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“Smart” Lawyering: Integrating Technology Competence into the Legal Practice Curriculum

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“Smart” Lawyering: Integrating Technology Competence into the Legal Practice Curriculum

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ABSTRACT. Technology has changed modern law practice. Ethics rules obligate lawyers to understand whether, when, and how to use it to deliver services. But most law schools do not incorporate the so-called “Duty of Technology Competence” into the required curriculum. Despite broad calls for legal education to make students more practice-ready, there is no clear path forward for how to weave this valuable professional skill into coursework for all students. This Article supplies one.

The legal practice course should pair technology competence with traditional legal writing and research work. Lawyers do not draft memos or perform legal research or manage caseloads in a vacuum insulated from modern innovation. Clients now demand a more efficient and multi-disciplinary approach that often includes technology. Small changes to the traditional legal practice syllabus can create awareness of technology’s impact on everyday lawyering work and provide students hands-on experience with: (1) Legal Document Proficiency; (2) Legal Research Analytics & Document Integration; (3) E-Discovery; (4) Law Practice Technology; and (5) Data Security.

The skills curriculum must mirror expectations for how twenty-first century lawyers perform fundamental tasks. These tasks include facing new ethical challenges and using tools to create efficient and effective work product. Through concrete classroom examples such as mobile lawyering, document automation, cloud computing, judicial analytics, and “Technology Spotlight Exercises” available in a collaborative online repository, the reader will walk away with strategies for combining “smart” lawyering skills with traditional coursework for every law student.

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I. INTRODUCTION

You may have heard of a “smart phone” or “smart car,” but did you know there are “smart farms”? Today’s farmers use moisture sensors for soil, drones to monitor crops, self-driving GPS-wielding tractors to seed, and even wearable trackers on cows to check their vitals (yes, really!) —all to make farming more profitable and efficient.¹ But what if I told you apprentice farmers were not introduced to these things? That they were too busy being shown how to tend to oxen pulling plows. Too busy being trained to navigate crops with their handheld hoe. Too busy being taught the art of kneeling to the soil to gauge moisture. That’s crazy, right? How can a student prepare for *their* future if the instruction is based on their teacher’s past?

But that is the approach many law schools take in the required curriculum. Teach the same skills students learned decades ago: case briefing, rule synthesis, analysis, research, oral argument, etc. Sure, there have been tweaks here and there, such as adding an email assignment or transitioning from paper to online research.² But the legal practice curriculum (also called legal writing or several other things; I’ll stick with the broad “legal practice” term³) is more stagnant than dynamic — as if the legal profession has been hiding safely in a bubble insulated from technology’s impact. It hasn’t.

Technology changes how lawyers do the things students learn in the legal practice course: write, argue, communicate, research, and, well, how to *lawyer*. Just like farming, innovative technologies impact aspects of everyday life, and legal practice is no different: plenty of pieces of a lawyer’s work can be more profitable and efficient by working smart alongside working hard, such as automating a client intake form; mastering basics of everyday tools like Microsoft Office; installing a simple plug-in to organize and ensure consistency in a contract; ensuring data

¹ See Kathleen Walch, *How AI Is Transforming Agriculture*, FORBES (July 5, 2019, 8:00 AM), <https://www.forbes.com/sites/cognitiveworld/2019/07/05/how-ai-is-transforming-agriculture/#7fb6f7cd4ad1> [<https://perma.cc/328A-P5AU>].

² See generally *infra* Part III (discussing advances in the legal practice curriculum).

³ AM. BAR ASS’N, LEGAL WRITING SOURCEBOOK 1-4 (J. Lyn Entrikin & Mary B. Trevor eds., 3d ed 2020) [hereinafter *Legal Writing Sourcebook*] (describing flexible use of “legal writing” term as a “catch-all or generic term” encompassing other attendant lawyering skills); see also ASS’N OF LEGAL WRITING DIRS. & LEGAL WRITING INST., ALWD/LWI ANNUAL LEGAL WRITING SURVEY: REPORT OF THE 2017-2018 INSTITUTIONAL SURVEY (2018) [hereinafter 2018 ALWD/LWI Survey], <https://www.lwionline.org/sites/default/files/Final%20ALWD%20LWI%202017-18%20Institutional%20Survey%20Report.pdf> [<https://perma.cc/5VE6-JMGF>] (listing other course names such as Foundations of Legal Analysis, Lawyering Skills, Legal Process, and Legal Communications).

security; making use of an e-discovery platform; or hyperlinking authorities in an e-brief. And that's just to name a few.

Technology competence is no longer optional. It's wrong to discount the above examples as a nice-to-have-but-not-really-necessary "plus" for a small group of lawyers. In 2013, after the American Bar Association Commission on Ethics 20/20 report, Comment 8 was added to Model Rule of Professional Conduct 1.1. It states that "a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology."⁴ While the guidance about Comment 8 this Article explores leaves its meaning less than clear, it's not something law schools should ignore.

Not only is some competency with technology ethically required, it's good – maybe even necessary – for business. This was true before the COVID-19 global pandemic began, but the crisis spotlighted touchpoints between technology and law practice more important than ever: cloud-based practice management, online collaboration and conferencing, e-filing, etc. For some lawyers, the pandemic might be a much-needed "wake-up call"⁵ to the notion that baseline knowledge of technology is a prerequisite to surviving as a competent lawyer in the twenty-first-century. But most law students don't just want to survive—they want to thrive. A broad, well-rounded skill set that includes technology competence differentiates them in an evolving market that is navigating pushes for de-regulation of law practice,⁶ increased competition from non-traditional legal service providers, and

⁴ MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (Am. Bar Ass'n 2018); *see also* ABA COMM'N ON ETHICS 20/20 TO THE HOUSE OF DELEGATES 4-5 (2012), https://www.americanbar.org/content/dam/aba/administrative/ethics_2020/20120508_ethics_20_20_final_hod_introduction_and_overview_report.pdf [<https://perma.cc/4HMR-XMZF>].

⁵ Bob Ambrogi, *Will Coronavirus Be The Tipping Point For Tech Competence In Law*, ABOVE THE LAW (Mar. 17, 2020), <https://abovethelaw.com/2020/03/coronavirus-could-be-tipping-point-for-tech-competence-in-law/>.

⁶ *See generally infra* Part II (describing industry change and value of technology competence); *see* Abigail Hess, *Experts Say 23% of Lawyers' Work Can Be Automated—Law Schools are Trying to Stay Ahead of the Curve*, CNBC MAKE IT (Feb. 18, 2020, 5:13 AM), <https://www.cnbc.com/amp/2020/02/06/technology-is-changing-the-legal-profession-and-law-schools.html> [<https://perma.cc/YH7R-C89N>] (noting McKinsey Global Institute estimates 23% of legal work can be automated); *see also* Penn Law Announces New 'Future of the Profession Initiative' Focused on Legal Education Innovation, *Profession-Wide Thought Leadership*, PENN LAW (Oct. 8, 2019), <https://www.law.upenn.edu/live/news/9455-penn-law-announces-new-future-of-the-profession> [<https://perma.cc/4LDJ-36BA>] (announcing Penn Law's new initiative and its Dean's comment that "[c]hange in the legal field is accelerating as technology evolves, new entrants join the industry, the practice of law becomes more globalized, regulatory frameworks governing lawyers shift, and attorneys approach their careers differently.").

greater accessibility of self-help and automated legal tools which, in some spaces, will eliminate the need for a lawyer altogether.

Yes, some law schools now offer upper-level legal technology courses. That’s terrific, but not enough. There’s a big difference between electives for self-selecting students, such as Coding for Lawyers, Digital Drafting, and Lawyering in an Age of Smart Machines,⁷ and a purposeful scattering of introductory technology competence skills into the required practice curriculum for every student. The former digs deep for few; the latter scratches the surface for many.

This is where the legal practice curriculum comes into play: technology competence should be integrated into the curriculum as an ethical requirement and professional skill. Such a course is the ideal candidate to tackle this modern variation of the now-ancient refrain to make students more practice-ready.⁸ The course is part of every student’s instruction in the first year and, for some, in the second year too. It offers a more intimate setting for non-Socratic lectures and engagement with both professors and classmates. It already touches upon professional ethics.⁹ The course I teach is called Legal Practice Skills; in a colleague’s words, “legal technology is a Legal Practice Skill!”¹⁰ For decades, professors in the legal writing community have championed concrete, hands-on, everyday practice skills.¹¹ If that mantra is to hold true, the skill base must be modernized to integrate

⁷ See generally LEGAL SERVICE INNOVATION INDEX, <https://www.legaltechinnovation.com/law-school-index/> [<https://perma.cc/9L6N-ZQKE>] (measuring how law schools prepare students “to deliver legal services in the 21st century” and providing school-specific course listings).

⁸ Many articles on this theme are cited throughout this Article; of course, the two best known calls for more practice ready graduates (now decades old) are the MacCrate and Carnegie Reports. See AM. BAR ASS’N SECTION OF LEGAL EDUC. & ADMISSIONS TO THE BAR, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT—AN EDUCATIONAL CONTINUUM: REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSION: NARROWING THE GAP 4 (1992); see also WILLIAM M. SULLIVAN ET AL., EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW 199 (2007).

⁹ See *infra* Part III.

¹⁰ This quote along with its excited punctuation is courtesy of friend and colleague Professor Gabe Teninbaum. See LAWOMATIC, <https://www.lawtomatic.com/> [<https://perma.cc/SP4V-5T4N>].

¹¹ See generally *infra* Part III. Any reasonable length string cite would omit many excellent sources on this point, so I’ll stick to just a few. See, e.g., Kenneth D. Chestek, *MacCrate (in)Action: The Case for Enhancing the Upper-Level Writing Requirement in Law Schools*, 78 U. COLO. L. REV. 115 (2007) (advocating for additional writing instruction); Kristen Konrad Robbins-Tiscione, *From Snail Mail to E-Mail, The Traditional Legal Memorandum in the Twenty-First Century*, 58 J. LEGAL EDUC. 32, 32-60 (2008) (urging update to more practice-based writing exercises); Kathleen Elliott Vinson, *What’s Your Problem?*, 44 STETSON L. REV. 777 (2015) (advocating for problem solving exercises).

some new with the fundamental old. This Article explains how to do that.

Part I explains what the Duty of Technology Competence in Rule 1.1 Comment 8 is, why it was added, and how states have approached it since 2013. Part II moves beyond ethics to recap some of the groundwork as to why students benefit from these competencies to help them compete in today's changing legal market, and work towards a broader skill set more valuable to modern clients. In Part III, I propose that the legal practice curriculum is the ideal candidate for wide-scale introduction of technology-related skills. Most important, Part IV proceeds as a "how-to" guide centered on five broad categories of technology competence that professors can integrate in small but impactful ways: (A) Legal Document Proficiency; (B) Legal Analytics & Document Integration/Brief Analysis; (C) E-Discovery; (D) Law Practice Technology; and (E) Data Security.

Finally, the Appendix takes shape as a lesson plan buffet, one I hope appeals to a range of pallets: each competence includes a sample class exercise. This material will be updated in a shared online repository, one I hope others will contribute to, available at:

<https://suffolklitlab.org/research/techcompetencyexercises/>.

If mention of the word "technology" scares off a potential reader, to be clear: technology luddites need indeed apply. No technology background or expertise is required for either teacher or student. All the reader needs is enthusiasm, openness, and a desire to learn.

It bears repeating what this Article is not: it is not a call to overhaul the 1L curriculum or reshape the fundamentals of communication that schools teach in excellent fashion. It has next to nothing to do with teaching *with* technology, a different distance education angle about which plenty has been said from instructional tools to the use of online platforms to laptops in the classroom.¹² Nor is this another criticism that legal education fails to prepare practice-ready lawyers, a dystopian cry that robots are replacing lawyers, or hyperbole that students won't have jobs unless they become computer experts. Rather, it's a simple call to scatter technology competence into the legal practice curriculum and a guide for how to do so. Integrate a few exercises. Merge new angles with existing assignments. Let students try something new or improve use of a familiar tool or think about an amorphous concept like data security in their first experience with [hypothetical]

¹² Technology competencies can be introduced anywhere, anytime, and in any format, whether within the four walls of a brick-and-mortar classroom or online or some combination thereof. This Article focuses on the *what* students need to substantively learn—not the medium through which they do so. Compare Craig T. Smith, *Technology and Legal Education: Negotiating the Shoals of Technocentrism, Technophobia, and Indifference*, 1 J. ASS'N LEGAL WRITING DIRECTORS 247 (2002) (discussing technology teaching aids used to engage students in first year legal writing course).

clients. Broader awareness, not focused expertise. Introduction for many, not just proficiency for some.

The bottom line is that today’s student will not become tomorrow’s smart lawyer overnight, and that’s ok. That is not the goal. But educators tasked with preparing students for modern lawyering should take small steps to keep today’s student from becoming the lost farm apprentice still throwing seed down by hand. One might ask: Will law students be left to wonder once their apprenticeship concludes, why no one told them about the great new tools out there that might have made their legal work much easier and, most important, much better?

I hope not.

II. WHAT IS THE “DUTY” OF TECHNOLOGY COMPETENCE?

The first background question is: Do lawyers *need* technology competence? Yes, they do (in most states, at least).

Since its addition in 2013 as a comment to the Model Rules of Professional Conduct, the so-called duty of technology competence has garnered steady interest from practitioners, legal bloggers, and scholars.¹³ This Article uses that robust body of work as the backdrop to its unique contribution of why and how such skills can

¹³ See, e.g., Stacey Blaustein et al., *Digital Direction for the Analog Attorney—Data Protection, E-Discovery, and the Ethics of Technological Competence in Today’s World of Tomorrow*, 22 RICH. J.L. & TECH. 10 (2016); Lori D. Johnson, *Navigating Technology Competence in Transactional Practice*, 65 VILL. L. REV. 159 (2019); Antigone Peyton, *Kill the Dinosaurs, and Other Tips for Achieving Technical Competence in Your Law Practice*, 21 RICHMOND J. L. & TECH. 7, 8 (2015); Lauren Kellerhouse, Note, *Comment 8 of Rule 1.1: The Implications of Technological Competence on Investigation, Discovery, and Client Security*, 40 J. LEGAL PROF. 291 (2016); Robert J. Ambrogi, *38 States Have Adopted the Duty of Technology Competence*, LAW SITES, <https://www.lawsitesblog.com/tech-competence> [<https://perma.cc/ZL9F-A96V>]; Anthony E. Davis, *The Ethical Obligation To Be Technologically Competent*, N.Y.L.J. (Jan. 8, 2016, 3:00 AM), <https://www.law.com/newyorklawjournal/almID/1202746527203/The-Ethical-Obligation-To-Be-Technologically-Competent/?mcode=0&curindex=0&curpage=2> [<https://perma.cc/8VER-76RP>]; Ivy B. Grey, *Not Competent in Basic Tech? You Could be Overbilling Your Clients—and be on Shaky Ethical Ground*, Legal Rebels (May 15, 2017, 8:21 AM), https://www.abajournal.com/legalrebels/article/tech_competence_and_ethical_billing [<https://perma.cc/Q735-KMX3>]; Alyssa Meyers, *ABA TECHSHOW: Is It a Lawyers Duty to Be Technologically Competent?*, THOMSON REUTERS (Mar. 12, 2019), <http://www.legalexecutiveinstitute.com/aba-techshow-technologically-competent/> [<https://perma.cc/SG2L-8L6Y>]; Steven M. Puiszis, *Perspective: Technology Brings a New Definition of Competency*, BLOOMBERG LAW (Apr. 12, 2016, 10:25 AM), <https://news.bloomberglaw.com/business-and-practice/perspective-technology-brings-a-new-definition-of-competency> [<https://perma.cc/X6AH-PBX8>]; *Why Tech Competence Matters*, LEGAL TALK NETWORK (Sept. 16, 2019), <https://legaltalknetwork.com/podcasts/clio-matters/2019/09/why-tech-competence-matters/> [<https://perma.cc/2PGC-ZX73>].

play out in the legal practice classroom. Thus, rather than repeat the detailed history and context, Part I gives a truncated recap of Comment 8 and the ABA's work leading to it, along with a short exploration of how jurisdictions have interpreted, tweaked, and applied it.

Let's start with the specific language, rewind as to how it came about, and then fast-forward to what it means today:

A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation.¹⁴ A lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology.¹⁵

Whether Comment 8 added something new to a lawyer's ethical competency obligation or simply reinforced something the rule already covered is unclear. The ABA's Commission on Ethics 20/20 was tasked with examining the impact of technology and globalization on the legal profession and proposing necessary changes to the Model Rules or other policies.¹⁶ Given some of the Commission's report, at first blush, the Comment appears to focus on data security and confidentiality as lawyers transitioned from in-person, paper records to electronic communication and cloud-based storage.¹⁷ Others question whether Comment 8 simply made explicit something already implicit; the Commission noted: "The proposed amendment . . . does not impose any new obligations on lawyers. Rather, the amendment is intended to serve as a reminder to lawyers that they should remain aware of technology, including the benefits and risks associated with it, as part of a lawyer's general ethical duty to remain competent."¹⁸

¹⁴ MODEL RULES OF PRO. CONDUCT R. 1.1 (AM. BAR ASS'N 2020).

¹⁵ *Id.* at cmt. 8.

¹⁶ See Letter from Jamie S. Gorelick & Michael Traynor, Co-Chairs ABA Comm'n on Ethics 20/20, to ABA Entities, Courts, Bar Associations, Law Schools, and Individuals (Dec. 28, 2011) (available at https://www.americanbar.org/content/dam/aba/administrative/ethics_2020/2011_1228_summary_of_ethics_20_20_commission_actions_december_2011_final.pdf [<https://perma.cc/M7WK-BNQX>]).

¹⁷ See ABA COMM. ON ETHICS 2020, REPORT TO THE HOUSE OF DELEGATES, RESOLUTION 105A1 (Aug. 2012), https://www.americanbar.org/content/dam/aba/administrative/ethics_2020/2012_hod_annual_meeting_105a_filed_may_2012.pdf [<https://perma.cc/W645-KMR4>].

¹⁸ See *id.*; see also Saul Jay Singer, *Speaking of Ethics: R U Competent?*, WASHINGTON LAWYER (Nov. 2008), <https://www.dcb.org/bar-resources/publications/washington-lawyer/articles/november-2008-speaking-of-ethics.cfm> [<https://perma.cc/UGM9-UR2C>] (citing an ABA Center for Continuing Legal Education report concluding that lawyers were already obligated by the 2006 amendments to the Fed. Rules of Civ. Procedure to understand aspects of e-discovery such as client's electronic data sources).

Comment 8 then took on a life of its own. Known generally to embody *some* duty of technology competence, lawyers, ethicists, scholars, and bar administrators have wrestled with its meaning, impact, and scope.¹⁹ As of this drafting, thirty eight-eight states have adopted Comment 8 verbatim or with jurisdiction-specific tweaks.²⁰ For example, in a more relaxed approach, New Hampshire specifies only the “benefits and risks of technology lawyers similarly situated are using,” noting Comment 8 “may be read to assume more time and resources than will typically be available to many lawyers.”²¹ North Carolina and Florida adopted the Comment alongside new technology-related CLE rules.²² Some states slant the language more narrow toward “changes in communications and other relevant technologies”²³ (Colorado) or “technology the lawyer uses to provide services to clients or to store or transmit confidential information”²⁴ (New York). And still others, such as California, incorporate the spirit of Comment 8 in ethics opinions while not formally adopting the rule.²⁵ In contrast, some states aren’t on board. A committee

¹⁹ See also Heidi Frostestad Kuehl, *Technologically Competent: Ethical Practice for 21st Century Lawyering*, 10 CASE W. RES. J.L. TECH. & INTERNET 1 (2019); See generally *supra* note 13.

