

Envisioning a Twenty-First Century Legal Education

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Where there is no vision, the people perish¹

I. INTRODUCTION

The Digital Age provides an opportunity to revitalize and modernize legal education and to make it more individualized, relevant, human, and accessible. The question is: will legal educators engage in the thoughtful, reflective, and visionary recreation of legal education that is destined or will we simply serve as twentieth century models for the twenty-first century avatars software programmers will create to replace us? Will legal educators turn away our eyes from the methods and resources of the twentieth century and look to the Digital Age to envision the future of legal education? If the shackles of habit, culture, and accreditation were broken, what would legal education look like in 2050?

Imagine a law school in which you are taught only what you need to know, when you need to know it, using the teaching methods and resources best suited for you. Imagine a law school in which you are taught by the best scholars and lawyers in the world without ever leaving your campus. Imagine a law school that allows you to go almost anywhere around the globe to gain the experience you need and to develop the relationships that would best support your

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1. *Proverbs* 29:18 (King James).

professional aspirations. Imagine a law school where professors are coaches, classmates are colleagues, and time and space are transcended. If you can imagine these things, you can envision the potential of digital technology to transform legal education in the twenty-first century.

This Essay briefly considers the impact of digital technologies on legal education in the twenty-first century, such as adaptive learning software, digital assessments of learning outcomes, open courseware, video capture, simulated role plays, educational gaming, customizable digital textbooks, online courses, video- and online conferencing, social networking, online communities, and digital scholarship. It also recognizes the increasing engagement of digital educational resources in higher education generally, as well as by other professional education programs such as business schools, medical schools, and schools of education at universities including Harvard University, University of Pennsylvania, Northwestern University, and Stanford University. The Essay concludes that the emerging omnipresence of digital technologies in legal education is inescapable. Thus, legal educators must provide leadership and vision, partnering with publishers and software programmers and developers² to ensure our students receive the best legal education possible in the Digital Age. If we do not, commercial enterprises will simply dictate our teaching resources and methods and, in the process, perhaps our obsolescence.³

2. In the twenty-first century, publishers are rapidly being transformed into software publishers and developers as a consequence of the Digital Revolution.

3. The potentially devastating impact of “disruptive technology” on an industry is considered in depth by CLAYTON M. CHRISTENSEN, *THE INNOVATOR’S DILEMMA* (1997). Although educators generally cringe at the thought of viewing education as an industry, the fact remains that, like businesses, we, too, must adapt to new technologies and the changing needs of the population we strive to serve—our students—or risk becoming obsolete and irrelevant. The changes our students face at the beginning of the twenty-first century are articulated in publications such as RICHARD SUSSKIND, *TOMORROW’S LAWYERS: AN INTRODUCTION TO YOUR FUTURE* (2013). Our challenge is to prepare students for a new age of lawyering that no one has seen or experienced, using tools that are just now being developed, in efficient, effective, and affordable ways.

II. THE IMPACT OF HISTORICAL CHANGES IN PUBLISHING ON LEGAL EDUCATION IN THE TWENTY-FIRST CENTURY

A. *The Death of the Twentieth Century Casebook*

Legal education will experience a massive disruption in the twenty-first century due to the Digital Revolution. The inevitability of this disruption is best epitomized by the transformation of the Legal Division of Thomson Reuters in the early twenty-first century.⁴ In the last ten years, Thomson Reuters has sold its law school publishing business while developing and promoting its electronic legal research database (WestlawNext), online course management program (TWEN), law practice management software (Concourse), adaptive learning software (BarBri's AMP), and digital curriculum sharing software (Law School Exchange).

"It's the beginning of a new era," announced the President of Thomson Reuters' Legal Division in January 2013, as he explained that Thomson Reuters' paradigm was shifting to adapt to new technologies.⁵ "Consumer pull is dragging enterprise along. Consumer impact is fundamentally affecting how Thomson Reuters is designing products. We are thinking two things: how do we make it personal and contextual?" remarked another Thomson Reuters executive.⁶ Just one month later, Thomson Reuters announced it was

4. Thomson Reuters has been the parent company of West (originally known as West Publishing) since 1996. *Company History*, THOMSON REUTERS, <http://thomsonreuters.com/about-us/company-history/> (last visited June 15, 2013). Thomson Reuters then acquired a number of other legal publishers and consolidated them under West, including Bancroft-Whitney, Banks-Baldwin, Barclay, Callaghan & Company, Clark Boardman, Foundation Press, Gilbert's, Harrison, Lawyers Cooperative Publishing, and Warren, Gorham & Lamont. Ian Gallacher, "*Aux Armes, Citoyens!*": *Time for Law Schools to Lead the Movement for Free and Open Access to the Law*, 40 U. TOL. L. REV. 1, 2 n.4 (2008). West also purchased several treatise titles from Shepard's. Mark J. McCabe, *Merging West and Thomson: Pro- or Anti-Competitive?*, 97 LAW LIBR. J. 423, 429 (2005). Through these acquisitions, West joined LexisNexis and Wolters Kluwer (which bought Aspen Publishers) as one of the "Big Three" legal publishers in the United States. *Id.*

5. Monica Bay, *Thomson Reuters to Debut Concourse at LegalTech New York*, L. TECH. NEWS (Jan. 17, 2013), <http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202584763900>.

6. *Id.*

“getting out of the dead trees end of the legal education business.”⁷ The traditional West casebook soon will be no more.

Thomson Reuters’ decision to cease publishing law school casebooks represents a pivotal turning point in legal education.⁸ West published the first series of standardized casebooks in 1908 with the introduction of the *American Casebook Series* and dominated the industry for much of the twentieth century.⁹ The influential relationship between legal education and publishers is evident in the tremendous impact that West and the pioneers of the case method together had on the twentieth century law school classroom.

West first entered the law publishing business in 1872, just two years after Christopher Langdell introduced the case method at Harvard Law School.¹⁰ The case method shifted traditional legal education away from lectures and textbooks that taught students legal definitions and rules and transformed law school into a more engaged, analytical endeavor.¹¹ In the years between Langdell’s introduction of the case method and West’s publication of the standardized casebook, most law professors relied on their own materials or self-published casebooks.¹² But after the standardization of casebooks by West, most twentieth century law professors subscribed to static, lifeless materials developed by third parties and

7. Jennifer Smith, *Thomson Reuters Bids Adieu to Law School Publishing*, WALL ST. J. BLOGS (Feb. 4, 2013, 6:04 PM), <http://blogs.wsj.com/privateequity/2013/02/04/thomson-reuters-bids-adieu-to-law-school-publishing/>. Thomson Reuters sold its law school publishing division to Eureka Growth Capital. *Id.* The author recognizes that Eureka Growth Capital is continuing to publish West casebooks and will probably do so for the foreseeable future. However, the fact that Thomson Reuters, a major transnational corporation, has walked away from publishing traditional law school casebooks is telling.

8. Matthew Bodie foretold the inevitable extinction of the twentieth century casebook years ago. The cornerstone resource of the twentieth century law professor simply is not competitive in the digital world. It is too heavy, too outdated, too expensive, and too difficult for individual professors to customize to their students’ needs. Matthew Bodie, *The Future of the Casebook: An Argument for an Open-Source Approach*, 57 J. LEGAL EDUC. 10 (Mar. 2007).

9. Douglas W. Lind, *An Economic Analysis of Early Casebook Publishing*, 96 LAW LIBR. J. 95, 107–10 (Winter 2004). Until then, most law professors relied on their own materials or self-published casebooks they created. Bodie, *supra* note 8, at 12.

10. Lind, *supra* note 9, at 97.

11. Previously, law students were taught legal definitions and rules through lectures and textbooks. Bodie, *supra* note 8 (citing CHARLES WARREN, HISTORY OF THE HARVARD LAW SCHOOL AND OF EARLY LEGAL CONDITIONS IN AMERICA 373 (1908)).

