.

The advantage of these programs is that they require no investment in technology infrastructure by the school, because the work is performed by the instructors and the web page is maintained by the provider. The primary disadvantage of these programs is that maintenance is done at the vendor's site and response time for troubleshooting is unpredictable. As the technology becomes more reliable, however, this problem will be less of an issue. Other disadvantages of these programs include the fact that it is not always clear who owns the information posted on these sites and information in these sites can only be accessed by those who are signed up for the course. For many faculty, however, this limitation is not much of an issue.

188. Realistically, a complete technological novice can have a course Web page up and running in a matter of three or four days. For example, at Washburn, staff members with word-processing but no other computer experience have learned to construct a web page using over the counter software in four days or less. Those more comfortable with technology can put a Web page together in a day or so. For example, several of my research assistants, who have used computers for several years and have rudimentary knowledge of HTML, can construct a web page in a matter of ten hours.

189. Hypertext markup language (HTML), standard generalized markup language (SGML), and extensible markup language (XML) are all international standards that define device-independent, system-independent methods of writing texts in electronic form. *See World Wide Web*, MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2002), *available at* http://encarta.msn.com (last visited Nov. 30, 2002).The advantage of authoring directly on the Web is that the web site is maintained at the school, making troubleshooting easier. The disadvantage is that the learning curve to become fluent in these Web authoring programs is steeper, and maintaining the sites requires investment in in-house technical support.

190. The 1999-2000 AALS Directory of Law Teachers states that there are 8,827 full-time faculty members in 184 law schools. *See* Richard A. White, *Association of American Law Schools Statistical Report on Law School Faculty and Candidates for Law Faculty Positions: 1999-2000*, *at* http://www.aals.org/statistics/index.htm#full (last visited Dec. 9, 2001). In February 2002, JURIST listed more than 400 web-based courses. *See* Law School Courses, JURIST, *at* http://jurist.law.pitt.edu/cour_pgs.htm#Process (last visited Feb. 14, 2002). There are likely some professors with web course pages who are not listed with JURIST and there are likely some professors with web pages, no longer active. However, it is reasonable to conclude that approximately 5% of professors have course materials web pages.

191. *See, e.g.*, Peter Dewitz, *Conflict of Laws Symposium: Reading Law: Three*

cases increases their legal analysis skills.[192] The most effective way for law professors to assist students development of their case reading skills is to describe the basic structure of published judicial decisions and to teach students how to read cases as early as possible in their legal education.[193] While a ten minute oral preview of the concepts to be covered by the next readings "will greatly enhance the students' comprehension of the text,"[194] a written instructional is more effective. Providing students a handout containing the concepts covered in the assigned readings and brief examples allows the students to refer to the handout while they develop the expertise on their own. A tutorial on case reading strategies provided early in the first semester is also helpful.

2. *Using Technology to Guide Students While They Read Complex Text*

An effective way to provide students with case reading strategies is to post them on the class materials web page. Figure 2 contains the tutorial I post for students on how to read a case.[195]

Suggestions for Legal Education, 27 U. TOL. L. REV. 657, 661 (1996) (noting that law students have trouble reading cases because "they lack conceptual knowledge; they do not know how legal texts are organized; and they are ignorant of the reading and learning strategies of legal experts") [hereinafter Dewitz II].

I often conduct a simple experiment where I ask my first year students what is the first step they take to read a given case. Most respond that the first step is to find the page in the casebook where the case can be found. Year after year, my students seem genuinely surprised when I suggest that the first step should be to place the case in the context of the key legal concept the case discusses by finding where the case is located in the table of contents.

192. *See* Dewitz, *supra* note 54, at 241. Dewitz explains how Professor Mary Lundeberg's case-reading instructional improves students' legal analysis skills. First year law students who were instructed on how to read cases showed improved ability to (1) separate relevant from irrelevant facts, (2) understand parties' actions and courts' decisions, (3) state the rule and rationale of cases, and (4) apply the rule to new factual scenarios. *See id.* (citing Mary A. Lundeberg, *Metacognitive Aspects of Reading Comprehension: Studying Understanding in Legal Case Analysis*, 22 READING RES. Q. 407, 430-32 (1987)). Lundeberg's studies show that even second and third year law students benefit from these learning strategies. *See id.*

193. *See* Dewitz, *supra* note 54, at 242. Dewitz includes a detailed description of Professor Lundeberg's case reading instructional which is clear, and easy to use. *See id.* at 240-42.

194. Dewitz II, *supra* note 191, at 666.

195. My case-reading tutorial, which is part of *The Process to Law School Success* article, is posted both on my main web page and on the web pages for my first year courses. *See* Rogelio Lasso, *The Process to Law School Success* (1999), *available at* http://classes.washburnlaw.edu/lass/process.html. The tutorial contains a section entitled *The Process of Briefing a Case. See id.* Students consistently report that the case reading tutorial was one of the most helpful self-teaching strategies they received in their first year.

In addition to posting the case-reading tutorial, I conduct a short, in-class

In a few years, tutorials on case reading and other strategies to assist students' self-teaching will be provided via video streamed lectures.[196]

F. *Assisting Learning After the Reading of Complex Text*

1. *Improving the Classroom Experience*

Studies show that effective teaching is the most significant factor in determining student performance.[197] Despite its many critics, an overwhelming number of first year law professors use the Socratic or case method of classroom instruction. Whatever the methodology, the focus should be on what constitutes effective classroom teaching. Effective classroom teaching includes: (1) clarity, (2) organization, (3) stimulation of interest and student engagement, and (4) positive classroom climate.[198]

a. *Clarity of Presentation Is Key to Students' Learning*

An almost universal complaint of first year law students is that their professors "hide-the-ball."[199] What students perceive as intentional "hiding-the-ball," however, is actually a lack of teaching

---

presentation at the beginning of the semester on case-reading strategies. Professor Dewitz suggests that although simply making the reading guidelines available is helpful, the best approach is to provide students with full instruction on how to read and analyze cases, which "could be incorporated into a short introductory seminar for first year students." *See* Dewitz, *supra* note 54, at 242. *See also* Figure 2 following this article.

196. Video streaming technology is currently available. *See, e.g.*, Professor Jay Kesan, *Lecture on Exam Taking and Outlining*, JURIST, *available at* http://jurist.law.pitt.edu/exams.htm (last visited Mar. 8, 2002). However, viewing videos from a computer with a regular phone line modem is very slow and most students will not have high-speed access to the Internet for a few years. *See id.*

197. *See, e.g.*, Glesner-Fines, *supra* note 60, at 890. Other factors include student ability and motivation. *See id.*

198. *See* Nira Hativa, *Teaching Large Law Classes Well: An Outsider's View*, 50 J. LEGAL EDUC. 95, 98 (2000). *See also* Harry Murray, *Effective Teaching Behaviors in the College Classroom, in* EFFECTIVE TEACHING IN HIGHER EDUCATION: RESEARCH AND PRACTICE 171 (R. Perry & J. Smart, eds. 1998) (providing guidelines for lecturers to improve their teaching and for students to improve their learning).

199. Hativa, *supra* note 198, at 99 (sharing the observation of her students that hiding-the-ball is not an efficient teaching technique). *See also* Watson, *supra* note 62, at 91 (sharing his students' criticism that professors' "practice of 'hiding the ball' [is] a poor way of imparting knowledge or expertise"). As Professor James Gordon succinctly states it, most first year students "spend most of their time wondering what the hey is going on, and why don't the professors just tell us what the law is and stop playing 'hide the ball' and shrouding the law in mystery/philosophy/sociology/nihilistic relativism/astrology/voodoo/sado-masochistic Socratic kung fu?" James D. Gordon III, *How Not to Succeed in Law School*, 100 YALE L.J. 1679, 1687 (1991).

clarity.[200] Clarity can be achieved by simplifying the materials presented, adjusting the presentation to students' varying learning styles, and further explaining new concepts subsequent to their presentation.[201] Clarity of explanation is the most important requisite of effective teaching.[202] Clarity in the classroom increases student achievement[203] and satisfaction from instruction.[204] Regardless of the teaching method, professors can improve classroom clarity by providing explanatory handouts and graphic organizers, and by summarizing new concepts after concluding their presentation. These techniques assure that key legal concepts are clear to most students before moving to new ones.