²⁰ See Robert J. Ambrogi, *38 States Have Adopted the Duty of Technology Competence*, LAWSITES, <https://www.lawsitesblog.com/tech-competence> [<https://perma.cc/ZL9F-A96V>].

²¹ N.H. Sup. Ct. R. 51 (2015), <https://www.courts.state.nh.us/supreme/orders/11-10-15-Order.pdf> [<https://perma.cc/6RXM-XVV3>].

²² See AMERICAN BAR ASS’N MODEL RULE FOR MINIMUM CONTINUING LEGAL EDUCATION (2017), https://www.americanbar.org/content/dam/aba/directories/policy/2017_hod_midyear_106.pdf [<https://perma.cc/E35W-DWAC>] (recommending accreditation of programs on technology in law practice); see also FL. SUP. CT. R. 4-1.1 & 6-10.3 (2016), <https://www.floridasupremecourt.org/content/download/323470/2902135/file/sc16-574.pdf> [<https://perma.cc/9Q9U-XJWC>]; see also *Continuing Legal Education Program*, N.C. STATE BAR, <https://www.ncbar.gov/for-lawyers/governing-rules-of-the-state-bar/1518-continuing-legal-education-program/> [<https://perma.cc/KEY4-MA8B>]; see also Robert J. Ambrogi, *38 States Have Adopted the Duty of Technology Competence*, LAWSITES, <https://www.lawsitesblog.com/tech-competence> [<https://perma.cc/ZL9F-A96V>].

²³ COLO. RULES OF PROF’L CONDUCT (2016), [https://www.courts.state.co.us/userfiles/file/Court_Probation/Supreme_Court/Committees/Rules_of_Professional_Conduct_Committee/2016\(04\).pdf](https://www.courts.state.co.us/userfiles/file/Court_Probation/Supreme_Court/Committees/Rules_of_Professional_Conduct_Committee/2016(04).pdf) [<https://perma.cc/9WWW-ELG5>].

²⁴ N.Y. RULES OF PROF’L CONDUCT (2009), <https://nysba.org/NYSBA/Practice%20Resources/Professional%20Standards%20for%20Attorneys/Professional%20Standards%20for%20Attorneys/Rules%20of%20Professional%20Conduct%20as%20amended%20060118.pdf> [<https://perma.cc/8DQG-E54U>].

²⁵ See State Bar of California Comm. On Prof’l Responsibility and Conduct, *Formal Op. 2015-193* (2015) (recognizing a duty of technology competence as to e-discovery, something “almost every litigation matter” potentially involves).

in New Jersey, for example, declined in 2016 to recommend the adoption of Comment 8, noting that its rule “solely addresses gross negligence,” so “proficiency with technology was not appropriate.”²⁶

The best answer to the “what does this Comment even mean?” inquiry comes from enforcement and formal guidance, scant as they may be. One can describe Comment 8 as a “sea change,”²⁷ but that’s just an educated guess. Can a lawyer get in hot water for not displaying technology competence during representation? It depends, but probably yes.²⁸ Not surprisingly, approaches to Comment 8’s meaning range from not much at all to an overhaul (for some) of what it means to be a lawyer. The realistic expectation lies somewhere in the middle.

Comment 8 gets applied more so in the e-discovery and data security realm than others, but different flavors of bar association guidance and opinions (not to mention “bench slap” remarks to attorneys) involving technology competencies are included in greater detail in Part IV as to particular categories. By way of one early example, in 2013, a court in Delaware cited its adoption of Comment 8 when it sanctioned a lawyer for failing to produce an accurate spreadsheet in discovery, rejecting the lawyer’s [paltry, if I may] explanation:

I have to confess to this Court, I am not computer literate. I have not found presence in the cybernetic revolution. I need a secretary to help me turn on the computer. This was out of my bailiwick.²⁹

Admittedly, this is an over-simplified summary of a topic that’s anything but. The only bright-line rule for a student at the starting line of their legal career is that Rule 1.1 has matured, and competence no longer “just” means substantive

²⁶ NEW JERSEY COURTS, ADMINISTRATIVE DETERMINATIONS BY THE SUPREME COURT ON THE REPORT AND RECOMMENDATIONS OF THE SPECIAL COMMITTEE ON ATTORNEY ETHICS AND ADMISSIONS (Apr. 14, 2016), <https://www.njcourts.gov/notices/2016/n160414a.pdf> [<https://perma.cc/E4EP-P9V2>].

²⁷ Robert J. Ambrogi, *New ABA Ethics Rule Underscores What EDD Lawyers Should Already Know: There’s No Hiding from Technology*, E-DISCOVERY SEARCH BLOG (Aug. 16, 2012), <https://catalystsecure.com/blog/2012/08/new-aba-ethics-rule-underscores-what-edd-lawyers-should-already-know-theres-no-hiding-from-technology/> [<https://perma.cc/68ZB-RW6B>]; see also FEDERATION OF LAW SOCIETIES OF CANADA MODEL CODE OF PROF’L CONDUCT r. 3.1-2 cmt. 4A (2019), <https://flsc.ca/wp-content/uploads/2019/11/Model-Code-October-2019.pdf> [<https://perma.cc/KT Z6-4FBU>]. In 2019, Canada followed suit and amended its Model Code with greater detail, noting “a lawyer should develop an understanding of, and ability to use, technology relevant to the nature and area of the lawyer’s practice and responsibilities.”

²⁸ Several examples of attorneys landing in such hot water with the court, bar, public, or client appear *infra* in Part IV tied to the competency categories.

²⁹ *James v. National Finance LLC*, No. CV 8931-VCL, 2014 WL 6845560, at *12 (Del. Ch. Dec. 5, 2014) (“[p]rofessed technological incompetence is not an excuse for discovery misconduct”).

knowledge and representation basics.³⁰ Indeed, it probably has “never been the case that being a competent lawyer simply means knowing the law.”³¹ Suffice to say that as Comment 8 approaches its ten-year anniversary, it’s not meaningless window dressing and does impact a present-day lawyer’s practice—and, in turn, how educators prepare them for it.³²

III. THE PROFESSIONAL VALUE OF TECHNOLOGY COMPETENCE

The first background question in Part I was do lawyers *need* some practice-specific technology competence; the second background question Part II answers is shouldn’t lawyers *want* it?

Yes, for two reasons: first, to remain competitive and relevant amid significant regulatory and other changes to the profession; second (and relatedly) to offer clients a broader skillset amid increasing demands and changing service expectations. Without purporting to take an expert deep dive into these complex topics, both are explored here as additional pillars of support for integrating technology competency into the legal practice curriculum.

A. *Staying Competitive Amid Industry Change*

Here, again, a healthy body of literature explores evidence that the legal market is shifting and will continue to do so.³³ “Revolutionary changes are afoot,” cry

³⁰ See Ivy V. Grey, *Technology Competence: What the Ethical Duty Means for You and Your Firm*, INTELLIGENT EDITING (Dec. 2017), <https://legal.intelligentediting.com/blog/technology-competence-what-the-ethical-duty-means-for-you-and-your-firm/> [<https://perma.cc/6AR3-SQ66>].

³¹ Robert J. Ambrogi, *Duty of Tech Competence Comes to Canada*, LAWSITES (Dec. 2, 2019), <https://www.lawsitesblog.com/2019/12/duty-of-tech-competence-comes-to-canada.html> [<https://perma.cc/Y3KY-ZEMG>] (quoting legal ethics professor at University of Ottawa Amy Salyzyn).

³² Given the “how to” practical focus of this Article, discussion of additional ethical rules relevant to technology in law practice are not included such as Rule 1.5 (reasonable fees), Rule 1.6 (duty of confidentiality), Rule 4.4 cmt. 2 (expanding notification of inadvertent receipt to electronically stored information), and Rule 5.3 cmt. 3 (supervision of nonlawyer work such as a document management company). See generally MODEL RULES OF PROF’L CONDUCT (AM. BAR ASS’N 1983).

³³ See, e.g., Mark A. Cohen, *What’s A Lawyer Now? Law’s Shift From Practice To Skill*, FORBES (Sept. 23, 2019, 7:20 AM), <https://www.forbes.com/sites/markcohen1/2019/09/23/whats-a-lawyer-now-laws-shift-from-practice-to-skill/#2ceae4fd745b> [<https://perma.cc/QRG6-ZQU3>]; Nita Sanger, *An Industry in Transition: Legal Services “Market of the Future”*, LEGAL BUS. WORLD (June 21, 2019),

reports.³⁴ The emerging, overlapping themes are: (1) loosening regulatory restrictions; (2) new legal roles and “non-lawyer” professionals;³⁵ and (3) innovations with technology in the delivery of legal services.

As to (1), the protective regulatory moat around the practice of law insulating lawyers from competition is drying up—so lawyers will face pressure to change how they swim. With increasing pace,³⁶ states are exploring aspects of “unbundling” legal services that will prompt change, such as allowing alternative business structures and fee sharing between lawyers and non-lawyers and clear the way for alternative legal service providers to take on roles and responsibilities far more significant than they already do.³⁷ One such leader is Utah, fueled by access to justice concerns and its vision of “a combination of lawyer and tech people working together to use the platforms of the twenty-first-century in providing legal

<https://www.legalbusinessworld.com/single-post/2019/06/21/An-Industry-in-Transition-Legal-Services-%E2%80%9CMarket-of-the-Future%E2%80%9D> [https://perma.cc/E3Q7-CD2P].

³⁴ CENTER ON ETHICS AND THE LEGAL PROFESSION AT GEORGETOWN LAW ET AL., 2020 Report on the State of the Legal Market 15 (2020). <https://www.law.georgetown.edu/news/fundamental-shifts-are-disrupting-the-legal-market-2020-report-on-the-state-of-the-legal-market-from-georgetown-law-and-thomson-reuters-legal-executive-institute/> [https://perma.cc/5ZSG-RCVT].

³⁵ Some take issue with the term “nonlawyer” as minimizing the role of and marginalizing this group of professionals and suggest the “allied professional” description instead. See David Lat, *How In-House Lawyers Can Expand the Role of Non-Lawyers Allied Professionals to Improve Delivery of Legal Services*, ABOVE THE LAW (Oct. 20, 2016, 7:11 AM), <https://abovethelaw.com/2016/10/how-in-house-lawyers-can-expand-the-role-of-non-lawyers-allied-professionals-to-improve-delivery-of-legal-services/>.

³⁶ Though the movement is gaining momentum, not everyone is on board. See Robert Ambrogi, *Washington, State that Pioneered Licensed Legal Technicians, Cancels the Program*, LAWSITES (June 9, 2020), <https://www.lawsitesblog.com/2020/06/washington-state-that-pioneered-licensed-legal-technicians-cancels-the-program.html> [https://perma.cc/LM25-7WJP] (recapping June 2020 announcement ending Washington’s limited license legal technicians program); Christine Simmons, *Bar Groups Line Up Against ‘Dangerous Changes’ to Lawyer Regulation*, N.Y.L.J. (Feb. 5, 2020); Sam Skolnik, *ABA Posed for Heated Fight Over Resolution on Access to Justice*, BLOOMBERG LAW (Feb. 12, 2020, 4:51 AM), <https://news.bloomberglaw.com/business-and-practice/aba-poised-for-heated-fight-over-resolution-on-access-to-justice> [https://perma.cc/7D8H-TMHF].

³⁷ See 2020 Report on the State of the Legal Market, *supra* note 34; see also Dan Packel, *From California to D.C., These Are the Proposals for Reforming Law Firm Ownership*, THE AM. LAW. (Feb. 24, 2020) (summarizing push for regulatory changes); see also Sam Skolnik, *California Bar Trustees Move Toward New Regulatory ‘Sandbox’*, BLOOMBERG LAW (May 14, 2020, 5:50 PM) <https://news.bloomberglaw.com/us-law-week/california-bar-trustees-move-toward-new-regulatory-sandbox> [https://perma.cc/GMK5-8DRN] (announcing May 2020 vote in favor of pursuing a regulatory “sandbox” in California to explore change).

services.”³⁸ Not to mention the expansion of the Big Four accounting firms into the legal market, at least (to date) globally outside of the United States, posing competition for law firms doing international work.³⁹ Limited Legal Technicians and Limited License Legal Practitioners may soon do some (if not much) of what traditional lawyers have always done.⁴⁰ The trend toward disaggregation of services will bring opportunity for lawyers who can “stay abreast” of changes in practice and remain skilled enough to, for example, pair their knowledge with a less expensive litigation support or legal research company. Those twenty-first-century lawyers will attract and maintain business by serving clients in the best, most cost-effective ways.⁴¹ Those who can’t (or refuse to), won’t.

³⁸ See Lyle Moran, *Utah’s High Court Proposes Nonlawyer Ownership of Law Firms and Wide-Ranging Reforms*, A.B.A. J. (Apr. 27, 2020, 3:10 PM), <https://www.abajournal.com/news/article/utahs-high-court-proposes-wide-ranging-legal-industry-reforms> [<https://perma.cc/3RL9-MWQU>]; see also *Supreme Court Regulatory Reform Proposal-Comment Period Closes July 23, 2020*, UTAH COURTS (Apr. 24, 2020), <http://www.utcourts.gov/utc/rules-comment/2020/04/24/supreme-court-regulatory-reform-proposal-comment-period-closes-july-23-2020/> [<https://perma.cc/4SJR-BCN2>].

³⁹ See *Deloitte Gets Seal of Approval to Compete Directly with Law Firms*, GLOBAL LEGAL POST (June 25, 2018), <https://www.globallegalpost.com/big-stories/deloitte-gets-seal-of-approval-to-compete-directly-with-law-firms-94407114/> [<https://perma.cc/M6YA-KMSU>] (noting that all four major accounting firms have an approved legal arm in the UK); 2020 *Report on the State of the Legal Market*, *supra* note 34, at 16 (providing recent examples of the Big Four’s “significant presence” in the global legal market except for the United States).

⁴⁰ Here again Utah leads in pursuing licensed paralegals but other states such as California, Oregon, Minnesota, and Colorado look to be following suit. See generally Mary E. McClymont, *Nonlawyer Navigators in State Courts: An Emerging Consensus*, JUSTICE LAB, GEORGETOWN LAW (June 2019), <https://www.srln.org/system/files/attachments/Final%20Navigator%20report%20in%20word-6.11.hyperlinks.pdf> [<https://perma.cc/E2YH-225M>]; Patrick McGlone, *Can Licensed Legal Professionals Narrow the Access-to-Justice Gap?*, A.B.A. J.: DEFENDING JUST. (Sept. 6, 2018, 6:05 AM), https://www.abajournal.com/news/article/can_licensed_legal_paraprofessionals_narrow_the_access_to_justice_gap [<https://perma.cc/RA9Y-RSMG>].

⁴¹ See Bernard A. Burk, *What’s New About the New Normal: The Evolving Market for New Lawyers in the 21st Century*, 41 FLA. ST. U. L. REV. 541, 584 (2014) (“Clients who know they can pay 30% to 90% less for their legal process work will never again allow outside counsel to charge them more. Increasing client willingness to disaggregate legal process work from more complex pieces of a case or deal and treat it as a commodity service will result in even greater price competition”); Ronald W. Staudt et al., *Access to Justice and Technology Clinics: A 4% Solution*, 88 CHI.-KENT L. REV. 695, 700–02 (2013) (describing “significant changes in the practice of law, demanding that lawyers master new competencies and develop new models for delivering legal services”); Shannon Bales, *Basic Legal Technology Skills are “Foundational” For Today’s Legal Market*, HAR. LAW REC. (Apr. 16, 2020), <http://hlrecord.org/basic-legal-technology-skills-are-foundational-for-todays-legal-market/> [<https://perma.cc/7LVW-SBPM>] (“You don’t want to lose your client because your because

A second related change is new legal jobs. Gone are the days when all but a few graduates are called “associates.” As the traditional law firm structure changes and broadens, and new legal service providers gain traction in the market, students now compete for positions such as Legal Knowledge Engineer, Legal Data Scientist, Legal Solutions Architect, or Legal Process Analyst.⁴² To be sure, these positions don’t all involve a deep technological skill base such as coding. Instead, many require an understanding of how to improve the delivery of legal services based not just on a lawyer’s time but on value, process, and efficiency—places where technology can play a critical role.⁴³

The third catch-all aspect of change is so obvious it almost goes without saying: technology impacts legal work processes now more than ever. From AI to automation to e-billing to predictive analytics to courtroom technology to contract analysis to e-discovery and beyond, as technology gets better, clients expect lawyers to use it.⁴⁴ In a 2020 Wolters Kluwer Future Ready Lawyer survey, corporate legal departments ranked an outside law firm’s ability to use technology to improve productivity and efficiency as the top aspect they evaluate, and 82% of respondents predicted that greater use of technology would change how they deliver services.⁴⁵

your legal technical skills are lacking, or your outside vendor costs more than your competitions do.”).

⁴² See generally Richard Susskind, *Tomorrow’s Lawyers: An Introduction to Your Future* (2013).

⁴³ See Andrew Perlman, *The Twenty-First Century Lawyer’s Evolving Ethical Duty of Competence*, 22 PROF’L LAW. 24, 28 (2014) (“Technological competence is not just a disciplinary or malpractice concern. It is becoming essential in a marketplace where clients handle more of their own legal work and use nontraditional legal service providers.”).

⁴⁴ The list of sources and examples for these broad propositions would be longer than the Article itself. See generally 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 (2014); Agnieszka McPeak, *Disruptive Technology and the Ethical Lawyer*, 50 U. TOL. L. REV. 457 (2019); John Campbell, *Ex Machina: Technological Disruption and the Future of Artificial Intelligence in Legal Writing*, UNIV. DENV. STRUM C. LAW (Feb. 25, 2020); *Legal AI Companies Increase by 65% in One Year*, LAWGEX (May 14, 2018), <https://www.artificiallawyer.com/2018/05/14/legal-ai-companies-increase-by-65-in-one-year-lawgeex-report/> [<https://perma.cc/3X9N-XXAL>] (noting the “explosion of well-funded legal technology startups alongside established players seizing new opportunities in the \$700 billion legal market”); Julie Sobowale, *How Artificial Intelligence Is Transforming the Legal Profession*, A.B.A. J. (Apr. 2016, 12:10 AM), https://www.abajournal.com/magazine/article/how_artificial_intelligence_is_transforming_the_legal_profession [<https://perma.cc/NLZ8-VATQ>] (discussing a number of advances in legal technology).

⁴⁵ *The 2020 Wolters Kluwer Future Ready Lawyer: Performance Drivers*, WOLTERS KLUWER (2020), <https://img.en25.com/Web/WoltersKluwerLRSUS/%7Bde3a3f01-91ed-4f24-8243->

In the private sector, the use of technology is not so much an optional value-added as it is a client expectation, with requirements and guidelines for aspects of representation such as billing, budgeting, staffing, project management, and document proficiency.⁴⁶ Small firms and solos use case-management workflows such as Clio to streamline processes and improve efficiency.⁴⁷ New legal service providers, legal aid attorneys, and many others create and use expert systems to, for example, prepare guided online interviews or automated “self-help” court forms accessible from a mobile device.⁴⁸ The list goes on . . . and on . . . and on.

Of course, not all law students will create new legal software or invent the next-best research algorithm. But those who stay aware of the potential and limitations of the tools in their specific practice areas will, at the very least, remain relevant.

And if there’s any minimum bar for students after law school, it should be that.

B. Broadening the Traditional Legal Skillset

Against that layered backdrop of change, technology competence adds professional value by being one of several areas where lawyers can employ a more diversified skillset.

