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The Fourth Industrial Revolution and Legal Education

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THE FOURTH INDUSTRIAL REVOLUTION AND LEGAL EDUCATION

Steven R. Smith*

ABSTRACT

A “Fourth Industrial Revolution” (4IR) will dramatically change current law students’ careers. Innovations in technology, business, and social structures will require different and more sophisticated legal services. Law school graduates will be responsible for harnessing, encouraging, and establishing legal controls that offer society the benefits of these new technologies while limiting the undesirable side effects. At the same time, the recurring, repetitive practice of law will begin to disappear as more work is done much cheaper and better by machines.

The 4IR presents extraordinary opportunities for law schools, the legal profession, and graduates, but it also presents significant challenges. To prepare students for professional practice and continuous improvement of the justice system, law schools will have to adjust students’ education and focus the curriculum on ensuring new competencies. Changing law school curriculum is generally more evolutionary than dramatic, but there is not enough time to slowly begin to prepare students for their professional lives in the 4IR. The Article concludes with several ideas about accelerating the process.

* Dean Emeritus and Professor Emeritus, California Western School of Law. © Steven R. Smith. I am grateful to the many friends and associates who assisted with this Article, including William Aceves, Tom Barton, Antonio Garcia, John O’Brien, Laura Padilla, Mark Rothstein, Lera Smith, and James White.

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INTRODUCTION

Legal education is approaching one of the most exciting times in its history. Technological advances may have started a Fourth Industrial Revolution (4IR). The resulting changes in work, communication, medicine, economy, relationships, and government will significantly change what society needs from the legal system and lawyers. That, in turn, means that law school graduates will require more sophisticated legal tools and competencies to meet societal demands.

If law schools and the profession reform to optimize service to the public, such optimization can herald a golden age both for the profession and society. If not done right, however, the results could be economic inefficiency, social dysfunction, and a declining legal system.

Part I considers the claim that the 4IR is underway. Part II describes the changing environment for legal services and legal education, and Part III discusses the new services society will need (and not need) from law school graduates. Part IV addresses the reforms law schools should be contemplating. Part V looks at assessment as a critical part of reform.

I. INDUSTRIAL REVOLUTIONS

A. *The First Three*

“Industrial revolutions” are human interpretations of history, so there is disagreement about almost everything associated with them.¹ Most historians agree that there was *the* Industrial Revolution, which probably began around 1760.² Because these revolutions unfold over

1. See KLAUS SCHWAB, *THE FOURTH INDUSTRIAL REVOLUTION* 6 (Crown Bus. 2017) (2016); Clark Nardinelli, *Industrial Revolution and the Standard of Living*, ECONLIB, <https://www.econlib.org/library/Enc/IndustrialRevolutionandtheStandardofLiving.html> [https://perma.cc/5WVR-3E29].

2. SCHWAB, *supra* note 1; DAVID S. LANDES, *THE UNBOUND PROMETHEUS: TECHNOLOGICAL CHANGE AND INDUSTRIAL DEVELOPMENT IN WESTERN EUROPE FROM 1750 TO THE PRESENT* 41 (1st ed. 1969).

many years, it is difficult to pinpoint a single date.³ A defining feature of the First Industrial Revolution was the use of steam power to mechanize production.⁴ Steam power slowly industrialized the world, resulting in factories and people moving from farms to cities.⁵ This use of steam required a lot of heat, which created booming demand for combustibles, especially coal.⁶ Larger companies, pricier contracts, and significant financial risks created an increased demand for more sophisticated laws and better legal services.⁷

A century later, around 1860, a Second Industrial Revolution began, characterized by electric mechanization and factories organized in production lines.⁸ The Second Industrial Revolution also introduced electric homes and new communication (telephones).⁹ Cities continued to grow, requiring new water and sewage systems.¹⁰ In addition to a focus on public health, medical innovations, like antibiotics, imaging, and histology, resulted in better health and life expectancy.¹¹

Although an exact date is difficult to ascertain—if one exists—the Third Industrial Revolution began between the 1950s and 1960s.¹² It is essentially a digital or “semiconductor” revolution.¹³ Computers and chips further mechanized the physical production of goods and agricultural products, therefore significantly reducing the marginal labor costs of many products.¹⁴ The Third Industrial Revolution also

3. See PHYLLIS DEANE, *THE FIRST INDUSTRIAL REVOLUTION* 1–2 (1st ed. 1965).

4. SCHWAB, *supra* note 1, at 6–7.

5. Bradford L. Smith, *The Third Industrial Revolution: Policymaking for the Internet*, 3 COLUM. SCI. & TECH. L. REV. 1, 2 (2001).

6. See DEANE, *supra* note 3, at 3.

7. See *id.* at 202–19.

8. Andrew Atkeson & Patrick J. Kehoe, *The Transition to a New Economy After the Second Industrial Revolution* 1–2 (Nat’l Bureau of Econ. Rsch., Working Paper No. 8676, 2001), <https://www.nber.org/papers/w8676> [<https://perma.cc/MB3J-6TZL>].

9. *Id.* at 6.

10. See *id.*

11. See Rachel Hajar, *History of Medicine Timeline*, 16 HEART VIEWS 43, 44 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4379645/> [<https://perma.cc/5Z8P-KCX8>] (listing many medical advancements from 1860–1960).

12. Smith, *supra* note 5, at 4–5; SCHWAB, *supra* note 1, at 7.

13. SCHWAB, *supra* note 1, at 7.

14. See Smith, *supra* note 5, at 9.

transformed communication, recordkeeping, and data accumulation.¹⁵ It saw space exploration and remarkable scientific advancements.¹⁶ Medical advances were dramatic.¹⁷ Earlier revolutions rode on emerging abundant energy, like steam and electricity,¹⁸ but the Third Industrial Revolution's promise of energy from nuclear fission was arguably unrealized.

B. *The Fourth Industrial Revolution*

A Fourth Industrial Revolution (4IR), characterized by broad application of new technologies, may now be emerging.¹⁹ Artificial intelligence (AI), encompassing machine learning and big data, is currently the most important new technology for the law and legal education.²⁰ Other emerging technologies include biotechnology such as genetic editing, 3D printing, intelligent robots, blockchains, and nanotechnology.²¹ The 4IR may initially see improved creation and storage of renewable energies (e.g., solar, wind, and hydroelectric),

15. *See id.* at 6–8.

16. *See generally The Industrialization of Space*, 5 J. EPSILON PI TAU 4 (1979) (discussing space exploration in the 1970s). For a discussion on international technical innovation and economic growth, see C. Freeman, *New Technology and Catching Up*, in *TECHNOLOGY AND DEVELOPMENT IN THE THIRD INDUSTRIAL REVOLUTION* 85, 85–99 (Raphael Kaplinsky & Charles Cooper eds., 1989).

17. *See Timeline of Discovery*, HARV. MED. SCH., <https://hms.harvard.edu/about-hms/history-hms/timeline-discovery> [<https://perma.cc/65VB-WM7Y>] (listing major medical discoveries, including transplants, contraceptives, fetal heart monitoring, and MRIs).

18. *See* JEREMY GREENWOOD, *THE THIRD INDUSTRIAL REVOLUTION: TECHNOLOGY, PRODUCTIVITY, AND INCOME INEQUALITY* 7, 19–20 (1997); Smith, *supra* note 5.

19. SCHWAB, *supra* note 1, at 7; Nachshon Goltz & Joel Gilmore, *The Work of Law in the Age of Artificial Intelligence, or How Is the Academy Dealing with the “Fourth Revolution”?*, 1 J. ROBOTICS, A.I. & L. 85, 85 (2018); Jake Okechukwu Effoduh, *Book Review: The Fourth Industrial Revolution*, by Klaus Schwab, 3 *TRANSNAT’L HUM. RTS. REV.* 76, 76 (2016) (book review).

20. *See* Amy Thomson & Stephanie Bodoni, *Google CEO Thinks AI Will Be More Profound Change than Fire*, BLOOMBERG, <https://www.bloomberg.com/news/articles/2020-01-22/google-ceo-thinks-ai-is-more-profound-than-fire> [<https://perma.cc/R7L8-LCBB>] (Jan. 22, 2020, 10:50 AM) (“AI is . . . more profound than fire or electricity.”); Matthew Stepka, *Law Bots: How AI is Reshaping the Legal Profession*, AM. BAR ASS’N, *BUS. L. TODAY* (Feb. 21, 2022), <https://businesslawtoday.org/2022/02/how-ai-is-reshaping-legal-profession/> [<https://perma.cc/W9ZQ-PAU8>].

21. SCHWAB, *supra* note 1, at 1, 14–22.

which have higher upfront costs but produce energy at almost no marginal cost.²² Fusion represents a longer-term energy source.²³

The changes accompanying the 4IR will have significant implications for all parts of society, including the law and the professional lives of law students. Lawyers will carry some of the burden of harnessing, encouraging, and finding legal controls to offer society the benefits of new technologies while limiting harmful side effects.²⁴

C. *Legal Education and Industrial Revolutions*

The “eras” of American legal education are roughly similar to the industrial revolutions. The similarity may be a coincidence, or it may be because similar social and economic forces were behind both. In early colonial days, there was no formal legal education (or lawyers) in America.²⁵ Much of the public viewed the practice of law with suspicion and believed it to be unnecessary.²⁶ Slowly, however, lawyers became increasingly necessary and began arriving from England.²⁷ Soon after, the lawyers needed training in America.²⁸ Through the Revolutionary period, the options for a legal education included apprenticeship with a practicing lawyer, self-taught reading of legal classics, or travel to England.²⁹ For more than a century, the first two options dominated new lawyers’ training.³⁰

22. *See id.* at 1, 10, 12.

23. Shannon Brescher Shea, *Science Up-Close: Developing a Cookbook for Efficient Fusion Energy*, OFF. SCI., U.S. DEP’T OF ENERGY (Jan. 17, 2019), <https://www.energy.gov/science/articles/science-close-developing-cookbook-efficient-fusion-energy> [https://perma.cc/SC9Y-JGNA].

24. *See* Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap*, 51 U.C. DAVIS L. REV. 399, 412–15, 418–20, 422 (2017); Margot E. Kaminski & Jennifer M. Urban, *The Right to Contest AI*, 121 COLUM. L. REV. 1957, 1957, 1961, 1969–70 (2021).

25. Robert F. Boden, *The Colonial Bar and the American Revolution*, 60 MARQ. L. REV. 1, 2 (1976).

26. *Id.*

27. *Id.* at 2–3. The first lawyer to arrive in Massachusetts had been disbarred in England for jury tampering. THOMAS D. MORGAN, *THE VANISHING AMERICAN LAWYER* 34 (2010).

28. *See* Boden, *supra* note 25, at 2–3.

29. *Id.* at 3–4; ROBERT STEVENS, *LAW SCHOOL: LEGAL EDUCATION IN AMERICA FROM THE 1850S TO THE 1980S* 3 (G. Edward White ed., 1983).

30. STEVENS, *supra* note 29; IAN M. G. QUIMBY, *APPRENTICESHIP IN COLONIAL PHILADELPHIA* 121–23 (1985); Charles R. McKirdy, *The Lawyer as Apprentice: Legal Education in Eighteenth Century Massachusetts*, 28 J. LEGAL EDUC. 124, 133–34 (1976).

1. *The First Era: The First Law School, 1784*

In 1784, as the First Industrial Revolution was underway in England, the first American law school, Litchfield, was founded in Connecticut.³¹ Litchfield represented a systematic approach to preparation for practice.³² Studying was generally full-time.³³ Students were examined every Saturday on the week's materials.³⁴ Additionally, students participated in formative weekly oral arguments.³⁵ Litchfield generally "varied from nine to thirty students," peaking at fifty-five students in 1813.³⁶ The school closed in 1833 after several universities had started law schools.³⁷

Litchfield produced approximately one thousand graduates over its fifty-year history.³⁸ The success of those graduates is a career services director's dream. For example, 2 former students became Vice President of the United States; 3 former students were appointed to the United States Supreme Court; 101 former students became members of the United States House of Representatives; and 28 former students went on to be United States Senators.³⁹ Additionally, there were judges, state leaders, and leading attorneys in private practice among the graduates.⁴⁰ During this time, apprenticeships generally lacked systematic study or examinations, and the bar exams were superficial or even "farcical."⁴¹

31. STEVENS, *supra* note 29; A. Benjamin Spencer, *The Law School Critique in Historical Perspective*, 69 WASH. & LEE L. REV. 1949, 1966–67 (2012).

32. Spencer, *supra* note 31, at 1968.

33. See LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* 239 (3d ed. 2005).

34. *Id.*

35. *Id.*; *The Litchfield Law School*, 20 ALB. L.J. 61, 72, 73 (1879–1880).

36. ALBERT J. HARNO, *LEGAL EDUCATION IN THE UNITED STATES* 29 (1953).

37. *Id.*; FRIEDMAN, *supra* note 33.

38. JAMES WILLARD HURST, *THE GROWTH OF AMERICAN LAW: THE LAW MAKERS* 258 (1950). Litchfield did not award diplomas, so the "graduates" had completed the school's basic program. See Edward T. Howe, *The Litchfield Law School: Connecticut's First Law School*, CONNECTICUTHISTORY.ORG (Mar. 30, 2021), <https://connecticuthistory.org/the-litchfield-law-school-connecticuts-first-law-school/> [https://perma.cc/F4ZM-CTAT].

39. HURST, *supra* note 38, at 259.

40. *Id.*

41. See STEVENS, *supra* note 29; WILLIAM C. ROBINSON, CATH. UNIV. BULL. (Apr. 1895), *reprinted in* WILLIAM C. ROBINSON, *A STUDY ON LEGAL EDUCATION: ITS PURPOSES AND METHODS* 3 (1895).

2. *The Second Era: “The Inception of Modern Professional Education,” 1870*⁴²

Although many law schools modeled after Litchfield opened in the early 1800s, most failed due to rapidly declining quality and competitive “regular instruction” offered at colleges.⁴³ In the decades following the Civil War, economic and social activity, growth, and complexity demanded more sophisticated legal services.⁴⁴ As the Second Industrial Revolution was taking shape, Harvard Law School appointed Christopher Columbus Langdell to law professor in January 1870.⁴⁵ Shortly thereafter, the two senior faculty members elected the newest faculty member as head of the law school.⁴⁶ As the dean, Langdell wanted to influence “academic policy which the faculty customarily governed.”⁴⁷

Before Langdell, Harvard, like other law schools at the time, was dominated by the “lecture” (or “textbook”) method of instruction.⁴⁸ Students generally studied treatises, heard lectures in class, and were sometimes asked to repeat memorized principles of the law.⁴⁹ Langdell is now primarily known for developing the “case method,” but he did not invent it.⁵⁰ John Norton Pomeroy had used it at New York University in the 1860s,⁵¹ as had others.⁵² Regardless, Harvard became known as the “case method law school.”⁵³

42. An excellent recounting of this period is BRUCE A. KIMBALL, *THE INCEPTION OF MODERN PROFESSIONAL EDUCATION: C.C. LANGDELL, 1826–1906* (2009).

43. HURST, *supra* note 38, at 259.

44. *Id.* at 260–61.

45. *Id.* at 261.

46. *Id.*; Richard K. Neumann, Jr., *Osler, Langdell, and the Atelier: Three Tales of Creation in Professional Education*, 10 *LEGAL COMMUN & RHETORIC* 151, 152–53 (2013).

47. KIMBALL, *supra* note 42, at 201–02.

48. See FRIEDMAN, *supra* note 33, at 468.

49. HURST, *supra* note 38, at 264–65.

50. *Id.* at 264; FRIEDMAN, *supra* note 33, at 468 & n.23.

51. FRIEDMAN, *supra* note 33, at 468 n.23.

52. HURST, *supra* note 38, at 264.

53. See *The Case Study Teaching Method*, HARV. L. SCH.: CASE STUD., <https://casestudies.law.harvard.edu/the-case-study-teaching-method/> [https://perma.cc/8VHF-EFVX]; WILLIAM P. LAPIANA, *LOGIC AND EXPERIENCE: THE ORIGIN OF MODERN AMERICAN LEGAL EDUCATION* 142 (1994) (Those opposed to the use of the case method at Harvard said that “the case method law school was the enemy.”); KIMBALL, *supra* note 42, at 187.

Langdell's real contribution to modern legal education, however, was a series of reforms increasing law school standards. He doubled instruction time for courses and extended the length of law school from eighteen months to two years and later to three years.⁵⁴ He formalized a core curriculum that included elective courses,⁵⁵ instituted rigorous annual written examinations, and imposed significant academic standards.⁵⁶ Undergraduate study became a prerequisite for admission to law school.⁵⁷ He also changed the faculty. Instead of appointing practitioners, he began selecting faculty based on their teaching and scholarly promise.⁵⁸ This moved the focus toward national legal principles and pushed a scholarly mission. These changes—more than just the case method—set the trajectory for more than a century of legal education.⁵⁹

Debate about legal education gave rise to the American Bar Association's (ABA) Section of Legal Education and Admissions to the Bar⁶⁰ and the Association of American Law Schools (AALS),⁶¹ which together formalized the new expectations and goals of modern legal education. For many law schools, however, these academic principles were pipedreams for nearly a century.

3. *The Third Era: Implementing the Academic Dream, 1960*

The third era of legal education arrived around the same time as the Third Industrial Revolution, driven in part by an extraordinary increase

54. Robert Stevens, *Two Cheers for 1870: The American Law School*, in *LAW IN AMERICAN HISTORY* 405, 427 (Donald Fleming & Bernard Bailyn eds., 1971).

55. HURST, *supra* note 38, at 263.

56. *Id.*; Neumann, *supra* note 46, at 174 (“The most immediate contributing factor in regaining respect for [Harvard] may have been driving away so many intellectually passive students.”).

57. Stevens, *supra* note 54.

58. HURST, *supra* note 38, at 263.

59. See FRIEDMAN, *supra* note 33, at 472–73; Stevens, *supra* note 54.

60. SUSAN K. BOYD, *THE ABA'S FIRST SECTION: ASSURING A QUALIFIED BAR* 11–14 (1993). Although ABA's Section of Legal Education and Admissions to the Bar was created in 1893, this was not the first committee created to focus on legal education. *Id.* at 11. In 1878, a “committee” on legal education was formed at the beginning of the ABA. *Id.* at 4.