For example, providing students with handouts that guide students through the reading of the case book in advance of the class discussion can improve clarity in the classroom.[205] Students come better prepared for class discussion because handouts focus the students' reading and develop their ability to engage in legal analysis. As a result, less class time is needed to extract relevant facts and rudimentary legal concepts because students have answered basic questions about key factual and legal concepts in advance of class. Providing handouts frees up most of the class period to engage in case analysis and problem solving, resulting in a higher level of class discussion. In addition, because the handouts signal to students what is important in the reading, they come to class with more confidence, which increases their willingness to participate in class discussions. Class discussion thus becomes more active, interactive, and stimulating.[206]

To further insure that students have a clear understanding of the underlying legal concepts, the first five to ten minutes of the next class

200. *See* Hativa, *supra* note 198, at 99. Clarity relates to students' understanding of the material presented during class. *See id.* Therefore, it is not surprising that students perceive lack of clarity as hiding the ball.

201. *See id.*

202. *See id.* at 99 n.9 (citing Donald R. Cruickshank & John J. Kennedy, *Teacher Clarity*, 2 TEACHING & TCHR. EDUC. 43, 43 (1986)).

203. *See id.* at 99 n.10 (citing Constance V. Hines, *A Further Investigation of Teacher Clarity: The Observation of Teacher Clarity and the Relationship Between Clarity and Student Achievement and Satisfaction*, 42 DISSERTATION ABSTRACTS INT'L 3122).

204. *See id.* at 99. *See also* Golam Mannan & Ellen M. Traicoff, *Evaluation of an Ideal University Teacher,* 24 IMPROVING COLLEGE & UNIV. TEACHING 98, 100 (1976) (concluding that students rank clarity of expression and effective organization as top qualities of an "ideal professor").

205. *See supra* notes 153-55 and accompanying text.

206. The primary reason students feel apprehensive about class participation is their lack of confidence regarding what they were expected to glean from the readings. They need watch only one classmate feel embarrassed (or worse) by unsuccessful attempts at grasping key factual or legal concepts from the readings to forgo voluntary class participation.

period should be used to provide them with a written summary of the key legal concepts studied the previous day. If it appears from the class discussion that a legal concept remains unclear, a graphic organizer that visually represents and organizes the same concept may be used to achieve clarity.[207] If it appears that a key concept remains unclear to only a few students, the course discussion board or listserv can be used for further clarification.[208]

1. Electronic Mail and Class Listservs

Electronic mail, or e-mail, is a program that enables individuals or groups of individuals to quickly exchange messages over the Internet, even if they are separated geographically by large distances.[209] Because e-mail is convenient and inexpensive, e-mail systems have become the primary means of communication in most law schools.[210] Electronic mail is the technology underlying the class listservs. The class listserv is a computer program that allows a professor to communicate electronically with students enrolled in a course by sending an e-mail message to a single electronic address.[211] The

---

207. Since students vary greatly in learning ability and style, they will also vary in the speed by which they grasp legal concepts. This requires teachers to use a variety of tools and approaches to ensure that particularly difficult concepts are clear to most, if not all, students. *See also supra* note 157 and accompanying text.

Sometimes teachers can "sense" from the blank stares and lack of participation that a number of students are not grasping a legal concept. Experience is also helpful in anticipating which concepts are likely to be difficult to grasp. Proximate cause in torts and the *Erie* doctrine in civil procedure, for example, are two concepts most students seldom comprehend on the first try. It is also helpful to regularly e-mail students after concluding discussions of particularly difficult concepts and ask them to submit a question about anything they have not fully grasped. Teachers may be surprised to find significant confusion about a topic they felt was widely understood in class.

208. Continuing the discussion on a listserv or discussion group allows the teacher to clarify key concepts for a few students without using class time. Essentially, listservs and discussion groups permit teachers to extend class time only for students whose learning abilities and styles require it. *See supra* notes 176-85 and accompanying text.

209. *See* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com/reference (explaining the term "Internet") (last visited Feb. 25, 2002).

210. *See, e.g.*, Shelley R. Saxer, *One Professor's Approach to Increasing Technology Use in Legal Education*, 6 RICH. J.L. & TECH. 21, 24 (2000), *available at* http://law.richmond.edu/jolt/v6i4/article4.html (stating that electronic mail has replaced paper for general announcements and other communications to the law school or university community).

211. Listserv software can be programmed so that one e-mail address (known as an alias address) contains the e-mail addresses of some or all the students enrolled in a course. By sending an electronic message to the alias address, the professor can send an e-mail to the whole class or to selected members of the class. I regularly use a listserv that contains all the students enrolled in my course and another that contains only the students selected to be in my advisory council. An advisory council is a small group of students in each class who

software can be adapted to allow every student to send an electronic message to the professor and to all the students in the class. A listserv is time-independent, which makes this mode of communication effective and convenient. Listservs are also an efficient means to provide the class with information to be discussed in the classroom or to share the professor's answer to particularly perceptive questions.[212] Listservs have replaced the student bulletin board as an effective way to post announcements to the class.[213] A listserv is also a relatively simple way to expand classroom instruction beyond the classroom period. The teacher can send students a question or a hypothetical and seek students' responses either online or in the classroom. This is a particularly effective way to address the different abilities and learning styles in large first year courses.

b. *A Well Organized Course Improves Comprehension*

Organization entails structuring the course and the presentation of each concept.[214] Organization is essential to students' comprehension of complex legal concepts. Studies demonstrate that when teachers present information in an organized way, students more easily learn, retain, and retrieve it.[215] Organized teaching provides students with a roadmap of the course. To assist students in organizing the course materials, professors should provide, at the beginning of the semester, a printed syllabus with all the course topics organized under headings and subheadings.[216] Frequently during the semester, professors should refer students to the overall framework of the course and provide

---

provide the professor with periodic course feedback during the semester. *See generally* Gerald F. Hess, *Student Involvement in Improving Law Teaching and Learning,* 67 UMKC L. REV. 343 (1998) and Eric W. Orts, *Quality Circles in Law Teaching,* 47 J. LEGAL EDUC. 425 (1997). Listservs are also used for electronic discussions about issues of interest of specialized groups. For example, LAWPROFS is a listserv that allows pre-registered law professors to engage in electronic discussions about all aspects of legal education. Washburn Law School currently hosts hundreds of listservs that provide members of diverse interest groups a way to communicate with each other.

212. I regularly send an electronic reminder to students regarding the materials that will be discussed in class, including any hypotheticals or problems pertinent to the discussion. I encourage students to use electronic mail to ask questions they do not feel comfortable asking in class. If I receive a particularly insightful question or a question I believe other students are likely to have, I will use the listserv to send the whole class the student's question anonymously together with my answer.

213. Students who will not, or cannot, check the student bulletin board, will usually check their electronic messages several times a day.

214. *See* Hativa, *supra* note 198, at 99.

215. Organizing the information we present allows students to more effectively locate it and quickly retrieve it. *See id.*

216. *See id.* at 100.

students with handouts that explain how cases help illustrate the concepts being covered and how each concept fits within the overall course framework.[217]

During class discussions, professors also should inform students where new concepts fit within the overall framework of the course.[218] For example, in addition to providing handouts, professors should provide students with daily summaries of the legal concepts discussed in the previous class period. These summaries show where the concepts fit within the overall framework of the course. The summaries can be used to briefly review the materials from the previous class, emphasizing important concepts and clarifying any lingering confusion. The summaries also provide an introduction to the materials to be discussed in the current class.[219]

c. *Stimulating Students' Interest and Engagement Helps Communication*

Gaining and maintaining students' attention is the first step in effectively communicating information.[220] In order to understand and learn the concepts communicated in class, students must remain attentive.[221] Maintaining students' attention throughout the entire class period is sometimes difficult, and it becomes more difficult as the class period progresses. As their level of attention diminishes, students begin to lose interest in the class discussion.[222] The less attention paid

---

217. *See id.*

218. *See id.* Professor Hativa analogizes a well-organized course to a well- organized tour and a good teacher to a good tour guide. At the beginning of a tour, a good tour guide provides the entire trip on a road map, explaining the different sites to be visited and the order in which they will be visited. The tour guide begins each day by showing on the full tour map the sites already visited and the sites to be visited that day.