Think of the letter T: a wide and shallow horizontal line resting on a strong vertical base. A T-shaped professional is one with deep knowledge in a chosen discipline [the vertical line] and a wider but shallower breadth of knowledge [the

29545a31f2e8%7D_FRL2o2o_WP.pdf?elqTrackId=9648361C9C87oEF599D74689oA9C4D19&elqaid=2112&elqat=2 [https://perma.cc/6FYT-Y7P9].

⁴⁶ See 2020 *Report on the State of the Legal Market*, *supra* note 34, at 15 n.13 (describing legal clients’ “new-found power over the market designed to push improved efficiency, predictability, and cost effectiveness”); see also D. Casey Flaherty, *Could You Pass This In-House Counsel’s Tech Test? If the Answer is No, You May Be Losing Business*, A.B.A. J.: LEGAL REBELS (July 17, 2013, 1:30 P.M.), https://www.abajournal.com/legalrebels/article/could_you_pass_this_in-house_counsels_tech_test [https://perma.cc/G8S3-RHJL] (describing audit tool to gauge basic computer tasks); Michaela Ross, *Tech-Savvy Attorneys in Heavy Demand Amid Emerging Tech*, BLOOMBERG LAW (Feb. 22, 2018, 9:20 AM), <https://news.bloomberglaw.com/business-and-practice/tech-savvy-attorneys-in-heavy-demand-amid-emerging-tech/> [https://perma.cc/SS49-TVTV].

⁴⁷ See generally Pamela Bucy Pierson & Emily Kornegay Price, *Small Firms Poised to Thrive in Today’s Legal Market*, 77 ALA. LAW 20 (2016); CLIO.COM, <https://www.clio.com/> [https://perma.cc/G67D-5G3].

⁴⁸ One popular example is LegalZoom. See LEGALZOOM.COM, <https://www.legalzoom.com/> [https://perma.cc/3S2K-QM5B]; see also, e.g., *Massachusetts Defense for Eviction (Made): Self-Guided Eviction Help*, GREATER BOSTON LEGAL SERVICES, <https://www.gbbs.org/MADE> [https://perma.cc/7LWY-YNCA] (self-guided eviction tool for tenants); COMMUNITY LAWYER, <https://community.lawyer/> [https://perma.cc/TH2Z-BCAU] (public benefit company designed to support creation of legal applications).

horizontal line] in other tangential disciplines:⁴⁹

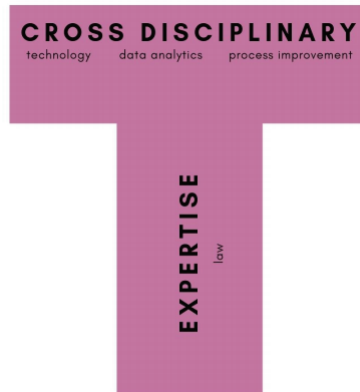


Image 1: The T-shaped Lawyer⁵⁰

A T-shaped lawyer, then, is one with strong foundational substantive legal knowledge and analysis skills but also some complementary, non-expert understanding of areas that touch their practice and their client's business: data analytics, process improvement, and technology, for example.⁵¹ First introduced in this context by legal solutions professional Amani Smathers in 2014, scholarship on this more holistic approach to lawyering has emerged amid the constant calls for changes to legal education.⁵² The T-shaped idea has enjoyed momentum from course design to professional instruction and training.⁵³

⁴⁹ Although difficult to pin down, the origins of the concept seem to be from the business sector, with the term used by consulting giant McKinsey & Company in the 1980s. See generally ELAINE MAK, *THE T-SHAPED LAWYER AND BEYOND: RETHINKING LEGAL PROFESSIONALISM AND LEGAL EDUCATION FOR CONTEMPORARY SOCIETIES* (2017).

⁵⁰ 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, 1174-75 (2019).

⁵¹ See R. Amani Smathers, *The 21st-Century T-Shaped Lawyer*, 40 L. PRAC. 32, 33 (July/Aug. 2014).

⁵² See R. Amani Smathers, *T-Shaped Lawyer*, Amani Smathers: TECHNO[LAW]GIC, <http://www.amanismathers.com/technolawgic> [<https://perma.cc/YT9L-NL63>]; see also Elaine Mak, *THE T-SHAPED LAWYER AND BEYOND: RETHINKING LEGAL PROFESSIONALISM AND LEGAL EDUCATION FOR CONTEMPORARY SOCIETIES* (2017); Katrina Lee, *A Call for Law Schools to Link the Curricular Trends of Legal Tech and Mindfulness*, 48 U. TOL. L. REV. 55 (2017).

⁵³ See Carrel, *supra* note 50, at 1169 (citing ABA Career Center videos, Business Law courses, and consulting programs as applying the T-shaped lawyer model); Bill Henderson, *I Love to Write, But It's More Important to Build* (154), LEGAL EVOLUTION (May 10, 2020), <https://www.legalevolution.org/2020/05/i-love-to-write-but-its-more-important-to-build-154/> [<https://perma.cc/8LPZ-7XDL>]

More recently, the Delta Model of lawyer competency builds on the T-shaped lawyer and uses a triangle to add emotional intelligence and personal communication skills to the mix.

DELTA MODEL V.3

a competency model for the 21st century lawyer

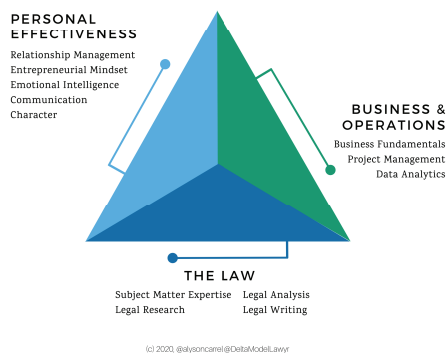


Image 2: Delta Model v.3⁵⁴

The basic idea behind the T-shaped lawyer and Delta Model (and countless other articles and whitepapers) is that law practice is less isolated and more multidisciplinary than ever.⁵⁵ The ABA’s Task Force on Legal Education has acknowledged this, urging schools to offer more training in technology and other “practice-related” competencies.⁵⁶ Moreover, the ABA Report on the Future of Legal Services recommends that law schools reform curriculums to provide opportunities for the study of “entrepreneurship, innovation, the business and economics of law

(announcing training for legal professionals in five “top of the T” disciplines, including legal technology).

⁵⁴ Carrel, *supra* note 50, at 1175.

⁵⁵ See 2020 Report on the State of the Legal Market: Fundamental Shifts Are Disrupting the Legal Market, *supra* note 34; see also Debra Cassens Weiss, ‘Fundamental shift’ is Transforming the Delivery of Legal Services, *New Report Concludes*, A.B.A. J. (Jan. 6, 2020, 2:10 PM), <https://www.abajournal.com/news/article/fundamental-shift-is-transforming-the-delivery-of-legal-services-report-concludes> [<https://perma.cc/L2FG-F7QZ>] (“Clients are rapidly driving . . . a new model that is more collaborative and multidisciplinary, built around integrated technology platforms and delivered with value-based pricing”).

⁵⁶ TASK FORCE ON THE FUTURE OF LEGAL EDUCATION, A.B.A., REPORT AND RECOMMENDATIONS (Jan. 2014), https://www.americanbar.org/content/dam/aba/administrative/professional_responsibility/report_and_recommendations_of_aba_task_force.pdf [<https://perma.cc/PK3F-J2E4>].

practice, and other relevant disciplines.”⁵⁷

The best lawyers will be those who keep their feet wet with traditional knowledge and skills but prioritize other disciplines into which clients may expect them to dip their toes. Technology is one such discipline and introducing competencies into the curriculum is a piece of the effort to shift students on this less-siloed, more successful professional path.

A few final notes on technology competence as a professional skill before Part III explores why the legal practice curriculum is the best place to introduce it, and Part IV tells how.

First, the downsides. Yes, there is real potential for wasting time and overbilling to learn technology, using tools inefficiently or flat out wrong, focusing on flashy technology to the detriment of sound legal analysis, or exposing confidential client information when a lawyer’s overinflated sense of competence might reveal, in fact, *in*competence. The short answer is that the “pros” of trying to maintain some competence far outweigh these and other “cons.” The longer answer is that these downsides provide even greater support for this Article’s premise: integrating technology competencies in the required curriculum in a diversified way, so students’ eyes are at least open to the upsides and downsides once entrenched in practice. Law school can prime students to be alert to technology’s benefits and risks, as well as their own lack of comfort and individual learning hurdles. Wouldn’t we prefer that a student be introduced to security of confidential electronic client information with their first hypothetical client, instead of being blindsided by the idea in practice when they have a real client to worry about?

Second, technology competence is practice, resource, and situation specific.⁵⁸ Technology is dynamic; what helps a client one day might harm it the next. The categories of competencies in this Article apply to many, but not all, lawyer canvases, and one size does not fit all. But again, that’s the precise reason for the widespread integration of a variety of competencies for all students instead of just

⁵⁷ See COMM’N ON THE FUTURE OF LEGAL SERVS., A.B.A., REPORT ON THE FUTURE OF LEGAL SERVICES IN THE UNITED STATES 49 (2016), https://www.americanbar.org/content/dam/aba/images/abanews/2016FLSReport_FNL_WEB.pdf [<https://perma.cc/2DBH-HMZV>].

⁵⁸ See Ray Worthy Campbell, *The End of Law Schools: Legal Education in the Era of Legal Service Businesses*, 85 MISS. L.J. 1, 80 (2016) (“The onset of specialization and enormous functional diversity in what people calling themselves lawyers do in their day-to-day jobs changes the target for professional preparation.”).

a few courses or specialized clinical settings for small groups.⁵⁹ Because no one knows the precise competencies students’ eventual practices will trigger, an attainable goal schools can achieve on a wide scale is broad awareness, recognition of the need for help,⁶⁰ appreciation, and professional interest – not unrealistic concentrated mastery. After all, “the ABA rule does not require that we all run out and enroll in advanced courses at MIT.”⁶¹

IV. WHY THE LEGAL PRACTICE CURRICULUM?

Technology competency belongs in the required legal practice curriculum for all students. To date, legal technology instruction has been specialized and siloed: upper-level options for small groups of self-selecting students. Such an approach does not achieve widespread introduction of competencies as a tenet of ethical practice and a modern professional skill. Legal practice courses enjoy a well-earned reputation for professional readiness instruction, but with that comes an obligation to keep pace with a modernized, student-forward perspective. Scattered introduction layered on top of the traditional writing, analysis, and research curriculum is the best way to reach all students in a meaningful way, in context with the work they are already doing. This is so despite challenges—chief among them an already jam-packed curriculum.

A. *Current Approaches Offer No Widespread Exposure*

A handful of law schools teach legal technology in a handful of ways. Many scholars and bloggers have detailed this landscape.⁶² While some continue to cling

⁵⁹ See *infra* Part III.

⁶⁰ See Matt James, *How Legal Professionals Can Keep Up With Technology*, L. TECH. TODAY (Sept. 10, 2019), <https://www.lawtechtoday.org/2019/10/how-legal-professionals-can-keep-up-with-technology/> [<https://perma.cc/PR2S-WJYX>] (discussing technology learning curve for lawyers in the context of overbilling as not simply “trendy” but instead an ethical obligation often requiring help from others); LEGAL TECHNOLOGY RESOURCE CENTER, https://www.americanbar.org/groups/departments_offices/legal_technology_resources/ [<https://perma.cc/9EZQ-BRJQ>].

⁶¹ Ambrogi, *supra* note 27.

⁶² See generally Daniel Martin Katz, *The MIT School of Law? A Perspective on Legal Education in the 21st Century*, 2014 U. ILL. L. REV. 1431 (2014); Christy Burke, *Winning the Battle to Teach Legal Technology and Innovation at Law Schools*, LEGAL IT TODAY (Mar. 17, 2017), <https://burke-company.com/wp-content/uploads/2017/04/LegalITToday-Winning-the-battle-to-teach-legal-technology-and-innovation-at-law-schools.pdf> [<https://perma.cc/QWD2-YZVS>]; Eli Zimmerman, *Law Schools Escalate Their Focus on Digital Skills*, EDTECH MAG. HIGHER EDUC. (Mar. 11, 2019), <https://edtechmagazine.com/higher/article/2019/03/law-schools-escalate-their-focus-digital-skills> [<https://perma.cc/YC7T-69FB>].

to the “law schools teach theory, not practice” mantra of old and offer no such courses, more schools are teaching legal technology in upper-level electives or clinical or lab settings. The common thread in this summary glance is that movement in this direction has been segmented, but steady.⁶³

The concept of law students opting to take courses such as E-Discovery, Coding and the Law, Automation, Legal Analytics, Process Improvement, and many others is now familiar territory in legal education.⁶⁴ Some schools explore even greater niche legal technology and innovation offerings, such as a center or institute,⁶⁵ clinical lab setting,⁶⁶ “boot camp,”⁶⁷ hackathon challenge,⁶⁸ or credential

⁶³ See Michael Fitzgerald, *14 Reasons Law Schools Must Teach Tech*, INFORMATIONWEEK (July 9, 2013, 7:09 PM), <http://www.informationweek.com/mobile/mobile-devices/14-reasons-law-schools-must-teach-tech/d/d-id/1110682> [<https://perma.cc/H9BN-4MFE>] (summarizing view that law schools are “in crisis” in part because technology is “radically remaking the practice of law, and law schools [were] slow to respond.”); TASK FORCE ON THE FUTURE OF LEGAL EDUCATION, *supra* note 56, at 14 (“[A]lthough changes in the delivery of legal services have made competence in the use and management of law-related technology important, only a modest number of law schools currently include developing this competence as part of the curriculum.”).

⁶⁴ An exhaustive course or school list of who is doing what in the realm of legal education and legal technology is not necessary or helpful here. *But see Syllabi Commons*, TEACHING TECH. TO LAW STUDENTS SPECIAL INT. GRP. (Sept. 8, 2020), <https://techforlawstudents.classcaster.net/syllabi-commons/> [<https://perma.cc/W55B-XMTG>] (shared online repository of syllabi on teaching technology to law students); LEGAL SERVICES INNOVATION INDEX *supra* note 7; *see also* Tanina Rostain et al., *Thinking Like a Lawyer, Designing Like an Architect: Preparing Students for the 21st Century Practice*, 88 CHI.-KENT L. REV. 743, 744–45 (2013) (describing class at Georgetown University Law Center on technology and law practice where students used software to build apps in different legal fields).

⁶⁵ *Center for Law, Technology, & Innovation*, MICH. ST. UNIV. C. L., <https://www.law.msu.edu/lawtech/index.html> [<https://perma.cc/ERD2-3BSF>]; *Program on Law & Innovation*, VAND. L. SCH., <https://law.vanderbilt.edu/academics/academic-programs/law-and-innovation/index.php> [<https://perma.cc/CVG2-W94Y>].

⁶⁶ *Legal Innovation & Technology Lab*, SUFFOLK UNIV. L. SCH., <https://suffolkitlab.org/> [<https://perma.cc/DV52-CSZ2>]; *see also* *Lawyering in the Digital Age Clinic*, COLUM. L. SCH., <https://www.law.columbia.edu/academics/experiential/clinics/lawyering-digital-age-clinic> [<https://perma.cc/6ZNT-WLJG>].

⁶⁷ Keshia Clukey, *Hofstra, Touro Law Schools Advance in Technology*, NEWSDAY (Nov. 27, 2018, 9:50 AM), <https://www.newsday.com/long-island/education/hofstra-law-school-technology-1.23808441> [<https://perma.cc/N4SC-QCHR>] (describing Hofstra’s one-day legal boot camp covering topics like e-discovery, e-filing, e-billing, and cybersecurity).

⁶⁸ *2016 Women in Law Hackathon*, DIVERSITY LAB, <https://www.diversitylab.com/hackathons/> [<https://perma.cc/8K79-AEEF>] (hosted by Stanford Law School).

certification and concentration.⁶⁹ Others expand legal technology introduction and training even beyond their JD students.⁷⁰

Calls for expansion across the wider curriculum are galvanizing, but face hurdles. One may doubt whether traditional doctrinal courses, where little skills practice occurs beyond basic case briefing, will take off from zero to sixty and integrate technology skills soon (despite calls by some for them to do so).⁷¹ If a Contracts course is still taught without showing students actual contracts (much less having them draft or revise one), is it realistic to believe students will soon be introduced to contracts analytics? If a Property course is still taught without showing students actual leases or easements (much less having them draft or revise one), is it realistic to think they’ll soon be introduced to a document automation tool that could create a new lease in a matter of minutes? Don’t hold your breath.

In sum, the current landscape of select upper-level classes, labs, and projects is exciting. Dedicating full-time or adjunct faculty to these efforts is laudable.⁷² But the concern is this approach treats technology competence as a specialized, narrow aspect of practice that might spark interest from a few students, rather than a

⁶⁹ *Legal Innovation and Technology*, SUFFOLK UNIV. L. SCH., <https://www.suffolk.edu/law/academics-clinics/what-can-i-study/legal-innovation-technology> [<https://perma.cc/EEK9-H26Z>]; *Technology Competencies Credential*, UNIV. OF DAYTON L. SCH., <https://udayton.edu/law/m/tech-law.php> [<https://perma.cc/QRX4-4X22>].

⁷⁰ *Suffolk University Law School’s Legal Innovation & Technology Certificate Program*, SUFFOLK UNIV. L. SCH., <https://www.legaltechcertificate.com/> [<https://perma.cc/6JBU-968J>].

⁷¹ See generally JEANETTE EICKS, EDUCATING THE DIGITAL LAWYER – CHAPTER 5.10 EDUCATING SUPERIOR LEGAL PROFESSIONALS: SUCCESSFUL MODERN CURRICULA JOIN LAW AND TECHNOLOGY (2014) (providing examples in the Constitutional Law and Evidence context and suggesting “Legal Profession” labs instead of a “superficial guest lecturer involving technology once in each term.”); Simon Canick, *Infusing Technology Skills Into the Law School Curriculum*, 42 CAP. U. L. REV. 663 (2014) (calling for a more integrated doctrinal approach to technology competencies); Oliver R. Goodenough, *Developing an E-Curriculum: Reflections on the Future of Legal Education and on the Importance of Digital Expertise*, 88 CHI.-KENT L. REV. 845 (2013) (proposing law schools adopt an e-curriculum with instruction in doctrinal courses); Lee, *supra* note 52, at 56 (urging greater development of a broader legal technology curriculum); Anthony Volini, *A Perspective on Technology Education for Law Students*, 36 SANTA CLARA HIGH TECH. L.J. 33 (2020) (urging more robust technology instruction to help students become more tech fluent in areas of networking, programming, and security).

⁷² Indeed, the ABA’s eLawyering Task Force of the Law Practice Management Section suggests such full-time commitment. *Suggested Minimum Requirements for Law Firms Delivering Legal Services Online*, eLawyering Task Force, L. Mgmt. Sec., A.B.A. (Oct. 15, 2009) <http://conferences.law.stanford.edu/futurelaw2015/wp-content/uploads/sites/14/2016/09/Minimum-Requirements-for-Lawyers-10.24.2009.pdf> [<https://perma.cc/CCA6-67FX>].

necessary one for all.⁷³ To be clear, these offerings should continue for interested students “in the know” who seek a deep dive into the topics—but not at the exclusion of every other student deserving of at least a diversified preview.