61. Erwin N. Griswold, *Legal Education 1878–1978*, 64 A.B.A. J. 1051, 1052 (1978).

in demand for legal education, particularly after 1960.⁶² Higher enrollment numbers increased law schools' revenues—nearly a gush of funds compared with the first half of the century.⁶³ That increase in funding made possible the legal education many law schools had sought for decades. Increasing demand and decreasing attrition rates more than tripled the annual number of graduates.⁶⁴ In 1960 there were 9,435 graduates from 132 ABA law schools.⁶⁵ In 1980, there were 35,059 graduates from 171 law schools.⁶⁶ That quantity became the “new normal” from 1980 to 2004, during which the number of J.D. graduates varied between 35,000 and 40,000.⁶⁷ Between 2004 and 2010, the number of J.D. graduates temporarily increased to over 44,000, with that number eventually climbing to over 46,000 graduates in the 2013–2014 academic year.⁶⁸ In the years following, the number of graduates returned to the 34,000–40,000 range.⁶⁹

The law school of 1950 was unlike the law school of 1990. The significant increase in tuition income and economies of scale resulted in far-reaching reforms.⁷⁰ Reducing the student-to-faculty ratio allowed for the expansion of the curriculum—especially for experiential courses, legal writing instruction, and specialized

62. See *First Year and Total J.D. Enrollment by Gender 1947 - 2011*, A.B.A., [hereinafter *First Year and Total J.D. Enrollment*], https://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/statistics/jd_enrollment_1yr_total_gender.authcheckdam.pdf [http://perma.cc/5A5Z-4JVE].

63. See Steven R. Smith, *Financing the Future of Legal Education: “Not What It Used to Be”*, 2012 MICH. ST. L. REV. 579, 589–90.

64. CARL A. AUERBACH, HISTORICAL STATISTICS OF LEGAL EDUCATION 8 tbl.2B, 43 tbl.8A (1997) (providing information on degrees awarded between 1968 and 1995).

65. *Id.* Additionally, there were a number of unaccredited schools, primarily in California, whose graduates could take the bar exam. *Id.* at 8 tbl.2B (providing information on law school enrollment).

66. *Id.* at 8 tbl.2B, 43 tbl.8A.

67. *Id.* at 43 tbl.8A (providing data through 1995); *Statistics Archives*, A.B.A., https://www.americanbar.org/groups/legal_education/resources/statistics/statistics-archives/ [https://perma.cc/WRZ2-ATG8] (under the heading “Enrollment Data Archives” and the sub-heading “Longitudinal and Historical Data” select the link entitled “First-Year-Enrollment/Total Enrollment/Degrees Awarded 1963-2013” to open Excel spreadsheet).

68. *Number of Law Graduates in the United States from 2013 to 2021*, STATISTA (July 6, 2022), <https://www.statista.com/statistics/428985/number-of-law-graduates-us/> [https://perma.cc/QWL9-TDQ4].

69. *Id.*

70. See Smith, *supra* note 63, at 580.

courses.⁷¹ The reduced ratio also permitted many law schools to undertake significant research missions for the first time—something they had been promising universities for decades.⁷² In addition, it allowed a large increase in student services,⁷³ such as placement, academic and bar preparation, diversity services, counseling, and disability services.

4. *A Fourth Era?*

There were significant changes (decreases with some rebound) in law school admissions following “the Great Recession of the late 2000s.”⁷⁴ Fluctuating admission numbers probably did not signal a new era of legal education. There have been major economic downturns and pandemics, but they have not produced major, permanent changes in legal education. However, societal and technological changes will usher in a new era of legal education.

D. *Characteristics of Industrial Revolutions*

Industrial revolutions have brought considerable benefits to society in the form of better goods and services, lower prices, and increased productivity and efficiency. However, the transition from one kind of economy to another creates substantial “dislocation.”⁷⁵ Capital equipment replaces some labor, causing some traditional jobs to disappear.⁷⁶ This disruption temporarily affects employment, family life, and communities.⁷⁷ As a result, displaced workers must find

71. *Id.* at 580–81.

72. *Id.* at 584.

73. *See id.* at 613.

74. MIRANDA LI, PHILLIP YAO & GOODWIN LIU, AM. BAR FOUND., WHO’S GOING TO LAW SCHOOL? (2020), https://www.americanbarfoundation.org/uploads/cms/documents/who_is_going_to_law_school_policy_brief.pdf [<https://perma.cc/NS3U-ZK3N>]; Jerry Organ, *LSAT Profiles of Matriculants and Law Schools, 2010–2021*, TAXPROF BLOG (June 2, 2022), https://taxprof.typepad.com/taxprof_blog/2022/06/organ-lsat-profiles-of-matriculants-and-law-schools-2010-2021.html [<https://perma.cc/754J-WLGA>].

75. *See* RYAN ABBOTT, *THE REASONABLE ROBOT: ARTIFICIAL INTELLIGENCE AND THE LAW* 37–38 (2020).

76. *Id.* at 39.

77. *See id.* at 39–41.

different work.⁷⁸ Traditional employees' salaries decrease, and capital is relatively favored over labor.⁷⁹ In the long run, the new technology does not reduce total employment, but in the short run, it can.⁸⁰

As a result of this disruption, income disparity increases. Those investing in the new, efficient technologies can do very well while those displaced suffer financial reversals. For example, some early winners in the Second Industrial Revolution became very wealthy in the Gilded Age.⁸¹ Technological advancements resulting in industrial disruption commonly invite political populism, even violence, as displaced workers resist the consequences of dislocation. For example, in the First Industrial Revolution, the "Luddites" destroyed the knitting machines that replaced them in the workforce.⁸²

In addition to disrupting labor markets, industrial revolutions seem to always affect the law. New technology creates new problems, injuries, and capital risk, requiring reform of legal rules and procedures. It can change who the clients are, how much they can pay, and what their legal needs are. It changes law firms. Technological advancements in communications and travel have enabled law firms to become larger, more complex, and international.

New technologies also affect legal education. Technological advancements during the First Industrial Revolution made law books more accessible to students.⁸³ In the Second Industrial Revolution, the broad adoption of typewriters made apprentices less valuable, thereby

78. *Id.* at 39.

79. *See id.* at 39–40, 42.

80. *Id.* at 38. Transitioning employment from one technology to another is painful for individuals. *Id.* at 38–40. *See* JERRY KAPLAN, HUMANS NEED NOT APPLY: A GUIDE TO WEALTH AND WORK IN THE AGE OF ARTIFICIAL INTELLIGENCE 131–33 (2015).

81. For an overview of the Gilded Age, see RICHARD WHITE, THE REPUBLIC FOR WHICH IT STANDS: THE UNITED STATES DURING RECONSTRUCTION AND THE GILDED AGE, 1865–1896, at 172–212 (2017).

82. Richard Conniff, *What the Luddites Really Fought Against*, SMITHSONIAN MAG. (Mar. 2011), <https://www.smithsonianmag.com/history/what-the-luddites-really-fought-against-264412/> [<https://perma.cc/D2RZ-DQ77>].

83. "The Colonial Period [was] . . . the dark ages of American law" because "there were no handy and accessible collections of colonial cases and statutes." FRIEDMAN, *supra* note 33, at 3. "[T]he high price of import[ing] [books] from England" meant that a lawyer in those times "could stuff his entire legal library in his saddlebags." McKirdy, *supra* note 30, at 130. The increased availability and affordability of books around the time of the Revolution helped transform American law. G. EDWARD WHITE, 1 LAW IN AMERICAN HISTORY: FROM THE COLONIAL YEARS THROUGH THE CIVIL WAR 281 (2012).

contributing to the shift from apprenticeships to law schools.⁸⁴ During the Third Industrial Revolution, computers enhanced communication, opportunities increased for women and minorities, and ease of travel contributed to the massive growth in law school enrollment and funding.⁸⁵

E. Does the Argument about the Fourth Industrial Revolution Matter?

Not everyone agrees that a 4IR is upon us.⁸⁶ “Industrial revolution” is an imprecise concept describing rapid technological progress with significant social impacts.⁸⁷ Because scholars and historians disagree on what constitutes an industrial revolution,⁸⁸ whether they determine that we are in the midst of a 4IR does not much matter. What does matter, however, is that technology is developing and will substantially impact the law and the skills law school graduates will need. Developing technologies are changing what society will expect from lawyers and the environment for legal services and legal education. For simplicity, I am assuming there is a 4IR.

84. STEVENS, *supra* note 29, at 75; PETER DEL. SWORDS & FRANK K. WALWER, THE COSTS AND RESOURCES OF LEGAL EDUCATION: A STUDY IN THE MANAGEMENT OF EDUCATIONAL RESOURCES 32–33 (1974); Michele R. Pistone & John J. Hoeffner, *No Path but One: Law School Survival in an Age of Disruptive Technology*, 59 WAYNE L. REV. 193, 222 (2013).

85. See Margaret Martin Barry, Jon C. Dubin & Peter A. Joy, *Clinical Education for this Millennium: The Third Wave*, 7 CLINICAL L. REV. 1, 62 (2000); David L. Chambers & Terry K. Adams, *Who We Were and Who We Are: How Michigan Law Students Have Changed Since the 1950s*, LAW QUADRANGLE, Winter 2009, at 74, 75; Nancy E. Dowd, Kenneth B. Nunn & Jane E. Pendergast, *Diversity Matters: Race, Gender, and Ethnicity in Legal Education*, 15 U. FLA. J.L. & PUB. POL’Y 11, 20 (2003); Robert B. McKay, *Legal Education*, 1977 ANN. SURV. AM. L. 561, 562 (1977); James P. White, *Legal Education: A Time of Change*, 62 A.B.A. J. 355, 355 (1976).

86. See Jeremy Rifkin, *Welcome to the Third Industrial Revolution*, WHARTON MAG. (2015), <https://magazine.wharton.upenn.edu/issues/summer-2015/welcome-to-the-third-industrial-revolution/> [<https://perma.cc/5BJ3-6CHL>] (describing current changes as the Third Industrial Revolution); Nouriel Roubini, *The Third Revolution Is Coming*, WORLD ECON. F. (Jan. 18, 2015), <https://www.weforum.org/agenda/2015/01/the-third-industrial-revolution-is-coming/> [<https://perma.cc/7Y3S-Y23D>].

87. *Industrial Revolution*, BRITANNICA, <https://www.britannica.com/event/Industrial-Revolution> [<https://perma.cc/N73N-ZWTH>] (Oct. 27, 2022).

88. Nardinelli, *supra* note 1.

II. THE CHANGING ENVIRONMENT FOR LEGAL SERVICES AND LEGAL EDUCATION

The public's basic expectations of the legal profession are good legal services to clients; an effective, efficient, and fair legal system; and a commitment to improving justice and the rule of law.⁸⁹

A. *A Fourth Industrial Revolution Legal System and the Public*

The 4IR provides opportunities to serve the public better and more efficiently. We might simplistically classify clients in several markets, each with their own future legal needs:

- Companies (and in-house counsel) that Big Law has traditionally served will likely expect technology-enhanced legal services. Their focus will likely continue to be technical expertise, excellent counseling, and lawyers who know the company's business well enough to integrate legal strategies with business strategies. Preventive law and efficient compliance are increasingly important.
- Smaller companies that local and boutique firms represent will prize competency, flexibility, and efficiency. Businesses large and small will rely on lawyers with the sophistication and understanding to engage in international relationships.
- Individuals who infrequently seek legal services will want more convenient, inexpensive, and quality-assured services.
- The large number of people who have not had legal representation (except for serious criminal charges)

89. See MODEL RULES OF PRO. CONDUCT pmbll., paras. 4, 6 (AM. BAR ASS'N 2020). Much of the law school reform discussion incorrectly focuses on the interests of schools, professors, and students, not the public. Paul Horwitz, *What Ails the Law Schools?*, 111 MICH. L. REV. 955, 973 (2013); Elizabeth Chambliss, *It's Not About Us: Beyond the Job Market Critique of U.S. Law Schools*, 26 GEO. J. LEGAL ETHICS 423, 423, 431, 433 (2013).

will seek sound, reliable, and easily accessible services. They still cannot or will not pay much. For these clients, knowing what legal services they can trust is critical.

- Attorneys at every level of government provide an extraordinary range of services and functions. Almost all of these will be transformed by 4IR technologies. Furthermore, these attorneys will be at the forefront of controlling those technologies on the public's behalf. In one sense, all licensed attorneys (as officers of the court) are also "government" attorneys.
- Entrepreneurs represent a special kind of client. Successful entrepreneurship often requires as much legal creativity as scientific creativity. A necessary condition for successfully deploying new 4IR technology is lawyers who can work creatively within current legal structures to collaborate with inventors, investors, suppliers, and consumers. They must resolve a phalanx of issues in a way that efficiently allows innovation potential to become a reality. Silicon Valley is what it is, in part, because of lawyers.⁹⁰ Whether these clients are new biotech firms with millions of dollars, start-up software companies, or a few people in a garage developing the next big app, they will need creative, knowledgeable, and approachable lawyers to protect their creativity and take it to the marketplace.

90. Mark C. Suchman, *Dealmakers and Counselors: Law Firms as Intermediaries in the Development of Silicon Valley*, in UNDERSTANDING SILICON VALLEY: THE ANATOMY OF AN ENTREPRENEURIAL REGION 71, 71 (Martin Kenney ed., 2000). See generally Mark Charles Suchman, *On Advice of Counsel: Law Firms and Venture Capital Funds as Information Intermediaries in the Structuration of Silicon Valley* (Feb. 1994) (Ph.D. dissertation, Stanford University) (ProQuest).

Beyond obligations to individual clients, as we have noted, attorneys have obligations as “officers of the court.”⁹¹ They have responsibilities for upholding the law and the justice system.⁹² Society also expects the legal profession to engage in reasonable levels of pro bono and reduced-cost representation and collectively seek to improve the law and the justice system.⁹³ Technology is likely to dramatically transform lawyers’ ability to provide legal services to the underserved and increase ways of serving society efficiently.⁹⁴ Creative pro bono opportunities in the future will include developing programs, apps, and other software that can provide effective legal services at no (or very little) cost. A good program could provide reliable legal services that would otherwise take thousands of pro bono attorneys. Organizations of lawyers could also help review, rank, and improve technology-based legal services. Next, we examine how the 4IR will likely change legal services provided to clients and the public.

91. Nicola A. Boothe-Perry, *Friends of Justice: Does Social Media Impact the Public Perception of the Justice System?*, 35 PACE L. REV. 72, 72 (2014); David L. Hudson Jr., *Even if it Hurts Your Case*, A.B.A. J., June 2019, at 24, 24.

92. The Model Rules of Professional Conduct refer to a lawyer as “an officer of the legal system and a public citizen having special responsibility for the quality of justice.” MODEL RULES OF PRO. CONDUCT pmbl., para. 1 (AM. BAR ASS’N 2020); Boothe-Perry, *supra* note 91 (“Lawyers have long been recognized as being necessary in the effective functioning of an ordered society in roles as both officers of the court and, more broadly, as officers of the system of justice.”).

93. MODEL RULES OF PRO. CONDUCT r. 6.1 (AM. BAR ASS’N 2020) (“Every lawyer has a professional responsibility to provide legal services to those unable to pay.”); Deanell Reece Tacha, *No Law Student Left Behind*, 24 STAN. L. & POL’Y REV. 353, 372 (2013) (“[L]awyers have been the stewards of the republic, and let it always be so. . . . One needs only to look around the world to see the difference between those nations where the rule of law is vigilantly protected and those where peaceful dispute resolution is but an aspirational dream.”).

94. Thomas R. Moore, *The Upgraded Lawyer: Modern Technology and Its Impact on the Legal Profession*, 21 UDC/DCSL L. REV. 27, 33–34 (2019); see Michael Hatfield, *Professionally Responsible Artificial Intelligence*, 51 ARIZ. ST. L.J. 1057, 1062–64 (2019) (discussing the benefits of AI development in tax planning).

B. Artificial Intelligence, Machine Learning, and Related Technology

Alan Turing famously discussed the concept of AI in 1950,⁹⁵ but despite significant investments, AI essentially languished.⁹⁶ In the late 1990s and early 2000s, AI gained notoriety again and became increasingly powerful as the large computer platforms and big data (on which AI and machine learning depend) came into their own.⁹⁷ AI is not clearly defined, but as its name suggests, it has traits associated with human cognition, such as the ability to learn, reason, generalize, and solve problems.⁹⁸ AI uses machines to do things that typically require human intelligence.⁹⁹ “Machine learning” is a form of AI in which computers can automatically learn and generalize from new data without additional human programming.¹⁰⁰ The connectivity of devices and people will produce massive data—the grist for machine learning.¹⁰¹

The power of AI and machine learning will increase with quantum computing.¹⁰² Although some years away in terms of practical

95. A. M. Turing, *Computing Machinery and Intelligence*, 59 MIND 433, 433 (1950)

96. See Rockwell Anyoha, *The History of Artificial Intelligence*, HARV. U. GRADUATE SCH. ARTS & SCIS.: SITN (Aug. 28, 2017), <http://sitn.hms.harvard.edu/flash/2017/history-artificial-intelligence/#> [<https://perma.cc/Y6BQ-VZWC>].

97. See Anthony E. Davis, *The Future of Law Firms (and Lawyers) in the Age of Artificial Intelligence*, in PROFESSIONAL LAWYER 4 (2020); Daryl Lim, *AI & IP: Innovation & Creativity in an Age of Accelerated Change*, 52 AKRON L. REV. 813, 827–30 (2018). Data has become the “new oil.” Kiran Bhageshpur, *Data Is the New Oil—and That’s a Good Thing*, FORBES (Nov. 15, 2019, 8:15 AM), <https://www.forbes.com/sites/forbestechcouncil/2019/11/15/data-is-the-new-oil-and-thats-a-good-thing/?sh=636f6df27304> [<https://perma.cc/L73S-T4MF>].

98. LAURIE A. HARRIS, CONG. RSCH. SERV., IF10608, OVERVIEW OF ARTIFICIAL INTELLIGENCE 1 (2017).

99. *Id.*

100. *Id.*; *What Is Machine Learning*, ORACLE CLOUD INFRASTRUCTURE, <https://www.oracle.com/ng/artificial-intelligence/machine-learning/what-is-machine-learning/> [<https://perma.cc/DV6Y-M3MN>].

101. See Václav Janeček, *Ownership of Personal Data in the Internet of Things*, 34 COMPUT. L. & SEC. REV. 1039, 1039 (2018) (“[Internet of Things] devices generate and collect a wealth of personal data . . .”).