219. Since the first semester I started to use handouts and class summaries, the organization and quality of my students' essay answers have shown noticeable improvement. *See supra* notes 153-55 and accompanying text.

220. *See* Hativa, *supra* note 198, at 100. To stimulate students' interest and have them engaged in the class discussion, teachers must promote and maintain their motivation, concentration, and attention, and must involve them in critical thinking and learning. *See id.* at 100 n.15 (citing M. Wayne DeLozier, *The Teacher as Performer: The Art of Selling Students on Learning*, 51 CONTEMP. EDUC. 19 (1979)).

221. *See id.*

222. Studies show that students' level of attention is highest during the first ten minutes of a lecture and diminishes as the lesson proceeds. Regardless of teaching method, students' level of attention will diminish as the lesson proceeds. Law students in large first year courses are known to fall asleep, daydream, play computer games, send and receive "instant messages" through their computers, PDAs or pagers, or otherwise fail to pay attention to the class. *See id.* A Personal Digital Assistant (PDA) is a small programmable computer which can be held in one hand and used as notepads, scheduling systems, address books, calculators, and, if equipped with a cellular phone, connect to worldwide computer

to the class discussion, the less information taken in, and as a result, the less information processed into active memory.[223] Keeping students engaged is particularly difficult in large classes typical in first-year courses because of students' diverse learning styles.

Varying the class presentation by including lecture, recitation, discussion, problem solving, simulation, and student presentations of cases or other materials can help maintain attention and keep students engaged. Varying voice inflection, tone, and level to vocally emphasize important points also helps maintain attention.

d. *A Positive Classroom Environment Promotes Learning*

"Learning is substantially affected by emotional factors."[224] Good teaching requires an environment of trust that encourages students to pay attention, think, and participate in class discussion.[225] In other words, a positive classroom environment promotes learning. Professors who promote positive interaction with and among students are more likely to generate a positive classroom environment. Students should feel safe to share their ideas and participate in the classroom learning process. Effective teachers create classroom environments that encourage students to ask questions, take risks, and to not fear making mistakes.[226] Effective teachers demonstrate interest in helping students understand and learn the materials. Students learn better from teachers who exude a positive attitude,[227] who encourage students to participate in class discussion,[228] and who are willing to help students develop self-learning skills.[229]

---

networked to exchange information regardless of location. *See* MICROSOFT® ENCARTA® ONLINE ENCYCLOPEDIA (2001), *available at* http://encarta.msn.com/reference (explaining the term "computer") (last visited Feb. 11, 2002).

The 21st century version of passing notes in class, "instant messaging," is possible with a wide variety of programs available today. "Instant messaging" permits persons to use their computer, pager, or PDA to send messages, call someone else in the class or anyone anywhere in the world, and send and receive data, pictures, music, and more. *See id.*

223. *See* Hativa, *supra* note 198, at 100.

224. *Id.* at 101.

225. *See id.*

226. *See id.*

227. *See id.* Entering the classroom can be likened to meeting an infant after a trying day. Whatever problems afflict us, the moment we meet the infant the focus changes from us to the child. Regardless of the problems disturbing the teacher, they must be set-aside during the class period. If the instructor shares his pain, disappointment, or anger with the students, it may provide inexpensive therapy to the teacher, but it diminishes the classroom's positive climate and interferes with students' learning.

228. "Students highly appreciate teachers . . . who encourage them to ask questions and respond patiently." Hativa, *supra* note 198, at 101.

229. *See id.* Students learn better from teachers they perceive as caring about their success. By making the effort to provide students with the tools they need to become

Creating a positive classroom climate is, to some extent, a very personal endeavor. However, some of the following techniques can be helpful. Learning students' names and addressing them by name helps students feel like they belong and are important members of the class.[230] As Dean Syverud points out, "[a] classroom in which students feel they are anonymous is a classroom where students feel they can fade in and out without anyone's knowing or caring."[231] In addition, using humor to enliven discussion and deflect tension promotes a relaxed, respectful interaction between teacher and students and among students.[232]

2. *Using Technology to Improve the Classroom Experience*

The use of videos, transparencies, and computer-generated visuals to improve clarity and organization is an effective teaching tool when teaching students who were raised on television and computer screens. Computer-generated slides may be easily used to regularly summarize previously discussed concepts.[233] For example, at the beginning of each class, projecting a computer-generated slide with a summary of the key concepts studied during the previous class can reinforce new concepts. To improve clarity, the summary should be organized in an outline format that follows the course syllabus.[234]

Videos and computer-generated visuals can also create a more stimulating classroom experience and provide a positive classroom environment. For example, combining Socratic discussions with computer generated visuals, videotapes, and computer-generated

---

effective self-learners, teachers signal to students they are invested in their success. *See id.*

230. *See, e.g.*, Gerald F. Hess, *Symposium: In Honor of Professor Trina Grillo: Legal Education for a Diverse World: Essay: Listening to Our Students: Obstructing and Enhancing Learning in Law School*, 31 U.S.F. L. REV. 941, 953 (1997) ("Students emphasize the importance of teachers learning students' names. Teachers who know students' names seem more interested in the students as individuals and concerned about their learning"); Kent D. Syverud, *Taking Students Seriously: A Guide for New Law Teachers*, 43 J. LEGAL EDUC. 247, 248-49 (1993); Maria L. Ciampi, *The I and Thou: A New Dialogue for the Law*, 58 U. CIN. L. REV. 881, 902 (1990).

231. Syverud, *supra* note 230, at 249.

232. *See, e.g.*, Peter Arnella, *The Perils of TV Legal Punditry*, 25 U. CHI LEGAL F. 42, 43 (1998) ("As any teacher knows, humor is a wonderful pedagogical tool and no learning occurs if you are boring your audience."). Humor is also an effective tool to deflect conflict without disturbing the entire class. It is an effective tool to defuse a potentially disruptive situation without having to resort to more confrontational methods. *See id.*

233. Computer generated slides may be prepared with Corel™ Presentations 9 software or its Microsoft equivalent, PowerPoint™. The learning curve for preparing these slides is relatively short, and after a few hours of practice teachers can prepare a slide in fifteen to thirty minutes.

234. Using an outline format that follows the syllabus helps the students organize the materials within the context of the overall class outline.

exercises helps maintain students' interest in the class materials. Projecting a single picture from the Web to illustrate a concept is often all that is needed to clarify particularly difficult or obscure concepts. Changing some of the in-class assessment methods into more interactive computerized exercises provides another way to keep students interested in class discussions.[235]

3. *Other Currently Available Technology For Teaching*

In addition to Web pages, listservs, and discussion groups, the following is a short survey of other technologies that may be used to reach 21st century students.[236]

a. *Computer-Assisted Legal Research (CALR)*

The most widely used technology in law schools today is CALR. Although extensive computerized research can be performed for free on the Internet,[237] Lexis and Westlaw are still the primary avenues to conduct CALR in law schools.[238] Although the use of CALR in the

---

235. For example, I have turned my weekly multiple-choice quizzes into computer-generated game-show style exercises that energize 21st century students in ways that the hard-copy paper versions never did. *See infra* notes 240-43 and accompanying text.

236. This section is meant only as a brief overview and not as an exhaustive examination of technology in legal education. For more authoritative and detailed information on this topic, *see* Stephen M. Johnson, *www.lawschool.edu: Legal Education in the Digital Age*, 2000 WIS. L. REV. 85, 87 (2000); Geist, *supra* note 178.