B. *The Legal Practice Curriculum Is The Best Fit For Introduction*

At the start line, legal practice courses provide experiential hands-on learning opportunities. This course doesn’t embody the lecture-based, Socratic, passive learning environment that has stained legal education’s reputation. It’s the course where students dive into what legal practice looks and feels like—the arguments, memos, research, e-mails, client interviews, fact-gathering, editing, conferencing—all of which professors carefully design to introduce students to the complex “discourse”⁷⁴ of lawyering. Indeed, many professors recognize the need to modernize that discourse and integrate technology competencies, largely in document editing and legal research.⁷⁵ Curricular innovation under the broad legal

⁷³ See Canick, *supra* note 71, at 680-81 (“Specialized courses offer high-quality training for interested students, but they reach a relatively small percentage of the student population. Incorporating the training into the core curriculum would leave many more graduates prepared to practice.”).

⁷⁴ Ellie Margolis & Susan L. DeJarnatt, *Moving Beyond Product to Process: Building a Better LRW Program*, 46 SANTA CLARA L. REV. 93, 95 (2015); see also Amy Salyzyn, *It’s Finally (Sort Of) Here!: A Duty of Technological Competence for Canadian Lawyers*, SLAW (Nov. 26, 2019), <http://www.slw.ca/2019/11/26/its-finally-sort-of-here-a-duty-of-technological-competence-for-canadian-lawyers/> [<https://perma.cc/YT38-EVCR>] (describing relevant rule language in Canada and noting that “being able to understand and use technology is now part of being a good lawyer, just like other skills like effective communication, research, writing and time-management skills.”).

⁷⁵ See, e.g., Charles Calleros, *Traditional Office Memoranda and E-mail Memos, in Practice and in the First Semester*, 21 PERSPECTIVES: TEACHING LEGAL RESEARCH & WRITING 105, 105-14 (2013), <https://info.legalsolutions.thomsonreuters.com/pdf/perspec/2013-spring/2013-spring-3.pdf> [<https://perma.cc/R7ZK-DKAU>] (suggesting legal practice courses incorporate mobile technologies); Katrina Lee et al., *A New Era: Integrating Today’s “Next Gen” Research Tools Ravel and Casetext in the Law School Classroom*, 41 RUTGERS COMPUTER & TECH. L.J. 31 (2015) (touting benefits of keeping up with changes in legal research platforms); Ellie Margolis, *Is the Medium the Message? Unleashing the Power of E-Communication in the Twenty-First Century*, 12 LEGAL COMMUNICATION & RHETORIC: JAWLD 1 (2015) (urging legal practice professors to integrate typography, document design, hyperlinks and images, etc. as documents go digital); Joseph Regalia, *The Approaching Legal Writing Disruption?*, APPELLATE ADVOCACY BLOG (July 22, 2018), https://lawprofessors.typepad.com/appellate_advocacy/2018/07/technology-that-will-bring-your-legal-writing-to-the-next-level.html [<https://perma.cc/HW33-ANU7>] (describing several legal research and writing tools and discussing experience as a legal practice professor at UNLV William S. Boyd School of Law, practitioner, and professional trainer); *Wordrake Offers Students Innovative Editing Tool*, SUFFOLK UNIV. LAW SCH., <https://www.suffolk.edu/law/academics-clinics/academic-resources/legal->

practice umbrella is moving, but it’s scattered and slow.⁷⁶

Introduction of technology competencies should be a purposeful addition to legal practice curricula for two primary reasons, one administrative and one substantive: (1) the trend toward more required credits and support for more full-time legal practice faculty to invest the time and resources for curricular improvements; and (2) the fact that ethics are already integrated into the “practice-ready” nature of the course, making the inclusion of Comment 8’s duty of technology competence a natural extension.

1. Institutional Support for Curricular Innovation

One small piece to the puzzle of technology competence in the legal practice curriculum is the growth, emphasis, expansion, and (at some schools) improved security of such programs over the past few decades. Law schools have explored expanded legal practice instruction avenues, such as additional required total credits, three instead of two first-year semesters, or upper-level requirements.⁷⁷ Such growth in stature is likely due to increased calls for practice-ready instruction and the impression that students enter law school with weaker fundamental skills.⁷⁸ The average number of required legal practice credits has grown and remains steady; according to the ABA’s most recent curricula survey, growth in the number of legal writing courses after the first year outpaced other upper-level courses.⁷⁹

In broad strokes, many schools have moved toward additional legal practice

practice-skills---lps/wordrake-offers-students-innovative-editing-tool [https://perma.cc/LM3E-GTJ3] (announcing collaboration between legal software editing company WordRake and Suffolk University Law School’s Legal Practice Skills program).

⁷⁶ See Amy Vorenberg & Margaret Sova McCabe, *Practice Writing: Responding to the Needs of the Bench and Bar in First-Year Writing Programs*, 2 PHOENIX L. REV. 1 (2009) (“Although legal-writing programs have made gains in terms of added staff and resources, the last twenty-five years have seen few substantive changes in legal-writing curricula.”).

⁷⁷ SEC. OF LEGAL EDUC. & ADMISSIONS TO THE BAR, A.B.A., A SURVEY OF LAW SCHOOL CURRICULA: 2002-2010, at 14–15 (Catherine L. Carpenter ed., 2012) [hereinafter ABA CURRICULA SURVEY] (“Legal Research and Writing continues to grow in stature as law schools increased the number of [credit] units and expanded course coverage to include stills instruction beyond traditional advocacy.”).

⁷⁸ Chestek, *supra* note 11, at 137 (advocating for additional writing instruction); Nancy E. Millar, *The Science of Successful Teaching: Incorporating Mind, Brain, and Education Research into the Legal Writing Course*, 63 ST. LOUIS U. L.J. 373, 386 (2019) (discussing increased legal writing instruction).

⁷⁹ ABA CURRICULA SURVEY, *supra* note 77; 2018 ALWD/LWI SURVEY, *supra* note 3 (Part E showing increase in number of overall required credits compared to past surveys).

credits, taught by full-time faculty with improved status.⁸⁰ Faculty status plays a role vis-à-vis the time, effort, and necessary resources that fuel curricular development. A deep dive into the legal practice faculty's experience in the academy is beyond the scope of this Article,⁸¹ but suffice it to say many programs have transitioned from adjunct models or positions with little security and pay toward full-time faculty status.⁸² Hamstrings haven't loosened everywhere, and many programs still face hurdles to developing meaningful curricular change and attaining equal faculty status, pay, teaching loads, and scholarship support.⁸³ But at many schools, there is now greater opportunity for faculty to take a more forward-looking, pedagogical approach instead of lingering in the established traditions of old. As noted in the preamble to the most recent ABA Legal Writing Sourcebook, "[t]he gains in faculty status and governance translate to increased space for innovation and leadership; without a doubt, there is much more experimentation in the LRW classroom."⁸⁴ That gradual progress, while not universal or without hiccups, has formed a backbone of greater support for reflection on curricular improvements and scholarship into new legal practice areas and trends.

2. Ethics and Professionalism Already Intertwine

The familiar course name "legal writing" is, well, wrong. The course teaches "lawyering behavior."⁸⁵ Ethics and professionalism are key and technology

⁸⁰ LEGAL WRITING SOURCEBOOK, *supra* note 3, at 241–42 (summarizing advancements in faculty status and noting that "up to 91% of law schools surveyed now use all or some full-time faculty to teach the traditional first-year legal writing course.").

⁸¹ For an early exploration of this important ongoing issue, see Jo Anne Durako, *Second-Class Citizens in the Pink Ghetto: Gender Bias in Legal Writing*, 50 J. LEGAL EDUC. 562 (2000).

⁸² Margolis & DeJarnatt, *supra* note 74, 93–99 (summarizing history and progress of legal research and writing programs).

⁸³ See Natiya Ruan, *Papercuts: Hierarchical Microaggressions in Law Schools*, 31 HASTINGS WOMEN'S L.J. 3, 15 (2020) ("The irony posed here is apparent: as law schools are strongly encouraged to provide more experiential learning opportunities for their students, law schools systemically marginalize the very faculty that teaches those skills to a lower-caste status.").

⁸⁴ LEGAL WRITING SOURCEBOOK, *supra* note 3, at 15 (describing the evolution of Legal Writing programs since 1997 as "remarkable").

⁸⁵ Melissa H. Weresh, *Fostering a Respect for Our Students, Our Specialty, and the Legal Profession: Introducing Ethics and Professionalism into the Legal Writing Curriculum*, 21 TOURO L. REV. 427, 454 (2005); see also Kirsten A. Dauphinais, *Sea Change: The Seismic Shift in the Legal Profession and How Legal Writing Professors Will Keep Legal Education Afloat in Its Wake*, 10 SEATTLE J. FOR SOC. JUST. 49, 71 (2011) ("Lawyering skills is the junction where legal thinking and legal practice connect.").

competency lies squarely at the intersection of the two—making the course a natural fit for integration.

First, many traditional aspects of the legal practice course trigger ethical considerations under the Model Rules of Professional Conduct.⁸⁶ For example, lessons of sound analysis fall under the umbrella of competency. Lessons of disclosing negative authority in a persuasive brief introduce the duty of candor to the tribunal. Lessons of timekeeping demonstrate the importance of reasonable fees. Lessons of legal research demonstrate the importance of zealous representation and diligence. Indeed, adjusting a curriculum to changing technology and ethical considerations is precisely what professors and librarians did when research transitioned from paper to electronic. Weaving these ethical angles into the required foundational course during the 1L year signals their importance to law students, sets the stage for more detailed learning and practice later in the curriculum (a Professional Responsibility course or clinic, for example), and snags students while they are forming their perceptions and early identity as lawyers—not after.

Second, the legal practice course already integrates broader expectations of professionalism.⁸⁷ Even if not required by formal rules, students get introduced to ideas such as citation convention, filing requirements, local court rules, the importance of error-free documents, courtroom traditions, civility and tone, cultural competence, e-mail “netiquette,” relationships with opposing counsel, oral presentation skills, time management, etc.⁸⁸ These professionalism aspects enrich

⁸⁶ Many scholars have developed approaches and even a textbook centered on ethics in the legal practice curriculum. See, e.g., MELISSA H. WERESH, *LEGAL WRITING: ETHICAL AND PROFESSIONAL CONSIDERATIONS* (LexisNexis 2d ed. 2009); Kristin J. Hazelwood, *Technology and Client Communications: Preparing Law Students and New Lawyers to Make Choices that Comply with the Ethical Duties of Confidentiality, Competence, and Communication*, 83 *MISS. L.J.* 245 (2014); *Teaching Ethics in Legal Writing Programs*, *THE SECOND DRAFT* (2012), <https://www.lwionline.org/sites/default/files/2016-09/Fall12SecondDraft.pdf> [<https://perma.cc/MCA3-EX2S>].

⁸⁷ See generally Alison Donahue Kehner & Mary Ann Robinson, *Mission: Impossible Mission: Accomplished or Mission: Underway? A Survey and Analysis of Current Trends in Professionalism Education in American Law Schools*, 38 *U. DAYTON L. REV.* 57 (2012); Helia Garrido Hull, *Legal Ethics for the Millennials: Avoiding the Compromise of Integrity*, 80 *UMKC L. REV.* 271 (2011) (arguing that students do not receive enough ethics and professionalism training); Sophie Sparrow, *Practicing Civility in the Legal Writing Course: Helping Law Students Learn Professionalism*, 13 *J. LEGAL WRITING INST.* 113, 119 (2007) (discussing the importance of implementing professionalism across the curriculum).

⁸⁸ Weresh, *supra* note 85, at 457-58 (discussing illustration of “baseline level of professionalism”); see also *LEGAL WRITING SOURCEBOOK*, *supra* note 80, at 19 (“LRW programs and classes around the country have long given students an opportunity to develop [other professional skills]” including “interviewing . . . fact development and analysis . . . document drafting . . .

(not replace) foundational lessons of writing and analysis. They open students' eyes to the varying aspects of practice beyond just reading statutes and briefing cases. Once again, they catch students while many are still enthusiastic sponges at the start of their legal career, eager to understand what being a successful lawyer is all about.

C. *Challenges to Integrating Technology Competence*

This Article would be remiss not to recognize resistance to integrating technology competence into the legal practice curriculum. Each pushback brings legitimate concerns but does not outweigh the macro benefits for students of tweaking small pieces of the existing course (emphasis: small). Curricular change is not easy. Nothing worthwhile ever is, is it?

1. The syllabus is crowded; no time to distract from fundamentals

This concern is first for good reason. Yes, legal writing “is one of the most difficult, demanding, and labor-intensive courses to teach.”⁸⁹ But the hurdles of an “already overburdened”⁹⁰ syllabus are not insurmountable, both as to the administrative tension (no time and syllabus space) and the pedagogical (technology distracts from fundamentals).

Calls for additions to legal practice courses are nothing new. From Creativity,⁹¹ Mindfulness,⁹² Team-Based Learning,⁹³ Transactional Lawyering,⁹⁴ Time-

organization and management of legal work.”) (referencing ABA Standard 302 of the *ABA Standards and Rules of Procedure for Approval of Law Schools* (2019-20). LEGAL EDUC. & ADMISSIONS TO THE BAR, A.B.A., ABA STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS (2019-20), https://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/standards/2019-2020/2019-2020-aba-standards-and-rules-of-procedure.pdf [https://perma.cc/MUK2-DCJZ]).

⁸⁹ Richard F. Devlin, *Legal Education as Political Consciousness-Raising or Paving the Road to Hell*, 39 J. LEGAL EDUC. 213, 215 n.16 (1989).

⁹⁰ Weresh, *supra* note 85, at 429.

⁹¹ Samantha A. Moppett, *Lawyering Outside the Box: Confronting the Creativity Crisis*, 37 S. ILL. U. L.J. 253, 254-55 (2013).

⁹² Shailini Jandial George, *The Cure for the Distracted Mind: Why Law Schools Should Teach Mindfulness*, 53 DUQ. L. REV. 215 (2015).

⁹³ Melissa H. Weresh, *Uncommon Results: The Power of Team-Based Learning in the Legal Writing Classroom*, LEGAL WRITING J. (2014), <http://www.legalwritingjournal.org/2015/04/08/uncommon-results-the-power-of-team-based-learning-in-the-legal-writing-classroom/#chapter2> [https://perma.cc/RU53-S9YU].

⁹⁴ Louis N. Schulze, Jr., *Transactional Law in the Required Legal Writing Curriculum: An Empirical Study of the Forgotten Future Business Lawyer*, 55 CLEV. ST. L. REV. 59 (2007).

Pressured Bar Exam writing,⁹⁵ to Cultural Competency,⁹⁶ there is no shortage of suggestions about how to improve, change, round out, or enhance this one-of-a-kind required course. The quest for perfection can, for sure, be the enemy of the good. But the introduction of technology competencies like those in Part IV differs in a critical way: as set forth in Part I, Comment 8 as adopted in so many jurisdictions ties being aware of technology to ethical lawyering. It becomes not just an “added bonus” soft skill but a required learning outcome for students to be generally versed in aspects of technology. As described in Part IV, these competencies can be introduced in small ways, often outside of the classroom in a flipped format, and practiced as discrete exercises or homework assignments tied to existing syllabus content. That is to say: the introduction of technology competencies might require a changed mindset but it doesn’t require a huge time or syllabus commitment.

And as to the pedagogical concern that students arriving at law school less prepared than ever will be distracted with the “glitter of the next big breakthrough”⁹⁷ and learn technology for technology’s sake, this is a modern variation of an old refrain that has proved untrue time and time again. Did computers do “little to enhance” law school over the past twenty years and create an additional burden for legal practice professors?⁹⁸ Did incorporating word processing into legal practice signal its demise?⁹⁹ Did online legal research start the downfall of students’ research skills? Sure, those technologies changed courses and altered students’ skill set, but for the better (I’m not sure any professor would agree that students spending hours Shepardizing case law “in the books” would be efficient learning time, or that students should handwrite their memos or use a typewriter!). The core point is that the potential for distraction or abuse of technology is real¹⁰⁰ but can be

⁹⁵ Sabrina DeFabritiis, *1L is the New Bar Prep*, 51 CREIGHTON L. REV. 37 (2017).

⁹⁶ L. Danielle Tully, *The Cultural (Re)turn: The Case for Teaching Culturally Responsive Lawyering*, 16 STAN. J. C.R. & C.L. 201 (2020).

⁹⁷ Paul Brunkhorst, *Laptops Not Allowed: Why Attorney Competency Might Start with Old-Fashioned Note-Taking*, 31 GEO. J. LEGAL ETHICS 533, 534 (2018).

⁹⁸ See Suzanne Ehrenberg, *Legal Writing Unplugged: Evaluating the Role of Computer Technology in Legal Writing Pedagogy*, 4 LEGAL WRITING 1, 2 (1998) (opining that computers don’t enhance legal writing pedagogy and create burdens for faculty).

⁹⁹ Brunkhorst, *supra* note 97.

¹⁰⁰ *Id.* (“Technology nowadays has the potential to distract us constantly and to minimize our ability to focus, which in turn can hamper the ability to address a legal issue competently.”); see also Cheryl B. Preston, *Lawyers’ Abuse of Technology*, 103 CORNELL L. REV. 879, 882 (2018) (describing opportunities for “unethical and unprofessional” lawyer behavior and addressing “the risks of technology abuse.”).

minimized by careful signaling and syllabus placement. The aim of this Article is not to have students using technology in class every day, but to be aware of the technology lawyers use, and at what stages (research, fact-gathering, communication, document creation, practice management, etc.). Entire weeks devoted to technology competencies might well cause the glitter of technology to outshine the traditional gold of sound reading, writing, and analysis. That would be a shame. But an outright rejection in the syllabus ignores the reality that fundamentals can change, and some tech-consciousness¹⁰¹ for students might very well be just that: fundamental.¹⁰²

2. Digital Natives can learn technology in practice

Nowhere is the myth of the digital native more a myth than here. Generation Z students with comfort using personal technology to back up pictures on their smartphones¹⁰³ are not versed in the technologies that impact law practice. For sure, lawyers can learn practice-specific competencies and (hopefully) gain experience as their careers grow. They can take advanced trainings, attend CLEs, and obtain professional certifications.¹⁰⁴ Law school is not trade school, and theory remains a bedrock. But law is becoming as much a business as a learned profession. Clients aren't interested in paying large fees for a junior lawyer's training or paying for billable work done inefficiently without the support of advanced processes and tools.¹⁰⁵ Small curricular shifts don't solve this problem; they do, however, shift students' mindsets from individual use of technology for their own sake to professional use for a client. Indeed, "the duty is not to become technologically

¹⁰¹ Thanks to Professor Drew Simshaw at Gonzaga University School of Law for introducing the term "tech-conscious" to me from his work on Artificial Intelligence and Legal Education. *Drew Simshaw*, GONZ. UNIV. SCH. L., <https://www.gonzaga.edu/school-of-law/regular-faculty/detail/simshaw> [<https://perma.cc/474L-5CR6>].

¹⁰² Judith L. Maute, *Facing 21st Century Realities*, 32 MISS. C. L. REV. 345, 374 (2013) (concluding that law schools must "start preparing current students for their inevitable future" and "we all must learn to manage technology or it will destroy us.").

¹⁰³ See generally Laura P. Graham, *Generation Z Goes to Law School: Teaching and Reaching Law Students in the Post-Millennial Generation*, 41 U. ARK. LITTLE ROCK L. REV. 29 (2018).

¹⁰⁴ See, e.g., NATIONAL SOCIETY FOR LEGAL TECHNOLOGY, <https://legaltechpro.wildapricot.org/> [<https://perma.cc/5L67-2U6R>]; LEGAL TECHNOLOGY CORE COMPETENCIES CERTIFICATION COALITION, <https://www.ltc4.org/> [<https://perma.cc/NM9H-9GVJ>]; *Legal Technology Assessment*, PROCERTAS, <https://www.procertas.com/offerings/legal-technology-assessment/> [<https://perma.cc/3RJN-BT56>]; CLIO CLOUD CONFERENCE, <https://cliocloudconference.com/> [<https://perma.cc/2NMJ-DJJ8>].