12. Bodie, *supra* note 8, at 12.

students were compelled to buy and read those materials regardless of price¹³ or relevance. To this day, the case method and the standardized casebook dominate legal education methodology in the United States.¹⁴

B. The Rebirth of Customized Law School Coursework

One hundred years later, publishers again are compelling change in legal education; but this time, they are moving away from the standardized, hardbound casebook and utilizing digital technologies to modularize, diversify, and enrich legal education materials.¹⁵ The significance of this change cannot be understated. As much as we like to imagine legal education as being comprised predominantly of “great conversations” between a sage-like professor and students, Socratic style, the fact remains that much, if not most, educational content in law school is delivered outside of the classroom.¹⁶ It is

13. The relationship between legal educators and legal publishers is a delicate one. On the one hand, educators have developed a reliance on publishers to publish casebooks, which is a cornerstone of legal education. At the same time, an oligarchy has arisen in the law publishing field such that Thomson Reuters, LexisNexis, and Wolters Kluwer control 85 percent of North America’s legal publishing market, which was valued at \$4.4 billion in 2007. Legal print costs have far outpaced inflation due to a series of mergers and acquisitions in the late twentieth century. In fact, West titles increased by 23 percent after its acquisition by Thomson Reuters in 1996. Michael Ginsborg, *Ending Our Conflicts of Interest to Protect Consumers of Legal Publications*, AALL SPECTRUM 28 (Feb. 2011), available at <http://www.aallnet.org/main-menu/Publications/spectrum/Archives/Vol-15/No-4/pub-sp1102-Point.pdf>.

14. Benjamin V. Madison, III, *The Elephant in Law School Classrooms: Overuse of the Socratic Method as an Obstacle to Teaching Modern Law Students*, 85 U. DET. MERCY L. REV. 293, 295 (2008).

15. See generally Paul L. Caron & Rafael Gely, *Taking Back the Law School Classroom: Using Technology to Foster Active Student Learning*, 54 J. LEGAL EDUC. 551 (2004) (discussing the new introduction of technology in the legal classroom and how it promotes active learning).

16. Based on my experience as both a law school student and professor, the standard practice in traditional law school courses appears to be to assign approximately two to four hours of reading for every hour of classroom instruction. My estimate is based upon two years as a student at Harvard Law School, one year as an exchange student at Berkeley Law, University of California, and eight years as a professor at Willamette University College of Law. In addition to my own individual experience, I have had more senior professors and peers affirm that this ratio is the customary practice. I did not identify any standards or studies to support this estimate. Moreover, during my research, I came across various online postings by law school students reporting that many of them only studied one to two hours per hour of classroom instruction. See, e.g., Corsair, TOP-LAW-SCHOOLS.COM (June 12, 2008), <http://www.top-law-schools.com/archives/viewtopic.php?f=3&t=34626> (UTC—5 hours). Even assuming

standard practice for law professors to assign two to four hours of reading for every hour of instruction.¹⁷ Since most of this homework traditionally has consisted of reading standardized casebooks, the end result is that casebooks have “dictate[d] content and approach to the course materials.”¹⁸ In short, if casebooks are fundamentally changed, approximately 50 to 75 percent of a law school student’s content delivery experience is changed.¹⁹

As our students’ educators, law school faculties have an ethical responsibility to determine how the content we assign our students will be delivered. In the process of deciding this, the question should not be simply, “What delivery method on the market is most convenient?” but rather, “What is the most effective, efficient, and affordable content delivery method available to students, both as a group and individually?”²⁰ To the extent that the ideal content delivery methods are not currently available, the Digital Revolution invites us to create them. This century is ours. All that is required is vision, time, and resources.

The Digital Revolution offers twenty-first century law professors the opportunity to return to the customized, engaged curricula exemplified by the revolutionary pedagogical methods of Dean Langdell and his colleagues. Without Thomson Reuters, there will be

that some students only spend one hour on readings for every instructional hour, the fact remains that they are spending half of their time learning outside of the classroom.

17. *Id.*

18. Bodie, *supra* note 8, at 13. Today, many of the casebooks we assign our students cost more than \$200 new.

19. I estimate that at least 50 percent of law school content is delivered via casebooks and similar texts, recognizing a significant number of law school classes, such as small seminars, clinics, simulated practice, externships, and legal research and writing, for example, as well as other credit-bearing experiences such as law review and moot court, often do not use casebooks to convey content.

20. In determining what is the most effective and efficient learning or content delivery method for one’s students, law school faculty should be mindful of the latest pedagogical research. For example, in a special report recently published by *Scientific American Mind*, more than 700 scientific articles on ten common learning techniques were reviewed. What was the conclusion? Two of the most ineffective and inefficient study methods were highlighting and rereading, yet these study methods are widely encouraged and practiced in legal education. Further, the two methods that appeared to yield the highest dividends were self-testing and distributed practice (sometimes called spaced learning); yet these methods are infrequently utilized formally in most law schools. John Dunlosky et al., *What Works, What Doesn’t*, SCIENTIFIC AM. MIND, Sept./Oct. 2013, at 47–53.

only two major companies publishing hard-copy casebooks, and both are actively promoting e-books, which are becoming more interactive, customizable, and affordable. Moreover, for years, all three of the major legal education publishers have been diversifying their law school publications by offering textbooks, study aids, recorded lectures, outlines, test preparation, software, and more, in addition to traditional casebooks.

As digital technologies break the spine of the hardbound, standardized casebook, the two remaining major legal education publishers are selling modular components, allowing professors to combine any number of select chapters from various resources with interactive exercises, digital recordings, and academic success and practice-ready resources to create a unique set of course materials for a professor's unique set of students.²¹ Considering the fact that textbook publishers outside of legal education are bringing their content to life with interactive images, video, audio, 3-D animations, and assessments,²² it does not take much imagination to envision what a twenty-first century casebook could look like by 2025 if law professors were actively engaged in their development and enrichment. Great cases could be recreated, historical recordings of oral arguments could be linked,²³ and the human participants could be brought to life with sights and sounds, to make the law engaging for

21. See, e.g., *Westlaw's Interactive Casebook Series*, WEST, <https://www.interactivecasebooks.com/> (last visited Sept. 8, 2013); *LexisNexis e-books*, LEXISNEXIS, http://www.lexisnexis.com/store/us/?jsessionid=C5A560D691F2A575F67FD915638A3120.psc1704_Instore_001?segment=ebooks (last visited Sept. 8, 2013); *Aspen Content Solutions*, ASPENLAW, <http://www.aspenlaw.com/pages/solutions> (last visited Sept. 8, 2013). Unfortunately, as the *Wall Street Journal* noted in a recent article, there is an insidious side to customized textbook publishing: most notably, a lesser or total inability to trade-in or sell the text at the conclusion of the course and, in some cases, the payment of royalties to the universities. John Hechinger, *As Textbooks Go 'Custom,' Students Pay*, WALL ST. J., July 10, 2008, at D1.

22. *Pearson Releases New Wave of Interactive Textbooks for Apple's iPad*, PEARSON (Jan. 19, 2012), <http://www.pearson.com/news/2012/january/pearson-releases-new-wave-of-interactive-textbooks-for-apples-ipa.html>.

23. Just fifteen years ago, a law school student desperate to bring the cases described in her casebook to life would have to purchase an expensive set of cassette tapes recording historical oral arguments (assuming she even had physical access to a bookstore that sold such things) and listen to those arguments on her Sony Walkman headphones. Unfortunately, of course, the cases being read for class seldom had recordings commercially available and, when historical oral arguments were available, they seldom matched the cases being discussed in class.

students struggling to understand what seem to be lifeless words on pages made from dead trees.

Despite the breathtaking opportunity to transform an educational system that is imperfect at best and irretrievably broken and corrupt at worst, some law professors determinedly grip their podiums and pledge allegiance to a teaching resource that even the market leader has literally disowned.²⁴ But the death of the twentieth century casebook is just one indication that legal education will undergo a massive transformation in the Digital Age; the breaking of its spine creates a void that can be filled with better, more effective, and engaging materials and methods. But the transformation requires law faculty to search for, identify, and create in earnest the best pedagogical tools available at the dawning of a new age. How much have legal educators thought about the fundamental changes occurring in our students' law school experience as a result of the rising dominance of digital technologies? How much leadership and direction are we providing in the development of these educational technologies? Surprisingly little it seems.