237. An increasing number of legal opinions are published by individual courts and accessible for free or for a nominal cost through various educational web sites. For example, Washburn Law School provides access to recent opinions from every federal circuit court and number of state courts as well as to court rules, state codes, and much more. *See* Washlaw web site, *available at* http://washlaw.edu/ (last visited Feb. 12, 2002). The Legal Information Institute (LII) at Cornell Law School also provides access to most recent state and federal law. *See* LII, *available at* http://www.law.cornell.edu/ (last visited Feb. 12, 2002). The University of Chicago also provides access to international law materials. *See* Legal Research on International Law Issues Using the Internet, *available at* http://www.lib.uchicago.edu/~llou/forintlaw.html (last visited Feb. 12, 2002). Additionally, several public and private entities provide free or low cost information accessible through the Internet. *See, e.g.*, http://www.findlaw.com/ (providing, among other things, access to federal and state cases and statutory law) (last visited Feb. 12, 2002); and Loislaw, *available at* http://www.loislawschool.com/ (providing low cost access to statutory and case law) (last visited Feb. 12, 2002).

238. Lexis and Westlaw are the two major electronic commercial legal databases. *See* Sheppard, *supra* note 50, at 636.

In the 1970s, faculty began to use Lexis and Westlaw to conduct scholarly research. *See id.* In 1970, Mead Corporation began to offer an electronic database with state laws named Lexis followed by West Publishing's introduction of Westlaw in 1975. *See id.* at 636. In 1990, Lexis and Westlaw began to offer free passwords to law students. *See* Geist, *supra* note 178, at 149. During the 1990s, schools slowly began to provide students with access to Lexis and Westlaw. *See* Johnson, *supra* note 236, at 87. Today, students at most law schools use these databases to conduct computer-assisted legal research. *See id.*

first year of law school is usually limited to research and writing courses, CALR is a valuable tool to enhance the learning experience in more advanced courses.[239]

b. *Computer-Assisted Legal Instruction*

The Center for Computer-Assisted Legal Instruction (CALI) introduced the first electronic computer-assisted instruction (CAI) in the early 1980s.[240] Currently, professors can use over 150 CALI exercises to enhance traditional classroom learning.[241] Professors can use the CALI exercises in a number of ways. Perhaps the best way is to assign specific exercises to students to reinforce key legal concepts. This is particularly beneficial to students of varying learning abilities and styles when the professor does not or cannot devote more class time to applying legal concepts to new sets of facts.[242] Teachers can use CALI exercises in class (with an LCD projector) to reinforce previously covered materials and can assign CALI lessons to cover materials not covered in class. In addition, teachers can assess students' progress by assigning "graded" CALI exercises.[243]

There are other forms of technology available for use in legal education. These include television, videotapes, overhead projectors,

239. In my products liability and complex litigation courses, students must give oral and written presentations on some of the key legal concepts of the class materials. In order to achieve the level of expertise required to present the concepts to the class, students must go beyond the assigned casebook readings and engage in extensive CALR.

240. CALI was established in 1982 by the University of Minnesota and Harvard Law Schools primarily to create and disseminate computer-based exercises to be integrated into the law school curriculum. *See What is CALI, available at* http://www.cali.org (last visited Nov. 5, 2001).

241. *See* Geist, *supra* note 178, at 151. These exercises can be categorized into four types. First, there are simple, passive, memory drills, which are short questions requiring a yes or no answer. Second, there are interactive tutorials, which present a greater degree of information and allow students to branch out in different directions. Third, there are simulations, which attempt to recreate real life situations and require students to assume certain roles within the situation. Fourth, there are games, which are similar to simulations but involve a competitive element with several students participating at the same time. *See id.* My first year students regularly tell me they find the interactivity of these exercises particularly appealing.

Although all American law schools now belong to CALI and a number of professors use the exercises in their courses, CAI has not been widely integrated into the law school curriculum. *See* Johnson, *supra* note 186, at 87.

242. Students find CALI exercises valuable for a number of reasons. Although classroom discussions are often limited to a few students, students can use CALI exercises at their own convenience and at their own pace. Students with varying abilities and learning styles can access the exercises as often or as seldom as they need, without the pressures of the classroom setting.

243. *See* Geist, *supra* note 178, at 153. The CALI software can be set so it "grades" the students' performance. *See id.*

electronic visual presentation cameras,[244] and classroom performance systems[245] to name a few.[246] Because new technological tools for teaching are introduced regularly, law schools need to hire staff who are responsible for remaining educated about available technology.[247]

V. DOES TECHNOLOGY WORK?

This article strives to provide support for the proposition that students raised on television, video games, and computers learn differently than students raised on printed text. An important question, however, is whether technology actually enhances the learning of these 21st century students.

There is increasing empirical evidence that the use of technology enhances law students' learning. As early as 1987, Professors Maume and Staudt reported that "computer use is positively related to academic performance in the first year of law school."[248] In 1991, Professor Paul Teich asserted that computer-assisted legal instruction improves learning "while significantly and consistently reducing the time needed for instruction."[249] In 1997, Professor Richard Warner reported that electronic technology improved the ability of teachers to achieve most of the goals of legal education by making students more efficient learners.[250] In 1998, Warner and his team examined various ways to integrate technology into the curriculum. They concluded that technology provides an effective tool for achieving the fundamental pedagogical goals of assisting students to develop (1) basic knowledge

244. Electronic visual presentation cameras (sometimes referred to as document cameras) are devices that capture visual images by using a video camera mounted vertically on a base. Images of just about anything that can be placed on the base (objects, book pages, documents, etc.), are converted to an electronic signal that can be transmitted to an LCD projector, a video monitor or a computer. *See, e.g.,* Elmo Electronic Imaging, *available at* http://www.pharmnet2000.com/ELMO/index.html (last visited Feb. 25, 2002).

245. Classroom Performance System (CPS) is an electronic application that permits instant assessment of classroom performance. More information on CPS can be found *at* http://www.einstruction.com/aboutei.htm (last visited Feb. 25, 2002).

246. *See* Vincent Robert Johnson, *Audiovisual Enhancement of Classroom Teaching: A Primer for Law Professors,* 37 J. LEGAL EDUC. 97 (1987) (thorough discussion of available technologies).

247. As more fully discussed in section VI.C. *infra*, law schools should consider hiring a dean of technology whose background is such that she or he would be conversant in both technology and pedagogy.

248. David J. Maume, Jr. & Ronald W. Staudt, *Computer Use and Success in the First Year of Law School*, 37 J. LEGAL EDUC. 388, 389 (1987) (concluding that computers assist students' performance in the first year of law school).

249. Paul Teich, *How Effective Is Computer-Assisted Instruction?, An Evaluation for Legal Educators*, 41 J. LEGAL EDUC. 489, 490 (1991).

250. *See generally* Richard Warner, *Teaching Electronically: The Chicago-Kent Experiment*, 20 SEATTLE U. L. REV. 383 (1997).

of black-letter rules, (2) understanding of the rationales underlying the rules, and (3) ability to analyze legal issues independently.[251]

There has been, however, no empirical study to determine the effect technology has on the learning of students who are just now entering law school. Common sense leads to the conclusion that electronic technology enhances the learning of these digitally raised students. We know that the most significant factor affecting students learning is effective teaching.[252] The previous section demonstrates that electronic technology is critical in enhancing the learning experience of electronically raised students. The proof that I offer in this section, however, is mostly anecdotal.

A few years ago, I began to sense that my first year students were not performing as well as the students I taught when I began teaching eleven years ago. My initial reaction was that we were admitting less qualified students. When I learned that these students had lower LSAT and undergraduate GPA scores, I thought my initial intuition was correct. Upon reflection, however, I began to doubt this conclusion. In some ways my entering students grasped complex concepts more quickly than those I had taught in prior years. In small group presentations and during one-to-one discussions, entering students seemed to possess insights, perspectives, and creativity my previous students lacked. The more closely I observed my entering students, the more convinced I was that they learned fundamentally differently than my previous students. This motivated me to look for ways to improve my teaching and my students' performance.

At first I began to provide handouts to students, primarily as a way of improving the level of in-class discussion. The handouts focused the students' reading of the textbook's cases and provided them with hypotheticals to be discussed in class.[253] Soon, I noticed that students were coming to class better prepared for discussions. I also prepared and provided students with articles about reading and briefing cases, taking law school exams, and succeeding in law school. The use of technology, however, was initially motivated less by my desire to enhance my students' minds and more as a way to eliminate distributing these materials by hand.[254]

My use of technology in the classroom was motivated primarily

251. *See* Warner et al., *supra* note 177, at 110-12.