¹⁰⁵ See Grey, *supra* note 13.

savvy so much as to understand the impact technologies will have” in practice.¹⁰⁶ Training all students in detailed aspects of practice might not be the province of law schools, but the introduction is. After all, students improve at writing, research, and negotiating later in practice, too—but those cans aren’t kicked down the curb under the guise of “law schools aren’t trade schools.” Of course not. Professors frame the task, introduce the skill, and give early opportunities for practice—all to set the stage for continued professional growth. So too should be the case for technology competencies.

3. Teaching technology is discomfoting and burdensome

Teaching something unfamiliar is difficult. Faculty might read about legal technology, but many never experienced it firsthand. The short response is that’s why I wrote this Article: to demystify competencies and empower faculty with concrete “how-to” steps. The more nuanced response is that while some faculty are, perhaps, more averse to change than others,¹⁰⁷ no one is asking anyone to become an expert at data security or teach students how to code the next best legal app. Sure, introducing technology competencies requires some runway of preparation and background, but no more so than, for example, designing a new and improved appellate brief problem. It’s a different allocation of time and curricular resources, not a heavier one, and one where minor faculty risks offer major student rewards.

Last is the potential pushback that shifting yet another “pedagogical burden” to “already undervalued” skills faculty reinforces status inequities touted earlier as improving (at some schools).¹⁰⁸ While positive changes are encouraging, here the flipside rears its ugly head: that skills faculty (a large percentage female¹⁰⁹) continue

¹⁰⁶ Jon M. Garon, *Technology Requires Reboot of Professionalism and Ethics for Practitioners*, 16 J. INTERNET L. 3, 5 (2012).

¹⁰⁷ See William D. Henderson, *A Blueprint for Change*, 40 PEPP. L. REV. 461, 463 (2013) (noting some faculty’s “visceral, negative response toward curricular changes that will eat up our discretionary time and push us away from an established reward structure and toward new and unfamiliar subjects and teaching methods.”); MACCRATE REPORT, *supra* note 8, at 241 (suggesting a “lack of interest on the part of some faculty in either learning new teaching methods or in the nature of the skills material itself”); COMMISSION ON THE FUTURE OF LEGAL EDUCATION, A.B.A., PRINCIPLES FOR LEGAL EDUCATION AND LICENSURE IN THE 21ST CENTURY (2020), <https://www.americanbar.org/content/dam/aba/administrative/future-of-legal-education/cfle-principles-and-commentary-feb-2020-final.pdf> [<https://perma.cc/CJD4-7L29>] (including fear of technology as a systemic obstacle in legal education and noting “[t]echnology is all too often viewed as a danger rather than as a force to enable transformative change.”).

¹⁰⁸ Weresh, *supra* note 85, at 430.

¹⁰⁹ Kathryn M. Stanichi & Jan M. Levine, *Gender and Legal Writing: Law Schools’ Dirty Little Secrets*, 16 BERKELEY WOMEN’S L.J. 1 (2001).

to be “hobble[d]”¹¹⁰ with the experiential teaching, practice, and individual formative assessment responsibility all faculty should share. This is an issue with no magic solution, but by no means is the solution to stop doing that important skills teaching or stop innovating the curriculum. Given the practice environment saturated with evolving ethical requirements and professional pressures, technology competency as a facet of practice cannot be ignored. I’m left to echo another teacher who decades ago pointed out that “[t]he alternative is simply too bleak.”¹¹¹

All in all, current approaches sprinkle in niche competencies for a few but do not introduce technology in the curriculum for all. With guarded optimism, the next question is how to fix that.

V. TECHNOLOGY COMPETENCY IN THE LEGAL PRACTICE CURRICULUM

Now the fun part. This section offers five competencies to introduce to students with suggestions for how to do so, both within the text and Technology Spotlight Appendix exercises. The recommendation is not to implement all these ideas. That’s unrealistic. Instead, the aim is a broad sampling of ideas from which professors can choose what they might be comfortable with to create an environment where students get a hands-on taste of how technology intertwines with lawyering tasks they’re already doing.

Technology Spotlight Appendix exercises are available for download at the link below and summarized in the following overview table:

<https://suffolklitlab.org/research/techcompetencyexercises/>.

¹¹⁰ Kristen Konrad Tiscione, *A Writing Revolution: Using Legal Writing’s “Hobble” to Solve Legal Education’s Problem*, 42 CAP. U. L. REV. 143 (2014).

¹¹¹ Brook K. Baker, *Traditional Issues of Professional Responsibility and a Transformative Ethic of Client Empowerment for Legal Discourse*, 34 NEW. ENG. L. REV. 809, 856 (2000) (recognizing the curricular challenges to integrating ethical rules).

Overview Table of Technology Competencies in Legal Practice Curriculum

Competency Learning Outcome (ABA Standard 302)¹¹²

Students will be able to:

Legal Document Proficiency	<ul style="list-style-type: none"> - recognize and gain proficiency with aspects of document processing tools such as Microsoft Word relevant to legal communication.
Legal Analytics & Document Integration	<ul style="list-style-type: none"> - understand what legal analytics are and how a modern lawyer uses them to enhance research and improve client advising; - recognize and use tools that connect a legal document to the research process, and vice versa.
E-Discovery	<ul style="list-style-type: none"> - explain what e-discovery is and develop awareness of legal communication in the e-discovery context.
Law Practice Technology	<ul style="list-style-type: none"> - understand familiar personal technology such as smartphones in the context of professional efficiency, attorney-client privilege, and confidentiality; - improve the quality and efficiency of their use of common law practice tools such as mobile devices, videoconferencing, and e-mail.
Data Security	<ul style="list-style-type: none"> - recognize, anticipate, and learn steps to minimize data security issues in modern legal communication.

¹¹² AM. BAR. ASS'N, ABA STANDARDS AND RULES OF PROCEDURES FOR APPROVAL OF LAW SCHOOLS 2019-2020, Standard 302(B), https://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/standards/2019-2020/2019-2020-aba-standards-chapter3.pdf [<https://perma.cc/FB2K-ZZSF>] (requiring law schools to establish learning outcomes and determine "professional skills needed for competent and ethical participation as a member of the legal profession").

Three caveats. First, this is a small, select group. There is much more, enough to fill entire syllabi dedicated to legal technology.¹¹³ Second, this is a dynamic group. If lawyers agree on anything about technology, it's that it changes. A lot. Third, the categories overlap. For example, editing a document on a smartphone triggers security concerns. The long and short of it is that these categories are, I hope, concrete enough to connect with existing student work but broad enough to be "tool agnostic" today and encompass future advancements tomorrow.

A. Competency in Legal Document Proficiency

Electronic documents are central to legal communication. They are more than the words students learn to use. Other things matter like the way a lawyer creates, formats, edits, styles, and collaborates with others to efficiently create quality work product. A key here is time: "incompetent use of basic office technology may be more than a billing write-off—it may constitute an ethical violation [under the obligation to bill reasonably under Model Rule 1.5]."¹¹⁴ So, while the writing on the page remains paramount, the curriculum can encourage students to leverage familiar tools in small ways for a more impressive process and deliverable. Here's how:

1. Microsoft Word for Lawyers

"Maybe the tools we are responsible for mastering are not the new ones, but the ones we have been using for years."¹¹⁵ Most students have used Microsoft Word to create documents, although from my recent anecdotal experience perhaps not as much as they've used Google Documents. But students may not use word processing tools from a professional practice perspective with these types of features in mind, for example:¹¹⁶

¹¹³ See *supra* note 7. The list of legal technology topics beyond those I've selected is a long one: e.g., Blockchain, Algorithms, Online Dispute Resolution, Courtroom Technology, and Expert Systems.

¹¹⁴ Grey, *supra* note 30 at 7 ("Though the profession can be slow to change, a lawyer who cannot use word processing tools may soon seem like a carpenter who can't use power tools.").

¹¹⁵ Megan Zavieh, *Overthinking Legal Tech and the Duty of Competence*, ATTORNEY AT WORK (Jul. 23, 2019), https://www.attorneyatwork.com/overthinking-legal-tech-and-the-duty-of-competence/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+AttorneyAtWork+%28Attorney+at+Work%29 [https://perma.cc/P48E-ETXJ].

¹¹⁶ According to the founder of a popular legal technology assessment tool called Procertas, based on his experience only about one-third of most law students can complete the collection of Microsoft Word functions identified as most relevant to legal practice. Darth Vaughn & Casey

- Formatting text
- Inserting hyperlinks
- Inserting images
- Automating lists
- Applying and modifying document styles (headings, etc.)
- Inserting cross-references
- Creating a Table of Contents or Table of Authorities

Lawyers create a variety of documents; no one feature is most important or universally relevant. But whether for an appellate brief, office memorandum, trial court motion, exhibit, affidavit, jury instruction, proposed order, etc., students can move past “a superficial and merely passable use of MS Word.”¹¹⁷

How do professors encourage that? Schools may teach these skills in optional library training or electives or with professional online training,¹¹⁸ but can intertwine them with written work all students complete. For example:

- Include in syllabus directions for how to set a default font and custom margins in line with course requirements for written work (e.g., Arial size 11 with 1-inch margins).
- Include in grading or evaluation rubrics or student self-edit checklists a spot for electronic format and proper document style set up (both for objective memoranda and court filings).¹¹⁹
- Discuss “Heading 1,” “Heading 2” styles in class discussion of how to organize a multi-issue analysis without using manual text formatting (for example, with Point headings or Sub-point headings in a persuasive brief).
- Assign a screencast or YouTube video or MS Training video on formatting

Flaherty, *Tech Comes Naturally to ‘Digital Native’ Millennials? That’s a Myth*, LEGAL REBELS (Oct. 13, 2016, 8:30 AM), https://www.abajournal.com/legalrebels/article/tech_comes_naturally_to_digital_native_millennials_thats_a_myth [<https://perma.cc/W&YB-3DN2>].

¹¹⁷ Grey, *supra* note 30 at 7.

¹¹⁸ One such company with which some law schools have paired is Procertas and its “Legal Technology Assessment Law School Edition.” I had a great experience assigning work on this platform to Advanced Writing students. This form of online, independent training on basics of Microsoft Word, PDF, and Excel could fit well outside the classroom for legal practice programs moving in the direction of hybrid or fully online learning. See PROCERTAS, <https://www.procertas.com/> [[https://perma.cc/3R\]N-BT56](https://perma.cc/3R]N-BT56)].

¹¹⁹ If documents are submitted in PDF form, this may not be possible. While an individual check of each document might sound time-consuming, professors could ask teaching assistants or administrative assistants for support with this aspect or include some language with the assignment that informs students that submission indicates the student’s “best effort” with respect to Microsoft Word styles and format.

Table of Contents and Table of Authorities for longer, more complicated motions and briefs.

- If working with students on list documents such as an affidavit, statement of facts, or complaint, encourage set up of proper paragraph auto-numbering sequence so the list re-orders automatically with changes and additions.
- Create a helpful “Find and Replace” guide for students based on common draft errors (e.g., misspelled names, wrong abbreviations, errant citation capitalizations, etc.) to support more polished document quality efficiently.¹²⁰
- Include a color picture, chart, or other image as part of the hypothetical record in a legal writing problem and encourage students to embed it in a persuasive brief. This introduces students to designing documents for today’s digital reader,¹²¹ adds an angle of storytelling and design to a discussion of persuasive techniques (a picture is worth a thousand words!), and lets students practice inserting an image and paying attention to the overall typography of a document.¹²²

¹²⁰ There is no need for a librarian, teaching assistant, or professor to create course-specific content on any of these aspects of MS Word. Although such content is helpful, it takes time and there is no shortage of free instructional videos on YouTube and from legal tech bloggers to start students in the right direction. One of the best and most comprehensive sources for MS Word support for lawyers is legal tech professional Ivy Grey’s free e-book *The Lawyer’s Guide to MS Word Training and Resources* available for free download at Ivy Grey, *E-Book: The Lawyer’s Guide to MS Word Training and Resources*, INTELLIGENT EDITING (Jun. 22, 2019), <https://legal.intelligentediting.com/blog/free-e-book-the-lawyers-guide-to-ms-word-training-and-resources/> but see also, e.g., *Microsoft Word for Lawyers*, LAWYERIST, <https://lawyerist.com/technology/microsoft-office/word/> (last visited June 29, 2020); Harris County Law Library, *Legal Tech Institute CLE – Microsoft Word for Lawyers and Other Law Types*, YOUTUBE (Dec. 30, 2016), <https://www.youtube.com/watch?v=T6YGW6WtieI> (law library CLE video on Microsoft Word for Lawyers).

¹²¹ See generally Mary Beth Beazley, *Writing (and Reading) Appellate Briefs in the Digital Age*, 15 J. APP. PRAC. & PROCESS 47 (2014); Elizabeth G. Porter, *Taking Images Seriously*, 114 COLUM. L. REV. 1687 (2016); Daniel Sockwell, *The Quiet Revolution in Brief Writing*, LAW PRACTICE TODAY (Feb. 12, 2016), <https://www.lawpracticetoday.org/article/the-quiet-revolution-in-brief-writing/> [<https://perma.cc/U7DY-GJHF>].

¹²² *Insert Pictures*, MICROSOFT, <https://support.office.com/en-us/article/insert-pictures-3c51edf4-22e1-460a-b372-9329a8724344> [<https://perma.cc/7VFW-6ZJG>]; see also Ruth Anne Robbins and Steve Johansen, *Art-iculating the Analysis: Visuals as Legal Reasoning*, 20 J. LEGAL WRITING INST. 57 (2015).

- In transactional writing projects,¹²³ introduce students to free document generator tools such as Cooley GO.¹²⁴ For example, students could use the Non-Disclosure Agreement form and then revise the generated document as a “spin-off” assignment to an employment scenario in a traditional objective or persuasive writing assignment, prompting discussion of the balance between efficiency and accuracy and careful tailoring of forms and templates to individual client situations.

Technology Spotlight Exercise
Appendix A

Document Formatting

2. Beyond MS Word: PDFs, Spreadsheets, and Presentation Software

While not as prevalent in the required curriculum, documents beyond the word-processing family are part of modern legal practice. Some students have in-depth experience, while others have none. Here, again, introduction helps level the playing field and exposes students to tools they may need—and want—to become proficient with later in practice.

A PDF (Portable Document Format) file captures a document as if it was printed as an image to preserve its layout and disallow manipulation compared to, for example, a Word document. Lawyers use PDF documents in many contexts; three common ways relevant to the traditional legal practice curriculum are sending electronic letters, preparing a document to e-file, and highlighting or annotating a PDF with comments, for example, to a client or opposing counsel. Lawyers have found themselves in hot water for failing to properly redact a PDF file.¹²⁵ The legal

¹²³ Most legal practice programs still focus on litigation-based work despite calls for more integration of transactional skills into the curriculum. See generally Lynnise E. Pantin, *Deals or No Deals: Integrating Transactional Skills in the First Year Curriculum*, 41 OHIO N.U.L. REV. 61, 63-64 (2014) (discussing bias in legal research and writing courses not including transactional drafting work).

¹²⁴ *Documents*, COOLEY GO, <https://www.cooleygo.com/documents/> [https://perma.cc/4FGN-SS46].

¹²⁵ One recent highly publicized example that could spark students’ attention is the redaction error in 2019 by President Trump’s former campaign chair Paul Manafort’s lawyers. See Jason Tashea, *How to Redact a PDF and Protect Your Clients*, A.B.A. J. (Jan. 10, 2019, 6:00 AM), <https://www.abajournal.com/news/article/paul-manafort-attorneys-failed-at-redacting-learn-how-to-do-it-right> [https://perma.cc/QF3B-3XRR]; see also Judge Herbert B. Dixon Jr.,

practice curriculum can blend in short exercises such as:

- Assign a “PDFing for Lawyers” reading.¹²⁶ Have students convert a client letter they draft in Microsoft Word to PDF format and include an e-signature following simple, free instructions instead of the more expensive and less efficient approach of printing the document, signing their name by pen, and scanning it or (as many students seem prone to do) taking a picture of it.¹²⁷
- Have students convert a persuasive brief they draft in Microsoft Word to PDF format to prepare as an electronic court filing. Discuss the advantages of converting a document electronically instead of scanning a paper. By extension, students could be asked to redact a certain portion as sensitive or confidential, thus reinforcing the obligation to be aware of technologies or at least the importance of asking for help with certain tools and using careful caution to avoid a professional blunder.¹²⁸

Spreadsheets are often considered a business tool, but lawyers (and their clients) use them often. Tools like Excel, Airtable,¹²⁹ and Google Sheets help lawyers manage, organize, calculate, and share information in tabular form. Boxes of handwritten notes on legal pads probably aren’t the best way to make sense of large amounts of case data: facts, details, names, places, times, amounts of money, billing details, witness information, etc. So why not make students aware of more efficient approaches or aware of the spreadsheet format they may see from a client or opposing party? For example:

- Ask students to create a basic spreadsheet to track time spent on a course project (or propose a project estimate at the outset), and then try to filter

Embarrassing Redaction Failures, A.B.A. (May 1, 2019), https://www.americanbar.org/groups/judicial/publications/judges_journal/2019/spring/embarrassing-redaction-failures/ [https://perma.cc/8VB3-3MLN].

¹²⁶ Bryan Sims & Nerino J. Petro, Jr., *PDFing for Lawyers*, TECHSHOW2021, <https://www.techshow.com/2019/01/pdfing-for-lawyers/> [https://perma.cc/W4E6-68AM].

¹²⁷ Instructions may vary based on what PDF software student use but in general, *see, e.g., Sign PDFs*, Adobe, <https://helpx.adobe.com/reader/using/sign-pdfs.html> [https://perma.cc/LH4D-SGLY]; Jim Reyes, *How to Add a Signature to a PDF*, JOTFORM (Aug. 18, 2020), <https://www.jotform.com/blog/how-to-add-a-signature-to-a-pdf/> [https://perma.cc/6PN6-W57L]; *Sign a PDF Document*, PDF COMPLETE, <https://www.pdfcomplete.com/cms/tabid/426/helpid/Sign/Default.aspx> [https://perma.cc/2NCN-G9F2].

¹²⁸ *See* CM/ECF E-FILING: REDACTION REQUIREMENTS, <http://www.caed.uscourts.gov/caednew/index.cfm/cmecf-e-filing/redaction-requirements/how-to-redact/> [https://perma.cc/Q9N5-D49N].

¹²⁹ AIRTABLE, <https://airtable.com/> [https://perma.cc/7WDV-GXLQ].

and organize the data (by week, by month, by category of work, etc.) or set up a basic formula to estimate legal fees. This introduces ethical billing and the importance of organization and record-keeping, no matter the software.

- Legal practice courses often involve a client interview. Encourage students to set up a (free) available Airtable template, such as “Legal Client General Intake Form,” to record client information in a thorough fashion. A notepad or Word document might work for one client, but what about hundreds?

Finally, most students are comfortable with presentation software such as PowerPoint, Google Slides, or Prezi from the audience perspective but not necessarily the presenter’s: distilling and communicating complex legal information in a professional way. Lawyers use presentation software for client pitches, presentations, trial or pre-trial courtroom proceedings, and many other lawyer-to-lawyer contexts.¹³⁰ Most professors are not design experts, but most do bring experience and common sense as to what a supervisor or client would find helpful just as they do when evaluating other types of student documents. One idea:

- Many legal practice courses include an oral presentation exercise such as a partner meeting, research update, or case briefing. Require students to consult introductory resources¹³¹ and use presentation software during the exercise (no more than 3-5 slides, depending on the presentation length and case complexity). This reinforces the fundamental skill of identifying the most important legal information but adds the angle of how best to use technology to “show” it.