24. Critics nationally are calling for massive reform of law schools with a deafening volume as applications plummet, tuition continues to rise at unsustainable levels, and law jobs elude many recent graduates. *See, e.g.*, WILLIAM. M. SULLIVAN, ANNE COLBY, JUDITH W. WEGNER, LLOYD BOND & LEE S. SHULMAN, *EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW* (Jossey-Bass 2007); ROY STUCKEY ET AL., *BEST PRACTICE FOR LEGAL EDUCATION: A VISION AND ROAD MAP* (2007); Ethan Bronner, *A Call for Drastic Changes in Educating New Lawyers*, N.Y. TIMES, Feb. 11, 2013, at A11; Karen Sloan, *Consensus Emerging That Law School Model 'Is Not Sustainable'*, N.Y. L.J. (Oct. 22, 2010), <http://www.newyorklawjournal.com/PubArticleNY.jsp?id=1202473715009>; Michael L. Coyne, *ABA and Legal Education: Change Won't Come from Within*, NAT'L L.J. (May 8, 2013), <http://www.law.com/jsp/nlj/PubArticleNLJ.jsp?id=1202599229647>; Karen Sloan, *Action on Law School Reform*, NAT'L L.J. (Aug. 22, 2011), <http://www.law.com/jsp/nlj/PubArticleNLJ.jsp?id=1202511661932>; Cameron Stracher, *Taste: Meet the Clients*, WALL ST. J., Jan. 26, 2007, at W11; Robert MacCrate et al., *Legal Education and Professional Development—An Educational Continuum*, 1992 A.B.A. SEC. LEGAL EDUC. ADMISSION B.

III. THE RISE OF DIGITAL EDUCATION

A. *The Apparent Disinterest of Legal Educators in Digital Education*

In a spring 2013 conversation with Rishi Desai, a content producer from the Khan Academy, it was revealed that only one law professor had contacted the Khan Academy in the seven years since the organization was founded.²⁵ This apparent disinterest is especially surprising since the Khan Academy is the first major non-profit unaffiliated with a university making hundreds of digital tutorials available to the public online for free.²⁶ By 2012, the Khan Academy had delivered over 240 million lessons and *Time* magazine recognized Khan as one of the one hundred most influential people in the world.²⁷ That same year, *Forbes* magazine described the digital education revolution as a “One Trillion Dollar Opportunity” with Salman Khan portrayed as the leader of that revolution in the magazine’s cover photo.²⁸

The Khan Academy has received significant financial support from the Bill & Melinda Gates Foundation, Google, and John and Ann Doerr, and hosts digital tutorials for medical school students, teachers, and computer scientists, in addition to elementary, high school, and college students.²⁹ Recently, the Khan Academy partnered with medical school professors to map the entire medical school curriculum. In the summer of 2013, it hosted medical school professors at week-long digital technology workshops to teach them how to produce medical school content that can be hosted on the Khan Academy website, making that content accessible to medical

25. Telephone Interview with Rishi Desai, Content Producer, Khan Academy (May 22, 2013). The law professor who contacted the Khan Academy was this author.

26. Initially, Sal Khan used nothing more than a webcam and YouTube. The recordings remain surprisingly simple and easy for educators to produce, even for those who are not “tech savvy.”

27. Bill Gates, *The World’s 100 Most Influential People: 2012—Salman Khan*, *TIME* (Apr. 18, 2012), available at http://www.time.com/time/specials/packages/article/0,28804,2111975_2111976_2111942,00.html.

28. Michael Noer, *One Man, One Computer, 10 Million Students: How Khan Academy Is Reinventing Education*, *FORBES* (Nov. 2, 2012, 10:00 AM), available at <http://www.forbes.com/sites/michaelnoer/2012/11/02/one-man-one-computer-10-million-students-how-khan-academy-is-re-inventing-education/>.

29. KHAN ACAD., <http://www.khanacademy.org/> (last visited June 15, 2013).

students (and anyone else) around the globe. While professors from Harvard Medical School and the Stanford University School of Medicine are reaching out to the Khan Academy to explore opportunities for collaboration, the legal academy has shown no interest, according to Desai.³⁰

Legal educators have not limited their disinterest to the Khan Academy. Of the hundreds of massive open online courses (MOOCs) being hosted by the three other major players in the MOOC universe—Coursera, Udacity, and edX—only four MOOCs were taught by U.S. law professors at the time this Essay was drafted.³¹ The dearth of legal educators in the MOOC universe is especially surprising considering that elite universities are leading this effort to globalize and democratize higher education through digital technologies.³²

30. Telephone Interview with Rishi Desai, Content Producer, Khan Academy (May 22, 2013); *see also* Carl Straumshein, *Flipping Med Ed*, INSIDE HIGHER ED. (Sept. 9, 2013), <http://www.insidehighered.com/news/2013/09/09/stanford-university-and-khan-academy-use-flipped-classroom-medical-education>.

31. The only MOOCs I could find taught by U.S. law professors in May 2013 were all offered through Coursera. They include: “Introduction to Environmental Law and Policy” (Don Hornstein of the University of North Carolina at Chapel Hill), “Constitutional Law” (Akhil Reed Amar of Yale Law School), “Introduction to International Criminal Law (Michael Scharf of Case Western Reserve University), and “Law and the Entrepreneur” (Esther Barron and Steve Reed of Northwestern University). *Courses*, COURSERA, <https://www.coursera.org/courses?orderby=upcoming&cats=law> (last visited June 15, 2013). For more information on the rise of MOOCs and their potential impact on legal education, *see* Philip G. Schrag, *MOOCs and Legal Education: Valuable Innovation or Looming Disaster?*, GEO. PUB. L. RES. PAPER NO. 13-055 (2013).

32. At the beginning of the twenty-first century, the global community is watching leading universities launch entire courses in digital environments. In 2000, Columbia University launched “Fathom.” Katie Hafner, *Lessons Learned at Dot-Com U.*, N.Y. TIMES, May 2, 2002, available at <http://www.immagic.com/eLibrary/ARCHIVES/GENERAL/GENPRESS/N020502H.pdf>. One year later, Oxford University, Stanford University, and Yale University launched “AllLearn.” Donald MacLeod, *Oxford Online Learning Project Folds*, GUARDIAN, Mar. 19, 2006, available at <http://www.guardian.co.uk/technology/2006/mar/20/elearning.highereducation>. While both of these online ventures effectively failed, the Massachusetts Institute of Technology and Harvard University launched edX just a few years later in May 2012. Nick Anderson, *edX Turns 1: Now What?*, WASH. POST, May 2, 2013, available at http://www.washingtonpost.com/local/education/edx-turns-1-now-what/2013/05/02/649236e0-b32d-11e2-9a98-4be1688d7d84_story.html. The massive open online education platform has skyrocketed and describes itself as “the future of education for anyone, anywhere, anytime.” *edX: The Future of Online Education for Anyone, Anywhere, Anytime*, N.Y. KIDS CLUB BLOG (Sept. 10, 2013), <http://blog.nykidsclub.com/parenting/edx-the-future-of-online-education-for-anyone-anywhere-anytime/>. More than 150,000 students from 160 countries

The disinterest of legal educators in new technologies can partially be explained by the legal academy's deep commitment to a culture and tradition of Socratic methodology and institutional values that emphasize scholarship far above teaching.³³ Another explanation is that law professors are smart enough to let other faculties serve as the guinea pigs in the development of, and experimentation with, digital tools and methodology in order to conserve limited law school resources. According to Paul McGreal, Dean of the University of Dayton School of Law, "A lot of these teaching methods require more resources from law schools and teachers. Let's make sure they work."³⁴ Another part of our resistance may be fear of our own obsolescence, or confidence that even if our profession becomes obsolete, transformation in legal education happens so glacially slow that even someone who is a junior professor today will escape the consequences of modernity for the duration of his career.³⁵

When we do find the time or courage to reflect on teaching, we tend to align ourselves with residential liberal arts educators who

enrolled in edX's first course (including individuals as young as fourteen years and as old as seventy-four years). *Id.*

In less than a year, more than 200 higher education institutions expressed an interest in collaborating with edX. *What is edX*, EDX EDGE, <https://edge.edx.org/faq> (last visited May 31, 2013). The universities who are part of the edX consortium form an "X affiliate," such as "MITx" or "Harvardx," to distinguish between the university and its online affiliate. *Id.* Today, edX offers free courses from "X" affiliates of the University of Berkeley, Wellesley College, University of Texas, McGill University, Australia National University, Georgetown University, University of Toronto, Rice University, Delft University of Technology, and École Polytechnic Fédérale de Lausanne, while more are being continuously added. Press Release, edX, edX Expands xConsortium to Asia and Doubles in Size with Addition of 15 New Global Institutions (May 21, 2013), available at <https://www.edx.org/alert/edx-expands-xconsortium-asia-and/867>. Because edX courses are ungraded, Harvard University students do not receive academic credit for successful completion of a HarvardX course; rather, courses are viewed as enrichment of traditional face-to-face coursework. *What is edX?*, MIT NEWS (May 2, 2012), <http://web.mit.edu/newsoffice/2012/edx-faq-050212.html>.