102. Jeffery Atik, *Quantum Computing and the Legal Imagination*, SCITECH LAW., Spring 2022, at 12, 13; see Hilary G. Escajeda, *The Vitruvian Lawyer: How to Thrive in an Era of AI and Quantum Technologies*, 29 KAN. J.L. & PUB. POL’Y 421, 456 (2020).

application, quantum computing will allow machines to do in a few minutes what it would take current computers years to do.¹⁰³

AI is already available in the legal field in rudimentary ways.¹⁰⁴ Its increasing sophistication will allow ever more precise responses, complex decisions, complicated analytics, complex document review and preparation, and complex research tasks.¹⁰⁵ AI is especially powerful with large data sets, and law frequently involves extensive data.¹⁰⁶ AI's ability to continue learning with new data is desirable, if not necessary, to keep up with ever-changing law. Even the “first wave of AI,” which some critics regard as having had “little impact,” substantially improved legal services.¹⁰⁷ More sophisticated AI will enable technology to provide even more powerful and accessible legal advice.¹⁰⁸

103. Atik, *supra* note 102.

104. E.g., Glen Meyerowitz, *Lawyers, Here's How to Begin Learning About Artificial Intelligence*, 1 J. ROBOTICS, A.I. & L., 261, 261–62 (2018); Curtis E.A. Karnow, *The Opinion of Machines*, 19 COLUM. SCI. & TECH. L. REV. 136, 141 (2017); BENJAMIN H. BARTON & STEPHANOS BIBAS, REBOOTING JUSTICE: MORE TECHNOLOGY, FEWER LAWYERS, AND THE FUTURE OF LAW 8 (2017); see Emily Janoski-Haehlen & Sarah Starnes, *The Ghost in the Machine: Artificial Intelligence in Law Schools*, 58 DUQ. L. REV. 3, 10–12 (2020) (describing how technology is assisting with access to justice programs).

105. *Legal Analytics Market to Reach \$1.8 Billion by 2022 - Automation in Legal Analytics for Data-Driven Decision-Making*, CISION (July 26, 2017, 2:30 PM) [hereinafter *Legal Analytics Market*], <https://www.prnewswire.com/news-releases/legal-analytics-market-to-reach-18-billion-by-2022---automation-in-legal-analytics-for-data-driven-decision-making-300494419.html> [https://perma.cc/4EHF-F5VD] (projecting the legal analytics market to be worth almost \$2 billion in 2022); David Shepardson, *U.S. Government Agencies to Use AI to Cull and Cut Outdated Regulations*, REUTERS (Oct. 16, 2020, 4:38 PM), <https://www.reuters.com/article/us-usa-regulations-white-house/u-s-government-agencies-to-use-ai-to-cull-and-cut-outdated-regulations-idUSKBN27130L> [https://perma.cc/5EUS-Z4T7] (explaining how AI was used to eliminate outdated regulations); Kevin D. Ashley, *Prospects for Legal Analytics: Some Approaches to Extracting More Meaning from Legal Texts*, 90 U. CIN. L. REV. 1207, 1208 (2022); Elizabeth C. Tippet, Charlotte S. Alexander, Karl Branting, Paul Morawski, Carlos Balhana, Craig Pfiefer & Sam Bayer, *Does Lawyering Matter? Predicting Judicial Decisions from Legal Briefs, and What That Means for Access to Justice*, 100 TEX. L. REV. 1157, 1162 (2022).

106. *Legal Analytics Market*, *supra* note 105.

107. RICHARD SUSSKIND, *TOMORROW'S LAWYERS: AN INTRODUCTION TO YOUR FUTURE* 186 (2d ed. 2017).

108. For additional research and examples of using AI in the legal field, see Chris Chambers Goodman, *AI/Esq.: Impacts of Artificial Intelligence in Lawyer-Client Relationships*, 72 OKLA. L. REV. 149 (2019); Sean Semmler & Zeeve Rose, *Artificial Intelligence: Application Today and Implications Tomorrow*, 16 DUKE L. & TECH. REV. 85 (2017–2018); Davis, *supra* note 97, at 4–5 (document management, e-discovery, legal research, and contract review).

Attorneys' ability to work hand-in-glove with AI may be its most productive and creative use,¹⁰⁹ creating what could be known as Intelligence Enhanced (IE). IE puts a premium on those who can work collaboratively with AI, including law school graduates who can do the creative, insightful work that AI alone is not currently capable of doing.¹¹⁰

One downside of AI is that it will drive some lawyers (and some law professors) out of business by automating things that lawyers have traditionally done.¹¹¹ In the immediate future, technology will do some basic, repetitive tasks that most potential clients could not, or would not, afford to have a lawyer do anyway.¹¹² AI can already create legal documents, not just fill in blanks, by assessing a customer's basic needs and tailoring agreements as needed.¹¹³ Additionally, AI is helping to identify and settle potential disputes, eliminating the need

109. See Václav Janeček, Rebecca Williams & Ewart Keep, *Education for the Provision of Technologically Enhanced Legal Services*, 40 COMPUT. L. & SEC. REV. 1, 2 (2021); see also Drew Simshaw, *Ethical Issues in Robo-Lawyering: The Need for Guidance on Developing and Using Artificial Intelligence in the Practice of Law*, 70 HASTINGS L.J. 173, 177 (2018); LANCE B. ELIOT, LAYING OUT THE AI CURRICULUM PROVIDES INSIGHTS FOR LAWYERING AND AI 1 (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3997355 [https://perma.cc/X5M2-ANPK] (discussing how some see AI usurping lawyers, while others see it as enhancing attorneys' efforts).

110. See Escajeda, *supra* note 102, at 452–73 (explaining that legal practice will require intellectual (IQ), emotional (EQ), and artificial (AI) intelligence).

111. Elizabeth C. Tippet & Charlotte Alexander, Opinion, *Lawyers and Their Jobs are No Longer Safe from AI and Automation*, MARKETWATCH, <https://www.marketwatch.com/story/lawyers-and-their-jobs-are-no-longer-safe-from-ai-and-automation-11628599753> [https://perma.cc/F4WW-UZ9B] (Aug. 10, 2021, 8:49 AM).

112. See Mary Juetten, *The Limited License Legal Technician Is the Way of the Future of Law*, A.B.A. J. (Dec. 8, 2017, 8:30 AM), http://www.abajournal.com/news/article/the_limited_license_legal_technician_story_start_with_why/?utm_source=maestro&utm_medium=email&utm_campaign=tech_monthly [https://perma.cc/75A6-HMTT] (“[They] cannot afford a lawyer and would not hire a lawyer.”); see also Avaneesh Marwaha, *Seven Benefits of Artificial Intelligence for Law Firms*, LAW TECH. TODAY (July 13, 2017), <https://www.lawtechnologytoday.org/2017/07/seven-benefits-artificial-intelligence-law-firms/> [https://perma.cc/5TQH-JAGF].

113. Goodman, *supra* note 108, at 155–56.

to even contact lawyers.¹¹⁴ Blockchain applications may mean that lawyers are not required in some transactions.¹¹⁵

Even lower-cost human services still cost more than many people can pay for legal services.¹¹⁶ Thus, much of the unmet legal needs that studies have repeatedly identified will never be filled by lawyers (or other humans).¹¹⁷ Expanded government legal services could help but would not meet all these needs. Well-designed AI will conveniently provide many of those services at a low cost.¹¹⁸ For the first time in the profession's history, it may be possible to fulfill the dream of making legal services accessible to all.¹¹⁹

Over the coming years, the ability to provide information, draft documents, provide straightforward advice, and resolve disputes will likely become more and more powerful. The result will surely be that most of the lawyers' traditionally simple and repetitive tasks will be done faster, cheaper, and better by AI.¹²⁰ Routine lawyer jobs will increasingly be machine jobs.¹²¹ The good news is that this will reduce legal costs, increase efficiency, and speed up legal services.¹²² AI will, therefore, provide inexpensive, easy access to legal help to those traditionally without legal services. AI has already reduced some

114. Janet K. Martinez, *Designing Online Dispute Resolution*, 2020 J. DISP. RESOL. 135, 137–41 (2020); Colin Rule, *Designing a Global Online Dispute Resolution System: Lessons Learned from eBay*, 13 U. ST. THOMAS L.J. 354, 357 (2017); Amy J. Schmitz, *Remedy Realities in Business-to-Consumer Contracting*, 58 ARIZ. L. REV. 213, 245–47 (2016); Darin Thompson, *Creating New Pathways to Justice Using Simple Artificial Intelligence and Online Dispute Resolution*, 2 INT'L J. ONLINE DISP. RESOL. 4, 29 (2015).

115. See Nathan Fulmer, *Exploring the Legal Issues of Blockchain Applications*, 52 AKRON L. REV. 161, 183, 190–91 (2018); see also Jake Goldenfein & Andrea Leiter, *Legal Engineering on the Blockchain: 'Smart Contracts' as Legal Conduct*, 29 LAW & CRITIQUE 141, 145 (2018).

116. See John O. McGinnis & Russell G. Pearce, *The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services*, 82 FORDHAM L. REV. 3041, 3054 (2014).

117. *Id.*

118. Davis, *supra* note 97, at 11.

119. Ayelet Sela, *Streamlining Justice: How Online Courts Can Resolve the Challenges of Pro Se Litigation*, 26 CORNELL J.L. & PUB. POL'Y 331, 333, 340–41, 352 (2016). *But see* Sean La Roque-Doherty, *Toward Smarter Courts*, A.B.A. J., Apr.–May 2021, at 20, 20.

120. McGinnis & Pearce, *supra* note 116, at 3041, 3056.

121. *Id.* at 3041.

122. See Davis, *supra* note 97, at 11.

drudgery, like discovery document review, and will increasingly do so.¹²³

AI will also provide legal education with sophisticated tools to assist and improve instruction.¹²⁴ Law professors and lawyers will be essential to control harmful elements of AI.¹²⁵ As we have already seen, AI can easily and naively imbed unacceptable characteristics in predictions or assessments, such as gender or racial bias.¹²⁶ Controlling AI will be an essential task for the legal profession.¹²⁷

C. Other Changes in the Environment for Law Schools and Legal Services

Beyond technological advancement, futurists and commentators commonly identify at least two other factors demanding the law evolve in the years ahead: globalization and mounting “financial pressures.”¹²⁸ Globalization is already present as businesses, communications, and services increasingly ignore borders.¹²⁹ So it will

123. McGinnis & Pearce *supra* note 116, at 3041; Iantha M. Haight, *Digital Natives, Techno-Transplants: Framing Minimum Technology Standards for Law School Graduates*, 44 J. LEGAL PROF. 175, 185 (2020).

124. See generally Pearl Goldman, *Legal Education and Technology III: An Annotated Bibliography*, 111 LAW LIBR. J. 325 (2019); Pearl Goldman, *Legal Education and Technology II: An Annotated Bibliography*, 100 LAW LIBR. J. 415 (2008); Pearl Goldman, *Legal Education and Technology: An Annotated Bibliography*, 93 LAW LIBR. J. 423 (2001).

125. Larry Bridgesmith & Adel Elmessiry, *The Digital Transformation of Law: Are We Prepared for Artificially Intelligent Legal Practice?*, 54 AKRON L. REV. 815, 821 (2020–2021).

126. Kristin N. Johnson, *Automating the Risk of Bias*, 87 GEO. WASH. L. REV. 1214, 1220, 1240 (2019); Ashley Deeks, *The Judicial Demand for Explainable Artificial Intelligence*, 119 COLUM. L. REV. 1829, 1833 (2019); Eleonore Pauwels & Sarah W. Denton, *The Internet of Bodies: Life and Death in the Age of AI*, 55 CAL. W. L. REV. 221, 226 (2018); see Philip M. Nichols, *Bribing the Machine: Protecting the Integrity of Algorithms as the Revolution Begins*, 56 AM. BUS. L.J. 771, 771, 805 (2019) (discussing the importance of protecting algorithms from corruption).

127. See generally Alicia Solow-Niderman, *Administering Artificial Intelligence*, 93 S. CAL. L. REV. 633 (2020); Richard M. Re & Alicia Solow-Niderman, *Developing Artificially Intelligent Justice*, 22 STAN. TECH. L. REV. 242 (2019).

128. See Renee Newman Knake, *Cultivating Learners Who Will Invent the Future of Law Practice: Some Thoughts on Educating Entrepreneurial and Innovative Lawyers*, 38 OHIO N.U. L. REV. 847, 847–48 (2012).

129. Justin W. Evans & Anthony L. Gabel, *Preparing Legal Entrepreneurs as Global Strategists: The Case for Entrepreneurial Legal Education*, 32 ARIZ. J. INT’L & COMPAR. L. 727, 731 (2015); Nuno Garoupa, *Globalization and Deregulation of Legal Services*, 38 INT’L REV. L. & ECON. 77, 79 (2014).

be with legal services.¹³⁰ Offshore legal services compete with U.S. lawyers who would otherwise do that work—especially new lawyers.¹³¹ But the globalization of legal practice also means U.S. attorneys can compete to provide legal services to companies in other countries.¹³² Most American entities—businesses, educational institutions, nonprofits, foundations, and public agencies—do, or will do, international business. They will require legal advice from their attorneys on foreign transactions. Of course, foreign attorneys also will be in intense competition for this business. As with most trade, the U.S. cannot win a battle based on low labor costs; it must also have quality, reliability, and creativity.¹³³ Public international law is also an important obligation of lawyers, evidenced by the ABA’s long-time effort to promote the “rule of law” worldwide.¹³⁴

Law school graduates will need to represent innovators and entrepreneurs while being innovators and entrepreneurs themselves. Innovators have particular legal needs, and if those needs are not met, their inventions and creativity are unlikely to produce great results.¹³⁵ “[L]awyers of the future will need to be technically capable; professionally nimble; and able to use broad, interdisciplinary

130. MORGAN, *supra* note 27, at 87–91; Garoupa, *supra* note 129; William D. Henderson, *A Blueprint for Change*, 40 PEPP. L. REV. 461, 462 n.10 (2013).

131. See JAMES E. MOLITERNO, *THE AMERICAN LEGAL PROFESSION IN CRISIS: RESISTANCE AND RESPONSES TO CHANGE* 195 (2013); William Henderson, *Why Are We Afraid of the Future of Law?*, NAT’L JURIST, Sept. 2012, at 8, 8.

132. See MOLITERNO, *supra* note 131, at 237.

133. See Garoupa, *supra* note 129; Ray Worthy Campbell, *Rethinking Regulation and Innovation in the U.S. Legal Services Market*, 9 N.Y.U. J.L. & BUS. 1, 17 (2012); Erik van der Marel, *Determinants of Comparative Advantage in Services* 5–6 (Rsch. Ctr. Int’l Econ., Working Paper No. 87, 2012), https://www.econstor.eu/bitstream/10419/121086/1/N_087.pdf [<https://perma.cc/D5TE-VKJR>].

134. *International Rule of Law*, A.B.A., https://www.americanbar.org/advocacy/governmental_legislative_work/priorities_policy/promoting_international_rule_law/ [<https://perma.cc/RWE2-LG87>].

135. See Samantha A. Moppett, *Lawyering Outside the Box: Confronting the Creativity Crisis*, 37 S. ILL. U. L.J. 253, 302 (2013).

networks to solve problems.”¹³⁶ Relatively few law schools have prepared students for these challenges.¹³⁷

Society “needs creative lawyers that can invent new models for delivering legal services.”¹³⁸ But law schools and the legal profession “suppress rather than support the development of creative potential.”¹³⁹ For law school graduates, even as they start practice, innovation will mean competition with non-lawyers, nontraditional fee agreements, virtual law firms, “lawyer in a box” services, integrated or multidisciplinary practice, and new dispute resolution systems.¹⁴⁰ The good news is that law schools “are filled with creative, bright individuals who, given the right atmosphere, will be inventors of new models for legal services delivery in addition to practitioners of law.”¹⁴¹

An industrial revolution is characterized by a period—not just a moment—of change.¹⁴² With the power of current communication, international competition, and the range of new technology, the rate of change is accelerating such that the legal world is entering a period of transformation.¹⁴³ The ongoing adjustment to new roles and challenges will require well-educated, innovative, and thoughtful attorneys.

136. Scott A. Westfahl & David B. Wilkins, *The Leadership Imperative: A Collaborative Approach to Professional Development in the Global Age of More for Less*, 69 STAN. L. REV. 1667, 1702 (2017).

137. Rosa Kim, *Globalizing the Law Curriculum for Twenty-First-Century Lawyering*, 67 J. LEGAL EDUC. 905, 906 (2018); Eli Wald, *The Contextual Problem of Law Schools*, 32 NOTRE DAME J.L. ETHICS & PUB. POL’Y 281, 282 (2018); Bobbi McAdoo, Sharon Press & Chelsea Griffin, *It’s Time to Get It Right: Problem-Solving in the First-Year Curriculum*, 39 WASH. U. J.L. & POL’Y 39, 50 (2012). *But see* Jan M. Levine, *Foreword: Artificial Intelligence: Thinking About Law, Law Practice, and Legal Education*, 58 DUQ. L. REV. 1, 1 (2020).

138. Moppett, *supra* note 135, at 293.

139. *Id.* at 294.

140. *See* Noam Ebner & Elayne E. Greenberg, *Strengthening Online Dispute Resolution Justice*, 63 WASH. U. J.L. & POL’Y 65, 100 (2020) (discussing online dispute resolution’s development); Benjamin H. Barton & Deborah L. Rhode, *Access to Justice and Routine Legal Services: New Technologies Meet Bar Regulators*, 70 HASTINGS L.J. 955, 960 (2019); Moppett, *supra* note 135, at 258. “Lawyer in a box” may have two meanings—easily accessible lawyers in a clinic setting, or a software package. *See* Chris Shipley & Gregg Keizer, *You Call All the Shots with a ‘Lawyer in a Box’*, PC/COMPUTING, Mar. 1991, at 298, 298.

141. Knake, *supra* note 128, at 850.

142. *See supra* Part I.

143. *See* SUSSKIND, *supra* note 107, at 184–88.

III. WHAT THE PUBLIC WILL NEED

Individuals, organizations, and the government first need quality, competent legal advice to successfully implement America's founding vision.¹⁴⁴ That vision of a nation that is “free, open, democratic, diverse, unified, and committed to eternal values,” is likely to succeed if the “nation's lawyers implement” it.¹⁴⁵ Society needs lawyers dedicated to promoting the system and quality of justice for all. Lawyers who are understanding, compassionate, and committed to the community are essential. In our pluralistic society, the public also needs, and will demand, diversity in its lawyers.¹⁴⁶

A. *Competencies*

This Section presents one way of describing competencies that law school graduates will need in the coming decades. Each law school must tailor its required competencies to fit and promote its mission, values, and goals. There are many ways of listing, combining, or adding to these proficiencies. Therefore, the following list is not *the* set of competencies but, rather, a list of ideas law schools might consider. There is, at least, one question each law school should ask: What competencies will our graduates need to provide services to clients, the public, and our system of law and justice? The list builds on dozens of ideas about proficiencies over recent decades,¹⁴⁷ but there is no perfect list unless it fits a specific school.