3. Document Collaboration & Security

The more the merrier, right? Wrong, at least in law school. Students usually work alone, but in practice, they’ll collaborate with other associates, supervisors, clients, and opposing counsel. That reality should spark thought about best

¹³⁰ See generally Richard K. Sherwin et al., *Law in the Digital Age: How Visual Communication Technologies are Transforming the Practice, Theory, and Teaching of Law*, 12 B.U. J. SCI. & TECH. L. 227, 260 (2006).

¹³¹ For example, Lindsay Dawson, *Tips for Effective Use of PowerPoint*, LAW TECH. TODAY, <https://www.lawtechnologytoday.org/2014/05/tips-for-effective-use-of-powerpoint/> [<https://perma.cc/Q5TG-U686>]; North Carolina Bar Association, *PowerPoint for Lawyers*, YOUTUBE (Apr. 28, 2015), <https://www.youtube.com/watch?v=tQYSfmMU2Jg> [<https://perma.cc/3G83-AC7Z>]; *Digital Edge Interviews PowerPoint Master Paul Unger*, LAW TECH. TODAY (July 8, 2014), <https://www.lawtechnologytoday.org/2014/07/digital-edge-interviews-powerpoint-master-paul-unger/> [<https://perma.cc/RCP6-AD66>].

practices when collaborating on documents with others:

- Include reminders and instructions about track changes in student-submitted work in a course syllabus or with directions for major written assignments.¹³²
- Include in grading, evaluation rubric, or self-edit checklist a spot to certify that all track changes in student-submitted work have been accepted and all electronic comment bubbles resolved.
- Create a document collaboration assignment such as a client interview outline or summary. Students can work in pairs or groups using cloud-based collaborative drafting programs such as a Google document or traditional track changes in Microsoft Word. Provide instructions about how to check that their proper name or initials appear as the track changes or comment author in a professional and accurate manner. Students can submit both a “clean” version of the document and one that shows the markup.
- Require students to use a “draft” or “confidential” watermark on any draft work as a best practice to help prevent inadvertent transmission of a draft. This light-colored “ghost” text allows the writer to signal document context or status.¹³³
- Assign students the task of removing metadata before submission. Metadata is file information that’s not apparent from viewing the document that may be confidential or privileged; for example, the file creator, dates of modification, version details, or the identity of authors who worked on a document. Instructions can be straightforward, and the exercise can prompt a discrete but important discussion about the potential pitfalls of not transmitting a “sanitized” document to different audiences.¹³⁴

¹³² See, e.g., *Track Changes in Word*, MICROSOFT, <https://support.office.com/en-us/article/track-changes-in-word-197ba630-0f5f-4a8e-9a77-3712475e806a> [<https://perma.cc/Y36G-LL4J>].

¹³³ *Insert a Watermark*, MICROSOFT, <https://support.office.com/en-us/article/insert-a-watermark-f90f26a5-2101-4a75-bbfe-f27ef05002de> [<https://perma.cc/L2N2-L6PP>].

¹³⁴ I found these instructions from the library at Washburn University School of Law helpful: *Remove Metadata From Word*, WASHBURN U. SCHOOL OF LAW, <http://washburnlaw.edu/library/technology/tutorials/metadata-win.html> [<https://perma.cc/HW3W-DACX>]; see also *Removing Sensitive Content From PDFs*, ADOBE ACRBAT, <https://helpx.adobe.com/acrobat/using/removing-sensitive-content-pdfs.html> [<https://perma.cc/Q98H-KD5N>]; Richard Heinrich, *Why You Need to Remove Metadata From Your Court Filings*, ONE LEGAL (Oct. 5, 2016), <https://www.onelegal.com/blog/why-you-need-to-remove-metadata-from-your-court-filings/> [<https://perma.cc/8N3T-MP64>].

4. Editing Software

Legal practice courses teach students that good writing is re-writing. And that doesn't just mean with a red pen. Technology supports the editing process and complements a student's own careful eye. The tools aren't perfect, but they do trigger individual consideration of suggested changes, and that's what a good writer should become accustomed to doing. Students and professors alike are no doubt used to assistance from tools such as spellcheck and autocorrect. Why not welcome more expansive editing tools that can help train a writer on the “small stuff” and, over time, help keep focus on the “big stuff” - all the while improving the quality of the work product?

- Include an instruction in a course syllabus or written assignment directions that students check Microsoft Word grammar settings. Depending on the software version students use, there are many aspects students can set to bring attention to legal writing basics: adverb placement, complex words, passive voice, subject-verb agreement, wordiness, etc. Students can do the same thing in most versions of Microsoft Outlook too if it's their program of choice for formal course e-mail communication.¹³⁵
- Introduce and discuss proper use of editing software designed for legal writing such as WordRake¹³⁶ or BriefCatch¹³⁷ or similar but more general software such as Grammarly¹³⁸ or StyleWriter.¹³⁹ Such tools need not be introduced as “must haves” for written work to succeed (and they could create tension with existing academic integrity rules) but, on the flip side, need not be ignored. These tools carry an expense beyond a first free trial, so legal practice programs and administrators could explore program-wide collaborations and pricing to make one tool available to students at little or discounted cost (or at least make students aware of them and encourage a free trial sign up, especially for students struggling with writing

(noting that most states consider handling of metadata within scope of a lawyer's reasonable steps to protect confidential client information).

¹³⁵ See generally Mauro Huculak, *How to Use Microsoft Office Grammar Tools to Easily Improve Your Writing*, WINDOWS CENTRAL (Mar. 6, 2019), <https://www.windowscentral.com/how-improve-writing-style-using-grammar-tools-office> [https://perma.cc/ND8N-3922].

¹³⁶ WORDRAKE, <https://www.wordrake.com/> [https://perma.cc/B29Y-YMSD].

¹³⁷ BRIEFCATCH, <https://briefcatch.com/schools/> [https://perma.cc/MT9Z-TTMB].

¹³⁸ GRAMMARLY, <https://www.grammarly.com/> [https://perma.cc/V8MJ-FGEB].

¹³⁹ EDITOR SOFTWARE, <http://www.editorsoftware.com/StyleWriter.html> [https://perma.cc/LB S7-MM9T].

fundamentals, brevity, sentence structure, etc.).¹⁴⁰

- Introduce text-to-speech tools. Listening to written work reinforces editing fundamentals and helps students spot legalese, long sentences, or other readability issues. For example, students could try out free tools like Google Text-to-Speech or others.¹⁴¹
- If students are completing a transactional writing assignment, introduce the concept of contract drafting “assistants” and editing platforms as plug-ins to Microsoft Word. For example, students drafting a contract could sign up for a free trial of the plug-in Donna, which offers suggestions about things such as inconsistent formatting, frequency of certain terms, and definition consistency throughout a document.¹⁴²
- Let students try a citation editing tool such as PerfectIt¹⁴³ to reinforce fundamentals. Students should learn basic citation format, but should clients pay for them to undertake a painstaking, time-consuming check to ensure they remembered a space in “F. Supp.” when a program such as PerfectIt can do so in seconds?

The point is this: written work is more than the writing; it’s the creation, collaboration, structure, security, editing, and so forth. No, robots aren’t writing legal briefs yet (although more powerful AI-assisted writing tools are trickling up¹⁴⁴), but technology has changed how lawyers craft communication. Students will not and need not master every aspect of Microsoft Word (about which entire books

¹⁴⁰ See BRIEFCATCH, *supra* note 137 (offering school-wide discount pricing); see also Joseph Regalia, *Learning from BriefCatch: Using Technology to Unearth Your Writing Blind Spots*, APPELLATE ADVOCACY BLOG (Aug. 4, 2019), https://lawprofessors.typepad.com/appellate_advocacy/2019/08/learning-from-briefcatch-using-technology-to-unearth-your-writing-blind-spots.html [<https://perma.cc/6T8T-H588>] (“Tools like this are a powerful supplement to help train and spot style techniques; they are not meant to teach aspiring lawyers how to put together the meat of a brief.”).

¹⁴¹ *Text-to-Speech*, GOOGLE CLOUD, <https://cloud.google.com/text-to-speech> [<https://perma.cc/73YX-8AST>]; see also NATURALREADER, <https://www.naturalreaders.com/software.html> [<https://perma.cc/D9KK-8VCU>].

¹⁴² DONNA, <https://www.donna.legal/> [<https://perma.cc/KA6C-94CH>].

¹⁴³ INTELLIGENT EDITING, <https://legal.intelligentediting.com/product/introduction/> [<https://perma.cc/37TK-PF9L>].

¹⁴⁴ See *infra* Part IV(B)(2). The tool *Compose* launched in early 2020 by legal research company Casetext is one such new AI-assisted drafting program. See generally Frank Ready, *AI’s Drafting Accuracy Makes Strides, but Lawyers Want a More Personalized Voice*, LAW.COM (May 4, 2020, 1:30 PM), <https://www.law.com/legaltechnews/2020/05/04/ais-drafting-accuracy-makes-strides-but-lawyer-want-a-more-personalized-voice/> [<https://perma.cc/B6ER-877L>].

exist for lawyers¹⁴⁵) or countless other software, but, again, that’s not the goal. The goal is to plant the seed for students to think about the technology, learn their own strengths and weaknesses, and stay motivated for future efforts to “stay abreast” of such competencies. Technology will not replace lawyers, but “lawyers who will use this technology will definitely replace those who don’t use it.”¹⁴⁶

B. Competency in Legal Analytics and Document Integration/Brief Analysis

Legal practice curricula have always evolved alongside legal research technology.¹⁴⁷ Only today, as platforms grow more sophisticated at a lightning pace, the gap between what students learn and what lawyers use is widening. Legal practice programs must work to keep it small.

Dare I say there’s been much ado about nothing with artificial intelligence and legal research. AI-assisted legal research is not new; it’s just different and better. For decades, familiar platforms like Lexis, Westlaw, Fastcase, and Google have offered students AI-assisted research methods, and professors should continue to keep pace with those platforms’ newest enhancements. But modern tools offer two new distinct angles that most law schools ignore: legal analytics and document integration/brief analysis. Students should be aware of both options as they begin their path to research proficiency.

1. Legal Analytics

Legal analytics means culling information from large amounts of data relevant to different aspects of a proceeding, such as clients, attorneys, case expense, case strategy, pricing, the likelihood of outcomes, judges, judges’ tendencies, case timelines, etc. Analytics touches every aspect of business and life. Think your insurance company adjusts premiums based on a hunch, or does it quantify risks

¹⁴⁵ BEN M. SCHORR, *THE LAWYER’S GUIDE TO MICROSOFT WORD 2013*, A.B.A. Law Practice Division: The Business of Practicing Law (Aug. 7, 2013).

¹⁴⁶ Preeti Ahluwalia, *Artificial Intelligence: A Friend or Foe For The Industry?*, *LIVELAW* (May 26, 2020, 8:32 AM), <https://www.livelaw.in/columns/artificial-intelligence-a-friend-or-foe-for-the-legal-industry-157322> [<https://perma.cc/3XAS-BTEC>].

¹⁴⁷ Calls for additional and diversified legal research instruction are not new. *See generally* Brooke J. Bowman, *Researching Across the Curriculum: The Road Must Continue Beyond the First Year*, 61 *OKLA. L. REV.* 503, 557-58 (2009); Ellie Margolis & Kristen E. Murray, *Say Goodbye to the Books: Information Literacy as the New Legal Research Paradigm*, 38 *U. DAYTON L. REV.* 117, 120-21 (2012); Aliza B. Kaplan & Kathleen Darvil, *Think [and Practice] Like a Lawyer: Legal Research for the New Millennials*, 8 *LEGAL COMM. & RHETORIC: JALWD* 153, 176 (2011) (“Due to the profound changes in technology and how Millennials learn, it is up to us as educators to rethink and reimagine how to teach legal research.”).

based on millions of past incidences? It's no surprise clients will expect lawyers do the same: research, strategize, and advise not within a single-case isolated vacuum but with the benefit of a bigger and less anecdotal picture.¹⁴⁸ This is a different sort of contextual and predictive research; one that may be just as likely if not more to shed light on a case outcome than finding the X v. Y case during search attempt #67 using a 10th headnote. That lane of research is important, but it's not the end-all-be-all too many students leave law school thinking it is. As a matter of fact, one recent survey (by a legal research company) reported that 90% of legal professionals said legal analytics make them a "better, more efficient and effective legal practitioner," 70% of large law firms use legal analytics, and 92% of those surveyed plan to increase analytics use within the next year.¹⁴⁹

Truth be told, getting analytics in front of students is a challenge because the academic environment lacks the juicy aspects of practice to which sophisticated machine-learning data analytic techniques apply. So why not put hypothetical clients and problems in a more real-life context? Here are ideas for how legal analytics can supplement the usual research curriculum:

- Start simple by introducing students to what a docket is: show a state court docket, or have students find a particular federal court docket. Familiar platform Lexis Advance or the new (as of 2020) Lexis+ includes "Dockets" in the main Content Type menu. Students can complete a simple exercise or discuss the information dockets offer, such as the nature of the suit, attorneys of record, and case filings.
- Assign an actual judge for hypothetical projects with federal cases (state court information lags behind in most analytics platforms). Ask students to research the judge, jurisdiction, timeline to resolution (depending on the type of motion, for example), and case results.¹⁵⁰ This could be assigned as part of an oral briefing or discussion board topic for a hybrid or online course. For example, a portion of LexisNexis' Lex Machina analytics tool is

¹⁴⁸ See Owen Byrd, *Legal Analytics vs. Legal Research: What's The Difference?*, LAW TECH. TODAY (June 12, 2017), <https://www.lawtechnologytoday.org/2017/06/legal-analytics-vs-legal-research/> [<https://perma.cc/HU3Z-Q2SN>] ("[L]egal analytics will not make the judgment and expertise of seasoned lawyers obsolete. It will, however, enable those who employ it to provide better and more cost-effective representation for their clients and better compete with their opponents.").

¹⁴⁹ 2020 *Legal Analytics Study: Bringing Value Into Focus*, LEXISNEXIS (2020), <https://www.lexisnexis.com/supp/largelaw/no-index/lexisnexis-alm-legal-analytics-study.pdf> [<https://perma.cc/S454-DVBD>].

¹⁵⁰ See Kirk C. Jenkins, *Making Sense of the Litigation Analytics Revolution*, 63 NO. 5 PRAC. LAW. 58 (2017) (describing increasing use of judicial analytics such as previous outcomes, damages awards, attorneys' fee awards, and venue comparisons).

included with students’ free law school accounts; students can move from a Docket to the “View Lex Machina” analytics link and learn, for example, that a particular judge has presided over only two other patent cases or the law firm of record has appeared in hundreds of cases within that same district or before that same judge. Lexis’s Context tool accesses even more detailed data. Wouldn’t it be helpful to know if a judge presiding over a hypothetical writing problem granted motions to dismiss only 4% of the time? Or often relied on one case when denying motions to suppress? Expose students to the data through visuals like this:

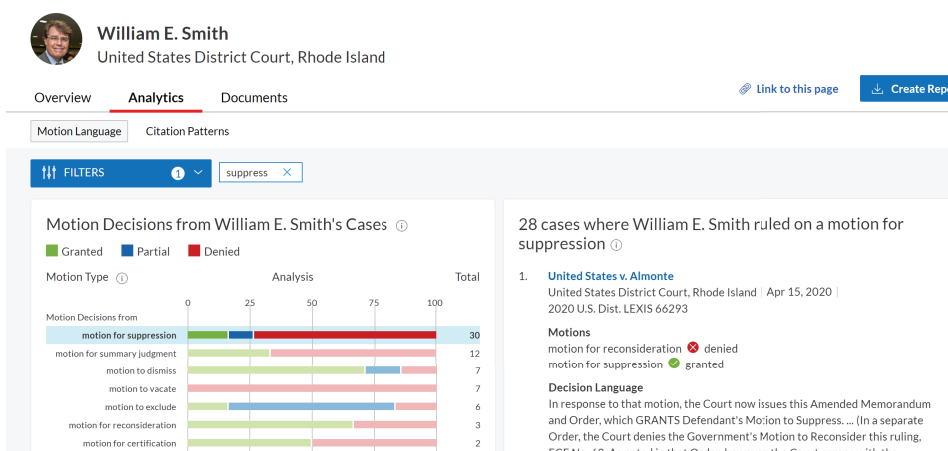


Image 3: Lexis Advance Context Motion Analytics

- Explore precedent analytics within Westlaw Edge’s Litigation Analytics tool. Assign a jurisdiction-specific exercise for students to think about how they might make stronger arguments based on a judge’s own citation patterns and tendencies. For example, if students are researching a personal jurisdiction issue in federal court in the District of Rhode Island, they could review data on Judge William Smith to learn that for discussions of the factors relevant to long-arm jurisdiction, Judge Smith most often cites two particular cases out of the First Circuit. Students would want to consider including those cases in their work to craft stronger predictions and arguments.
- Introduce more advanced analytics such as those in Docket Alarm, part of the legal research platform Fastcase (a bar member free benefit in 34 states at the time of drafting). Fastcase offers free trials and has provided me with

the full Docket Alarm suite for students for class exercises.¹⁵¹

None of these exercises takes the place of research fundamentals. After all, an attorney unfamiliar with basics couldn't decide what data to cull or how to review, make sense, and communicate it in context.¹⁵² Deeper dives into analytics in an advanced research or law practice technology course are a great curricular offering but all students deserve some early exposure.

Technology Spotlight Exercise
Appendix B

Introduction to Judicial Analytics

2. Document Integration/Brief Analysis

Research and writing can be a seamless process but that's not usually the case for students. They end up with piles of highlighted cases and open a new document to start from scratch. Or they have piles of old memos and briefs but start new queries from scratch. But time is a lawyer's most precious commodity, and platforms are expanding to work with documents instead of in inefficient silos.

Once research and drafting foundations have been laid, students should be exposed to tools that integrate research into "live" writing. This isn't a robot doing a lawyer's legal research and writing; it's advanced AI-assisted software helping with it. Though scary for some, this train has left the station. The tools will become more advanced, more helpful, and more tempting. The curriculum can either hide and pretend they don't exist or advise students how to board the train with caution and at least keep an eye on the track—so they don't get run over.¹⁵³

¹⁵¹ FASTCASE, <https://www.fastcase.com/blog/find-briefs-motions-and-complaints-with-docket-alarm/> [https://perma.cc/RGN3-A9UT]. Other options depending on a school's subscriptions include Bloomberg's Litigation Analytics, with the benefit of Bloomberg's vast database of corporate data. *The Future of Legal Tech is Here*, BLOOMBERG LAW, <https://pro.bloomberglaw.com/ai-analytics/> [https://perma.cc/U5U2-H2P7].

¹⁵² See Julie Sobowale, *How Artificial Intelligence is Transforming the Legal Profession*, A.B.A. J. (Apr. 1, 2016, 12:10 AM), https://www.abajournal.com/magazine/article/how_artificial_intelligence_is_transforming_the_legal_profession [https://perma.cc/9LUY-RRK7] ("AI classifies and organizes data faster, better, and cheaper, and augments human intelligence . . . [i]t empowers people to make use of huge amounts of data to make better decisions and tell better stories.").