33. Karen Sloan, *Action on Law School Reform*, NAT'L L.J. (Aug. 22, 2011), <http://www.law.com/jsp/nlj/PubArticleNLJ.jsp?id=1202511661932>.

34. *Id.*

35. See Catherine Dunham & Steven I. Friedland, *Portable Learning for the 21st Century Law School: Designing a New Pedagogy for the Modern Global Context*, 26 J. MARSHALL J. COMPUTER & INFO. L. 371, 392 (2009) (Shifting from teachers having all of the control over the structure of the course to students having more choice and more responsibility in their education is going to take time. "The notion of adaptation often conflicts with the idea of stare decisis, controlling precedent—where looking to the past often provides important keys to the future.").

maintain that teaching best occurs through “great conversations” between a sage and her students.³⁶ We argue that the digitalization of education dehumanizes education and strive to portray ourselves as the defenders of high quality education for our students even though a meta-analysis study suggests blended learning environments (those that integrate both digital and face-to-face instruction) are at least as effective for adult learners as courses taught entirely in a classroom environment.³⁷ In other words, digital education tools are not an “all or nothing” choice for legal educators. As with all pedagogical tools, we must be thoughtful and intentional in course design and the methods and tools engaged.

When legal educators do rely heavily on human interactions, we must do so with humility, recognizing that as much as we might like to think of ourselves as great sages, simple math reminds us that nearly half of us are below average.³⁸ Thus, as a community, we are challenged to help the large number of us who are below average to identify and develop methods and resources to improve our teaching both individually and collectively. Moreover, even for those of us who are above average or even truly “great sages,” none of us pretends for a moment that students learn solely through conversations with us, nor should they. Thus, we supplement our human interactions with text and, in some classes, problem solving, simulations, observations, or practice. Regardless of tools or

36. See Cheris Kramarae, *Technology, Policy, Gender, and Cyberspace*, 4 DUKE J. GENDER L. & POL’Y 149, 154 (1997) (Many teachers follow the “sage-on-the-stage model whereby they believe that they are the experts who determine what knowledge the expert needs to impart to the students.”).

37. BARBARA MEAN ET AL., U.S. DEP’T OF EDUC., EVALUATION OF EVIDENCE-BASED PRACTICES IN ONLINE LEARNING: A META-ANALYSIS & REVIEW OF ONLINE LEARNING STUDIES (Sept. 2010), available at <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/final-report.pdf>.

38. The American legal academy is not a place “where all of the women are strong, all the men are good looking, and all the children are above average,” any more than Garrison Keillor’s fictional town of Lake Wobegon from the radio program *A Prairie Home Companion*. Garrison Keillor, *A Prairie Home Companion: The Lake Wobegon Effect*, AM. PUB. MEDIA (Apr. 1, 2013), http://www.publicradio.org/columns/prairiehome/posthost/2013/04/01/the_lake_wobegon_effect.php. Indeed, the closing phrase from Keillor’s radio show monologue has been used to describe “a pervasive human tendency to overestimate one’s achievements” (commonly referred to as “the Lake Wobegon effect”). *Id.* However, Keillor himself notes that the “Lake Wobegon effect” misinterprets the closing line of his weekly radio show and observes that a lack of humility can ultimately prove fatal. *Id.*

methodology, we must always remember the importance of integrating meaningful human interactions because it is the human element of those “great conversations” that imbue meaning and resonance for most students.³⁹

At the same time that we value and protect the “great conversations” that remain a core practice in legal education, we must be careful not to ignore the robust resources that are available to enhance our face-to-face instruction with text, images, experiences, written application, analytical reflection, or any number of other extensions from the classroom. No education is purely conversational nor should it be. Would a person best understand international criminal law through a face-to-face instructional hour with a professor that is purely verbal or would it be better to enhance that hour with extensions, such as readings of international court of justice decisions, images of war criminals and victims, and digital recordings of proceedings in the International Court of Justice? Better yet, why not extend the face-to-face instruction with field trips to the International Court of Justice, mass grave sites, or meetings with victims so that the student’s senses and studies are fully immersed in a multi-dimensional experience?

Pedagogical research confirms what we would suspect: the more senses we engage, the more likely our students will learn and remember,⁴⁰ so why not find ways to engage our students on as many levels as possible? When full immersion is not feasible, why not engage simulations or, at least, enrichment, especially now that digitalization has made course enrichment so easy and affordable? Why enslave our students (and ourselves) to time and space in an era where these boundaries no longer exist?

39. See Kramarae, *supra* note 36, at 155–156 (Many students benefit and appreciate communication involving interaction between the student and the teacher.).

40. Robin A. Boyle, *Employing Active-Learning Techniques and Metacognition in Law School: Shifting Energy from Professor to Student*, 81 U. DET. MERCY L. REV. 1 (2003).

B. Many Mainstream Digital Solutions Are Already Integrated at Law Schools

The legal academy has not been entirely absent from the digital realm.⁴¹ Many digital solutions, especially those overlapping with law practice, have already become mainstream in modern legal education, including digital course websites, online legal databases (Westlaw and LexisNexis), email, the Internet, law practice management software in law school clinics,⁴² and digital citation programs.⁴³ Other digital solutions are beginning to appear in an increasing number of classrooms, including adaptive learning programs such as “Core Grammar for Lawyers,” digital imagery (stills and movies), e-discovery in clinics, and digital textbooks (both static and interactive).⁴⁴ Externships are beginning to utilize online conferencing for site visits and class participation involving students placed in distant locations.⁴⁵ And, of course, devices conveying all of these digital resources are now mainstream with computers, tablets, and smartphones being engaged during most waking hours by law faculty and students alike. Indeed, the vast majority of our incoming students are digital natives who rightfully expect we will adapt our teaching methods and resources to educate them using tools commonplace in both the legal industry and society at large, especially considering the fact that they are paying an average of \$40,500 per year for our educational services at private law schools.⁴⁶

41. Recent scholarship includes, for example, LEGAL EDUCATION IN THE DIGITAL AGE (Edward Rubin ed., Cambridge Univ. Press 2012); DAVID I.C. THOMSON, LAW SCHOOL 2.0: LEGAL EDUCATION FOR A DIGITAL AGE (2009); and Schrag, *supra* note 31.

42. See *Online Legal Practice Mgmt. Software*, CLIO, <http://www.goclio.com/> (last visited June 15, 2013) (an example of law practice management software).

43. See generally THOMSON, *supra* note 41.

44. See, e.g., STUCKEY, *supra* note 24, at 118–119; Babs Deacon, *eDiscovery Curricula at U.S. Law Schools*, EDISCOVERY J. (Dec. 3, 2012), <http://ediscoveryjournal.com/2012/12/ediscovery-curricula-at-us-law-schools/>.

45. In 2006, Willamette became an industry leader in implementing this practice, which significantly diversified our students’ externship opportunities. Now, other law schools are following in our footsteps. Remote classroom attendance using digital technologies has been proposed for nursing mothers and disabled students attending Willamette’s law school, to help support underrepresented members of the law school population.