144. See Nelson P. Miller, *Lawyers as Economic Drivers—the Business Case for Legal Services*, 37 J. LEGAL PRO. 67, 83 (2012).

145. *Id.*

146. See Barry Sullivan, *The Power of Imagination: Diversity and the Education of Lawyers and Judges*, 51 U.C. DAVIS L. REV. 1105, 1129–32 (2018); Stephen M. Rich, *What Diversity Contributes to Equal Opportunity*, 89 S. CAL. L. REV. 1011, 1014 (2016); Kevin R. Johnson, *The Importance of Student and Faculty Diversity in Law Schools: One Dean's Perspective*, 96 IOWA L. REV. 1549, 1552–53 (2011).

147. The most influential of these reports was SECTION LEGAL EDUC. & ADMISSIONS TO BAR, AM. BAR ASS'N, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT—AN EDUCATIONAL CONTINUUM: REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSION: NARROWING THE GAP (1992)

The following list is set out by the likelihood that a student would learn the competency in law school today, but the specific likelihood varies significantly from school to school. Of the listed competencies, perhaps a third are covered at nearly all law schools, another third at some law schools, and a final third at some law schools for a few students. It is likely that no law school could claim that its students graduate with all the competencies.

1. *Outstanding Analytical Skills*

The traditional core of legal services—legal analysis—is also the core of legal education.¹⁴⁸ It includes knowing the substance of the law, applying that knowledge to facts, anticipating the application of the law to new circumstances, and understanding the general consequences of legal rules and procedures.¹⁴⁹

2. *Judgment*

Excellent judgment begins with analytical skills and a clear understanding of a client's goals and the context in which issues may arise.¹⁵⁰ It includes assessing the future consequences of various courses of action based on a client's business and culture.¹⁵¹ As such, judgment often involves counseling clients.¹⁵²

[hereinafter MACCRATE REPORT], <https://www.corteidh.or.cr/tablas/28961.pdf> [<https://perma.cc/F7AH-ECHV>] (identifying ten skills and four values). Other examples include WILLIAM M. SULLIVAN, ANNE COLBY, JUDITH WELCH WEGNER, LLOYD BOND & LEE S. SHULMAN, *EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW* (2007); Marjorie M. Schultz & Sheldon Zedeck, *Predicting Lawyer Effectiveness: Broadening the Basis for Law School Admission Decisions*, 36 *LAW & SOC. INQUIRY* 620 (2011); Christian Sundquist, *The Future of Law Schools: COVID-19, Technology, and Social Justice*, 53 *CONN. L. REV. ONLINE* 1 (2020).

148. See MACCRATE REPORT, *supra* note 147, at 156; ROY STUCKEY ET AL., *BEST PRACTICES FOR LEGAL EDUCATION* 15–16 (2007). Even proposals for reform commonly understand that legal analysis is one of the critical elements of law. STUCKEY, ET AL., *supra*.

149. MACCRATE REPORT, *supra* note 147, at 151–55.

150. *Id.* at 150–51.

151. *Id.*

152. *Id.* at 176–84.

3. *Traditional Oral and Written Skills*

Oral and written advocacy—drafting documents, negotiation, and client counseling—will change with new technology. Ultimately, however, traditional communications skills will remain essential competencies of lawyers in any practice area.¹⁵³

4. *Ethical Responsibility*

A commitment to ethical principles requires, at least, compliance with codes of professional responsibility.¹⁵⁴ It also includes a commitment to professionalism, professional identity, the legal profession's ideals, justice, and the rule of law.¹⁵⁵

5. *Problem Solving*

People go to lawyers to solve their problems (or avoid them). If lawyers are efficient problem solvers, the profession will significantly contribute to society's welfare and success.¹⁵⁶ Carefully analyzing problems is critical. Law schools should develop “holistic” skills such as “diagnosis, conceptualization, synthesis, problem definition, and problem-solving.”¹⁵⁷ Great lawyers are *creative* problem solvers, often

153. *Id.* at 175.

154. *Id.* at 205–07.

155. MACCRATE REPORT, *supra* note 147, at 108; SECTION LEGAL EDUC. & ADMISSIONS TO BAR, AM. BAR ASS'N, ABA STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS 2022–2023, Standards 301–303, at 17–20 (2022) [hereinafter ABA STANDARDS], https://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/standards/2022-2023/2022-2023-standards-and-rules-of-procedure.pdf [https://perma.cc/7NE5-3284] (requiring “substantial opportunities” for “the development of a professional identity”); Timothy Casey, *Reflections on Legal Education in the Aftermath of a Pandemic*, 28 CLINICAL L. REV. 85, 99 (2021).

156. See COMM'N ON FUTURE LEGAL SERVS., AM. BAR ASS'N, REPORT ON THE FUTURE OF LEGAL SERVICES IN THE UNITED STATES 10 (2016), https://www.americanbar.org/content/dam/aba/images/abanews/2016FLSReport_FNL_WEB.pdf [https://perma.cc/X38J-Y7L4] (“As leaders in our society, lawyers have a responsibility to uphold the rule of law. . . . Lawyers must use the incredible power given them by their law license to effectuate positive change. . . . [A] lawyer is either a social engineer or parasite on society.” (quoting Paulette Brown, ABA President)).

157. David Barnhizer, *Of Rat Time and Terminators*, 45 J. LEGAL EDUC. 49, 53 (1995).

endeavoring to leave clients better off than before the problem arose.¹⁵⁸ Lawyers who can help *avoid* problems are the most valuable. Richard Susskind put it this way: “I have yet to meet a regular human being, whether a chief executive or a consumer, who would prefer a large dispute neatly resolved by lawyers to not having one in the first place.”¹⁵⁹

6. *Dispute Resolution Expertise*

Problems that become disputes are traditional stock in a lawyer’s trade. Dispute resolution includes litigation tasks, fact-finding, and negotiations. Most law students are exposed not only to litigation as a method for dispute resolution but to various alternatives as well.¹⁶⁰ However, even “traditional” alternative dispute resolution is being eclipsed by automated dispute resolution and other technology.¹⁶¹

7. *Interdisciplinary Competence*

Interdisciplinary competencies are becoming necessary for many legal specialties.¹⁶² Interdisciplinary teams can increase the services lawyers provide, whether those services involve solving the problems of large corporations or criminal defendants. One such interdisciplinary service, the Neighborhood Defender Services of Harlem, uses teams of lawyers, social workers, investigators, and health care and mental health care professionals to address criminal

158. Sarah Valentine, *Flourish or Founder: The New Regulatory Regime in Legal Education*, 44 J.L. & EDUC. 473, 485 (2015); see Carrie Joan Menkel-Meadow, *Too Many Lawyers? Or Should Lawyers Be Doing Other Things?*, 19 INT’L J. LEGAL PRO. 147, 163 (2012) (explaining how we see “law school as a school for social, political, economic and legal problem solving where, . . . ‘law is the means, [and] justice is the end’” (quoting Georgetown University Law Center’s institutional motto)).

159. SUSSKIND, *supra* note 107, at 95.

160. MACCRATE REPORT, *supra* note 147, at 239–40.

161. E.g., BARTON & BIBAS, *supra* note 104, at 110–15, 154; SUSSKIND, *supra* note 107, at 116–18; Krantz & Millemann, *supra* note 85, at 24; RICHARD SUSSKIND, THE END OF LAWYERS?: RETHINKING THE NATURE OF LEGAL SERVICES 218–19 (2008); Sudhin Thanawala, *Silicon Valley Company Starts to Take Court Disputes Online*, ASSOCIATED PRESS (July 12, 2015), <https://apnews.com/article/005f081fe635459c9d3744f4eebe2579> [<https://perma.cc/K2ZK-XPGP>].

162. Richard E. Redding, *The Legal Academy Under Erasure*, 64 CATH. U. L. REV. 359, 376 (2015); Robert J. Rhee, *On Legal Education and Reform: One View Formed from Diverse Perspectives*, 70 MD. L. REV. 310, 332–33 (2011).

defendants' legal and underlying problems.¹⁶³ Law schools are failing “to prepare students for twenty-first-century law practice, which is more complex and interdisciplinary than ever before.”¹⁶⁴ Calls for law schools to reduce interdisciplinary work because it is a diversion “from the ‘real world’” are misguided.¹⁶⁵ Interdisciplinary work will be important for all students. “Contrary to what some reformers of legal education believe, however, students at lower-ranked schools probably need the theoretical and interdisciplinary training more than students at the elite schools do.”¹⁶⁶

8. *International/Global Competence*

As previously mentioned, globalization is one of the legal profession's significant changes.¹⁶⁷ Almost all law school graduates will deal with international services and issues in the future.

9. *Cultural Intelligence (Sensitivity and Competence)*

The law's meaning varies among cultures. The last few years have emphasized that law graduates must know how to work with cultural differences in the U.S. and abroad.¹⁶⁸ Fortunately, there are thoughtful ways for law schools to help students develop that competence.¹⁶⁹

163. BARTON & BIBAS, *supra* note 104, at 177–78.

164. Redding, *supra* note 162, at 416; see Nancy J. Knauer, *Learning Communities: A New Model for Legal Education*, 7 ELON L. REV. 193, 195–98 (2015).

165. See Steven C. Bennett, *When Will Law School Change?*, 89 NEB. L. REV. 87, 108 (2010).

166. Richard E. Redding, *The Counterintuitive Costs and Benefits of Clinical Legal Education*, 2016 WIS. L. REV. FORWARD 55, 65 (2016) (footnote omitted); Redding, *supra* note 162, at 374–75.

167. See *supra* Part II.C.

168. Samuel Vincent Jones, *Law Schools, Cultural Competency, and Anti-Black Racism: The Liberty of Discrimination*, 21 BERKELEY J. AFR.-AM. L. & POL'Y 84, 96–97 (2021). The ABA Standards now include Standard 303(c), a requirement that accredited schools “provide education on bias, cross-cultural competency, and racism.” ABA STANDARDS, *supra* note 155, Standard 303(c), Interpretations 303-6 to 303-8, at 18–20.

169. E.g., Shahrokh Falati, *The Makings of a Culturally Savvy Lawyer: Novel Approaches for Teaching and Assessing Cross-Cultural Skills in Law School*, 49 J.L. & EDUC. 627, 633, 650–52 (2020); L. Danielle Tully, *The Cultural (Re)Turn: The Case for Teaching Culturally Responsive Lawyering*, 16 STAN. J. C.R. & C.L. 201, 233–52 (2020). For more sources on this topic, please see Deborah L. Johnson, *Issues of Cultural Competency and the Law School Curriculum*, ASS'N AM. L. SCHS. (2015), <https://www.aals.org/wp-content/uploads/2015/06/AALS-Cultural-Competency-in-Curriculum-Partial-Bibliography.pdf> [<https://perma.cc/QRE7-DDWG>].

10. *Diversity and Inclusion*

Diversity of legal education and the profession is essential for lawyers to serve a country as diverse as the U.S. The legitimacy of the profession's work depends partly on it being reasonably representative of society.¹⁷⁰ Lawyers should be competent to promote diversity within the legal system (e.g., juries and bail arrangements) and among clients (e.g., employment, loan policies, and corporate boards).¹⁷¹

11. *Commitment to the Public Good*

The legal profession exists to serve the public. Lawyers are not only expected to help clients, but there is also an obligation to improve the law and the legal system.¹⁷² For the profession to succeed, lawyers must internalize this “public good” obligation. Various ethical codes express that obligation, but the obligation extends to broader, aspirational ideals as well. In fulfilling those ideals, lawyers frequently undertake professional and community service that “reflects a genuine commitment to act ethically and morally, articulates common values, [and] motivates people with a sense of common purpose.”¹⁷³

12. *Professional and Community Service*

Professional, community, and pro bono services are traditional mechanisms for serving the public good.¹⁷⁴ Students should, of course, continue this tradition, but they can also use new technology to expand

170. Eli Wald, *A Primer on Diversity, Discrimination, and Equality in the Legal Profession or Who Is Responsible for Pursuing Diversity and Why*, 24 GEO. J. LEGAL ETHICS 1079, 1103 (2011); SpearIt, *Not for Free: Exploring the Collateral Costs of Diversity in Legal Education*, 48 U. PAC. L. REV. 887, 900 (2017).

171. Donald J. Polden & Leah Jackson Teague, *More Diversity Requires More Inclusive Leaders Leading by Example in Law Organizations*, 48 HOFSTRA L. REV. 681, 683 (2020); Julie Ashdown, *Shaping Diversity and Inclusion Policy with Research*, 83 FORDHAM L. REV. 2249, 2264 (2015).

172. MODEL RULES OF PRO. CONDUCT pmb1., para. 6 (AM. BAR ASS'N 2020).

173. Benjamin B. Wagner, *Reflections on Leadership in Government and Private Practice*, 69 STAN. L. REV. 1847, 1853 (2017).

174. See *Pro Bono*, A.B.A. (Nov. 4, 2021), https://www.americanbar.org/groups/legal_education/resources/pro_bono/ [https://perma.cc/9AC6-ZEQQ].

service options. For example, creating high-quality, affordable apps and other tech services will help give many Americans access to necessary legal services that they traditionally could not afford.

13. Leadership

“The legal profession provides a disproportionate number of leaders in American society, everywhere from law firms and law schools to government, the private sector, and the nonprofit realm.”¹⁷⁵ Lawyers often turn out to be good leaders, so perhaps leadership skills are innate in law students. But that is a risky assumption. “It is a shameful irony that the occupation that produces the nation’s greatest share of leaders does so little to prepare them for that role.”¹⁷⁶ There may be an increasing awareness of the importance of lawyers as leaders, as nearly half of law schools include some form of preparing their students for leadership in their mission statements.¹⁷⁷ Legal scholar Deborah Rhode and others have worked to create a path for law schools to consider helping law students develop leadership skills.¹⁷⁸ These skills should be on the legal education agenda.¹⁷⁹

14. Complex Project Administration and Management Skills

Project management competencies include effective and efficient planning, reality and fact assessment, strategy, negotiation, and supervision. Many lawyers claim they are not managers. But most lawyers *are* managers—of departments, companies, practices, cases,

175. Sophie J. Hart, Foreword, *Raising the Bar: Lawyers and Leadership*, 69 STAN. L. REV. 1593, 1593 (2017).

176. Deborah L. Rhode, *Leadership in Law*, 69 STAN. L. REV. 1603, 1605 (2017).

177. See Francis Tung & Elizabeth Mertz, *Table of U.S. Law School Mission Statements, 2019 & 2021* (Univ. of Wis. L. Sch. Legal Stud. Rsch. Paper Series, Paper No. 1731, 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3960065 [<https://perma.cc/4KVV-BG6H>]; see also IRENE SCHARF & VANESSA MERTON, TABLE OF LAW SCHOOL MISSION STATEMENTS (2016), https://scholarship.law.umassd.edu/cgi/viewcontent.cgi?article=1174&context=fac_pubs [<https://perma.cc/W7KB-HQ25>].

178. See, e.g., Rhode, *supra* note 176, at 1638.

179. *Id.*; see DEBORAH L. RHODE, LAWYERS AS LEADERS 1 (2013).

and clients' affairs.¹⁸⁰ Management skills are often central to understanding the reality and unintended consequences of changes in statutes and regulations.¹⁸¹ Additionally, many law school graduates working in nontraditional practice do substantial management.¹⁸² The 4IR will undoubtedly increase the demand for these services while providing excellent new tools for effective management.

15. *Client and Stakeholder Relationships*

Understanding how to construct and maintain close professional relationships with clients is essential to any practice area. Good relationships with other attorneys, parties to transactions, experts, and community stakeholders are crucial to being a successful lawyer. Some students, but certainly not all, receive instruction in client relationships.¹⁸³ In an age of AI, the human qualities of relationships become essential and serve to separate good lawyers from machines.

180. John G. Balestriere, *To Be a Lawyer Is to Be a Manager (Though Hire a Manager When the Time Is Right)*, ABOVE THE LAW (June 12, 2015, 10:44 AM), <https://abovethelaw.com/2015/06/to-be-a-lawyer-is-to-be-a-manager-though-hire-a-manager-when-the-time-is-right/> [https://perma.cc/9NBW-EDGH]. The MacCrate Report specifically included "Organization and Management of Legal Work" as one of the ten critical skills for lawyers. MACCRATE REPORT, *supra* note 147, at 199–203. Technology means that lawyers are increasingly surrounded by the need to manage in a variety of settings. See Daniel Martin Katz, *The MIT School of Law? A Perspective on Legal Education in the 21st Century*, 2014 U. ILL. L. REV. 1431, 1441–45 (2014).

181. Understanding the law is one thing, but it is even more helpful to clients to understand how the law will affect their business and business model. It is especially powerful to provide creative leadership in applying the law. In this way, management and leadership merge. Donald J. Polden, *Lawyers, Leadership, and Innovation*, 58 SANTA CLARA L. REV. 426, 428–29 (2019). In addition, of course, law schools themselves are full of managers and must be managed well to succeed. Patrick H. Gaughan & Samantha J. Prince, *Facilitating Distinctive and Meaningful Change Within U.S. Law Schools (Part 2): Pursuing Successful Plan Implementation Through Better Resource Management*, 18 U.N.H. L. REV. 173, 177, 185 (2020).

182. In the next Section, we will see that between 25% and 40% of law graduates are not employed in traditional practice. See *infra* text accompanying notes 209–211.

183. E.g., Clark D. Cunningham, *The Client Relationship*, CLARK CUNNINGHAM, <http://www.clarkcunningham.org/PR/index.htm> [https://perma.cc/UQ9M-CDGV] (offering this course as one way to satisfy the school's professional responsibility requirement). There is significant professional interest in the topic of client relationships. Phoebe Bower & Pervin R. Taleyarkhan, *Building Effective Client Relationships: Practice Tips from In-House*, LANDSLIDE, Jan.–Feb. 2019, at 38, 40; Nicholas Gaffney, *Adding Value to Client Relationships*, LAW PRAC. TODAY (Oct. 13, 2016), <https://www.lawpracticetoday.org/article/adding-value-client-relationships/> [https://perma.cc/MF99-TSE7]; Andrew Martin, *7 Secrets to Successful Client Relationships*, UVA LAW., Spring 2016, at 21.