¹⁵³ See, e.g., *Cass v. 1410088 Ontario Inc.*, 2018 ONSC 6959 (CanLII), <https://www.canlii.org/en/on/onsc/doc/2018/2018onsc6959/2018onsc6959.html> [https://perma.cc/J9K2-3TVX] (judicial opinion in Canada referring to \$900 legal research fee as "problematic" and noting that "[i]f

Brief Analysis is a new approach to research whereby an existing document fuels and pushes results without traditional search terms or any real search crafting. For example, Casetext’s CARA A.I. feature involves a researcher uploading any document (an old memo, an opposing party’s brief, etc.) and the system finding authority with similar issues and factual context within the jurisdiction.¹⁵⁴ Or Bloomberg Law’s Brief Analyzer, announced in early 2020, similarly suggests additional relevant law and similar sources upon uploading a brief.¹⁵⁵ Not to be outdone, Westlaw Edge’s new Quick Check tool analyzes a document with at least two citations and provides authorities not yet cited.¹⁵⁶ Brief analyzers are an extension of tools students have used for years, such as automatic recommendations after an initial search or folder analysis. They depend on existing work and are only as good (or not) as the document initiating the search. Students should gain practice with brief analysis as a tool that could provide a confidence boost or wake-up call at the end of a research project or a cost-effective jumping-off point at the beginning.

artificial intelligence sources were employed, no doubt counsel’s preparation time would have been significantly reduced.”).

¹⁵⁴ CASETEXT, <https://casetext.com/cara-ai/> [<https://perma.cc/6XA3-EGDX>]; see also Lee et al., *supra* note 75 (suggesting integration of new legal research tools in the legal skills classroom, including beta Casetext platform and Ravel Law’s visual search results).

¹⁵⁵ *Dramatically Reduce Time Spent Analyzing Legal Briefs*, BLOOMBERG LAW, <https://pro.bloomberglaw.com/brief-analyzer/> [<https://perma.cc/T2DM-SNZY>].

¹⁵⁶ *Quick Check*, THOMSON REUTERS, <https://legal.thomsonreuters.com/en/products/westlaw/edge/quick-check> [<https://perma.cc/NH87-EAV3>]. Westlaw’s Quick Check Judicial tool rolling out in 2020 provides a way to upload and compare several briefs (e.g., moving, opposing, reply, etc.) to gauge what authorities the parties agree on or did not use. This is helpful to the modern legal researcher who can recognize that courts don’t always base decisions on authority the parties cite. See Kevin Bennardo & Alexa Chew, *Citation Stickiness*, 20 J. APP. PRAC. & PROCESS 61 (2019) (exploring in an empirical study what percentage of parties’ citations in briefs “stick” within a court’s opinion and concluding that often it’s not many).

Technology Spotlight Exercise
Appendix C

Brief Analysis Research Comparison

Students can experience other touchpoints within the research/document relationship, too.

- Students working on a traditional persuasive brief assignment can explore the early stages of how to create an E-brief and create hyperlinks to case law research or hypothetical record documents referenced in the document. Linking research and factual support within what would otherwise be a traditional paper brief creates work product that is more accessible, functional, and persuasive.¹⁵⁷
- Students can understand integration through a tool such as Fastcase's Cloud Linking, which identifies citations in a PDF or Word document and creates public, free hyperlinks to those full-text cases for any reader audience (no subscriptions required). A simple introductory assignment is for students to use this tool on a course document they've drafted, to see their document citation forms come to life and link to actual sources.

So what does the future hold for technology supporting (doing?!) a lawyer's integrated research and writing? Will computers supply language and create actual legal work product? They already do. The idea is controversial, but the details are maybe not so scary after all. Casetext's Compose drafting tool launched in 2020 garnered attention in purporting to automate aspects of brief writing and launch motion templates.¹⁵⁸ The truth is, aspects of familiar platforms already translate research surrounding basic procedural standards and black letter law "directly" into the writing for students (and have done so for years). For example, Westlaw's WestSearch Plus gives predictive type-ahead recommendations upon a search

¹⁵⁷ See generally Maria Perez Crist, *The E-Brief: Legal Writing for an Online World*, 33 N.M. L. REV. 49 (2003). An in-depth examination of crafting a longer trial court or electronic appellate brief would be best left for an advanced writing course. See, e.g., Blake A. Hawthorne, *Guide to Creating Electronic Appellate Briefs*, SUPREME CT. OF TX. (June 1, 2019), available at <https://www.txcourts.gov/media/1443805/guide-to-creating-electronic-appellate-briefs-2019-adobe-acrobat-pro-dc.pdf> [<https://perma.cc/UW8F-FFZ6>] (providing detailed guidance on creating appellate e-briefs and noting "justices and their staff frequently comment that they like hyperlinked briefs.").

¹⁵⁸ COMPOSE, <https://compose.law/> [<https://perma.cc/CR5T-PYG9>].

query, generating actual text that, let’s face it, often finds its way into a document with a simple copy and paste. Lexis Answers lets a researcher enter search terms such as basic doctrine or standards of review or burdens of proof and then offers a concise “on point” answer which, more often than not, probably becomes part of how a writer expresses the rule in their written document.

To make a long story short[er], research competency will be an ongoing challenge for students; the required curriculum has only ever scratched the surface. With legal analytics and document integration and AI-assisted research and writing more generally, there are ethical and professional considerations to heed.¹⁵⁹ Here again, though, that’s even more compelling a reason to meet the tools head-on. With the risk of these new approaches might come big rewards, and early exposure leads to forward-looking discussion and more tech-aware researchers and writers.

C. Competency in E-discovery

In the words of one court, e-discovery should be nothing lawyers “freak out”¹⁶⁰ about. In fact, most students can’t “freak out” because they don’t even know what e-discovery is until after graduation. That’s not good. Scholars and bloggers leave little doubt that e-discovery awareness falls under Comment 8’s duty to “stay abreast” of changes and maintain some competence, whether made known from a

¹⁵⁹ See generally, e.g., Drew Simshaw, *Ethical Issues in Robo-Lawyer: The Need for Guidance on Developing and Using Artificial Intelligence in the Practice of Law*, 70 HASTINGS L. J. 173 (2018); Ian Gallacher, *Do RoboMemos Dream of Electric Nouns?: A Search for the Soul of Legal Writing*, 4 CASE W. RES. J.L. TECH. & INTERNET 41 (2012); Jamie J. Baker, *A Legal Research Odyssey: Artificial Intelligence as Disruptor*, 110 LAW LIBR. J. 5 (2018).

¹⁶⁰ *City of Rockford v. Mallinckrodt ARD Inc.*, 326 F.R.D. 489, 492 n.2 (N.D. Ill. 2018) (citing ABA Model Rule 1.1 Comment 8 and noting “ethical rules now require attorneys to be competent with technologies such as [Electronically Stored Information].”).

bar ethics opinion,¹⁶¹ public reprimand,¹⁶² bench slap,¹⁶³ malpractice threat,¹⁶⁴ or sanctions.¹⁶⁵ While select schools offer an e-discovery elective for a few students or include it in an upper-level litigation or pre-trial course,¹⁶⁶ the topic can be woven into the legal practice curriculum in small ways to trigger all students' awareness of

¹⁶¹ Cal. Bar Ass'n Standing Comm. On Prof'l Resp. & Conduct, Formal Op. 193 (2015) (describing ethical obligations and stating that competence requires "at a minimum, a basic understanding of, and facility with, issues relating to e-discovery" and may require "a higher level of technical knowledge and ability" depending on the case, or the need to seek assistance from others).

¹⁶² *Kenneth Paul Reisman, Public Reprimand*, No. 2013-21, 2013 WL 596713, *2 (Mass. B. Disp. Bd. Oct. 9, 2013) (noting that lawyer's "lack of experience in electronic discovery" relating to advising client to delete laptop files amounted to a violation of Mass. R. Prof. C. 1.1 and recommending attorney complete CLE programs on e-discovery, ethics, and law office management).

¹⁶³ *William A. Gross Constr. Assocs., Inc. v. Am. Mfrs. Mut. Ins. Co.*, 256 F.R.D. 134, 136 (S.D.N.Y. 2009) (admonishing lawyers for issues relating to appropriate selection and testing of key words within electronic information because "[i]t is time that the Bar—even those lawyers who did not come of age in the computer era—understand this.”).

¹⁶⁴ Joel Cohen & James L. Bernard, *The 'Ethic' of Getting Up to Speed Technologically*, N.Y.L.J. (Dec. 10, 2013, 12:00 AM) available at <https://www.law.com/newyorklawjournal/almID/1202631612989/the-ethic-of-getting-up-to-speed-technologically/> [<https://perma.cc/B7B3-ZYU2>] (“[I]t is not too hard to imagine a client claiming that the failure to [preserve ESI] in this day and age amounts to malpractice, even though that would not have been the case however many years ago.”).

¹⁶⁵ Michael Thomas Murphy, *Just and Speedy: On Civil Discovery Sanctions for Luddite Lawyers*, 25 GEO. MASON L. REV. 36, 47 (2017) (describing lawyer sanctions for e-discovery violations as having “steadily increased”); *Qualcomm Inc. v. Broadcom Corp.*, No. 05-cv-1958-B, 2008 WL 66932 (S.D. Cal. 2008) (issuing sanctions against Qualcomm and attorneys and reporting attorneys to the California bar over failure to produce relevant emails, noting attorneys share in the responsibility to understand where client’s ESI is stored and to figure out the best strategy to obtain it); *HM Electronics v. R.F. Technologies*, No. 12-cv-2884, 2015 WL 4714908 (S.D. Cal. 2015) (citing California ethics opinion regarding attorney competence in e-discovery and imposing sanctions and adverse inference jury instruction for violations such as failure to impose a litigation hold and withholding documents as privileged after failing to adequately oversee delegee) (vacated in part as moot due to settlement).

¹⁶⁶ See, e.g., *LAW-2951 E-Discovery Law: 2 Credits*, SUFFOLK U. LAW SCHOOL, <https://www.suffolk.edu/law/academics-clinics/juris-doctor/courses?CourseID=4461> [<https://perma.cc/A6EZ-JETS>]. (listing E-Discovery elective); see also Canick, *supra* note 71 at 687 (describing e-discovery simulation in a pre-trial litigation course at University of Tennessee College of Law); *787 Writing: Electronic Discovery*, DUKE LAW, <https://web.law.duke.edu/academics/course/787/> [<https://perma.cc/3EQ9-GPUK>] (listing advanced writing course specifically designed around e-discovery).

this key aspect of modern lawyering.¹⁶⁷

E-discovery, defined as the way lawyers preserve, handle, produce, and review vast amounts of digitally stored evidence, touches almost every aspect of practice, including civil litigation, criminal prosecution and defense, government investigations, internal investigations, and in the transactional context, the discovery equivalent of due diligence. E-discovery is now (or soon to be) just plain old discovery; it’s challenging to imagine today’s students handling a future case that doesn’t include electronically created or stored or edited information. What’s more, the behind-the-scenes technology at play is tricky: understanding the ins and outs of electronically stored information (ESI) and the nuanced parameters of litigation holds, back up tapes, hard drives, custodians, TAR (Technology Assisted Review), metadata, native files, network servers, data sources, etc. is a monumental challenge.¹⁶⁸ The goal for law students is not so much expertise as it is becoming informed.

Legal practice professors can kick off the appreciation of this competence by:

- Exploring how facts might be obtained through e-discovery. In the fact development or fact review stage for a writing problem, assign students a short introductory video¹⁶⁹ or reading¹⁷⁰ for discussion. Students can brainstorm about the breadth of sources of ESI for a hypothetical scenario such as email, smart devices, voicemails, texts, app history on phones and tablets, social media and messaging, etc. What would the students want to obtain and search, and why? Assign students to work in pairs to create search terms that one might use in the e-discovery process. This reinforces

¹⁶⁷ Some scholars call for integration of E-Discovery into the required Civil Procedure course for all law students to integrate the practice skill with learning substantive knowledge. *See generally* Eicks, *supra* note 71.

¹⁶⁸ *See* Craig Ball, *What Every Lawyer Should Know About E-Discovery*, 42 *LAW. PRAC.* 54 (2016) (“Competence in e-discovery is exceptionally rare, and there is little afoot to change that save the vain expectation that lawyers will miraculously gain competence without education or effort.”).

¹⁶⁹ A short and effective video I’ve assigned students is HUMNLAW, *What Every Businessperson Should Know About EDiscovery*, YOUTUBE (May 19, 2013), https://www.youtube.com/watch?v=CZNNZMO_7sE [<https://perma.cc/UQ3D-NVTZ>].

¹⁷⁰ Reading might include a simple overview blog post about the subject such as this one I’ve found helpful: EXTERRO, [https://www.exterro.com/basics-of-e-discovery/#:-:text=Electronic%20discovery%20\(also%20known%20as,of%20using%20it%20as%20evidence.](https://www.exterro.com/basics-of-e-discovery/#:-:text=Electronic%20discovery%20(also%20known%20as,of%20using%20it%20as%20evidence.) [<https://perma.cc/G9BL-RJCJ>]. Or students could read a federal court model joint e-discovery order to get a sense of how the topic takes shape in an actual case. *See, e.g., E-Discovery (ESI) Guidelines*, U.S. DIST. COURT FOR THE N. DIST. OF CAL., <https://cand.uscourts.gov/forms/e-discovery-esi-guidelines/> [<https://perma.cc/8J3S-U7P6>].

the fundamental skills of fact development and critical analysis.

- Assigning a litigation hold (also called a preservation notice) writing assignment at the outset of a hypothetical problem when students first “meet” their client or obtain facts. After setting the background such as through introductory sources mentioned above, this can be a short 1-2 page letter exercise to introduce the ethical obligation to discuss e-discovery with a client, save potentially relevant information, and make the topic a priority at the outset of any case.¹⁷¹ This reinforces the fundamental skills of writing for a particular audience (is the client a sophisticated general counsel or unexperienced individual small business owner?) and adjusting tone and purpose within the variety of writing lawyers do.
- Considering creating a writing problem with e-discovery as the substantive legal issue, such as a motion to compel or motion for sanctions or objective analysis relating to such. This is the “kill two birds with one stone” approach, if you will: students will work on an underlying set of facts and law, so why not simultaneously introduce a practice technology?
- For a deeper dive, pair with an e-discovery vendor to show students a “live” e-discovery platform and, better yet, let them search and tag and discuss the relevance (or lack thereof) of certain documents tied to the course. The vendor DISCO¹⁷² is an example of one company that has paired for this type of exercise, and at least one program had success piloting this sort of project to reinforce fundamentals of critical reading and fact analysis.¹⁷³
- Although e-discovery no doubt fits within the traditional litigation focus of most legal practice hypothetical problems, the concepts can fit a transactional exercise too. For example, transactions such as a merger require the sharing of vast amounts of information, a process known as due diligence. Students working on a transactional writing project could be assigned the same introductory background reading (or something more specific to transactional lawyering¹⁷⁴) and discuss similar issues such as

¹⁷¹ See, e.g., FED. R. CIV. P. 37(e) advisory committee’s notes (“It is important that counsel become familiar with their clients’ information systems and digital data – including social media – to address [preservation issues].”).

¹⁷² DISCO, <https://www.csdisco.com/> [<https://perma.cc/6SJT-P6WD>].

¹⁷³ See Joe Regalia, *Bringing Legal Tech Into the Law School Classroom with DISCO*, LEGAL SKILLS PROF BLOG (July 19, 2019), https://lawprofessors.typepad.com/legal_skills/2019/07/bringing-legal-tech-into-the-law-school-classroom-with-disco.html [<https://perma.cc/42MB-8HTE>] (describing efforts by Professor Joseph Regalia at UNLV William S. Boyd School of Law).

¹⁷⁴ See, e.g., Nicklaus A. Presley, *Beyond Litigation: The Use of E-Discovery Tools in the Transactional Practice*, JACKSON KELLY (July 24, 2019), <https://www.jacksonkelly.com/anticipation-litigation->

what data they’d need a client to preserve, what custodians would be relevant, what relevant search terms might be, etc.

Technology Spotlight Exercise
Appendix D

E-Discovery Case Snapshot – Litigation Hold Letter

All told, e-discovery is a competency law schools must not continue to ignore. By no means is the aim “perfection”¹⁷⁵ for seasoned attorneys, much less rookie law students. Notwithstanding the steep learning curve and complexities, hypothetical legal practice problems offer the perfect opportunity for e-discovery to first rear its [ugly?] head in only a sliver of syllabus space. Students won’t gain expertise (do they ever?). But they can leave understanding that e-discovery is a feature of practice where they must tread carefully, keep an eye out for learning and training opportunities, and, perhaps most important, be ready and willing to ask for help.

D. Competency in Law Practice Technology

The “office” environment where students will perform legal practice skills is unlikely to resemble much of an office: new technology, new opportunities, new efficiencies, new challenges, new conveniences, new confidentiality problems, and new client expectations. Here, again, context matters probably more so than the other categories in this Article, and what technological competence means in practice will vary. One can imagine different considerations for a lawyer, for example, practicing in a small solo practice, large international law firm, or perhaps one appearing before this forward-thinking state court judge someday:

advisor-blog/beyond-litigation-the-use-of-e-discovery-tools-in-the-transactional-practice [https://perma.cc/UXV3-8MCC].

¹⁷⁵ HM Electronics v. R.F. Technologies, No. 12-cv-2884, 2015 WL 4714908 (S.D. Cal. 2015); *see also* Blaustein et al, *supra* note 13 at 10 (recognizing surveys and commentary by judges noting that while some attorneys are “highly” competent, most “appear to have significant gaps in their understanding of e-discovery principles.”).

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Image 4: Judge Schlegel Courtroom of the Future.¹⁷⁶

Common touchpoints will trigger careful choices for the modern lawyer about using technology in the everyday workflow. Moving on from typewriters and Rolodexes is one thing, but crawling toward tablets and phones is a whole other ball game, with its own new ethical framework.¹⁷⁷ This transition will present challenges for law students but also opportunities for teachers to help prepare them.¹⁷⁸ This big competency category includes E-mail, Text, Remote Conferencing, Timekeeping & Calendaring, Document Automation, and Mobile Lawyering: Document Access, Editing, and Scanning.

1. E-mail

An obvious starting point is that lawyers communicate via e-mail. Many legal

¹⁷⁶ Judge Scott Schlegel, LINKEDIN, https://www.linkedin.com/posts/judgeschlegel_utilizing-simple-off-the-shelf-technologies-activity-6664532694929596416-tKvn [<https://perma.cc/ACK7-YPGT>].

¹⁷⁷ See, e.g., PA Bar Ass'n Comm. on Ethics & Prof'l Resp., Formal Op. 2020-300 (2020), *Ethical Obligations for Lawyers Working Remotely*, available at https://cdn.ymaws.com/www.yorkbar.com/resource/resmgr/covid-19-8/remote_ethical_practice_-_fo.pdf [<https://perma.cc/BC8Q-UU3G>] (providing guidance during the COVID-19 crisis for lawyers on questions "related to the use of technology, including email, cell phones, text messages, remote access, cloud computing, video chatting and teleconferencing").

¹⁷⁸ At times in this competency section I mention specific tools or apps that may cost money. I do not suggest and would not support requiring students to spend money on any "extra" law practice technology tool; my goal in laying out suggested exercises and class assignments is to show how concepts can be introduced with perhaps some hands-on work using a free trial or introductory free version of an app, but no financial pressure or expectation beyond that.

practice programs have students draft an “e-memo” as a form of delivery of legal information in a more condensed format than a traditional office memorandum.¹⁷⁹ Pushing the envelope from there though, other aspects of e-mail communication can be incorporated alongside traditional coursework. For example,

- Introduction of an e-memo exercise should involve discussion of common e-mail “perils and pitfalls”¹⁸⁰ for lawyers, something many professors may already tee up. Assign reading on attorney e-mail slip-ups or other similar “reply all” war stories¹⁸¹ to underscore the ethical angle of confidentiality. Ethics opinions blessed e-mail back in the mid-1990s but more recently warn of its lack of security.¹⁸²
- With an e-memo exercise, students could collaborate in a group or as a class to list course e-mail best practices such as:
 - Drafting a concise and helpful subject line
 - Avoiding the use of ALL CAPS, too many abbreviations, and emojis to maintain a professional tone
 - Entering e-mail addresses only after drafting and editing the message
 - Double-checking attachments to ensure they are correct with proper naming
 - Configuring their e-mail system with an automatic delivery delay of a few minutes as a built-in cushion to catch mistakes
- Require a professional e-mail signature in class correspondence. Students can create a simple one or something more advanced with a marketing tilt involving color or an image using a free template tool such as Newoldstamp.¹⁸³ Students could add an attorney/client and work product

¹⁷⁹ See, e.g., Joe Fore, *The Comparative Benefits of Standalone E-Mail Assignments in the First-Year Legal Writing Curriculum*, 22 *LEGAL WRITING: J. LEGAL WRITING INST.* 151 (2018); Kristen Robbins-Tiscione, *From Snail Mail to Email: The Traditional Legal Memorandum in the Twenty-First Century*, 58 *J. LEGAL EDUC.* 32 (2008); Hazelwood, *supra* note 86 at 281.