46. In 2012, the average law school tuition for private schools was \$40,500, and \$23,600 for public schools. Ethan Bronner, *Law Schools’ Applications Fall as Costs Rise and Jobs Are Cut*, N.Y. TIMES, Jan. 31, 2013, at A1.

1. Some Legal Educators Are, in Fact, Digital Education Pioneers

One could argue that legal educators pioneered digital education when Harvard Law School and the University of Minnesota Law School incorporated the Center for Computer-Assisted Legal Instruction (CALI) over three decades ago in 1982.⁴⁷ Today, CALI hosts over 950 online interactive tutorials available in more than thirty-five law subjects.⁴⁸ Nearly every law school in the United States is a member of CALI.⁴⁹ Westlaw offers links to CALI lessons in its course management program, TWEN, so that law faculty can easily integrate the lessons into their courses.⁵⁰ In addition to online lessons, CALI provides free, open books for legal education, legal form generation tools for legal aid clinics, free online courses, and social media programs for courses such as polling and blog management.⁵¹ However, despite the fact that CALI was created by law schools for law schools, and encourages the free and open exchange of law school content, CALI's lessons seem not to be actively utilized by the vast majority of law school professors.⁵² Why not?

47. Austin Groothuis, *About CALI*, CALI (July 15, 2011), <http://www.cali.org/content/about-cali>. Even in 2013, Harvard Law School continues to provide leadership as a digital education pioneer both through its creation and maintenance of H2O, which is a suite of free online legal education tools, and through offering one of edX's first law school MOOCs. The course was "Copyright" and was taught by William W. Fisher, III, starting in January 2013. H2O, HARV. UNIV., <http://h2o.law.harvard.edu/> (last visited Oct. 8, 2013); Dev E. Patel, *Law School Debuts First Online Course*, HARV. CRIMSON, Jan. 31, 2013, available at <http://www.thecrimson.com/article/2013/1/31/law-school-edx-courses/>.

48. Groothuis, *supra* note 47.

49. Austin Groothuis, *Who Can Join CALI?*, CALI (July 15, 2011), <http://www.cali.org/faq/8054>.

50. See generally WESTLAW, PROFESSOR'S QUICK GUIDE TO TWEN (2008), available at <http://lscontent.westlaw.com/images/banner/SurvivalGuide/PDF08/08ProfQuickGuidetoTWEN.pdf>.

51. Austin Groothuis, *CALI Tools*, CALI (July 24, 2009), <http://www.cali.org/content/cali-tools>.

52. I was unable to find data on the usage of CALI lessons and so rely on my personal experience both as a law student and law professor, including conversations with my colleagues and students about the extent to which CALI lessons are utilized. From these experiences and conversations, it appears that law professors routinely link CALI lessons to the professors' course websites hosted on Westlaw's TWEN site. Indeed, TWEN is designed to link default CALI lessons to course websites according to the type of course. Some students access these lessons as a study aid and several are enthusiastic about the lessons. However, it appears that

It is possible the legal academy simply lacks the resources (especially time and money) and expertise necessary to create software and digital materials that can compete with corporations in a \$3.75 billion publishing industry.⁵³ More than thirty years after CALI was first founded, legal educators have yet to map out and populate the entire law school curriculum with relevant digital lessons, or even simply the bar courses.⁵⁴ When one compares not just the comprehensiveness but the quality of the CALI materials to Thomson Reuters' BarBri, for example, it is clear legal educators either cannot or choose not to compete in the development and distribution of cutting-edge digital education technologies. At the same time, CALI is a forerunner to edX and the Khan Academy in the democratization and globalization of education. Like both organizations, CALI makes its materials available for free and encourages and supports the publication of free legal textbooks and the exchange of course materials.

Moreover, CALI has demonstrated how the collaboration between legal educators and for-profit corporations benefits our students, serving as a model for other legal educators to follow carefully. The distribution of CALI lessons through Westlaw's TWEN appears to benefit both organizations, as well as legal educators and, most importantly, law students. In short, collaborations between non-profits such as CALI and for-profits such as Thomson Reuters have significant potential and should be explored. In the case of collaborative opportunities between non-profit digital education organizations such as CALI and the Khan Academy or edX, for example, the interests and values are even more closely aligned and collaborative opportunities should be a top priority for both.

More recently, a small group of law school professors founded "Legaled," informally described as a Khan Academy for law

relatively few professors require students to use the lessons or integrate them into course design. Rather, they are offered as an optional supplement for the students.

53. Julie Bosman, *Publishing Gives Hints of Revival, Data Show*, N.Y. TIMES, Aug. 9, 2011, at C1.

54. Although CALI has over 800 lessons, not all of the courses or topics covered in law school are covered in the CALI lessons. See *CALI Lessons*, CALI, <http://www.cali.org/content/cali-lessons> (last visited Sept. 1, 2013).

schools.⁵⁵ LegalED aims to move law school content online through recorded lectures so law students can watch the lectures at their convenience as many times as they need.⁵⁶ The founders hope that by moving content delivery and assessment online, faculty time and energies are freed to focus on more face-to-face tutoring, lab-type work, and problem solving with students.⁵⁷ Since personnel costs are the single most expensive part of the law school budget,⁵⁸ teaching efficiencies could create significant savings at a time when they are most needed. And faculty could devote more of their time and energy to more personalized, hands-on instruction of students.

The foundational reasons for the development of LegalED and similar resources seem sound. We know the most recent research on adult learning indicates that certain pedagogical techniques are much more effective than others for mastery.⁵⁹ For example, we know problem solving and applied learning opportunities are much more likely to lead to retention of material than lectures.⁶⁰ But how does one facilitate the application of doctrinal concepts in a large group setting, which is the traditional law school model of instruction? By moving at least the lectures online, where students can watch the lectures at their own pace and replay those concepts they struggle with, faculty members are free to turn their classrooms upside down and turn class time into a forum where students can apply legal doctrines to simulated problems with the guidance of the professor. They might even do so in small groups since adult learning research

55. The author is on the advisory board of LegalED. LegalED has been invited to collaborate with “Educating Tomorrow’s Lawyers” (an Initiative at the Institute for the Advancement of the American Legal System at the University of Denver) and the Center for Innovation at University of Utah, but remains independent. Other board members are from Stanford Law School, University of Michigan Law School, Washington University School of Law, Villanova University School of Law, American University Washington College of Law, and more.

56. *Our Vision*, LEGALED, <http://legaledweb.com/our-vision/> (last visited Sept. 1, 2013).

57. *Why We Created LegalED*, LEGALED, <http://legaledweb.com/why-we-created-legal-ed/> (last visited June 15, 2013).

58. Nora V. Demleitner, *Introduction: The Challenges to Legal Education in 1973 and 2012: An Introduction to the Anniversary Issue of the Hofstra Law Review*, 40 HOFSTRA L. REV. 639, 650 (2012).

59. See Boyle, *supra* note 40 (Students do not learn best by either lecture or the Socratic Method because they require more active learning.).

60. *Id.*

also demonstrates the importance of collaborative peer work in adult learning settings.⁶¹ To ensure students have truly mastered a concept, the professor can also assign additional problems for the students to complete online. Once competency has been demonstrated through the online assessment tools, the student can move on to other topics.

Critics of this approach point out that most law school faculty seldom lecture anyway, preferring instead to use Socratic dialogue as part of the case method.⁶² Since this pedagogical method is considered more engaging and analytical than the traditional lecture, is it wise to convert that content to digitalized delivery using an inferior methodology? Many would say no. After all, the Socratic methodology used in most first-year courses was one of the few aspects of law school teaching praised in *Educating Lawyers*, the 2007 study of law schools conducted by the Carnegie Foundation for the Advancement of Teaching.⁶³ If we are going to harness digital technologies to improve legal education, perhaps we should focus on those areas where we struggle most.