16. Emotional Intelligence

Honesty, compassion, empathy, listening, understanding various points of view, hard work (with life balance), curiosity, and a commitment to healthy professional habits and attitudes are part of emotional intelligence (EI).¹⁸⁴ Law schools have not traditionally focused on these things, but there is a trend toward promoting EI and wellness.¹⁸⁵

17. Wellness

Although sometimes exaggerated, lawyers' general unwellness has been noted for decades.¹⁸⁶ It is a challenge for a profession dedicated to helping others, and without intervention, the unwellness will likely worsen due to the challenges associated with the 4IR. Fortunately, there is movement toward prioritizing lawyers' wellness.¹⁸⁷

184. See Christine C. Kelton, *Clients Want Results, Lawyers Need Emotional Intelligence*, 63 CLEV. ST. L. REV. 459, 467–73 (2015).

185. E.g., Alyson Carrel, *Legal Intelligence Through Artificial Intelligence Requires Emotional Intelligence: A New Competency Model for the 21st Century Legal Professional*, 35 GA. ST. U. L. REV. 1153, 1155 (2019); Susan Swaim Daicoff, *Expanding the Lawyer's Toolkit of Skills and Competencies: Synthesizing Leadership, Professionalism, Emotional Intelligence, Conflict Resolution, and Comprehensive Law*, 52 SANTA CLARA L. REV. 795, 813 (2012).

186. E.g., NAT'L TASK FORCE ON LAW. WELL-BEING, *THE PATH TO LAWYER WELL-BEING: PRACTICAL RECOMMENDATIONS FOR POSITIVE CHANGE* 7 (2017), <https://www.americanbar.org/content/dam/aba/images/abanews/ThePathToLawyerWellBeingReportRevFINAL.pdf> [<https://perma.cc/7MP5-8UWH>]; Jerome M. Organ, David B. Jaffe & Katherine M. Bender, *Suffering in Silence: The Survey of Law Student Well-Being and the Reluctance of Law Students to Seek Help for Substance Use and Mental Health Concerns*, 66 J. LEGAL EDUC. 116, 119 (2016); Lawrence S. Krieger & Kennon M. Sheldon, *What Makes Lawyers Happy?: A Data-Driven Prescription to Redefine Professional Success*, 83 GEO. WASH. L. REV. 554, 557–58 (2015).

187. Jarrod F. Reich, *Capitalizing on Healthy Lawyers: The Business Case for Law Firms to Promote and Prioritize Lawyer Well-Being*, 65 VILL. L. REV. 361, 361 (2020); Cheryl Ann Krause & Jane Chong, *Lawyer Wellbeing as a Crisis of the Profession*, 71 S.C. L. REV. 203, 204–05 (2019). See generally Charity Scott & Paul Verhaeghen, *Calming Down and Waking Up: An Empirical Study of the Effects of Mindfulness Training on Law Students*, 21 NEV. L.J. 277 (2020) (discussing one law school's effort to train its students in mindfulness). Additionally, the ABA recently added Standard 508(b), which requires law schools to provide their students "[i]nformation on student well-being resources." ABA STANDARDS, *supra* note 155, Standard 508, at 37–38.

18. *Understanding Technology*

The discussion of 4IR technology makes it clear that dealing with technology and innovation is essential. Technology will only continue to play an increasing role in the changing environment for law practice. This requires that attorneys accept and take advantage of technology to provide better legal services with greater efficiency. A minority of law schools offer at least one course in AI.¹⁸⁸

19. *Versatility and Flexibility (Adapting to Rapid Change)*

“[T]he speed of innovation and the fact that innovations appear to accelerate each other distinguishes the digital age from previous technological revolutions.”¹⁸⁹ The rate of change is increasing. Law school graduates must keep up with the change and be sufficiently versatile to quickly adapt and create legal arrangements that allow new technologies to be implemented efficiently and safely. Lawyers who are overwhelmed by the rapid change will be unable to keep up with the practice.

20. *Creativity*

Creativity is a fundamental tool of good lawyers, and it can be used to create new legal structures, arguments, ways of delivering services, and ways to solve clients’ problems.¹⁹⁰ Creativity requires lawyers to understand clients’ goals and, sometimes, develop new strategies to achieve them. Creative lawyers “harness the law to the client’s competitive advantage” and “function as the ‘bridge’” between a

188. Brendan Johnson & Francis X. Shen, *Teaching Law and Artificial Intelligence*, 22 MINN. J.L. SCI. & TECH. 23, 31–34 (2021) (specifying that 26% of law schools offered at least one AI course and 13% offered more than one); see Kevin D. Ashley, *Teaching Law and Digital Age Legal Practice with an AI and Law Seminar*, 88 CHI.-KENT L. REV. 783, 783 (2013).

189. Mark Fenwick & Erik P.M. Vermeulen, *Future Lawyers: A Roadmap for Living & Working with Artificial Intelligence* 3 (Aug. 7, 2020) (unpublished manuscript), <https://ssrn.com/abstract=3668907> [<https://perma.cc/B9PF-GVSV>].

190. See, e.g., Moppett, *supra* note 135, at 293; Knake, *supra* note 128, at 850, 852–53; Valentine, *supra* note 158.

company and the government.¹⁹¹ For the U.S. to benefit from innovation, lawyers must tailor legal structures and arrangements to the unique needs of developing technology.¹⁹²

21. *Entrepreneurs*

Lawyers must know how to represent entrepreneurs and must understand entrepreneurialism “at every level of private practice.”¹⁹³ “[A]ll law school graduates must be entrepreneurial”¹⁹⁴ “Today’s law students do not just want to *represent* entrepreneurs. They need *to be* entrepreneurs”¹⁹⁵ Unfortunately, few law schools facilitate the understanding or the importance of the culture of entrepreneurialism and innovation.¹⁹⁶ Law schools need to ensure that all graduates bring entrepreneurial skills to clients.¹⁹⁷

22. *New Communications and Media*

As discussed earlier, “traditional” communication skills will remain essential to the legal community.¹⁹⁸ New technologies, however, are creating new kinds of communication. “Old” new tech—such as email, text, and social media—creates many legal and ethical problems and practical challenges for lawyers.¹⁹⁹ The future will bring changing

191. Evans & Gabel, *supra* note 129, at 776–77.

192. Scott A. Milner, Jennifer Mott Williams & William Childress, *Insight: Tomorrow’s Lawyer Must Embrace Innovation, Technology*, BLOOMBERG L. (Apr. 8, 2020, 4:00 AM), <https://news.bloomberglaw.com/us-law-week/insight-tomorrows-lawyer-must-embrace-innovation-technology> [https://perma.cc/QFW9-FTMG].

193. BENJAMIN H. BARTON, *GLASS HALF FULL: THE DECLINE AND REBIRTH OF THE LEGAL PROFESSION* 223 (2015).

194. Stephanie Dangel & Michael J. Madison, *Innovators, Esq.: Training the Next Generation of Lawyer Social Entrepreneurs*, 83 *UMKC L. REV.* 967, 967 (2015).

195. *Id.* at 971.

196. Knake, *supra* note 128, at 850.

197. Richard James, *Why Attorneys Should Have an Entrepreneurial Mindset Today*, RICHARD JAMES, <https://therichardjames.com/why-attorneys-should-have-an-entrepreneurial-mindset-today/> [https://perma.cc/TRL7-QYC7].

198. See MACCRATE REPORT, *supra* note 147, at 175; see also *supra* text accompanying note 153.

199. Cheryl B. Preston, *Lawyers’ Abuse of Technology*, 103 *CORNELL L. REV.* 879, 881 (2018); Robert

forms of communication. These changes will be more than a change of medium—they will result in clients and others expecting instant advice. From promoting professional services (advertising) to communicating with clients, courts, and regulators, lawyers must become more versatile, yet careful, communicators.

23. *Values and Value*

Many lawyer jokes are based on the proposition that lawyers are not concerned with client values (or any values for that matter).²⁰⁰ In fact, in helping clients make decisions, lawyers often can, and should, remind clients of the importance of the client's values. Government attorneys, of course, may have obligations to promote justice or the public's interests.²⁰¹ But attorneys in many areas of practice should be able to raise the question of whether the values of an organization (or individual) would support a course of action, even if the law would allow it. For example, a nonprofit hospital formulating a bill collection policy should consider its legal options and how its ethics and goals might influence whether it pursues legal action against former patients. Many lawyers already serve this “values” role.²⁰² Whether as part of the organization or as outside counsel, lawyers' value will be enhanced

Keeling, Tami Weerasingha-Cote & John Paul Schnapper-Casteras, *Neither Friend nor Follower: Ethical Boundaries on the Lawyer's Use of Social Media*, 24 CORNELL J.L. & PUB. POL'Y 145, 146 (2014); Michael E. Lackey Jr. & Joseph P. Minta, *Lawyers and Social Media: The Legal Ethics of Tweeting, Facebooking and Blogging*, 28 Touro L. REV. 149, 149–50 (2012).

200. Some lawyer jokes emphasize the lack of lawyers' values, while others emphasize the lack of value to clients. Some do both. “Q: Why are lawyers like nuclear weapons? A: If one side has one, the other side has to get one. Once launched, they cannot be recalled. When they land, they screw up everything forever.” LAW. JOKE COLLECTION, <http://www.iciclesoftware.com/LawJokes/IcicleLawJokes.html> [https://perma.cc/GP35-Y7AE]. More seriously, see Chuck Barry & Kristin Kunz, *In-House Counsel Should Implement Servant Leadership to Help Clients Make Values-Based Decisions*, 37 HAMLINE L. REV. 501, 520–21 (2014).

201. Hugo F. Aguiar, *Legal Profession and Government Lawyers: What Is the Highest Competing Duty to Act in the Public Interest?* 6–7, 10–11 (Feb. 6, 2018) (unpublished manuscript), <https://ssrn.com/abstract=3119274> [https://perma.cc/7P2R-TCWW].

202. Kevin H. Michels, *Our Hidden Value*, 53 U. LOUISVILLE L. REV. 1, 33 (2014); Katherine R. Kruse, *Beyond Cardboard Clients in Legal Ethics*, 23 GEO. J. LEGAL ETHICS 103, 103–04 (2010); Sarah Helene Duggin, *The Pivotal Role of the General Counsel in Promoting Corporate Integrity and Professional Responsibility*, 51 ST. LOUIS U. L.J. 989, 993 (2007); Robert L. Nelson & Laura Beth Nielsen, *Cops, Counsel, and Entrepreneurs: Constructing the Role of Inside Counsel in Large Corporations*, 34 LAW & SOC'Y REV. 457, 478 (2000).

by providing legal advice that considers a client's values, mission, and goals.

24. *Lifelong Learning*

Law schools should help students become lifelong learners of the law.²⁰³ The MacCrate Report saw “Professional Self-Development” as so critical that it listed self-development as one of the four main professional values.²⁰⁴ This competency requires that graduates view lifelong learning as an ongoing obligation and understand how to continue learning after law school.²⁰⁵

Attorneys that practice lifelong learning will not have to compete against machines providing legal services. Indeed, they will need technology to improve the quality and efficiency of their services. More than that, attorneys are also offering clients, and the public generally, the kind of service that AI cannot provide. “Law schools need to find ways to educate lawyers who can add value in helping clients and society adjust to an increasingly technological environment, rather than lawyers who will create unnecessary or unwise restrictions on it.”²⁰⁶ Attorneys will offer compassion, empathy, care, deep critical thinking, and a sense of humor, while providing excellent advice, problem solving, understanding clients' values and goals, seeing unique opportunities in legal adversity, enhancing legal creativity, and establishing trust.²⁰⁷ In short, attorneys can provide “the last mile of solution delivery” by combining “empathy, creativity, and adaptability” with excellent legal

203. Anna Carpenter, *Developing 'NextGen' Lawyers Through Project-Based Learning*, in MODERNISING LEGAL EDUCATION 126, 126, 135 (Catrina Denvir ed., 2020).

204. MACCRATE REPORT, *supra* note 147, at 218–21.

205. *See id.*

206. Mark Fenwick, Wulf A. Kaal & Erik P.M. Vermeulen, *Legal Education in the Blockchain Revolution*, 20 VAND. J. ENT. & TECH. L. 351, 379 (2017).

207. *See* Goodman, *supra* note 108, at 161; Melanie Reid, *A Call to Arms: Why and How Lawyers and Law Schools Should Embrace Artificial Intelligence*, 50 U. TOL. L. REV. 477, 485 (2019); Harry Surden, *Machine Learning and Law*, 89 WASH. L. REV. 87, 102 (2014).

understanding and judgment—something that AI simply cannot provide.²⁰⁸

Coding is not on the list of essential competencies. Although not every lawyer needs to be able to create new technology, some lawyers should know how to program and design law-related analytics and apps. Knowing how to make good use of technology, however, will matter for all lawyers.

The above list of competencies is significant and could be even longer. It might, for example, specify more soft skills that are conflated with EI, relationships, and cultural intelligence. Whether embedded (as I have done) or disaggregated, the above skills are an essential value added by talented human lawyers. But the usefulness of these competencies is not limited to just those in traditional legal practice.

B. *Law Graduates in Nontraditional Practice*

In addition to practicing lawyers, the public will also need law school graduates who are not practicing. At any given time, 25–40% of law school graduates are likely not working in traditional practice.²⁰⁹ These lawyers are a strength of the profession and provide

208. Davis, *supra* note 97, at 3, 6; see Daniel Goldsworthy, *The Future of Legal Education in the 21st Century*, 41 ADEL. L. REV. 243, 251–53 (2020) (arguing that in the AI context, human beings will still be essential for doing “human” tasks that involve creativity, complex reasoning, or social intelligence, so legal education must focus on these competencies).

209. See Joyce Sterling, Rebecca Sandefur & Gabriele Plickert, *Gender*, in AFTER THE JD III: THIRD RESULTS FROM A NATIONAL STUDY OF LEGAL CAREERS 63, 65 (2014). The studies initially found that although “almost two thirds of women and three quarters of men began in private practice,” twelve years out “less than 40% of women and 49% of men were working in private practice settings.” *Id.* at 64. Many of those who left private practice went to business positions (as general counsel and non-legal positions) and some pursued government careers. *Id.* at 64–65. Using the Census Survey of Income and Program Participation (SIPP), Simkovic and McIntyre found, “[r]oughly one-third to one-half of U.S. residents with law degrees do not work as lawyers.” Michael Simkovic & Frank McIntyre, *The Economic Value of a Law Degree*, 43 J. LEGAL STUD. 249, 250, 251–52 (2014). Specifically, “[a] total of 58 percent of all law degree holders report ‘lawyer’ as their occupation, and 63 percent do so when the sample is restricted to those working.” *Id.* at 252 n.2. Law school graduates working as government and corporate attorneys are not counted in the “employed as lawyers” category. *Id.* at 250, 251–52. The ABA uses the term “Bar Passage Required” when obtaining and reporting information on law school employment outcomes. See SECTION LEGAL EDUC. & ADMISSIONS TO BAR, AM. BAR ASS’N, EMPLOYMENT PROTOCOLS FOR THE CLASS OF 2021, at 25–26, <https://www.abarequireddisclosures.org/EmploymentOutcomes.aspx> [<https://perma.cc/7C6N-FDUC>] (select the link entitled “2022 Questionnaire Definitions” to open Guidance document).

services to the public.²¹⁰ Their work gives them insights, perspectives, and contacts that are valuable for understanding and solving important societal problems.²¹¹ Further, non-practicing attorneys will be good sources of information for law schools seeking to refine their required competencies.

C. *What the Public Does Not Need*

The public has never needed incompetent or poorly prepared lawyers. Additionally, the public does not need lawyers whose services can be provided better and more efficiently by machines (e.g., many wills and trusts, divorces, loans, contract reviews, property transactions, incorporations, and landlord-tenant disputes).²¹² Graduates who are not adequately educated and do not have adequate competencies risk harming the public. “Legal Tech applications will be able to perform most of a junior lawyer’s work in the near future without the human elements that create imprecision, flaws, inaccuracies, possible lawsuits, and delay.”²¹³

The claim that some schools exist to train students for routine, repetitive legal work is no longer sensible. Educating students for such jobs is not only failing to serve the public, but it is also harming the students. Increasing the number of graduates that fill these jobs does not drive down the cost of legal services. Take, for example, the excess of law school graduates and lawyers in 2010 who did not reduce the price of legal services or provide services to the underserved.

210. For example, the *After the JD III* report indicated that substantial numbers of lawyers work in public interest, nonprofit, and education positions; state and federal government jobs; and business. Sterling et al., *supra* note 209, at 65. “Approximately 10 percent of chief executive officers of large companies and 50 percent of senators have law degrees, whereas only around 1 percent of the workforce has a law degree” Simkovic & McIntyre, *supra* note 209, at 252 n.3.

211. Many law school skills are useful in business and various other professions. See Menkel-Meadow, *supra* note 158, at 152.

212. See BARTON & BIBAS, *supra* note 104, at 115, 117; see also SUSSKIND, *supra* note 107, at 112–13.

213. Fenwick et al., *supra* note 206, at 360.

The future will be about the quality of graduates rather than the quantity.²¹⁴ The challenge is to educate law students well so they can (1) provide sophisticated legal services to those who have traditionally had them; (2) find mechanisms (likely automated) for providing quality, low-cost services to the millions who have not traditionally had access to legal services; and (3) undertake the law as a public profession.

Sadly, some recent reform proposals would *increase* the number of lawyers designed to provide routine services, just as those kinds of jobs are declining.²¹⁵ No matter how well-intentioned the proposals are, they are likely harmful to some prospective law students and the public. The public needs lawyers who are better educated and have a broader range of complex skills.

IV. REFORMING LAW SCHOOL AND LEGAL EDUCATION FOR A FOURTH INDUSTRIAL REVOLUTION FUTURE

There is no guarantee that law schools will provide the complex competencies the future requires.²¹⁶ Law schools might resist the need for change entirely, or they could embrace only the changes that are convenient but could ultimately lower the quality of graduates. This Section considers what the productive reforms would be.

214. *But see* Frank H. Wu, *Reforming Law Schools: A Manifesto*, 46 U. TOL. L. REV. 417, 418 (2015) (“There should be vigorous discussion of how many lawyers are optimal . . .”).

215. *See* Edward Rubin, *The Future and Legal Education: Are Law Schools Failing and, if So, How?*, 39 LAW & SOC. INQUIRY 499, 503 (2014) (“[L]aw schools are graduating too many students[] given the available number of jobs.”); Michael Simkovic & Frank McIntyre, *Populist Outrage, Reckless Empirics: A Review of Failing Law Schools*, 108 NW. U. L. REV. COLLOQUY 176, 178–79 (2014) (“It is unclear whether Tamanaha believes the problem is too many law graduates earning too little, or too few law graduates earning too much.” (footnote omitted)).