252. *See, e.g.*, Glesner-Fines, *supra* note 60, at 890. For more information on how effective teaching affects learning, see *supra* notes 197-232 and accompanying text.

253. *See supra* notes 153-55.

254. Creating a course web site to post handouts and other materials eliminated the daily need to make new copies of the growing amount of materials outside the office.

by a desire to reduce my teaching workload. Frustrated by my students poorly constructed course outlines, I first began to provide a written daily class summary of previously discussed substantive concepts.[255] To help students construct better course outlines, I would provide the daily summaries arranged in outline format to show where they fit within the framework of the course.[256] To avoid wasting class discussion time, I would arrive several minutes prior to the beginning of my class period to handwrite an outline summary on the chalkboard. I discovered eventually that it would be more efficient to put the summary outline on a computer-generated slide because I could prepare the slide in advance and simply project it on a large screen using an LCD projector. Other than less chalk ending up on my clothes, the only difference I initially noticed using the slides was that the students no longer strained their eyes to read my handwriting and seemed to pay closer attention to the slides.[257]

I next tackled my weekly multiple-choice quizzes, switching from hard-copy to slides. I had for several years regularly administered multiple choice quizzes to reinforce and evaluate students' analytical skills. Prior to our discussion of a given substantive concept, I would assign six to eight students to two teams responsible for answering a set of multiple choice questions upon completing these concepts.[258] During the next class period, I would distribute a hard copy of the multiple choice questions to the entire class and give the teams a few minutes to discuss their answers among team members. The first team that believed it could answer the question, raised a hand and shouted

255. Frustrated with the poor organization of students' answers to the first semester torts exam, I asked students to let me review their course outlines at the end of the following semester. There was consistent correlation between poorly organized and written answers and poor course outlines. Most of the poor "outlines" were little more than lists of cases synopsis with few headings and almost no interrelated, thematic infrastructure.

256. *See supra* notes 233-34 and accompanying text.

257. In the past, while I wrote the outline on the blackboard, my students continued their normal conversations even after I finished writing. Most days, I would have to get their attention to begin class by greeting them with a "Good morning ladies and gentlemen," loud enough to be heard over the chatter. Only then would they stop talking and begin copying the information from the board. Since I began to use the slides, I have noticed that the moment the slide appears on the screen, the whole class immediately quiets down and begins to copy the outline. This is particularly remarkable considering that I usually project the slide ten or more minutes before the official start of class. To further test this hypothesis, from time to time I will revert back to writing the outline on the blackboard. Invariably, students will blissfully continue their conversations, even after I have completed writing the outline on the board. Then, for the next class I project the outline on a slide and, again, the room immediately quiets down as the students begin to write.

258. This would mean the student who would be answering the quiz at least one day to study the concepts and prepare for the quiz.

the letter that represented the team's answer. If the answer was correct, the team was required to explain its analysis. If the team's analysis was incorrect it would lose a point and the other team would be given the opportunity to answer the question. The team that performed the best overall would receive a five dollar gift certificate to a local coffee shop.[259]

The oral quizzes were successful in providing another way to observe students' legal analysis. The problem with this approach was that although the students who were "on call" came well prepared, the rest of the class did little preparation. In an effort to improve student participation, I transformed the quiz into a computer-generated slide show that engaged the entire class. I added the music from the television show "Who Wants to Be a Millionaire," and named the computer-generated slide quiz "Who Wants to be a CivPro (or Torts) Survivor?"[260]

When I use the electronic quiz, I advise students ahead of time who will comprise the "survivor" teams.[261] During the following class period, each team gathers on opposite sides of the classroom. Using an LCD projector connected to a computer, I project the slides onto a screen and the first team to raise a hand answers the projected question. If the answer and analysis are correct, the team receives two points. However, if the answer or analysis is incorrect, the other team can answer, and can call on another classmate as a "lifeline." This "game-show" format has led to increased and more lively participation from the whole class.[262]

Over the last several semesters, I have slowly realized that the use

259. It took me a few years to develop this approach. At first, everyone took the weekly quizzes in class and they were graded, up to five 5% of reasons. First, the written multiple-choice questions did not allow me to observe their analytical skills at work. Second, a majority of students could not or would not spend the time needed to prepare well for these very difficult questions and their performance was disappointing. Some told me their heavy load prevented better preparation; some admitted that 5% of the grade was not enough motivation. Picking a few students prior to the quiz improved the students' performance because students who know they will be competing in front of the whole class always come prepared. The addition of prizes was the result of suggestions from students, who intimated that even nominally valuable prizes added to their motivation.

260. I used the "Survivor" name because many of my students regularly watch the popular "reality TV" show "Survivor" and the game show "Who Wants to Be a Millionaire." *See* Millionaire on ABC.com, *at* http://abc.abcnews.go.com/primetime/millionarie/millionarie_home.html.

261. I pick the students who will form each team, but each team can choose a classmate as their "lifeline."

262. The whole class takes notes; while the slides are projected, they are all engaged in the determination of the correct answer and explanation, and the slide quiz seems to engender better questions and discussion.

of screen-based electronic technology generates better classroom discussion because students weaned on screen-based technology relate naturally to this methodology. In addition, mid-term feedback from students[263] has provided more concrete evidence that use of electronic technology has made my teaching more effective.[264] As in past years, a few of these mid-term evaluations have stated that the handouts, access to class materials on the course web site, and computer assisted exercises were very helpful. A few others mentioned liking the pace of the class, and a few even appreciated my sense of humor. These comments were consistent with feedback from previous years. What is significant, however, is that consistently, approximately 90% of the students considered the computerized summary slides and multiple choice quizzes to be the most helpful aspects of the class. A tool that resonates with 90% of individuals with such diverse backgrounds, abilities, and learning styles is a remarkably effective teaching tool.

In addition, adoption of electronic technology into the classroom has led to significantly improved end-of-the-semester student evaluations.[265] This result is further proof that teaching effectiveness

263. For the past six years, halfway through the semester I ask students to give me feedback on how classes are progressing. I hand out a sheet of plain paper and ask each student to describe one thing about the class that is working well and one thing that would improve the class. I find this feedback more valuable than the end-of-the-term formal evaluations conducted by the school. Students take the mid-term evaluations very seriously because they know I will incorporate their suggestions for improving the class while they are still in the class. These are more productive suggestions for improving the class than the end-of-the-semester formal evaluations.

264. Mid-term feedback has consistently shown that 21st century learners pay attention and ultimately learn better when electronic technology is incorporated into teaching. For example, a significant number of students remark that the daily summary slides help to emphasize the important concepts from the previous class discussion, as well as to organize and prioritize the class materials in a logical manner. Many of the same students state that the weekly "Survivor" games are not only enjoyable, but also a good device to understand rules and their application.

265. Like the mid-term feedback, my most recent end-of-the-semester formal evaluations contain an unusual number of positive comments regarding course organization and the effectiveness of presentation. Our student evaluation form does not ask students to describe what works in class. Instead, the form asks students to numerically evaluate and comment on a series of teaching skills including organization, knowledge, effectiveness, creativity, preparation, and outside availability. In the past few semesters, a number of students have asserted that the just-completed course has been the best organized class they have taken in law school.

The evaluation numbers have also been unusually high. In addition to space for comments, Washburn's faculty evaluation forms include a place for students to rate faculty performance in several categories. The numerical scores range from one to seven, with one reflecting a rating of "poor" and seven reflecting a rating of "superior."

Student ratings in recent years have been the highest I have received since I started teaching eleven years ago. Out of a possible top evaluation of seven, students' overall evaluation of my procedure courses during my first eight years of teaching ranged from 4.8

can be greatly improved by the integration of electronic technology.[266]

VI. SURMOUNTING THE OBSTACLES TO THE USE OF TECHNOLOGY IN TEACHING

Although they are surmountable, there are some obstacles to adapting electronic technology to the teaching of 21st century students.