On the other hand, there continue to be many critics and criticisms of the Socratic method. Over thirty-five years ago, Suzanne Dallimore criticized the laziness fostered by an over-reliance of twentieth century law professors on standardized casebooks and the Socratic method:

The over-use of the Socratic method may tend to encourage laziness on the part of both students and professors. Any teaching method which allows professors to use the same casebooks and notes year after year certainly does not motivate them to try alternate or innovative methods. It may be that such a system reduces professors' motivation to keep up with new

61. See Linda S. Anderson, *Incorporating Adult Learning Theory Into Law School Classrooms: Small Steps Leading to Large Results*, 5 APPALACHIAN J.L. 127 (2006) (discussing various adult learning research that encourages group learning).

62. See generally Steven I. Friedland, *How We Teach: A Survey of Teaching Techniques in American Law Schools*, 20 SEATTLE U. L. REV. 1, 28 (1996) (A survey showed that out of 383 first-year law professors, 370 or 97 percent of them used the Socratic Method at least some of the time in their first-year law courses.).

63. SULLIVAN, *supra* note 24 at 186.

developments or even to prepare thoroughly for class presentations.⁶⁴

Regardless of one's view of the Socratic method, the fact is many law school classes do not use the Socratic method; therefore, Legaled's database of law school lectures could serve those classes well.⁶⁵ Even in those classes where the Socratic methodology is used, supplementation (even if optional) with more direct, traditional methods could benefit students and help them to increase comprehension which, in turn, could increase their success in law school, bar exam passage, and launching their professional careers. Some critics point out that, at least for the bar courses, supplemental lectures already exist and are distributed through BarBri and other commercial corporations.⁶⁶ But, like CALI, access to the Legaled database is free. Unfortunately, however, also like CALI, Legaled is dependent on law faculty to produce these materials without financial incentives, remuneration, or scholarship credit at most institutions and so it is neither comprehensive nor internally consistent.

C. Law Schools Discover the Efficiencies of Digital Tools for Remediation

The potential benefits of partnerships between legal educators and publishers, software developers, and programmers is exemplified well in the recent development of "Core Grammar for Lawyers," an adaptive learning software program focused on remedial grammar and punctuation instruction for law students and lawyers.⁶⁷ Two law

64. Suzanne Dallimore, *The Socratic Method—More Harm than Good*, 3 J. CONTEMP. L. 177, 182 (1977). "The Socratic Method does not really teach one to think like a lawyer. At best, it teaches one to think like a litigator." Stephen M. Bainbridge, *Reflections on Twenty Years of Law Teaching*, 56 UCLA L. REV. DISC. 13, 16 (2008).

65. See Donald G. Marshall, *Socratic Method and the Irreducible Core of Legal Education*, 90 MINN. L. REV. 1, 2 (2005) (pointing out that the use of the Socratic Method has all but disappeared in the second- and third-year law courses, and is quickly declining in first-year courses).

66. Although I have not witnessed this discussion publicly, I have heard these criticisms in my own discussions with law school colleagues when I argue for legal educators to take a greater leadership role in the design and production of digital resources for our students.

67. CORE GRAMMAR FOR LAWYERS, <http://www.coregrammarforlawyers.com> (last visited June 15, 2013).

school professors partnered with Carolina Academic Press to develop the program.⁶⁸ “Core Grammar for Lawyers,” which was first released in 2011, has proved so popular that Carolina Academic Press, one of the smaller publishers remaining in the legal education publishing market, has decided to prioritize the development, publication, and marketing of other digital education tools over more traditional law school texts in the coming years.⁶⁹

Carolina Academic Press is not the only publisher, nor the first legal education publisher, to develop adaptive learning software. Thomson Reuters’ BarBri offers “AMP.”⁷⁰ AMP is primarily geared towards bar exam preparation. An informal survey of adaptive learning software suggests AMP is arguably the most advanced (although far from perfect) adaptive learning program on the legal education market.⁷¹ However, there are others. Kaplan has developed “Smart Reports” for test preparation, including the Law School Admissions Test (LSAT).⁷² LexisNexis is also developing adaptive learning programs such as “Interactive Citation Workstation,” which is used in many law schools.⁷³

One of the likely reasons for the popularity of “Core Grammar for Lawyers” is that legal research and writing is one of the most labor-intensive points of instruction at the law school. As with so many students entering college and universities across the country at both the college and graduate school level, many of our students lack basic

68. *Id.*

69. Since 2011, there have been seventy schools that have generally adopted it, and that number is estimated to become over eighty by the end of 2013. E-mail from Carolina Academic Press, to author (June 14, 2013) (on file with author).

70. *Barbri AMP*, BARBRI, <http://www.barbriamp.com/> (last visited Sept. 1, 2013).

71. The survey was conducted primarily during summer 2012 as part of a Hewlett grant award from the President of Willamette University to the Curriculum Committee at Willamette University College of Law. The proposal was titled, “Harnessing Digital Technologies in Legal Education,” and was intended to allow the Committee “to survey the digital educational technologies that are currently available for law schools.” Hewlett Grant Proposal on Harnessing Digital Technologies in Legal Education from Willamette University College of Law Curriculum Committee for Steve Thorsett, President of Willamette University (February 17, 2012) (on file with author).

72. *LSAT Advantage On Demand*, KAPLAN, <http://www.kaptest.com/LSAT/LSAT-Prep/On-Demand/lsat-on-demand.html> (last visited Oct. 1, 2013).

73. *Interactive Citation Workstation*, LEXISNEXIS, <http://www.lexisnexis.com/icw/default.aspx> (last visited June 15, 2013).

writing skills.⁷⁴ Thus, legal research and writing faculty are challenged to help students develop basic legal writing competency (essentially, legal research and writing faculty are required to provide remedial instruction) in addition to teaching students how to conduct legal analysis, formulate legal arguments, write legal briefs and other legal documents, and conduct legal research—all in the span of approximately fifty-two instructional hours over the course of twenty-six weeks.

“Core Grammar for Lawyers” moves a significant amount of that remediation out of the classroom. Incoming students can take the grammar proficiency test and, if they pass all areas, they would not need to take any of the online tutorials. However, if they demonstrate incompetency in any one area, they would take the tutorial only for that area (or areas if more than one) until they demonstrate competency. Moving remedial work like this out of the law school classroom and online through individualized instruction allows the law schools’ legal research and writing faculty to devote more of their energies to teaching students *legal* writing, thus making them better lawyers.

What other programs can be developed to free faculty time and energy to focus on making students better lawyers? Could we develop digital coursework for remediation in areas such as “Civics for Lawyers,” “Accounting for Lawyers,” “Logic for Lawyers,” or “Legal Ethics & Professional Responsibility”? We certainly would not be the first professional graduate program to do so.

D. The Use of Digital Technologies at Other Professional Graduate Schools

To find courage to embrace new technologies and pedagogies, trepidatious legal educators simply need to look across campus to other professional graduate schools. Business schools, medical schools, and schools of education all provide numerous examples of how professional graduate schools can harness digital technologies to

74. Debra Cassens Weiss, *Is ‘No Child Left Behind’ Creating Subpar Law Students?*, A.B.A. J. (Mar. 14, 2013), available at http://www.abajournal.com/news/article/is_no_child_left_behind_culture_creating_subpar_law_students/.

benefit their students. These technologies include, for example, adaptive learning software, online lectures, simulated role plays, digital assessments of learning outcomes, and customized textbooks that are less expensive, more relevant, and sustainable.

For example, Harvard Business School requires all incoming students to complete finance and accounting modules online before orientation to ensure that students share a common level of proficiency.⁷⁵ The digital modules are created by Harvard and made available through Harvard Publishing.⁷⁶ Each module includes a mix of text and imagery, and includes a pre-test and two final exams.⁷⁷ If the student fails, the correct answers are not revealed and he or she can review the material again and take the second test. If the student fails both the pretest and both final exams, he or she must contact the school to determine a course of action.⁷⁸

Similarly, at Harvard Medical School, Professor Price Kerfoot recently directed his innovation towards education technology by designing an adaptive learning software program based on the theory of “spaced education.”⁷⁹ Spaced education has been proven to increase retention across time in numerous clinical trials.⁸⁰ The approach introduces content in a test format repeatedly over time.⁸¹ Content introduced across time and in a testing format is shown to

75. *Harvard Business School On-Line Modules for Accounting & Finance Now Available to HLS Students*, HARV. L. SCH., <http://www.law.harvard.edu/academics/registrar/harvard-business-school-on-line-modules-for-accoun.html> (last updated Oct. 10, 2008).