216. *See generally* JOYCE J. LU & LAURIE A. HARRIS, CONG. RSCH. SERV., IF10937, ARTIFICIAL INTELLIGENCE (AI) AND EDUCATION (2018), <https://crsreports.congress.gov/product/pdf/IF/IF10937> [<https://perma.cc/KMC4-WM23>] (providing a broad look at the potential and drawbacks of AI in education.).

A. *The Law School Mission—Planning for Change*

Productive reform requires law schools to have clear missions, values, goals, and objectives. Schools without honest mission policies must develop them.²¹⁷ Otherwise, the school will be wandering around reform without direction.²¹⁸ With a genuine mission statement, a school can carefully define competencies based on its mission, identify where each will be taught, and develop methods to verify that students graduate with basic proficiency in each area.

The real threat to law schools is not the commonly identified suspects (high tuition, loans, too few law jobs), but schools' failure to adequately prepare their graduates for the new environment in which they will practice. If "practice ready" has any meaning, it is being ready for that new environment. If law schools do not institute productive reforms, they risk continuing to produce too many graduates who are unprepared for what clients and the public will need.

B. *Curriculum*

It is a myth that law school curriculum is static.²¹⁹ "Engaging in wholesale curricular review has produced experimentation . . . and enhanced . . . learning . . . across the curriculum."²²⁰ Many courses are the same from the past in name only. ABA curriculum studies have been valuable in tracking curricular changes.²²¹ Many changes, such

217. See Irene Scharf & Vanessa Merton, "Your Mission, Should You Choose to Accept It . . .": Taking Law School Mission Statements Seriously, 56 WASHBURN L.J. 289, 307, 309–10 (2017).

218. Vanessa Merton & Irene Scharf, *Mission Statements that Accurately Define, Distinguish, and Reflect the Law School's Praxis*, in BUILDING ON BEST PRACTICES: TRANSFORMING LEGAL EDUCATION IN A CHANGING WORLD 12, 12 (Deborah Maranville, Lisa Radtke Bliss, Carolyn Wilkes Kaas & Antoinette Sedillo López eds., 2015); see Scharf & Merton, *supra* note 217, at 319–20; see also Richard A. Matasar, *Defining Our Responsibilities: Being an Academic Fiduciary*, 17 J. CONTEMP. LEGAL ISSUES 67, 99 (2008).

219. But see Newton, *supra* note 165, at 85–86; Rhee, *supra* note 162, at 327–29; Morton J. Horwitz, *Are Law Schools Fifty Years Out of Date*, 54 UMKC L. REV. 385, 386–89 (1986).

220. SECTION LEGAL EDUC. & ADMISSIONS TO BAR, AM. BAR ASS'N, A SURVEY OF LAW SCHOOL CURRICULA: 2002–2010, at 14 (Catherine L. Carpenter ed., 2012) [hereinafter 2010 CURRICULA SURVEY].

221. See *id.* at 13; see also SECTION LEGAL EDUC. & ADMISSIONS TO BAR, AM. BAR ASS'N, A SURVEY

as experimental and legal writing courses, were made possible by reducing student-to-faculty ratios.²²² The 4IR means that the rate of change must accelerate.

1. *Instruction, the Teaching Toolkit, and Testing*

Fortunately, the law school instructional toolkit is expanding.²²³ New additions include online formative testing, instructional games, audio and video clips mixed with instruction or role-playing, online discussion groups, “flipped classrooms,” adaptive learning,²²⁴ interdisciplinary education, video mini-lectures, and mixing experiential and doctrinal teaching.²²⁵ 4IR technologies will provide many additional new tools for instruction.²²⁶

The COVID-19 “necessity” has expanded and refined that toolkit.²²⁷ Faculty are increasingly able to account for students’ different learning styles and may have multiple ways to tailor materials, assess progress,

OF LAW SCHOOL CURRICULA: 1992–2002, at 6–7 (2004); WILLIAM B. POWERS, OFF. CONSULTANT ON LEGAL EDUC. TO AM. BAR ASS’N, A STUDY OF CONTEMPORARY LAW SCHOOL CURRICULA 1, 3 (1987). See generally E. GORDON GEE & DONALD W. JACKSON, FOLLOWING THE LEADER?: THE UNEXAMINED CONSENSUS IN LAW SCHOOL CURRICULA (1975) (independent curriculum study).

222. Much of the curriculum expansion is a matter of mathematics. In a law school with 350 students and a 35-to-1 student-to-faculty ratio (assuming each faculty member could teach five classes a year and there were no leaves or sabbaticals), the school could offer fifty courses per year taught by full-time faculty. Assuming there are two sections of first-year courses, this would require approximately twenty courses (ten each semester per section). This breakdown would leave thirty second- and third-year courses for the year (fifteen each semester) taught by full-time faculty. Using the same assumptions, except a 15-to-1 ratio, the school would have twenty-three faculty members who could offer 115 courses, twenty of which were first-year, leaving ninety-five (forty-seven each semester) for second- and third-year courses. For a thorough AALS study of the limitations on law schools at the end of the 1950s, see SPECIAL COMM. ON L. SCH. ADMIN. & UNIV. RELS., ASS’N AM. L. SCHS., ANATOMY OF MODERN LEGAL EDUCATION: AN INQUIRY INTO THE ADEQUACY AND MOBILIZATION OF CERTAIN RESOURCES IN AMERICAN LAW SCHOOLS (1961).

223. See Michele Pistone, *Law Schools and Technology: Where We Are and Where We Are Heading*, 64 J. LEGAL EDUC. 586, 591–603 (2015). But see W. Warren H. Binford, *Envisioning a Twenty-First Century Legal Education*, 43 WASH. U. J.L. & POL’Y 157, 164 (2013) (suggesting law has not been as aggressive as other disciplines in adopting educational technology).

224. Pistone, *supra* note 223.

225. See SULLIVAN ET AL., *supra* note 147, at 200 (promoting combining traditional doctrinal instruction with experiential learning).

226. Marcus Smith, *Integrating Technology in Contemporary Legal Education*, 54 LAW TCHR. 209, 221 (2020).

227. Morenike Saula, *Crisis-Induced Innovation in U.S. Legal Education*, 69 J. LEGAL EDUC. 689, 698 (2020).

and assign additional work based on individual needs. Various formats will become increasingly available to engage students.²²⁸ In addition to written materials, formats such as videos, small group assignments, virtual reality, specialized apps, and video “law games” are already available in some form.²²⁹

Constant feedback and progress evaluation will become a relatively easy and essential tool for helping students improve. A long-standing weakness of law schools has been the failure to engage in significant formative testing.²³⁰ AI will make formative assessments more powerful and efficient to allow effective feedback for law students, which has the potential to be a substantial educational advantage at little cost.

One reassuring aspect of the course-level change is that experimentation may be undertaken with modest risk if done carefully in a single course. If the changes are unsuccessful, the students’ education will not suffer because many other courses are part of the students’ legal education. Law schools should, therefore, encourage classroom experimentation while rigorously assessing the outcomes of experiments.

2. *Expanding the Expectations—Doctrinal, Experiential, and Now Fourth Industrial Revolution Competencies*

Law school courses were traditionally expected to provide at least three kinds of instruction: analytical skills, communication skills, and substantive legal knowledge.²³¹ Those dimensions became

228. Sundquist, *supra* note 147, at 4.

229. As an example of using A.I. in the classroom, Georgia Tech provides an online teaching assistant. Jill Watson, *an AI Pioneer in Education, Turns 4*, GA. INST. TECH. (Jan. 24, 2020), <https://ic.gatech.edu/news/631545/jill-watson-ai-pioneer-education-turns-4> [https://perma.cc/E6YU-VUD5].

230. Julie Ross & Diana Donahoe, *Lighting the Fires of Learning in Law School: Implementing ABA Standard 314 by Incorporating Effective Formative Assessment Techniques Across the Curriculum*, 81 U. PITT. L. REV. 657, 660–61 (2020).

231. See SULLIVAN ET AL., *supra* note 147, at 194–95. The numbering of the “dimensions” of curricular obligation can be confusing. In this discussion, I separate traditional analytical and communication skills (plus substantive knowledge) in the traditional legal education.

complicated by the introduction of a fourth dimension: experiential skills.²³² The 4IR competencies require adding a fifth dimension.

A fourth year of law school would be optimal to ensure all the competencies are covered. The following discussion, however, more realistically assumes a fourth year is impractical because of financial and opportunity costs. Therefore, the fifth dimension will call for creatively and efficiently squeezing instruction into every part of the three-year curriculum. It means adding new competencies to existing courses, better utilizing the third year of law school, and taking advantage of the “hidden” curriculum.

3. *Competencies and Efficiency of Time*

The future will require greater efficiency, meaning no wasted credits or missed opportunities. Traditional doctrinal and experiential education will need to be refocused.²³³

The limited number of credit hours students can take requires careful thought about every hour of coursework. The goal is to improve the quality and breadth of instruction while increasing efficiency. Much of a student’s second year of law school is devoted to bar subjects.²³⁴ Schools could reduce the time-costs of some of these upper-division courses by providing self-paced short courses in their place. “The availability of bar instruction in short modules” via videos, computer-aided instruction, and written summaries “gives students a lower-cost option to gain a foundation in some of the subject matters

232. *Id.*

233. See, e.g., Barry et al., *supra* note 85, at 67–70; Kristen Parker, *New Center Aims to Improve Practice of Law Through Science*, MSUTODAY (July 20, 2015), <http://msutoday.msu.edu/news/2015/new-center-aims-to-improve-practice-of-law-through-science/> [<http://perma.cc/GHT2-SKMG>] (describing how Michigan State University College of Law’s Center for Legal Services and Innovation offers classes focusing on “delivering legal services, quantitative analysis, legal analytics, entrepreneurial lawyering, [and] designing legal services and litigation”).

234. See *J.D. Curriculum*, GA. STATE UNIV. COLL. L., <https://law.gsu.edu/student-experience/academics/jd-curriculum> [<https://perma.cc/Y5MG-FJCS>] (requiring second-year students to take traditionally bar-tested subjects like evidence and constitutional law). *But see* TESTING TASK FORCE, NAT’L CONF. BAR EXAM’RS, OVERVIEW OF PRELIMINARY RECOMMENDATIONS FOR THE NEXT GENERATION OF THE BAR EXAMINATION 2 (2020), <https://nextgenbarexam.ncbex.org/wp-content/uploads/TTF-Next-Gen-Bar-Exam-Recommendations.pdf> [<https://perma.cc/8WR2-7HGE>] (explaining “that the bar exam should test fewer subjects”).

tested on the bar.”²³⁵ Instead, students may “choose the more intensive and in-depth coverage of bar subjects in areas in which they expect to practice.”²³⁶

Interdisciplinary programs may also help prepare students for innovative careers. Globalization, technology, and problem-solving are inherently related to other disciplines.²³⁷ Therefore, law schools should determine how interdisciplinary studies can help cover the competencies.²³⁸ More students should be encouraged to pursue dual degree programs or to continue graduate-level education after law school. Additionally, schools may seek to admit more students who have done graduate work before law school.

Some reformers have described adjunct faculty as a great cost-saving device who also bring the real world to the classroom.²³⁹ Adjuncts could also be beneficial in providing instruction in technology, innovation, leadership, and problem-solving. In the future, adjunct faculty may be especially effective in team-teaching with full-time faculty. Although adjuncts must be closely supervised and aware of the goals and competencies expected of their classes, faculties should invite them to participate in the intellectual life of the law school.

235. Katherine R. Kruse, *Legal Education and Professional Skills: Myths and Misconceptions About Theory and Practice*, 45 MCGEORGE L. REV. 7, 44 (2013).

236. *Id.* at 44–45.

237. Valentine, *supra* note 158, at 487–89; Rhee, *supra* note 162, at 328–31; Anders Walker, *Bramble Bush Revisited: Llewellyn, the Great Depression and the First Law School Crisis, 1929-1939*, 64 J. LEGAL EDUC. 145, 161–63 (2014) (explaining that interdisciplinary work was part of the reform movement dating at least to 1929).

238. Redding, *supra* note 162, at 395 (“[S]tudents [should] take a certain number of courses from a menu of interdisciplinary courses focusing on practical applications to law practice, such as jurisprudence or critical theory, accounting, economics in law, psychology or criminology in law, quantitative methods for lawyers, and courses in the law and the humanities . . .”).

239. Daniel Thies, *Rethinking Legal Education in Hard Times: The Recession, Practical Legal Education, and the New Job Market*, 59 J. LEGAL EDUC. 598, 619 (2010); David A. Lander, *Are Adjuncts a Benefit or a Detriment?*, 33 U. DAYTON L. REV. 285, 288 (2008) (“A significant percentage of the courses offered by law schools are taught by adjuncts . . . Specialty courses, such as entertainment law and sports law, are largely the province of adjuncts.”).

The third year, which critics identify as unproductive,²⁴⁰ could be substantially reoriented to cover new competencies. For example, seminars and traditional experiential courses may include a focus on innovation, technology, or globalization.

As law schools use technology for teaching, they should remember to marshal human resources to do the things that humans do best and the things that machines cannot do: deeply understand and appreciate the struggle that students are encountering, genuinely care about their education, find new connections and ways of engaging students, and express true feelings of compassion for the setbacks and joy at the triumphs of learning. As technology can do more teaching, there will be a premium on the human touch that only faculty can bring.

4. *Hidden Curriculum*

Law schools should fully utilize hidden educational resources to provide 4IR education.²⁴¹ These hidden resources, even some of the “softer” competencies (e.g., leadership, management, professionalism), can be organized and assessed.²⁴² Examples of the

240. SULLIVAN ET AL., *supra* note 147, at 77; Rhee, *supra* note 162, at 331–32; see LAW SCH. SURV. OF STUDENT ENGAGEMENT, STUDENT ENGAGEMENT IN LAW SCHOOL: ENHANCING STUDENT LEARNING 8 (2009), https://lsse.indiana.edu/wp-content/uploads/2015/12/2009_LSSSE_Annual_Survey_Results.pdf [<https://perma.cc/7DHA-3F9B>] (finding a substantial drop-off in interest and effort in the classroom during the third year); see also Mitu Gulati, Richard Sander & Robert Sockloskie, *The Happy Charade: An Empirical Examination of the Third Year of Law School*, 51 J. LEGAL EDUC. 235, 236 (2001) (arguing the “vapidity of the final year of law school”).

241. Hidden educational resources “include[] all of the explicit and implicit messages we convey through our courses as well as through interactions with students across the many facets of our programs.” David M. Moss, *The Hidden Curriculum of Legal Education: Toward a Holistic Model for Reform*, 2013 J. DISP. RESOL. 19, 24 (2013). PATRICK EMERY LONGAN, DAISY HURST FLOYD & TIMOTHY W. FLOYD, *THE FORMATION OF PROFESSIONAL IDENTITY: THE PATH FROM STUDENT TO LAWYER* 5–8 (2020) (stating that law schools can impart values of the profession onto students, which are important in forming a professional identity, including “competence,” “fidelity to the client,” “fidelity to the law,” “public spiritedness,” “civility,” and “practical wisdom”).

242. Larry Cunningham, *Assessing the Hidden Curriculum*, L. SCH. ASSESSMENT (Feb. 28, 2017), <https://lawschoolassessment.org/2017/02/28/assessing-the-hidden-curriculum/> [<https://perma.cc/ZVM7-X4SR>]. Assessing the hidden curriculum, among other things, includes using career counseling surveys to “determine the extent to which students perceive that their career counselors helped them to become professionals,” surveying alumni, and assessing “whether students in the 2L and 3L Externship Program have embodied lessons learned in the 1L curriculum.” *Id.*

hidden curriculum that schools might use for 4IR competencies include the following:

Work Experience: Approximately 90% of students work in a legal position, primarily clerkships, while in law school.²⁴³ “No other experience besides the mandatory first year classes may be shared by so many members of a law school class.”²⁴⁴ Students rate these as the best learning experiences—above seminars, classrooms, in-house clinics, and internships.²⁴⁵ These educational benefits do not come out of instructional time.

These legal positions do have problems: Their purpose is work (not education), supervision is uneven, they are outside the review of law schools, and some offer bad lessons.²⁴⁶ Law schools could make these positions more educationally valuable by convincing firms and clerkship supervisors of their educational importance. Schools should also provide students with information on how to get the most out of work and consider what competencies might be covered.

Co-Curricular and Extra-Curricular Activities: Law schools have long understood the educational value of co-curricular activities, including law reviews and moot court competitions.²⁴⁷ Schools often award academic credit to students for these activities because of the intense research, writing, and analytical experience that students gain

243. Donald N. Zillman & Vickie R. Gregory, *The New Apprentices: An Empirical Study of Student Employment and Legal Education*, 12 J. CONTEMP. L. 203, 216, 239 (1987).

244. *Id.* at 239. “Clerking does part of what the traditional apprenticeship did.” *Id.* Most clerks were positive about the exposure to the practice of law and viewed it as a “valuable part of their legal education.” *Id.* at 233. See SULLIVAN ET AL., *supra* note 147, at 195–97 (arguing that because clerkships are powerful experiences, they should be intentionally included in the curriculum).

245. RONIT DINOVIETZ, BRYANT G. GARTH, RICHARD SANDER, JOYCE STERLING & GITA Z. WILDER, NALP FOUND. L. CAREER RSCH. & EDUC. & AM. BAR FOUND., AFTER THE JD: FIRST RESULTS OF A NATIONAL STUDY OF LEGAL CAREERS 81 (Janet E. Smith, Abbie F. Willard & Paula A. Patton eds., 2004), <https://www.americanbarfoundation.org/uploads/cms/documents/ajd.pdf> [<http://perma.cc/Y47R-ETFB>]; Robert R. Kuehn, *Universal Clinic Legal Education: Necessary and Feasible*, 53 WASH. U. J.L. & POL’Y 89, 94 (2017); SULLIVAN ET AL., *supra* note 147, at 195.

246. See LAW SCH. SURV. STUDENT ENGAGEMENT, LESSONS FROM LAW STUDENTS ON LEGAL EDUCATION: 2012 ANNUAL SURVEY RESULTS 15 (2012) [hereinafter LSSSE 2012], https://lssse.indiana.edu/wp-content/uploads/2016/01/LSSSE_2012_AnnualReport.pdf [<http://perma.cc/S9DH-8EZ2>].

247. Laura Pasekoff, *Law School Basics: Beyond Classes*, LEG UP LEGAL (Jan. 14, 2020), <https://www.leguplegal.com/blog/beyondclasses> [<https://perma.cc/U9ZT-LMB6>].

from them.²⁴⁸ Law schools should increase the number of students participating in extra-curricular activities (generally without academic credit) because these activities allow students to practice leadership, management, and problem-solving competencies. For example, “leadership development” should be a goal for students who serve as officers in co-curricular or extracurricular activities.²⁴⁹ These leadership roles offer especially teachable moments because students can implement the skills immediately.