A. *Time Constraints*

Incorporating technology into teaching is time consuming. Although maintaining a course web page with only a syllabus and a list of readings is not very time consuming, creating and maintaining more elaborate pages can involve several hours per week.[267] Conducting

---

to 5.9. The overall evaluation for the fall 2000 procedure course was 6.7. Their evaluation of the "course organization" and "knowledge of subject matter" was 6.7. They rated "effective communication" and "encouragement to thinking" at 6.4, "instructor preparation" at 6.8, and "instructor availability" at 6.9. Not only were these evaluations the highest I have received but they were also significantly higher than the average evaluation for all instructors, which was 6.1 overall; 5.8 for course organization; 6.6 for knowledge of subject matter; 5.8 for communication and encouragement to thinking; 6.5 for preparation; and 6.3 for availability. (The sources of this information are the student evaluation summaries prepared by the university's Information Technology Services and provided to all Washburn faculty).

266. Studies demonstrate that there is a very strong correlation between teacher effectiveness and student evaluations. *See, e.g.*, JOSEPH LOWMAN, MASTERING THE TECHNIQUES OF TEACHING 17 (2d ed. 1995).

267. For a document to be accessible to anyone on the World Wide Web it must be in HTML format. *See supra* note 19. Generating an HTML document requires either creating it directly with HTML or converting a document created with a word processing program into HTML. Creating a document with HTML is time consuming, and learning HTML requires additional time.

Most word processing programs, like WordPerfect and Word, can easily convert simple text into HTML with a click of the mouse. However, more complicated document formats require much longer to prepare. For example, documents prepared in outline format are very time consuming, because HTML does not recognize the codes needed for constructing an outline. The author has to add each outline code manually, line by line, before the document can be posted onto an open-source class materials web page. An open-source web page is a file of information located on a school server and connected directly to the World Wide Web by the Internet. Ordinarily, an open source web page can be accessed by anyone simply by typing the web page's address (known as the URL) onto a browser. There is no need to go through a gatekeeper, although the teacher can limit access to the class web page to those enrolled in the course.

The alternative to an open source web page is a proprietary web page. Proprietary web pages are created and maintained by vendors such as Lexis, Westlaw, or Blackboard. Access to these web pages requires the user to first go to the vendor's page. The vendor acts as a gatekeeper, requiring a password before the user can reach the course web page. Because there is not need to learn HTML, it is easier and faster to create and publish documents onto a web page created and maintained by a vendor. To post a document onto a proprietary web page, the easiest way is to post it as a Word or WordPerfect document. However, those documents can usually only be accessed using the same word processing

regular discussions with students by electronic mail or threaded discussion boards and creating computerized slides, video clips, and other multimedia presentations for the classroom adds to the time invested in technology.[268]

Most law schools do not consider the use of technology to enhance learning part of a professor's teaching requirement. No law school I know of regards work performed on class-related technology, like creating and maintaining course web pages, as important as scholarship or service. In light of the amount of time new teachers must devote to teaching, untenured faculty should ascertain whether their institutions will value the work required to integrate electronic technology into teaching.[269]

B. *Technological Constraints*

Electronic technology has changed our lives in extraordinary ways in a very short period of time.[270] As rapid and remarkable as those changes have been, the fact remains that technology is in its infancy. Although electronic technology will someday be as transformative as electricity, we are many years away from having a fully functional

---

software. In order to generate a document independent of word processing software, it is necessary to first have Word or WordPerfect convert it into an RTF formatted file. Once converted, publishing a document on a class materials' web page maintained by Lexis Web Course or Westlaw TWEN requires only that it be transferred to the vendor's server. After two semesters of experience, it takes me about half an hour to prepare and publish each document onto a Lexis Web Course page.

268. *See, e.g.*, Saxer, *supra* note 211, at 21. Saxer calculates that preparing a basic presentation for a one hour class session takes an experienced teacher about forty five minutes, longer if the presentation will include photos, video and audio clips. *See id.* I spend two to three hours a week creating computerized slides for class, and another four to six hours involved in electronic class discussions through class listservs and discussion boards. Engaging in other technological pursuits can place even more demands on time. For example, creating a Computer Assisted Instruction exercise requires a significant expenditure of time. *See, e.g.*, Geist, *supra* note 178, at 154-55 (1997) (noting that a 1980s report suggested that the creation of a one-hour CAI exercise required as many as 500 hours of work).

269. Broadening the definition of scholarship to include preparation of electronic teaching materials or reducing the scholarly output requirement are relatively simple ways to promote integration of technology into teaching.

270. Television, computerized imaging systems, wireless communication, and the personal computer are but a few technological advances which have had a profound effect on human life. Technology has also had a profound effect on the human spirit. A fast computer connected to the World Wide Web by high-speed broadband has taken me to see and hear exotic animals in Africa, to virtually smell graceful gardens in the English countryside, to peek into the inner sanctum of stately homes around the world, and to visit planets in far-away galaxies. Experiencing these places from my computer has allowed my imagination to soar in much the same way, I expect, as reading a travel book did for someone in a small European city in the early 17th century.

electronic society.[271] Computer crashes are still an almost daily occurrence. Most computers are still connected to the Internet by connections that are so slow that they have led to the frustrating phenomenon of the "World-Wide-Wait."[272] And even with rapid Internet connections, accessing live video on a computer from remote locations is still awkward at best and impossible at worst. There continue to be many law schools that are not fully wired and computerized, students who do not own computers, and professors who are technologically-challenged.

C. *Institutional Constraints*

The use of technology in legal education remains an ad hoc endeavor primarily undertaken by a small number of faculty members.[273] To date, very few law schools have taken the necessary steps to integrate electronic technology as an educational tool.[274] A coordinated commitment by law school leadership is critical for electronic technology to become a universally accepted pedagogical tool.[275] Deans need to make the integration of technology a high institutional priority. This requires more than theoretical acceptance of the value of technology in legal education.

To build and maintain the level of technology necessary for its full integration into the fabric of the law school requires a significant commitment of resources, for several reasons. First, training faculty, staff, and students on rapidly evolving electronic technology is costly.[276] Second, building the redundancy necessary to address

271. We are still at the crawling stage of electronic technology development. Professor Michael Dertouzos, Director of the MIT Laboratory for Computer Science at MIT, asserts that electronic technology is about one-fifth of the way to achieving a true "information revolution." *See* MICHAEL L. DERTOUZOS, WHAT WILL BE: HOW THE NEW WORLD OF INFORMATION WILL CHANGE OUR LIVES 19 (2001). It took over 100 years from the time Faraday built the first generator before electrification changed our world. *See, e.g.*, Seely Brown, *supra* note 92, at 11. By contrast, personal computers became widely available less than twenty years ago. *See supra* note 13 and accompanying text.

272. *See* Geist, *supra* note 178, at 161.

273. *See id.* at 160-61.

274. *See id.* at n.113 (noting that only Stanford and Cornell have integrated technology as a pedagogical tool). Washburn Law School has for several years provided the infrastructure and support necessary for faculty to use technology to enhance teaching. In my opinion, however, the only school that has come close to approaching technology with a well-researched and coordinated effort has been the Chicago-Kent College of Law.

275. *See id.*

276. Regularly upgrading the necessary hardware and software, providing sufficient technical support for the use and maintenance of technology, and hiring the personnel to accomplish these tasks is costly.

reliability issues associated with new technology is expensive.[277] Third, the creation and maintenance of the physical infrastructure to accommodate widespread use of technology by faculty, students, and staff is costly.[278] With the exception of a handful of schools with newly constructed buildings, most law schools lack the physical infrastructure necessary to accommodate full integration of technology.[279]

A significant intellectual commitment is also necessary to integrate electronic technology into a law school. Planning and overseeing such an undertaking requires a well-coordinated effort. Because of the enormity of the challenge and the fast pace of technological change, such an undertaking cannot be accomplished by any one person. An important first step toward achieving the goal of fully integrating technology into a law school would be to appoint a technology committee and an associate dean of technology to oversee the building and maintenance of the law school's technological infrastructure.[280] This would free up the dean to focus on raising the capital necessary to accomplish the ultimate goal of making electronic technology an integral part of the law school curriculum.