76. Timothy A. Luehrman, *Finance Online Course: Introductory Section*, HARV. BUS. PUBL'G (Feb. 2, 2010), <http://cb.hbsp.harvard.edu/cb/product/6000-HTM-ENG>; Paul M. Healy & David F. Hawkins, *Financial Accounting Online Course: Introductory Section*, HARV. BUS. PUBL'G (Jan. 8, 2010), <http://cb.hbsp.harvard.edu/cb/product/6002-HTM-ENG>.

77. *Harvard Business School On-Line Modules for Accounting & Finance Now Available to HLS Students*, *supra* note 75.

78. Memorandum on assessment and remediation programs for entering graduate school students at select elite graduate schools from Trevor Findley, Research Assistant to Willamette University College of Law Curriculum Committee, for author (July 24, 2012) (on file with author).

79. Press Release, Isaac Kohlberg, SpacedEd Launches Innovative Learning Technology Licensed from Harvard University, Harvard University (July 7, 2009), available at <http://www.techtransfer.harvard.edu/mediacenter/pr/release/20090707-01.php>.

80. Craig Lambert, *Learning by Degrees*, HARV. MAG., Nov.-Dec. 2009, available at <http://Harvardmagazine.com/2009/11/spaced-education-boosts-learning>; *The Science Behind Qstream*, QSTREAM, <http://qstream.com/products/the-science-behind-qstream/> (last visited June 16, 2013).

81. Lambert, *supra* note 80.

improve both the acquisition and retention of content.⁸² Harvard applied for a patent on the spaced education technology and has licensed it to a company that now offers a variety of course modules online.⁸³ The technology sends information divided into three-minute segments to a learner's mobile device or computer every few days, and adapts to the gaps in the learner's knowledge so that content delivery becomes personalized.⁸⁴ The technology is now being used at a variety of medical schools and private companies globally, and the White House recently awarded Dr. Kerfoot the Presidential Early Career Award (PECASE) for his education technology work.⁸⁵

The list goes on and on. The Wharton School of Business at the University of Pennsylvania requires incoming students to take an online mathematics exam.⁸⁶ Students who do not pass are then required to take a pre-term math class in-person during orientation.⁸⁷ The Kellogg School of Management at Northwestern University uses a combination of online assessments and in-person or online remediation coursework.⁸⁸ Remediation in mathematics is made available to students, and digital review materials are available online in accounting, statistics, and economics.⁸⁹ Digital assessments are available at the end of the online coursework. The assessments help determine the level of coursework (regular or accelerated) the student should enroll in, with the possibility of waiving the course altogether.⁹⁰ Can we imagine law students being able to test-out of their law school classes?

82. *Id.*; B. Price Kerfoot & Erica Brotschi, *Online Spaced Education to Teach Urology to Medical Students: A Multi-Institutional Randomized Trial*, 197 AMER. J. SURG. 89-95 (2009).

83. Lambert, *supra* note 80.

84. *Id.*

85. PECASE Award Presented to VA HSR&D Career Dev. Awardee B. Price Kerfoot, U.S. DEP'T VETERANS AFF. (Oct. 19, 2011), http://www.hsr.d.research.va.gov/for_researchers/awards/pecase-2011.cfm#UokydfkXQ2k.

86. MBA Program, WHARTON U. PA., https://spike.wharton.upenn.edu/mbaprogram/preterm/preterm2013/Weekly_Email_7-2-13.html (last visited Sept. 1, 2013).

87. *Id.*

88. Francesca Di Meglio, *Ready, Set, B-School: Hitting the Books*, BUSINESSWEEK.COM (July 18, 2011), <http://www.businessweek.com/business-schools/ready-set-bschool-hitting-the-books-07182011.html#p1>.

89. *Id.*

90. MBA Program, KELLOGG SCH. MGMT., http://www.kellogg.northwestern.edu/departments/meds/programs/mba_program.aspx (last visited Sept. 2, 2013).

Stanford's Graduate School of Education has a program devoted entirely to digital education.⁹¹ The program, "Education's Digital Future," offers coursework focused on digital education technologies, lectures, and town hall meetings about the transformation of education in the twenty-first century.⁹² Acknowledging that the program's faculty does not have all of the answers, they are asking questions such as: "How do people learn best digitally? What does educational equity mean in a digital world? Who will profit in a greatly expanded market for digital educational products, and who will make the rules for this marketplace? How will quality standards for digital learning be determined and enforced?"⁹³ Moreover, Stanford joined EdX in April 2013, and the University's first online coursework was launched on EdX just a few months later.⁹⁴

A variety of professional graduate schools are demonstrating to legal educators that modernity is upon us. Digital technologies are being harnessed to assess and teach graduate school students on a more individualized basis, and the practice promises to continue to expand. The potential of these technologies has yet to be fully envisioned, but leaders are emerging. Will law schools be left behind? Not if we stop pretending that our future can be found in 1971.⁹⁵

IV. ENVISIONING THE FUTURE OF LEGAL EDUCATION

The world that twentieth century law professors once knew is no more. Fortunately, we stand at a crossroads where we have the opportunity to build a new one. This is our Gutenberg moment. What is the ideal future for legal education? What do students need in the twenty-first century? What do their communities need from them?

91. *Education's Digital Future*, STAN. U. GRAD. SCH. EDUC., <http://edf.stanford.edu/> (last visited June 16, 2013).

92. *Id.*

93. *Educ.'s Digital Future at Stanford*, STAN. U., <http://edf.stanford.edu/education-digital-future> (last visited June 16, 2013).

94. Brad Hayward, *Stanford Online Coursework to be Available on New Open-Source Platform*, STAN. NEWS (June 11, 2013), <http://news.stanford.edu/news/2013/june/open-source-platform-061113.html>.

95. *The Paper Chase* was published in 1971. JOHN JAY OSBORN, *THE PAPER CHASE* (Houghton Mifflin 1971).

How can we best ensure that our students will have the knowledge, skills, and values to carry our world forward in a rapidly contracting global community filled with conflict and inequity?

The first step is to cast off outdated constructs that have hamstrung law schools into a twentieth century model far too expensive and largely irrelevant to modern legal practice. Bar exams and accreditation standards should be revolutionized and modernized. Neither should dictate legal education content or pedagogy. Rather, a truce must be called in the decades-long power struggle between the legal academy and the bar so that together we can map a comprehensive legal education curriculum driven by the legal needs of our students and their communities. Curriculum mapping can be adapted and individualized according to a law student's professional goals and educational needs, as well as those of the communities served. A law student who plans to become an international mediator can have one curriculum, while another law student, who plans to become a litigator in a small town, can have a different one, and a third student, who plans to become a legal educator in a large city, can have yet another.

Indeed, the role of twenty-first century law schools should be to know every single student individually and to adapt curriculum content and delivery to their unique needs and goals starting with the law school application process. Where would we possibly find the resources to do this? Within our own walls. In 2011–2012, U.S. law schools had an average student-to-faculty ratio of 15:1.⁹⁶ If law schools were restructured to relieve law school faculty of most of their traditional coursework responsibilities, it would free twenty to twenty-five hours per week for most individual faculty members.⁹⁷

96. A.B.A., STUDENT FACULTY RATIO SEMESTER SYS. SCH. 1978–2011, *available at* http://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_t_o_the_bar/statistics/student_faculty_ratio.authcheckdam.pdf (last visited June 16, 2013).

97. This estimate is based on the author's own observations as to how she and her colleagues allocate their time over an average week during a normal academic semester, and includes preparing for class, actual teaching, and meeting with students outside of class for tutoring and support. She could find no research to support or refute her observations. However, Brian Tamanaha recently documented that teaching loads historically have gone down from 16 credit hours per year in 1934 to 7.94 credit hours at the ten highest-ranked law schools in 2006, and 11.13 hours for professors at law schools in the third and fourth tiers of *U.S. News & World Report's* law school rankings. BRIAN Z. TAMANAHA, FAILING LAW SCHOOLS 40–42 (2012). At

Without traditional lectures, we no longer would be tied to the twenty-six week teaching schedule, and law schools could operate year-round, further reducing the cost of legal education as students complete their legal education more quickly.