Research Assistants: Working closely with a faculty member on their research is an opportunity for teaching research and writing skills.²⁵⁰ The faculty member is responsible for the product, but the student participates in a way that Ph.D. students often experience.²⁵¹ At some law schools, students may also assist faculty with classes by doing research and aiding struggling first-year students.²⁵²

Pro Bono Programs: Non-credit pro bono activities represent excellent opportunities for a range of competencies, including client interaction and the use of technology.²⁵³ Schools must structure and

248. *Id.*

249. See Deborah L. Rhode, *Leadership Lessons*, 83 TENN. L. REV. 713, 726–27 (2016); Louis D. Bilonis, *Professional Formation and the Political Economy of the American Law School*, 83 TENN. L. REV. 895, 913 (2016) (stating that schools can take “the co-curricular and extracurricular” activities and turn “them into efficient, productive service”); Karen H. Rothenberg, *Recalibrating the Moral Compass: Expanding “Thinking like a Lawyer” into “Thinking like a Leader”*, 40 U. TOL. L. REV. 411, 417 (2009).

250. Mark E. Wojcik, *Should You Be a Faculty Research Assistant?*, STUDENT LAW., Sept. 2007, at 35, 36; Robert S. Summers, Professor, Cornell Law School, Address Before the Law School Advisory Council (Sept. 12, 1997), in CORNELL L.F., Mar. 1998, at 9, 9.

251. See generally Anna Sverdlik, Nathan C. Hall, Lynn McAlpine & Kyle Hubbard, *The PhD Experience: A Review of the Factors Influencing Doctoral Students’ Completion, Achievement, and Well-Being*, 13 INT’L J. DOCTORAL STUD. 361 (2018) (reviewing 163 articles on doctoral education).

252. Julie M. Cheslik, *Teaching Assistants: A Study of Their Use in Law School Research and Writing Programs*, 44 J. LEGAL EDUC. 394, 414 (1994). A number of law schools publicly post information regarding teaching assistant positions. See, e.g., *Student Support*, ALB. L. SCH., <https://www.albanylaw.edu/student-experience-support/student-support> [<https://perma.cc/8YYY-L95V>]; *Student Employment*, WAKE FOREST L., <https://financialaid.law.wfu.edu/employment/> [<https://perma.cc/AAF5-29CJ>].

253. Brian J. Murray, *The Importance of Pro Bono Work in Professional Development*, A.B.A. (Apr. 20, 2011), <https://www.americanbar.org/groups/litigation/committees/real-estate-condemnation-trust/articles/2011/042011-pro-bono-professional-development/#:~:text=In%20particular%2C%20three%20things%20about,available%20to%20them%20from%20paying> [<https://perma.cc/4VPN-3XS2>]; Kathleen Elliott Vinson & Samantha A. Moppett, *Digital Pro Bono: Leveraging Technology to Provide Access to Justice*, 92 ST. JOHN’S L. REV. 551, 566–69 (2018).

supervise pro bono activities properly to ensure that students achieve the target competencies. Engaging in pro bono work is a beneficial habit for students to take into the law profession.

The Other Hidden Curriculum: The hidden curriculum often refers to the lessons that faculty and administrators communicate through actions.²⁵⁴ Students can learn positive lessons if the faculty work professionally and treat others with unfailing respect.²⁵⁵ The faculty should consider how they can intentionally use these actions as part of the hidden curriculum.

These great learning opportunities will be lost without intentional efforts to maximize their contributions to the competencies identified by the school. Relatively small amounts of time and resources will yield significant competency benefits.

5. *A Note of Caution*

This enthusiasm for 4IR learning comes with a caution sign. A new educational technology's true benefits and costs are often not obvious. The technology of the Third Industrial Revolution produced many exciting reforms that did not work as advertised, including, for example, the hype for massive open online courses (MOOCs).²⁵⁶ New technology can often generate excessive optimism or even con

254. Hannah R. Arterian, *The Hidden Curriculum*, 40 U. TOL. L. REV. 279, 282 (2009). "Every faculty member, regardless of whether he or she believes in value-laden instruction, actually provides instruction in professionalism through the hidden curriculum." *Id.* The hidden curriculum can include the subliminal messages that unprepared, tardy, or pandering professors may send to students and various ruses that deans may use in order to inflate *U.S. News* rankings and the obvious lessons given to students. *Id.* at 282–92.

255. *See id.* at 282–92.

256. Derek Newton, *The "Depressing" and "Disheartening" News About MOOCs*, FORBES (June 21, 2020, 5:58 PM), <https://www.forbes.com/sites/dereknewton/2020/06/21/the-depressing-and-disheartening-news-about-moocs/?sh=23a4c4b76ed8> [<https://perma.cc/F4G5-4M4A>]; Doug Lederman, *Why MOOCs Didn't Work, in 3 Data Points*, INSIDE HIGHER ED (Jan. 16, 2019), <https://www.insidehighered.com/digital-learning/article/2019/01/16/study-offers-data-show-moocs-didnt-achieve-their-goals> [<https://perma.cc/93RV-8S4U>]; Tamar Lewin, *After Setbacks, Online Courses Are Rethought*, N.Y. TIMES (Dec. 10, 2013), <https://www.nytimes.com/2013/12/11/us/after-setbacks-online-courses-are-rethought.html?ref=education> [<https://perma.cc/55ZF-E7M4>] ("A study . . . done by the University of Pennsylvania Graduate School of Education found that, on average, only about half of those who registered for a [MOOC] ever viewed a lecture, and only about [four] percent completed the courses.").

games.²⁵⁷ Where the risks to students and quality education are modest (a single course using a carefully designed program), a careful trial with rigorous appraisal should be encouraged. But as the risk to students increases, the assessment must be increasingly rigorous. As discussed later, robust assessment will be essential.

C. Faculty

Most law schools have few full-time faculty who are experts in nontraditional competencies.²⁵⁸ Students need faculty who will expose them to 4IR areas and to whom they can turn to supervise writing, technology, and app projects. Of course, schools are hampered in producing 4IR scholarship without faculty in these areas. Without such faculty, existing doctrinal and experiential faculty will have to provide expanded types of instruction.²⁵⁹ Because faculty positions turn over slowly,²⁶⁰ there is some urgency to consider 4IR areas with almost every open faculty position, even at the expense of some other

257. E.g., Mark Button & Cassandra Cross, *Technology and Fraud: The 'Fraudogenic' Consequences of the Internet Revolution*, in THE ROUTLEDGE HANDBOOK OF TECHNOLOGY, CRIME AND JUSTICE 78, 84–85 (M. R. McGuire & Thomas J. Holt eds., 2017) (discussing various technology scams); Charles Piller, *Failing the Test*, SCI., <https://www.science.org/content/article/this-scientist-accused-supplement-industry-of-fraud-now-his-own-work-is-under-fire> [<https://perma.cc/ST55-7B2P>] (Feb. 3, 2022, 11:30 AM) (addressing DNA barcoding); Press Release, Office of Public Affairs, United States Department of Justice, Justice Department Charges Dozens for \$1.2 Billion in Health Care Fraud (July 20, 2022), <https://www.justice.gov/opa/pr/justice-department-charges-dozens-12-billion-health-care-fraud> [<https://perma.cc/RV5C-9WL6>] (discussing telemedicine, clinical laboratory, and durable medical equipment fraud schemes).

258. Informal conversations with deans and faculty in recent years suggest that many law schools have begun making appointments in these 4IR competencies. However, I know of no formal mechanism to track all full-time faculty who are experts in these competencies. There are some articles that report only the number of specialized courses but not whether those courses are taught by full-time faculty. See, e.g., Johnson & Shen, *supra* note 188. The AALS has faculty sections in areas like “Biolaw,” “Empirical Study of Legal Education and the Legal Profession,” “Global Engagement,” “Internet and Computer Law,” and “Technology, Law and Legal Education.” *List of Sections*, ASS’N AM. L. SCHS., <https://memberaccess.aals.org/eweb/DynamicPage.aspx?Site=AALS&WebKey=87e3b982-657e-4a7c-be71-33605903d797#> [<https://perma.cc/754S-WGF3>] (This index, however, does not provide any reliable way to estimate the number of full-time faculty with expertise in the 4IR areas.).

259. See Alex J. Hurder, *The Lawyer’s Dilemma: To Be or Not to Be a Problem-Solving Negotiator*, 14 CLINICAL L. REV. 253, 256 (2007) (“Clinical legal education has lagged behind the changes that have taken place in more advanced sectors of the legal profession. Traditional legal education faculty have assumed responsibility for teaching negotiation classes in many law schools.”).

260. See Shi-Ling Hsu, *Cooperation and Turnover in Law Faculties: A Game-Theoretic Model and an Empirical Study*, 102 MARQ. L. REV. 1, 5 (2018).

subjects. Some excellent law schools are already making this change, but all schools should be.²⁶¹

Faculties should create plans to address the expertise deficiency. In the short run, addressing the deficiency might include utilizing adjunct faculty to cover curricular areas, inviting a series of temporary faculty, focusing on visiting assistant professors or fellowships, having visiting distinguished practitioners in new competencies, arranging interdisciplinary connections, and taking full advantage of staff members with specialized expertise. Of course, attracting permanent full-time faculty is critical in the long run.

Adjunct faculty can fill gaps in the 4IR expertise of the full-time faculty.²⁶² In addition to adjunct faculty offering their own courses, schools might encourage team-teaching with full-time faculty. Adjunct faculty might also co-supervise a legal writing project in their area of expertise.

In pursuing the compatible goals of diversity and 4IR expertise, law schools should seek new candidate sources, new pipelines, and new ways of supporting nontraditional candidates. The efforts to cover new competencies should simultaneously support efforts to add diversity to the faculty.²⁶³ Faculty members who focus on teaching or researching entrepreneurship, cultural competency, complex problem solving, or international issues may bring demographic diversity to the faculty.

261. See, e.g., Frank Pasquale, *Synergy and Tradition: The Unity of Research, Service, and Teaching in Legal Education*, 40 J. LEGAL PRO. 25, 25–26 (2015) (“Several [law school] clinics have moved beyond their traditional focus on the marginalized, to play a role in promoting entrepreneurship or other aspects of for-profit business.”); Andrew M. Perlman, *The Public’s Unmet Need for Legal Services & What Law Schools Can Do About It*, DÆDALUS, Winter 2019, at 75, 76 (noting Chicago-Kent College of Law’s project providing “online ‘guided interviews’ for self-represented litigants”).

262. Currently, adjunct professors fill in the general gaps that are left by full-time professors. Lander, *supra* note 239 (surveying law school practices regarding adjunct faculty and finding that adjunct professors commonly teach between 20% and 30% of courses offered).

263. See *Recruitment & Retention of Minority Law Faculty Members*, ASS’N AM. L. SCHS., <https://www.aals.org/members/other-member-services/aals-statements/minority-law-faculty-members/> [<https://perma.cc/Y6KH-BFTN>] (July 12, 2017) (identifying good practices regarding the search and interview process involving minority candidates); see also Veryl Victoria Miles, *Recruiting and Retaining Faculty of Color in the Legal Academy: A Longstanding Commitment of the Association of American Law Schools*, 10 WASH. & LEE RACE & ETHNIC ANC. L.J. 65, 69–70 (2004).

D. Students and Admissions

The law needs to attract students to law school who are especially capable and interested in new competencies. Increasing the faculty, curricular offerings, and opportunities to undertake 4IR projects will make law school more attractive to such students. National legal education organizations and the organized bar should join efforts to attract students with interests and unique qualifications in 4IR competencies.

The major national legal organizations should develop sophisticated outreach programs to high school and undergraduate students, including students with 4IR interests and expertise. Data suggest that most graduates believe their decision to go to law school was a good one.²⁶⁴ The Law School Admission Council (LSAC), AALS, and AccessLex Institute have undertaken positive efforts to provide information to and about prospective students.²⁶⁵ A balanced picture of the potential benefits (including the economic and non-economic value of law school) would aid potential applicants.

At the same time, it is increasingly important that law schools reasonably ensure they only admit applicants that the school is

264. The *After the JD III* study found that 76% of lawyers “were moderately or extremely satisfied with their decision to become a lawyer” twelve years after graduation. Bryant Garth & Ronit Dinovitzer, *Dimensions of Satisfaction*, in *AFTER THE JD III: THIRD RESULTS FROM A NATIONAL STUDY OF LEGAL CAREERS* 49, 50 (2014). Yair Listokin & Raymond Noonan, *Measuring Lawyer Well-Being Systematically: Evidence from the National Health Interview Survey*, 18 J. EMPIRICAL LEGAL STUD. 4, 4 (2021) (demonstrating that “lawyers are not particularly unhappy”); Jerome M. Organ, *What Do We Know About the Satisfaction/Dissatisfaction of Lawyers? A Meta-Analysis of Research on Lawyer Satisfaction and Well-Being*, 8 U. ST. THOMAS L.J. 225, 237, 260–62 (2011).

265. ASS’N AM. L. SCHS. & GALLUP, HIGHLIGHTS FROM BEFORE THE JD: UNDERGRADUATE VIEWS ON LAW SCHOOL 2–3 (2018), <https://www.aals.org/wp-content/uploads/2018/09/BJDReportsHghlights.pdf> [<https://perma.cc/XUC2-J84F>]; ASS’N AM. L. SCHS., GALLUP & LAW SCH. ADMISSION COUNCIL, HIGHLIGHTS FROM BEYOND THE BACHELOR’S: UNDERGRADUATE PERSPECTIVES ON GRADUATE AND PROFESSIONAL DEGREES (2018), https://www.aals.org/wp-content/uploads/2018/10/btb_shortReport.pdf [<https://perma.cc/QXU8-8H7Y>]. In addition to supporting studies and research on undergraduate interest in law school, AccessLex began the LexScholars program to promote diversity. See Kylie Thomas & Tiffane Cochran, *Future in Law? A Profile of Graduating College Seniors Interested in Legal Education and Careers* (AccessLex Inst., Research Paper No. 20–01, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3545417 [<https://perma.cc/XB42-RZSD>] (profiling college seniors’ interest in the legal field); *LexScholars by AccessLex®*, ACCESSLEX INST., <https://www.accesslex.org/lexscholars> [<https://perma.cc/WWN7-2LRN>].

reasonably confident it can prepare for complex 4IR practice. The public will need better, not necessarily more, law graduates.

E. Research Mission

The 4IR is creating many issues requiring legal scholarship. Early adoption of new technologies, such as AI and data-gathering for bail and sentencing decisions, identifying online bar examination cheating, gene editing, and controlling “driverless cars,” is already raising novel legal problems.²⁶⁶ Beyond encouraging their regular faculty to be involved in these efforts, law schools should seek to expand participation in the 4IR research mission. Students, law school instructors and staff, attorneys, judges, and scholars in other disciplines should all become partners in that mission.

Traditionally, only a few students have been actively involved in the research mission of most law schools. The lucky ones worked on law review, as research assistants, or participated in competitions.²⁶⁷ In the future, law schools should encourage all students to participate in the school’s research mission. Participation in this mission will “produce

266. See Clark D. Asay, *Artificial Stupidity*, 61 WM. & MARY L. REV. 1187, 1192 (2020); Deeks, *supra* note 126, at 1829–30; Semmler & Rose, *supra* note 108, at 89–91. For concrete proposals for regulating AI, see Axel Walz & Kay Firth-Butterfield, *Implementing Ethics into Artificial Intelligence: A Contribution, from a Legal Perspective, to the Development of an AI Governance Regime*, 18 DUKE L. & TECH. REV. 180 (2019) and Mark L. Shope, *Lawyer and Judicial Competency in the Era of Artificial Intelligence: Ethical Requirements for Documenting Datasets and Machine Learning Models*, 34 GEO. J. LEGAL ETHICS 191 (2021).

267. LSSSE 2012, *supra* note 246, at 8. Legal writing competitions are the largest single area of competitions, generally open only to individual student authors. AccessLex currently catalogues nearly ninety competitions. *AccessLex Law School Scholarship Databank – Writing Competitions*, ACCESSLEX INST., https://www.accesslex.org/scholarship/writing-competitions?sort_by=field_application_deadline&sort_order=ASC&page=0 [https://perma.cc/M49Z-68VP]. In addition to excellent writing opportunities, these competitions offer cash prizes and a resume boost. ACCESSLEX INST., *supra*. Trial, appellate, negotiation, client counseling, arbitration, and similar competitions are also available to students. Yale provides a list of many of these competitions for its students. *Non-YLS Competition Listing*, YALE L. SCH.: STUDENT ACTIVITIES RES., <https://ylsstudentactivities.yale.edu/competitions> [https://perma.cc/H32H-PBAT]. These competitions allow students to practice specific skills and work cooperatively with other students on the team, while also adding value to students’ resumes. Faculty members commonly act as coaches for teams and as advisors to students involved in writing competitions.

better, more well-rounded graduating students.”²⁶⁸ It will improve students’ education, allow them to be part of an important law school mission, and improve their life-long learning skills. Of course, law students are often closer to the new technologies than faculty. The definition of “research” for student participation should include all kinds of law-related activities that require innovation and creativity, legal insight and analysis, and communication with others. Students can engage in project-based learning by working independently or with a team of students on projects related to faculty research.²⁶⁹

Law schools should expand their 4IR research missions to judges and lawyers interested in publishing creative works focusing on new competencies. Members of the legal profession may be unfamiliar with the publication process.²⁷⁰ They need an academic home. Lawyers with expertise in 4IR areas could be encouraged to coauthor pieces on 4IR topics with faculty. Because many 4IR issues are interdisciplinary, law schools should expand their efforts to connect their faculty to potential collaborators in other disciplines.

Research from nontraditional scholars (students, practitioners, and outside scholars) will invite new ways for the research to be distributed (published). Law schools might create new forums for publishing technology-related creative activities, including apps, games, interactive learning, and videos, with many more options in the future. On a somewhat grander level, the law school might select a timely 4IR-related “Topic of the Year.” The law school could invite faculty, adjunct faculty, other attorneys, outside scholars, and students to offer scholarly, creative, or innovative research perspectives on the selected

268. Kristina V. Foehrkolb & Marc A. DeSimone, Jr., *Debunking the Myths Surrounding Student Scholarly Writing*, 74 MD. L. REV. 169, 179 (2014).