A less costly but no less important step law schools could take to promote the integration of electronic technology in teaching is to offer incentives to law professors to become involved in technology-related projects. For example, broadening the definition of scholarship to include preparation of electronic teaching materials and reducing the scholarship requirements for teachers involved in technology projects

277. Because electronic technology is in its infancy, growing pains are unavoidable. Although it is more dependable every year, electronic technology is still relatively unreliable. To assure that important information is available to students, law schools have to build back-ups for technology. That assurance often means having back-up computers, servers, LCD projectors, and the personnel to quickly repair or replace faulty equipment.

278. This infrastructure must include a fully wired library, courtroom, computer laboratories, classrooms, and offices so there is universal access to electricity, the school's network, the Internet, television, and video feeds from classrooms, the courtroom, and other remote areas.

279. One small, but enlightening example is the physical layout of classrooms currently being used to teach large first year classes at most American law schools. Even if they were built less than a decade ago, most large classrooms were likely not designed in such a way that a high-intensity LCD projector can be used simultaneously with, and as unobtrusively as, a blackboard. That way, the screen is high enough so that the teacher can still walk about the front of the classroom and write on the blackboard while the LCD projector is being used. That requires classrooms with at least 13-foot ceilings at the front. Most schools have ceilings that are significantly lower. Consequently, when the LCD projector is in use it not only blocks access to the blackboard, but also forces the teacher to stand against a side wall so as not to block the students' view of the screen.

280. The associate dean of technology should be someone with extensive technological know-how, who is also an educator familiar with teaching and learning requirements.

are options law schools should consider. This would send a strong message that the law school values efforts to improve the quality of the institution's teaching.[281]

If an institution is not currently capable of fully integrating electronic technology into teaching, it can do so incrementally. A practical first step would be to develop a pilot project for one academic year to compare a technology-integrated class and a class without technology. The pilot project would assign one section of the entering class to a professor willing to integrate electronic technology into his

281. If the primary goal of law schools is to prepare students for the practice of law, then teaching is as critical component of legal education, if not more so, than scholarship. This assertion is perhaps bold, considering law schools' preoccupation with U.S. NEWS & WORLD REPORT' rankings, which do not consider quality of teaching as a factor worth evaluation. *See* Schwartz, *supra* note 49, at 360-61. U.S. NEWS ranks schools in four general categories: (1) reputation, which constitutes 40% of the score; (2) selectivity, 25%; (3) placement success, 20%; and (4) faculty resources is 15%. *See, e.g, Best Graduate Schools 2002: Law Rankings Methodology, available at* http://www.usnews.com/usnews/edu/beyond/gradrank/gblawmet.htm (last visited Nov. 10, 2001); *see also* John C. Turner, *Yale, UConn, Qunnipiac Take Rank In Stride*, THE CONN. L. TRIB., April 10, 2000, at 3. Rankings are based primarily on what law professors think about each other's law schools (25%), median LSAT scores and undergraduate grades (25%), and a combination of employment and bar passage rates (20%). Thus, law school rankings are based on name recognition, university prominence, faculty prominence, and students' achievement prior to attending law school. Although "faculty resources" accounts for 15% of the ranking, this factor only takes into account expenditure per student and student/teacher ratio. Teaching is not mentioned as a factor in any of the ranking determinations. *See id.*

In 2000, several law school deans signed the Law School Admissions Council's letter denouncing commercial rankings and criticizing U.S. NEWS' failure to consider, among other things, quality of teaching in its ranking criteria. *See Open Letter to Law Students*, http://www.lsac.org/LSAAC.asp?url=lsac/deans-speak-out-rankings.asp (last visited Oct. 23, 2001). Despite criticism of the rankings, law schools continue to focus most of their recruiting and marketing efforts on improving their ranking. To the extent that law schools consider students, they seem mostly concerned with attracting higher numbers of the most qualified students to their institutions. To a great degree, this is understandable. Top students will learn regardless of the quality of the teachers. Therefore, the better the students, the less concerned with teaching schools have to be.

There is much evidence that, institutionally, law schools care little about the quality of teaching. No overseeing body measures whether individual law schools have met previously defined factors regarding what constitutes effective teaching. Neither the ABA nor the AALS have defined what constitutes effective teaching. Moreover, law schools have not developed reliable methods to assess teaching. To the extent that schools engage in teaching assessment, they rely almost exclusively on student evaluations. *See* Richard L. Abel, *Evaluating Evaluations: How Should Law Schools Judge Teaching*, 40 J. LEGAL EDUC. 407, 412-13 (1990). Tellingly, hiring and promotion decisions in law schools are almost exclusively based on scholarship, and "most schools make no adverse decisions on the basis of teaching." *Id.* at 415. In a perverse way, law schools' emphasis on scholarship further diminishes the already compromised quality of teaching by diverting faculty investment of time and effort away from the schools' teaching mission. *See* GREGORY S. MUNRO, OUTCOME ASSESSMENT FOR LAW SCHOOLS 25 (2000).

her or his teaching. The professor would need to be willing to design an assessment-centered course,[282] and use all or most of the following technology: (1) a complete course web page;[283] (2) a course listserv; (3) a course discussion board; (4) daily or weekly computer-generated slides that summarize completed legal concepts arranged within the organizational scheme of the course outline or syllabus; and (5) regular use of some electronic media in the classroom. The other section (or sections) of the first year course would use the same casebook, design, and assessment-centered course, but would not use electronic technology. To determine the effectiveness of the technology-integrated course, students in all of the course sections would be tested with the same outcome-assessment tool at the end of each semester of the trial period.[284] To encourage law professors to undertake this project, the law school would have to value completion of the project similarly to publication of an article in a law review.[285]

All of the obstacles to integrating technology into legal education are easily surmountable. Technological limitations, if properly considered, should not prevent the integration of technology in teaching.[286] Even if law schools have historically been indifferent to the quality of teaching, an increasing number of law school professors believe the quality of teaching matters and should be improved.[287]

---

282. An assessment-centered course is a course designed to objectively meet specific student learning goal. *See* Munro, *supra* note 281, at 139-51 for a more detailed description of how to design an assessment-centered course.

283. The course web page should contain at least a syllabus, handouts, practice problems (with sample answers) or a link to the CALI exercises, the basic skeleton of a course outline, and links to short instructional articles on case reading and briefing, course and exam outlining, and other reference materials pertinent to the course.

284. The simplest outcome-assessment tool would be an examination with a combination of essay and objective questions, administered at the end of each semester. A better outcome-assessment tool would require a mid-term as well as a final examination. In order to better assess the effectiveness of the technology integrated course, teachers for all sections must administer the same examinations. *See, e.g.*, Munro, *supra* note 281, at 111-28.

285. Ideally, one or more of the faculty members involved in the technology assessment trial would be willing to publish an article that would assist similar later endeavors in that institution and elsewhere.

286. For example, law schools that lack the technical infrastructure to fully integrate technology into teaching can urge their teachers to use the resources of vendors such as Lexis and Westlaw. Both vendors provide faculty with course web pages, listservs, and discussion groups at no cost. Another way of dealing with technological constraints such as slow Internet connections is for professors to keep course web pages simple. The more bells and whistles a web page has, the slower it will be for students to find and download information from it. Pictures, sound, and moving pieces are very slow to download and should not be used unless they have an important pedagogical purpose.