Instead of being the “sage on stage,” law school professors would serve as professional mentors and education coaches to a small affinity group of twelve to eighteen students during their entire law school careers. The restructuring of law schools would give each professor-coach the time and opportunity, as well as express responsibility, to get to know each student individually, and to guide him or her through an individualized curriculum developed collaboratively. The professor-coach would help students (1) find the content they need, (2) ensure they are making progress in acquiring content, skills, and values (as demonstrated through appropriate assessments), and (3) spend time problem-solving individually and in small groups as challenges are encountered. The professor-coach would help the students identify externships, simulations, clinical training, jobs, and other opportunities that enable students to launch their professional lives successfully and in accordance with their individual goals.

Sound impossible? Not if law schools stop looking at one another as competitors and start working together as collaborators to support the national community of aspiring lawyers. We must pool our resources. Rather than holding our students hostage at our home institutions, let us combine our resources, perhaps even internationally. In this century, we have, or could develop, the ability to consider as a national community each and every law school applicant individually and to then match each student to the professor-coach and community best suited for her life and

the same time, Tamanaha argues law faculty salaries remain high relative to attorneys, especially when one takes into account quality of life factors. *Id.* at 46–53. He is critical of the fact that the resources saved from the decrease in classroom instructional hours has led to higher tuition costs, both because of the resources devoted to incentives for research and the need for more faculty members to compensate for the reduced teaching loads. *Id.* at 50–52. Clearly, law school faculty must be aware of the fact that most of our positions are largely funded by our students’ payment of tuition. Many of our students incur an alarming amount of debt in paying their law school tuition. *Id.* at 107–25. We owe it to our current and future students to design and manage our law schools in ways that minimize costs while maximizing the effectiveness of the educational methods we choose for them.

professional ambitions. For example, a law school applicant whose goal is to practice estate planning law in Oregon might be matched with potential mentors at the three Oregon law schools with expertise in that practice area who could coach and guide the student through law school, and help launch her career in that practice area in that region. The applicant could then meet with each potential mentor (in person or remotely), and both sides could determine if it appeared to be a promising match. If so, the law school would admit the student and, if interested, she would accept and be assigned to that professor-coach's affinity group. Rankings would be irrelevant because the aspiration of both law schools (collectively) and law school applicants would no longer be to "win" in a vertical applications process based on status according to potentially irrelevant criteria generated by third parties who are sometimes commercially driven. Rather, the goal of everyone would be to generate a highly individualized match for each student with a specific, suitable professor-mentor who would be committed to overseeing, supporting, and customizing that student's legal education.

Once matched, the incoming student would undergo a series of assessments to see whether any remediation was needed in core areas. If so, remedial coursework (digital or in-person) would be assigned. Additionally, once the student's individualized curriculum was mapped-out based on the input of the student, the professor-coach, and an appropriate board of law school faculty and bar members, the student and her professor-coach would confer to find courses the student could waive out of based on her skills, experience, or expertise. If so, appropriate assessments would be conducted and further refinements to the individualized curriculum would be made. All of this potentially could reduce legal education costs for the student because she would only be required to complete the coursework needed on an individualized basis. The professor-coach would then guide and support the student through her customized legal education through the selection of courses and tutorials, enrichment activities, skills acquisition, and observations.

One could imagine circumstances under which a student might not even need to establish physical residency at a law school to enroll, further reducing law school expense. For example, an emerging leader in the Middle East who wanted to learn dispute resolution with

Thomas Stipanowich might enroll remotely in the Straus Institute for Dispute Resolution at Pepperdine University School of Law and complete as much of the coursework as possible remotely, attending only in-person sessions requiring a physical presence. Not requiring students to move across the country or even around the world would significantly reduce the cost of attending law school, especially taking into account the financial, educational, and psychological impact that moving has, not only on the law student, but on her spouse and family as well.

While we are busy “coaching” and helping students in our affinity groups to navigate their legal education, who would actually be educating them? We would, but we would do so more efficiently, once again, by pooling our resources and harnessing digital technologies. Legal educators would partner with legal education publishing and technology companies to develop programs that increase knowledge acquisition and retention based on the latest scientific research, digitize assessment where appropriate, and increase face-to-face learning opportunities with members of local benches and bars in both simulated practice courses and actual courtrooms and law offices. We also would identify our best teachers and support them in developing digitized tutorials accessible by anyone anywhere. The digital tutorials could be embedded in adaptive learning software and could be supported with interactive textbooks further embedded with digital sound and imagery, including links to briefs, opinions, oral arguments, interviews with case parties, and more. Ironically, law would be brought to life through the massive digitalization of a comprehensive law school curriculum. Course communities could be created with social media tools so that students who are studying the same topics at the same time could meet using online discussion rooms or videoconferencing to facilitate peer learning and support. Digital assessments could be utilized to gauge progress and ensure comprehension, and the student’s professor-coach would monitor the student’s performance and ensure appropriate milestones are being reached. Students who are struggling or simply love certain topics could engage further with enrichment materials through educational gaming or other extensions, such as tours of the U.S. Supreme Court (live or digital), role playing (live or simulated), and scholarship (traditional or digital).

As time goes on and digital technologies continue to progress, even those lessons requiring face-to-face simulations with faculty or under direct faculty supervision could become reduced with the development of simulated digital role plays. Imagine “The Sims Get Sued.”⁹⁸ Tens of thousands of law school lessons could be interwoven into simulated digital role plays in which law students could litigate against each other, negotiate with each other, or even launch bar complaints. In the simulated law practice, students could be required to research and draft briefs, generate litigation strategies, and navigate challenging ethical issues. Violate the professional responsibility code? See what an ethics hearing entails. Fail to lay a proper foundation for your evidence? See how the judge rules. Imagine the legal practice lessons that could be embedded in a simulated world where students would experience the challenges and rewards of practicing law in a safe setting supervised and supported by their professor-coach.

Of course, the majority of digital solutions for legal education have yet to be developed, but that is why we need this dialogue. Does the scenario above sound like a dream come true? Then make it happen. Does it sound like a science fiction nightmare? Then join the dialogue and share your vision. Legal education in the twenty-first century will change with or without us. It is our professional responsibility as legal educators to provide thoughtful and visionary leadership in a dramatic new era.

98. “The Sims” is a popular simulated life game that allows players to create virtual characters and environments. More information about “The Sims” can be found at www.thesims.com/en-us. Digital simulations can be adapted for educational purposes and could be used in the law school context to allow students to use highly effective pedagogical methods, such as distributed practice or “spaced ed,” and gaming in affordable virtual environments. Dunlosky, *supra* note 20; B. Price Kerfoot et al., *An Online Spaced-Education Game to Teach and Assess Medical Students: A Multi-Institutional Trial*, *ACAD. MED.* 1443 (Oct. 2012). Although neither of these sources exemplifies digital educational simulations, the former concludes that some learning methods are superior to others; the latter demonstrates the benefits to students and other learners in combining the most advanced understanding of effective learning methods, such as distributed practice and gaming with digital technologies.

V. CONCLUSION

Is twenty-first century technology on a collision course with the nineteenth century pedagogy that dominated law schools throughout the twentieth century? Fortunately, yes. The law school model that endured for nearly 150 years will not survive to see the dawning of the next millennium. The Digital Age has made traditional law school pedagogy obsolete with the demise of the standardized casebook and the rise of digital resources such as the Internet, adaptive learning programs, interactive and customizable textbooks, online assessments and tutorials, and more. The best is yet to come. It is time for legal educators to recognize that digital technologies are transforming society and its educational institutions rapidly and forcefully. Law schools are unable to avoid these transformations. Rather than respond in fear or denial, law school faculties should view the Digital Age as an opportunity to embrace and harness powerful technologies that will help us develop meaningful and relevant pedagogical tools to teach our students more effectively, efficiently, and affordably on an individualized basis. Do we have the vision?