269. Edward Rubin, *Should Law Schools Support Faculty Research?*, 17 J. CONTEMP. LEGAL ISSUES 139, 165 (2008).

270. See generally Timothy T. Lau, *A Law and Economics Critique of the Law Review System*, 55 DUQ. L. REV. 369 (2017) (detailing practitioners’ challenges with getting law review articles published, including the cost of electronic submissions).

topic.²⁷¹ Law schools that adopt a topic would have the limited goal of focusing study in a particular area without expecting to find a single solution to the problem.

F. Fourth Industrial Revolution Service Activities

4IR will provide many new service opportunities. Those who cannot currently afford lawyers, or are discouraged from obtaining lawyers because of non-economic barriers, could receive many legal services online through apps and other technology. If law schools and attorneys work with AI, they can demonstrate how everyone who needs legal services (not necessarily lawyers) can access those services. While doing so, the profession might also participate in developing some technology-based legal services.

Another service opportunity would create organizations to review the quality of apps and online services.²⁷² With 4IR, online services may look acceptable to the lay public, but in reality, they may provide lousy advice or could even be scams. Some high-tech equivalents of the American Law Institute (with judges, lawyers, and law professors) might work together to review services offered to the public and, ideally, create inexpensive electronic services.

G. Supporting the Academic Mission—Libraries, Student Services, and Administration

4IR technology should improve law school support services. Law school libraries have been the most aggressive adopters of technology

271. E.g., Janet A. Weiss & Anne Khademan, *What Universities Get Right — and Wrong — About Grand Challenges*, INSIDE HIGHER ED (Sept. 3, 2019), <https://www.insidehighered.com/views/2019/09/03/analysis-pros-and-cons-universities-grand-challenges-opinion> [<https://perma.cc/74UK-AZEW>] (explaining that two dozen universities have adopted interdisciplinary “grand challenges” in which the institution seeks to have its faculty study, and hopefully resolve, major social issues—with mixed outcomes).

272. See Davis, *supra* note 97, at 9 (noting that “there is no independent analysis of the efficacy of any given AI solution, so that neither lawyers nor clients can easily determine which of several products or services actually achieve either the results they promise, nor which is preferable for a given set of problems”).

in law schools for decades.²⁷³ Although library services have increased, libraries are estimated to take a smaller percentage of the law school budget and facilities than they did forty years ago.²⁷⁴ This should make them heroes of the school and the model for providing increased service at lower costs.

Individually tailored student academic support and student counseling will become more effective and efficient in providing student services. Using sophisticated formative testing will make academic support more effective and readily available.

Assuming schools deploy AI competently, the routine administration–management functions of law schools should also become more effective. Energy, security, custodial services, parking, and transportation should all become more efficient and reduce the space dedicated to non-educational services.

H. Legal Education Nationally

Left solely to their own devices, many law schools would struggle to take advantage of the opportunities and challenges of 4IR. It will become especially critical that the major national organizations help law schools take full advantage of the 4IR.

273. Bob Ambrogi, *Report: Law Librarians Play Key Role in Innovation and Legal Tech*, LAWSITES (June 23, 2021), <https://www.lawnext.com/2021/06/report-law-librarians-play-key-role-in-innovation-and-legal-tech.html> [<https://perma.cc/X3P7-89ZH>]; Kasia Solon, *Present in Its Absence: Law Librarians and Technology at the Founding of AALL*, 98 LAW LIBR. J. 515, 515 (2006).

274. This is an estimate based on expert studies conducted in the 1970s and 1980s. SWORDS & WALWER, *supra* note 84, at 224 (citing a study from the 1970s showing that law libraries consumed 14% to 29% of the law school budget, with an average of 20.1%); Jane L. Hammond, *Library Costs as a Percentage of Law School Budgets*, 80 LAW LIBR. J. 439, 440 (1988) (finding a fairly steady budget consumption of 18% between 1976 and 1986). In addition to these published expert studies, this author conducted a 2018 informal study of established law schools and found that library expenditures ranged from 5% to 11% of the total law school budget (including scholarships), with a median of 8%. In the 1980s, law libraries could occupy about 50% of the total space of a law school, but conversations with law librarians over the last decade suggest that they now take up 25% or less of the total space.

1. *Assisting Law Schools with Fourth Industrial Revolution Challenges*

Each law school need not reinvent the wheel. Idea incubators, shared information, conferences, publications, accreditation incentives, and access to successful new curricula would be helpful. Major national organizations should develop rigorous assessment processes and collect good data on the success (or failure) of innovative 4IR-related programs. These organizations, such as the American Law Institute, National Conference on Uniform State Laws, and the Conference of Chief Justices, can also link law schools and the legal profession in developing solid 4IR programs.

2. *Accreditation and Fourth Industrial Revolution*

ABA accreditation should be one mechanism to encourage law schools to prepare students for practice in a 4IR era. The ABA Standards (Standards) have traditionally listed broad competencies and curricular elements.²⁷⁵ Together these Standards define foundational instruction, professional responsibility instruction, experiential courses, and pro bono opportunities.²⁷⁶ Schools are not limited by the Standards, however, and may require additional competencies.²⁷⁷ The AALS Membership Requirements are also a form of accreditation and include broad curricular requirements in the Bylaws and Executive Committee Regulations.²⁷⁸

275. ABA STANDARDS, *supra* note 155, Standards 301–303, at 17–19. Standard 302 requires law schools to establish learning outcomes in a number of competencies, including “substantive and procedural law,” “[l]egal analysis and reasoning, legal research, problem-solving, and written and oral communication,” “ethical responsibilities to clients,” and “[o]ther professional skills.” *Id.* at Standard 302.

276. *Id.* at Standard 303, at 18.

277. *Id.* at Standard 302, at 17 (providing that a school should require competency in “[o]ther professional skills needed for competent and ethical participation as a member of the legal profession”).

278. *Bylaws*, ASS’N AM. L. SCHS., <https://www.aals.org/about/handbook/bylaws/> [<https://perma.cc/ZE2B-73ZH>]. The AALS’s Executive Committee Regulations encourage courses in a wide variety of areas and instruction that “develops jurisprudential, transnational, multicultural, and interdisciplinary perspectives on law.” *Executive Committee Regulations*, ASS’N AM. L. SCHS., <https://www.aals.org/about/handbook/executive-committee-regulations/> [<https://perma.cc/639R-PP9R>].

The ABA and AALS sensibly avoid specific lists of individual courses that schools must teach.²⁷⁹ It would be a mistake to expect them to move toward a comprehensive list of specific required competencies. Both organizations, however, should insist that law schools honestly plan for and move toward covering competencies that schools determine are necessary in students' careers. In time, Standards 302–304 should take account of the developing competencies.

For accreditation more generally, technology will make it easier, faster, and cheaper to collect and process law school data. This, in turn, will create the opportunity to provide additional data to the public and potential applicants. It will also allow the accreditation process to spot problems early and enable accreditors to respond quickly to those problems, offer swift guidance, and promptly enforce the accreditation requirements.

3. *Bar Admissions*

New technology in the form of new examination techniques will make the bar admission process more efficient and valid. That process has already begun. The National Conference of Bar Examiners (NCBE) is creating the “next generation of the bar exam” which will be electronically administered.²⁸⁰ NCBE adopted eight “Foundational Concepts and Principles” (Civil Procedure, Contract Law, Evidence, Torts, Business Associations, Constitutional Law, Criminal Law, and Real Property) and seven “Foundational Skills” (Legal Research, Legal Writing, Issue Spotting and Analysis, Investigation and Evaluation, Client Counseling and Advising, Negotiation and Dispute Resolution, and Client Relationship and Management).²⁸¹ However, the shift in what clients need and expect as the 4IR develops will change “the minimum knowledge and skills to perform activities

279. See *Bylaws*, *supra* note 278; see also ABA STANDARDS, *supra* note 155, Standard 303, at 18–20.

280. TESTING TASK FORCE, *supra* note 234, at 5.

281. *Id.* at 4.

typically required of an entry-level lawyer,”²⁸² so more frequent adjustments may be needed in these essential competencies.

At the same time, AI and other technology will improve testing and allow more complex and efficient examinations. AI should also allow each law school to better assess and advise individual students on their success in preparing for the bar examination and correcting deficiencies well before the examination.

I. The Other Million

Even if law schools could magically assure current students were 4IR competent, a problem would remain. There may be about 1.4 million living J.D. graduates, perhaps a million of whom are still practicing, that need to be familiar with 4IR competencies.²⁸³ Looking only at graduates from the last ten years (with thirty years remaining in their careers), I estimate there would be more than 300,000 J.D.s who need to know something about 4IR technology.²⁸⁴

Larger law firms will develop programs to keep their attorneys up-to-date on technology in their areas of practice,²⁸⁵ and some have chief technology officers to maintain useful new technology. However, many attorneys do not have access to quality information about effective techniques in their practice areas.²⁸⁶ A consulting industry already exists to assist attorneys with these technology issues, but an expertise gap regarding 4IR-assisted practice will remain. Public interest and small firm attorneys may be especially vulnerable.

282. *Id.* at 2.

283. The 1.4 million figure is estimated by taking the number of graduates over the past forty years and then subtracting from each year the number of “retiring” J.D. graduates as equal to the number of graduates forty years earlier. Marc Gans, Not a New Problem: How the State of the Legal Profession Has Been Secretly in Decline for Quite Some Time 8 (June 24, 2012) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2173144 [<http://perma.cc/66L4-DU5X>].

284. This is my very rough estimate. It is the number of J.D. graduates of the last ten years, reduced by a guess that some of them are already familiar with 4IR issues. *See id.*

285. *See* NOAH WAISBERG & ALEXANDER HUDEK, AI FOR LAWYERS: HOW ARTIFICIAL INTELLIGENCE IS ADDING VALUE, AMPLIFYING EXPERTISE, AND TRANSFORMING CAREERS 30, 45 (2021) (finding AI can reduce billable hours while increasing return on investment).

286. *See id.* at 45.

Law schools do not have the same obligation to graduates as they have to current students, but they do have some responsibility to help improve the profession.²⁸⁷ It may be a wonderful opportunity for schools to offer certain services to their graduates. Each law school should conduct mission-related planning for areas where it could provide educational services to its graduates and others. These educational services might be short courses, certificate programs or badges, online or hybrid instruction, or formal graduate programs such as LL.M.s. However, law schools should undertake such programs *only* if they genuinely have the faculty and administrative expertise, interdisciplinary connections, support services, and financing to successfully conduct programs.

This Section focused on technology, but the same principles would apply to many of the other 4IR competencies as well. For instance, cultural sensitivity, diversity and inclusion, EI, wellness, complex project-management skills, leadership, creativity, and entrepreneurship might be areas in which carefully designed post-J.D. programs would be helpful. The cautions noted above still apply—to be successful, these programs must be high-quality and mission-related. Deciding to start a program on a whim or based on a single faculty member's interest is unlikely to work.

Helping educate lawyers who graduated without the new competencies is a considerable challenge. It is also an opportunity for law schools with the mission, faculty, and educational facilities to undertake high-quality education for 4IR lawyers.

V. HONEST ASSESSMENT AT EVERY LEVEL

A. *Assessment in the Law School*

Law schools now face pressure for assessment beyond their universities. ABA accreditation requires substantial program

287. This obligation arises, not only from law schools' continuing concern about their own graduates, but also from mission statements that include goals related to improving the law and the profession. *See Tung & Mertz, supra* note 177.

assessment,²⁸⁸ including assessing students' futures.²⁸⁹ A growing literature on law school assessment is encouraging better and more frequent assessment within legal education.²⁹⁰ Although there are naysayers about the value of some assessments,²⁹¹ the general consensus in higher education is that program and institutional assessments are essential.²⁹²

Assessment is a critical part of responding to 4IR challenges. Many law schools have not successfully established competencies nor successfully assessed whether their students are graduating with those competencies.²⁹³ The risk is that schools will only go through the motions of assessment—gathering data, holding meetings, writing some reports—signifying almost nothing. Given 4IR challenges, legal education can no longer afford that luxury.

Assessment begins, of course, with the faculty carefully and genuinely establishing the school's mission, goals, competencies, and direction. Then, those foundational documents should be turned into expectations for individual classes. Faculty expectations about courses should include what competency will be achieved in which classes, how that will be evaluated, and by whom. This assessment intrudes on

288. ABA STANDARDS, *supra* note 155, Standard 315, at 26 (“The dean and the faculty of a law school shall conduct ongoing evaluation of the law school’s program of legal education, learning outcomes, and assessment methods . . . to determine the degree of student attainment of competency in the learning outcomes and to make appropriate changes to improve the curriculum.”).

289. *Id.* at Standard 301, Standard 314, at 17, 26. (“A law school shall maintain a rigorous program of legal education,” “establish and publish learning outcomes” requiring competency in listed areas, and use “both formative and summative assessment methods”).

290. *E.g.*, GREGORY S. MUNRO & INST. L. SCH. TEACHING, OUTCOMES ASSESSMENT FOR LAW SCHOOLS 59 (2000); Judith Welch Wegner, *Law School Assessment in the Context of Accreditation: Critical Questions, What We Know and Don’t Know, and What We Should Do Next*, 67 J. LEGAL EDUC. 412, 440–46 (2018); Rogelio A. Lasso, *Is Our Students Learning? Using Assessments to Measure and Improve Law School Learning and Performance*, 15 BARRY L. REV. 73, 82, 84–93 (2010).

291. *E.g.*, Erik Gilbert, *Assessment Is an Enormous Waste of Time*, CHRON. HIGHER EDUC. (Mar. 20, 2019), <https://www.chronicle.com/article/Assessment-Is-an-Enormous/245937> [<https://perma.cc/ZAD4-48HD>]; Doug Lederman, *Harsh Take on Assessment ... from Assessment Pros*, INSIDE HIGHER ED (Apr. 17, 2019), <https://www.insidehighered.com/news/2019/04/17/advocates-student-learning-assessment-say-its-time-different-approach> [<https://perma.cc/JD4C-29SK>]; Erik Gilbert, *An Insider’s Take on Assessment: It May Be Worse Than You Thought*, CHRON. HIGHER EDUC. (Jan. 12, 2018), <https://www.chronicle.com/article/An-Insider-s-Take-on/242235?cid=rclink> [<https://perma.cc/E2TQ-44EL>].

292. *See* STUCKEY ET AL., *supra* note 148, at 175–197.

293. *See id.* at 15, 18–21.

traditional course sovereignty, but the faculty as a whole (not just individual faculty members) is responsible for successfully covering the designated competencies. With reasonable frequency, the faculty should also conduct a comprehensive review of the J.D. program beginning with admissions and continuing, at least, through bar examination.²⁹⁴ This assessment should ensure that the law school is achieving its announced mission and goals.²⁹⁵

B. Assessing Fourth Industrial Revolution Educational Experimentation

The 4IR, with gee-whiz technology, will raise another special assessment issue: When is it appropriate to use new technology in experimental ways? Experimentation in single classes is relatively low risk. As the risk increases, however, caution should increase as well. After all, these educational experiments are conducted on human students. Most educational experiments are not subject to ethical and legal reviews, which apply to medical and some social science research.²⁹⁶ (There is generally no Institutional Review Board approval.) Nonetheless, as the risks increase, ethical concerns about human studies arise.²⁹⁷ At the extreme, using unproven 4IR technology to offer most of the curriculum warrants great caution. Students should receive complete and honest information about the process, especially the risks. The institution and instructors should minimize the risks to students to ensure that their education is at least as robust and effective as standard education. Where the risk to students or others is substantial, there must be a way of ending an experiment that is not

294. *See id.* at 5–7; Welch Wegner, *supra* note 290, at 449; Lori A. Roberts, *Assessing Ourselves: Confirming Assumptions and Improving Student Learning by Efficiently and Fearlessly Assessing Student Learning Outcomes*, 3 DREXEL L. REV. 457, 472–73 (2011).

295. Melissa N. Henke, *When Your Plate Is Already Full: Efficient and Meaningful Outcomes Assessment for Busy Law Schools*, 71 MERCER L. REV. 529, 543 (2020).

296. *See generally* OFF. EXTRAMURAL RSCH., NAT'L INSTS. OF HEALTH, PROTECTING HUMAN RESEARCH PARTICIPANTS (Sept. 26, 2018), https://grants.nih.gov/sites/default/files/PHRP_Archived_Course_Materials_English.pdf [<https://perma.cc/88L4-72SH>].

297. *See id.*

working well. The institution may take such risks with its own resources, but it has substantial responsibilities beyond itself when the risks fall on its students.

External reviewers, such as university officials and accrediting bodies, should ensure that students are protected throughout the life of the experiment. Those bodies include the Section of Legal Education and Admissions to the Bar, which might be called upon to grant a variance if the experiment is inconsistent with the Standards.²⁹⁸

Assessment is a larger topic than these brief paragraphs could fully discuss, but in sum, it should be an essential part of every 4IR reform.

CONCLUSION

Today's law graduates will be called upon throughout their careers to represent clients and help lead our society during dramatic changes. If a law school has prepared them to do it well, they will contribute to a time of almost unparalleled advances; if they are not so prepared, they will harm their clients and society.

AI is the most immediate of the 4IR changes. It is already raising complex legal issues and is beginning to change law practice. Over the next two decades, it will produce substantial dislocations in law practice (as in much of society), but it will also produce remarkable opportunities. Machines will greatly assist well-prepared, creative lawyers in providing extraordinary, efficient legal services. AI will also permit the profession to move closer to assuring the availability of legal services to everyone who needs them.

On the other hand, AI, blockchains, and similar technology are already beginning to allow machines to do much of the repetitive or recurring work. As machines improve, they are undertaking more complicated work, including document production, discovery, contracts, property transactions, and creating wills and trusts. It makes

298. Under Standard 107, the Council may grant an experimental variance if it has “the potential to improve or advance the state of legal education, and . . . the anticipated benefits of granting the variance outweigh any anticipated harms to the law school’s program or its students.” ABA STANDARDS, *supra* note 155, Standard 107, at 9.

little sense for law schools to continue preparing graduates for work that will effectively go away relatively soon.

Successful graduates will need many new competencies in light of the changing environment for legal services. This Article suggests that many law schools are not currently teaching the several additional competencies that new lawyers will almost surely need. If law schools are to succeed and their graduates thrive, law schools need to begin to move briskly toward seeking the right competencies for their graduates. Consistent with their missions, law schools must determine what competencies their graduates will need, specify how those competencies will be provided, and carefully assess that those competencies are in fact achieved prior to graduation.

The push for law school reform is not spurred on by the declining enrollments of the Great Recession or the mess created by the COVID-19 pandemic. Rather, the push for law school reform comes from the changing needs of clients and society and the talents lawyers will need to provide excellent services to their clients. Legal education should respond aggressively to these challenges on behalf of law students, the profession, and the public.