287. In the last decade there has been a growing body of scholarship on how to improve teaching. *See, e.g.*, Alice M. Thomas, *Laying the Foundation for Better Student Learning*

These teachers can provide schools with the necessary impetus to begin an institutional discussion on the subject. Moreover, a determined number of untenured and tenured faculty have recently managed to integrate electronic technology into their teaching with little or no support from their institutions. They are helping law schools to slowly recognize that legal education must respond to the legal profession's wide use of electronic technology by preparing students "for a professional life enhanced by its use."[288] Most importantly, 21st century students are increasingly demanding that technology be incorporated into their legal education.[289]

VII. CONCLUSION

Electronic technology should be integrated into the teaching of 21st century law students for several reasons. First, the goal should rightly be the effective teaching of students from the digital generation who need the skills to succeed in the linear, printed-text study and practice of law. Because the legal profession will continue to operate as a printed-text profession, at least in the near future, it is our duty to

---

in the Twenty-First Century: Incorporating an Integrated Theory of Legal Education into Doctrinal Pedagogy, 6 WID. L. SYMP. J. 49 (2000); Gerald F. Hess, *Principle 3: Good Practice Encourages Active Learning*, 49 J. LEGAL EDUC. 401 (1999); Janeen Kerper, *Creative Problem Solving vs. The Case Method: A Marvelous Adventure in Which Winnie the Pooh Meets Mrs. Palsgraf*, 34 CAL. W. L. REV. 351 (1998); Friedland, *supra* note 75; Stropus, *supra* note 69; Stephen Nathanson, *Developing Legal Problem-Solving Skills*, 44 J. LEGAL EDUC. 215 (1994); Kent D. Syverud, *Taking Students Seriously: A Guide for New Law Teachers*, 43 J. LEGAL EDUC. 247 (1993). *See also* Gerald F. Hess, *The Legal Educator's Guide to Periodicals on Teaching and Learning*, 67 UMKC L. REV. 367 (1998).

In 1991, Gonzaga University School of Law established the Institute for Law School Teaching "to serve as a clearinghouse for ideas to improve the quality of education in law school; to provide national leadership on effective teaching and learning in law school; to support research and the development of materials to enhance teaching and learning in law school; and to establish and maintain a national reputation for quality programs, responsiveness to law teachers' needs, and innovation in law teaching." *See* Gonzaga Institute for Law School Teaching, *What is the Institute, available at* http://law.gonzaga.edu/ilst/ilst.htm (last visited Feb. 3, 2002). The Institute provides publications and other resources for law teaching, including, since 1994, an annual summer conference for law teachers. *See id.*

In 1994, the Institute for Law School Teaching sponsored a survey of teaching techniques. The nationwide survey, distributed to 2,000 full-time law professors, asked essentially "how do we teach and why?" Friedland, *supra* note 75, at 2. Five hundred and seventy-four professors completed and returned the survey. Most responses included thoughtful and well articulated teaching goals as well as teaching methods designed to meet those goals. *See id.* at 14, 19. The responses indicate that more than 25% of law professors think seriously about their teaching. *See id.*

288. Saxer, *supra* note 210, at 21.

289. These consumers of legal education consider the $75,000 to $120,000 they spend to obtain a legal education as an investment toward their legal careers, and these students expect that technology be an integral part of the legal education. *See* Fong, *supra* note 63.

assist our students in their transition from screen-based learning to text-based learning. Second, to better connect with students who are the product of a learning revolution, electronic technology should also be integrated into teaching in order to enhance the learning experience of students regardless of the professor's teaching methodology and the students' respective learning styles. Technology can bridge the gap between linear 20th century teachers and 21st century learners. Learning to use the technological tools with which students are comfortable also demonstrates an investment in their success. When students believe their teachers care about their learning, they are more likely to pay attention and participate. Using technology increases students' confidence and reduces their frustration with the demands of law school. In turn, they will reward teachers with energized classroom participation and improved evaluations. Use of electronic technology should not be seen as a substitute for, but rather a complement of, good teaching.

Perhaps the most persuasive reason for using technology to reach 21st century students is because it has worked to reach new learners. Students entering law school relate to and learn better from information on a screen than information on a blackboard. Incorporating electronic technology into teaching will result in increased student participation, livelier classroom discussions, and better organized oral and written assessments that contain more persuasive legal analysis.

FIGURE 1

TORTS – HANDOUT 8

ELEMENTS OF THE NEGLIGENCE PRIMA FACIE CASE:
CAUSATION Part II: *LEGAL CAUSATION: PROXIMATE CAUSE* (CB, Chapter 8)

I. INTRODUCTION.

> *The terms "**proximate**" and "**remote**" are thus respectively applied to recoverable and non-recoverable damages . . . It is unfortunate that no definite principle can be laid down by which to determine this question. It is always to be determined on the facts of each case upon mixed considerations of logic, common sense, justice, policy and precedent. . . The best use that can be made of the authorities on proximate cause is merely to furnish illustrations of situations which judicious men upon careful consideration have adjudged to be on one side of the line or the other.*

Unfortunately, professor Street's frustration that there is no all-encompassing rule that distinguishes between proximate and remote damages is still true after almost 100 years. As you will soon discover, concepts such as "proximate," "remote," and "foreseeable" are not particularly clear and often describe the conclusions of a court or jury regarding the consequences of an actor's breach of duty. For example, if the consequences are deemed to be too remote to be assigned to the actor's responsibility, they will be held to have been "unforeseeable" and the actor will not be held liable.

II. THE PRINCIPLE: SCOPE OF THE RISK.

Once a plaintiff (P) has established that the defendant's (D) conduct has in fact been one of the causes of the P's injury, there remains the question of whether the D should be held legally responsible (liable) for the injury. This is primarily an issue of law, not fact. It depends on whether the D's conduct has been so significant a cause of the injury that the D should be held liable. This is a matter of legal policy. Liability, then, depends on whether the law, as a matter of policy, will extend responsibility for the conduct to the consequences which, although unexpected (unforeseeable), have in fact occurred.

FIGURE 1 (CONT'D)

Part of the difficulty associated with the concept of foreseeability is that the law reconstructs the everyday meaning of foreseeability, which is a subjective awareness of possible future occurrences, and reconstructs it as an objective standard with the effect of expanding liability. In other words, an actor's subjective awareness is irrelevant to liability if a jury is convinced that a reasonable person would have "foreseen" the danger and done something different to prevent the injury. It is this conflict between subjective and theoretical (objective) foreseeability which I believe to be at the root of much of the confusion associated with proximate cause.

A. *Liability Limited to Type of Injury Within Scope of Risk*

Medcalf v. Washington Hts. Condo Ass'n, 747 A.2d 532 (Ct. 2000) (217)

Read the full opinion of this case, which can be found in the "external links" section of the course Web page, under "Handout 8: Full Opinion of Cases." Be ready to discuss your answers to the following questions:

1. ***What are the relevant facts of this case?***
2. ***How did the case get to the appellate court?*** (What is the procedural history?)
3. ***What is the D's specific negligent conduct?***
4. ***What is the dispositive issue in the case?***
5. ***What is the holding of the appellate court?***
6. The appellate court here describes the elements of negligence as duty, breach of duty, legal causation and damages. ***It further breaks down legal causation as having two components, what are they? What is the first component and what is the test to determine if P has proven it?***
7. ***What is the second component and what is the test to determine if P has proven it?***
8. ***What is the forseeable risk of a malfunctioning intercom system?*** (Hint: why do they put intercom systems in apartment buildings?)

FIGURE 2

I. THE PROCESS OF READING AND BRIEFING A CASE

A. Reading a Case

1. First step: Put the case in context

Before you do any reading of the actual case, anticipate the legal concept(s) the case is likely to address. In other words, before you read the case, put it in context.

a. To put the case in context, determine where the author placed it in the table of contents.
b. Then find the section of the chapter in which the case has been placed.

This will often give you a good idea of some of the issues the case may be addressing.

2. Second Step: Overview: read case quickly two or three times.

During the initial reading try to gain a general understanding of case structure, including:

a. who the parties are,
b. how the dispute arose (what happened, to whom, and why),
c. how the dispute got to court (who sued and for what cause(s) of action),
d. what the parties argued at trial and what the court decided (who prevailed at trial and why).
e. who appealed (who lost at trial),
f. what the appellant argued on appeal,
g. what the appellate court decided (did it affirm or reverse the trial court), and
h. why (the reasons the appellate court gave for affirming or reversing).

Remember, writing is about reading. The more you read about the case, the better your writing about it will be.

3. Third step: Read the case analytically, maybe writing notes in the margin about what the components of the case are. You will notice that the issues, rules, and legal analysis of the case start to jump out at you.

B. Write the case brief in a single separate sheet.

a. at least write the facts, issue(s), holding(s), and rule(s) of the case.
i. the next section contains the components of a brief.