¹⁸⁰ Jonathan J. Walsh & Benjamin C. Woodruff, *The Perils and Pitfalls of Emailing and How to Avoid Them*, A.B.A. (July 12, 2017), [https://www.americanbar.org/groups/litigation/committees/professional-liability/practice/2017/the-perils-and-pitfalls-of-emailing-and-how-to-avoid-them/\[https://perma.cc/HAK7-Z85S\]](https://www.americanbar.org/groups/litigation/committees/professional-liability/practice/2017/the-perils-and-pitfalls-of-emailing-and-how-to-avoid-them/[https://perma.cc/HAK7-Z85S]).

¹⁸¹ See, e.g., 9 ‘reply all’ Email Disasters, *THE WEEK* (Nov. 13, 2009), <https://theweek.com/articles/499672/9-reply-all-email-disasters> [https://perma.cc/R89U-4JGB].

¹⁸² ABA Comm. on Ethics & Pro. Resp., Formal Op. 477 (2017) (discussing use of unencrypted e-mail and noting that “how a lawyer should comply with the core duty of confidentiality in an ever-changing technological world requires some reflection”).

¹⁸³ NEWOLDSTAMP, <https://newoldstamp.com/> [https://perma.cc/zZBD-QNHS].

privilege disclaimer with the signature to prompt discussion of confidentiality with this technology.

2. Text

Common sense says lawyers text message clients, given that the medium is used in almost every other aspect of life, from confirming a doctor's appointment to being notified that your smart doorbell rang. According to a 2019 ABA survey, the vast majority of lawyers use a smartphone outside of the office for work.¹⁸⁴ It's a new platform for legal communication that the curriculum should not ignore, especially given its connection to fundamentals such as tone, brevity, clarity, and audience that is unique in the "legal texting" scenario.¹⁸⁵ No doubt, students have personal experience but need a tweaked perspective to fit the professional context of balancing convenience with potential risks.¹⁸⁶

Y R U not teaching it?!

- Incorporate a short texting exercise like the one in Appendix E. Remind students in class discussions that texting should be limited to quick exchanges, updates, and reminders—not sensitive, privileged information or case strategy. Professors can avoid disclosing their personal number in an exercise by using free phone number tools such as Textfree¹⁸⁷ or Google Voice¹⁸⁸ or Textnow.¹⁸⁹
- Make students aware of third-party secure messaging platforms that incorporate encryption to make messaging communication safer such as

¹⁸⁴ Sofia Lingos, *2019 Lawyer Well-Being*, A.B.A. (Dec. 18, 2019), https://www.americanbar.org/groups/law_practice/publications/techreport/abatechreport2019/wellbeing19/ [<https://perma.cc/DYW7-PW3QJ>] (summarizing 2019 ABA Techreport finding that 79% of respondents used in iPhone).

¹⁸⁵ Jaliz Maldonado, *What About Attorney-Client Privilege When Text Messaging?*, NAT'L L. REV. (Dec. 17, 2018), <https://www.natlawreview.com/article/what-about-attorney-client-privilege-when-text-messaging> [<https://perma.cc/JG4Q-5CXL>] ("Given that so many laypeople employ text messaging, it makes sense that texting is relevant technology and therefore a tool in the model legal practice.").

¹⁸⁶ See generally Tom Kulik, *To Text, Or Not To Text, Clients: An Ethical Question For A Technological Time*, ABOVE THE LAW (Feb. 11, 2019, 2:47 PM), <https://abovethelaw.com/legal-innovation-center/2019/02/11/to-text-or-not-to-text-clients-an-ethical-question-for-a-technological-time/> [<https://perma.cc/26Z8-ATN6>].

¹⁸⁷ TEXT FREE, <https://textfree.us/> [<https://perma.cc/R5NX-YY4P>].

¹⁸⁸ GOOGLE VOICE, <https://voice.google.com/about> [<https://perma.cc/C6EN-TPEM>].

¹⁸⁹ TEXTNOW, <https://www.textnow.com/> [<https://perma.cc/2DQG-5K98>].

Signal¹⁹⁰ or WhatsApp¹⁹¹ or EIE Legal¹⁹²—not for students to use in the academic exercise but to gain awareness should they (hopefully) consider with care messaging in practice.

- Use a legal texting exercise to springboard discussion about the pros and cons of this communication. Introduce ethical considerations of confidentiality and small steps lawyers can take, such as disabling notification view on a phone that could be set on an airplane tray table to display privileged information. Or whether unrelated apps on a lawyer’s smartphone might have permission to access contacts and call records stored on the phone, including client information.

Technology Spotlight Exercise

Appendix E

Legal Texting

3. Remote Conferencing

One facet of practice technology the COVID-19 pandemic lurched into the limelight is video and telephone remote conferencing.¹⁹³ Setting aside the reality that classroom conferencing might be a temporary syllabus fixture because of forced distance learning at many law schools,¹⁹⁴ remote conferencing as a competency deserves a small spot in the usual curriculum, whether a course is taught in person or online. If there will be any lasting practice change from the pandemic, it’s this—lawyers will be remote conferencing, presenting, and

¹⁹⁰ SIGNAL, <https://signal.org/en/> [<https://perma.cc/4JUV-2VFU>].

¹⁹¹ WHATSAPP, [<https://perma.cc/L9B2-P23X>].

¹⁹² ENCRYPTED INFORMATION EXCHANGE, LLC, <https://www.encryptedinfoex.com/> [<https://perma.cc/6KWP-VNPA>].

¹⁹³ See, e.g., *Legal Professionalism in the Electronic Age*, HENRY LATIMER CENTER FOR PROFESSIONALISM, available at <https://www-media.floridabar.org/uploads/2020/05/Legal-Professionalism-in-the-Electronic-Age.pdf> [<https://perma.cc/P85T-GN42>] (providing guidance on lawyering during the COVID-19 pandemic and noting that “[o]ne of the most profound shifts is the movement to video conferencing.”).

¹⁹⁴ See Karen Sloan, *ABA Council Contemplates Expanded Powers, New Distance Ed Rules*, LAW.COM (May 12, 2020, 3:29 PM), <https://www.law.com/2020/05/12/aba-council-contemplates-expanded-powers-new-distance-ed-rules/> [<https://perma.cc/E3GK-PJCH>] (discussing changing ABA regulations regarding approval of distance learning law school programs because of COVID-19 pandemic).

negotiating more, not less, and not just in emergencies. Few clients will pay for a lawyer to fly or drive an hour or two for a face-to-face routine meeting, now knowing it can be done via seamless web conference. Students can build on their newfound (no doubt hurried) experience with pandemic conferencing using tools such as Webex, GoToMeeting, Microsoft Teams, Zoom, and Google Hangout and turn it into a practice competency advantage for the future.

- Turn an existing oral communication exercise into a remote one, such as a conference with a supervisor or judge, research update, oral argument, or client intake or interview. If time is an issue, students can work in pairs or small groups, either synchronously (“live”) with their teacher or by recording a session done without the teacher. Require students to screen share a slide or two to reinforce the use of presentation software to boil down ideas.
- Create class best practices in remote communication, and not just in the academic integrity syllabus sense. Creating space and focus for students to consider this question helps prompt awareness of professionalism and civility and ethical considerations such as confidentiality. For example, best practices might include:
 - Sending documents in advance
 - Using a waiting room or password protected web meeting
 - Having participants on a phone conference first introduce themselves
 - Ensuring nearby smart devices such as Amazon Alex are powered down or muted so as not risk sharing confidential client information
 - Using caution with remote conference “chat” functions to avoid disclosing privileged information to other participants.

Remote law practice will be a tricky transition but it’s happening. Aspects of practice like depositions, witness preparation, court appearances, trials, ODR (online dispute resolution), etc., may be more often remote than in person; those variations lay beyond what one legal practice course can cover. Still, the required curriculum can snag students’ attention and generate beginner competency for these and many more remote conferencing issues.

4. Time keeping and Calendaring

Time keeping and calendaring are every-day aspects of law practice. While not as newsworthy as other competencies within Comment 8’s duty to stay abreast of relevant technology, new tools in these administrative buckets help make these tasks more efficient and a lawyer more reliable. No one wants their student to be

the lawyer who overcharges a client or misses a key filing deadline. Hundreds of practice management software platforms offer tools up this alley; here are some simple, no or low-cost suggestions for merging this technology into the existing curriculum:

- Tack on a time keeping assignment for students to track work on a project. Some professors already have students do this, often in a separate word document or spreadsheet. Instill ethical and reliable time keeping habits from the get-go instead of letting students engage in the after-the-fact “how much time did I spend on that 2 weeks ago?” guesswork. Some terrific time keeping tools with no cost options for students to try including Toggl¹⁹⁵ and Harvest.¹⁹⁶ Time keeping with a course project offers a two for one: introduce a practice technology competency and weave in the ethical importance of reasonable fees and efficient practice.¹⁹⁷

Technology Spotlight Exercise

Appendix F

Timekeeping

- Assign a digital calendar assignment at or near the start of a course for students to summarize their digital calendar approach to the course syllabus. Digital calendaring is something one would hope most students have experience with; that’s not always the case. Even students used to some organization method can benefit from small tweaks in law practice calendaring and avoid future professional blunders.¹⁹⁸ After the assignment, class discussion can touch on calendaring aspects such as the

¹⁹⁵ TOGGL, <https://toggl.com/> [<https://perma.cc/9FJV-6L8M>].

¹⁹⁶ HARVEST, https://www.getharvest.com/?utm_source=zapier.com&utm_medium=referral&utm_campaign=zapier&utm_source=zapier.com&utm_medium=referral&utm_campaign=zapier [<https://perma.cc/QA3V-6YKS>].

¹⁹⁷ See generally Weresh, *supra* note 85 (discussing ethics instruction in legal practice course); Grey, *supra* note 13 (discussing technology in context of duty to charge reasonable fees under Model Rule of Professional Conduct 1.5).

¹⁹⁸ See Dan Pinnington & Ian Hu, *2017 Practice Management*, A.B.A. (Dec. 1, 2017) https://www.americanbar.org/groups/law_practice/publications/techreport/2017/practice_management/ [<https://perma.cc/8RKJ-8SBY>] (discussing administrative errors such as failure to file documents and failure to calendar as common in malpractice claims).

benefits of a cloud-based calendar accessible from anywhere (such as free ones like Google Calendar or more sophisticated ones geared to lawyers such as LawToolBox) and good habits such as using spaced reminders for key deadlines and dates (not just one final) and including names and matter numbers and contact information in calendar entries (more advanced platforms automatically sync that information and can even populate jurisdiction-specific docket deadlines).

5. Document Automation

Document automation (sometimes called document assembly) is a beast of a topic affecting countless aspects of practice, from access to justice self-help forms to automated court kiosks to templates that help lawyers perform repetitive tasks with greater efficiency and less error.¹⁹⁹ Automation tools keep repeated aspects of common documents or even e-mails (usual client intake form information, for example, or required provisions in a trust, necessary fields in a joint discovery agreement, components of a non-disclosure agreement, etc.) but then allow for easy integration of new custom data to auto-populate and generate a new document instead of starting from scratch every time. Automation will play a key role as modern lawyering transitions from a bespoke custom service to, often, a more standardized and efficient re-packaged product. For sure, the topic is too big a bite to chew off in the legal practice course, but students deserve some introduction.

- Introduce automation through a low-stakes, ungraded web-based client intake exercise at the outset of an existing syllabus writing problem. Students could try out a no code, uncomplicated tool with a friendly interface, such as Documate,²⁰⁰ and start by brainstorming “usual” relevant client interview questions, such as an address, place of employment, etc., and creating those in the tool. Students could then create an interview that a client could complete online or use information from a new client to generate an “output” document with the different client variables such as a standard engagement letter.

Some think of templates and automation as a short cut. They are, but not in a bad way. These tools don’t replace good lawyering; they capture it (and then replicate it all over again in the same excellent fashion). Such efficient work is

¹⁹⁹ See, e.g., Melanie Reid, *A Call to Arms: Why and How Lawyers and Law Schools Should Embrace Artificial Intelligence*, 50 U. TOL. L. REV. 477, 479-80 (2019) (listing automation software that “helps lawyers, real estate and corporate transactional attorneys in particular, generate documents and create forms” as an AI tool that can “improve a lawyer’s value to clients and in the long run cut costs.”).

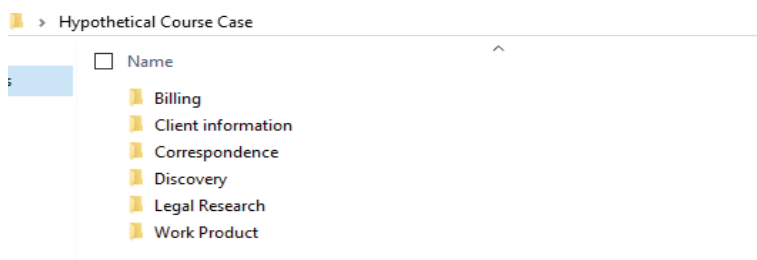
²⁰⁰ DOCUMATE, <https://www.documate.org/> [<https://perma.cc/V78F-NUG4>].

something to embrace with students, not avoid.

6. Mobile Lawyering: Document Access, Editing, and Scanning

The broad concept of mobile lawyering is captured in several competencies already discussed, such as a time keeping app or text messaging. It also bridges to the final competency category we’ll wrap up with next: Data Security. Lawyers work on documents on their phones, tablets, and laptops with real benefits: mobility, convenience, collaboration, enhanced security, long term cost-saving, environmental benefits, etc.²⁰¹ Heading toward “paperless” has its challenges, but the curriculum must prepare students for *their* future practice—not their teacher’s past.²⁰² Incorporating mobile lawyering doesn’t have to be complicated:

- Start small. Lawyers can’t access what they can’t find. Regardless of the mobile system a lawyer uses, electronic document organization is key. At the outset of an existing syllabus project, discuss the naming conventions a lawyer would use to organize case files. Students could do this on a discussion board or in class, or share screenshots of hypothetical case file organization such as:



- Help students get comfortable with editing Word documents remotely, as lawyers often must do in practice. Students can download the Microsoft

²⁰¹ See Alexander Paykin, 2019 *Practice Management*, A.B.A. (Nov. 6, 2019), https://www.americanbar.org/groups/law_practice/publications/techreport/abatechreport2019/practicemgmt2019/ [<https://perma.cc/8NM4-ML22>] (summarizing results of 2019 ABA Technology Survey and discussing the “continual downward shift” in the popularity of a desktop computer and noting that use of remote access technologies has increased with 73% of attorneys surveyed reporting using them).

²⁰² Indeed, entire e-books aim to help lawyers with this transition. See, e.g., *The Paperless Law Office, Second Edition*, ROCKET MATTER, http://page.rocketmatter.com/Paperless2.html?utm_medium=placedarticle&utm_source=lawtechnews&utm_term=paperless [<https://perma.cc/5LUR-LRVE>]; see also Paykin, *supra* note 201 (“The public has shifted towards technology in almost all facets of life, and they will not tolerate those law firms that have not done the same. This continues to pressure attorneys to shift towards paperless, technology-based firms.”).

Word app for free on a smartphone or tablet and complete a quick editing and e-mail exercise like the one in Appendix G.

Technology Spotlight Exercise
Appendix G

Mobile Editing and PDF Creation

- Lawyers often must sign documents on-the-go, whether a pleading, letter, etc. After some short background reading for context about e-signatures for lawyers,²⁰³ introduce students to a helpful mobile tool such as the Adobe Fill & Sign app,²⁰⁴ which allows users to open a file (or create a PDF file by taking a picture of a hard copy piece of paper) and then type in the document or add a signature using the most low tech tool of all: their finger.
- A modern lawyer understands the difference between a picture (photo) image of a document and a file format capture of the same document with actual content. For example, many Gen Z students think that laying a hard copy document down on a table, taking a picture of it with their smartphone, and sending that .jpg via email somehow qualifies as sending a professional electronic version of a document. It doesn't. Encourage students to consider the benefits of using a mobile scanning app to create PDF documents on-the-go. There are many mobile scanning apps on the market, but Adobe Scan²⁰⁵ or Scanner Pro²⁰⁶ are two starting suggestions. As shown in the Technology Spotlight Exercise in Appendix G, students can use a mobile app to create a PDF file from a hard copy case file document.

In the end, here's the curricular choice: treat mobile devices as powerful modern lawyering tools or relegate them to the unrealistic rank of distracting

²⁰³ For example, Sharon Miki, *Electronic Signatures for Lawyers: A Guide*, CLIO, <https://www.clio.com/blog/electronic-signature-for-lawyers/> [<https://perma.cc/D6EJ-PNQK>].

²⁰⁴ ADOBE ACROBAT, <https://acrobat.adobe.com/us/en/mobile/fill-sign-pdfs.html> [<https://perma.cc/TU7D-3R7B>]. Another popular tool for e-signatures with a free trial option is DocuSign. DOCUSIGN, <https://www.docusign.com/products/electronic-signature> [<https://perma.cc/D4KS-EVJG>].

²⁰⁵ *Adobe Scan Mobile App*, ADOBE ACROBAT, <https://acrobat.adobe.com/us/en/mobile/scanner-app.html> [<https://perma.cc/36QW-CSS5>].

²⁰⁶ READDLE, <https://readdle.com/scannerpro> [<https://perma.cc/JXX2-FPQD>].

nuisance. Let’s not pretend students won’t carry them around as lawyers. Mobile apps will only get more powerful, seamless, and integrated across different practice areas, such as documents, calendars, billing, dockets, etc. Rather than forbid their use, empower students to learn how lawyers work remotely while balancing confidentiality and security (read on for more about that).²⁰⁷ This aspect of law practice technology became a matter of emergency survival for many lawyers during COVID-19; it may just remain a permanent facet for all going forward.²⁰⁸

E. Competency in Data Security

Last but not least is an understatement for this final technology category. The question isn’t *if* data security will be a professional concern for law students when they begin practice—it’s when and in what way. Almost every aspect of technology correlates to security in some form, and the variations in practice are almost as great as the risks themselves. Still, students deserve exposure to these crucial considerations when they tackle their first “real” lawyering work for hypothetical clients in hypothetical cases with hypothetical confidential information. Where does that happen? The legal practice curriculum.

Backing up, issues of electronic data security—as to both law firm and client data—fall within Comment 8’s duty of technology competency, although what a lawyer’s actual obligation is remains a moving target and overlaps with the Duty of Confidentiality under Model Rule 1.6. Nowhere is the devil any more in the details than with data security, and ethical guidance under Comment 8 and Rule 1.6 and

²⁰⁷ See Richard S. Granat & Stephanie Kimbros, *The Teaching of Law Practice Management and Technology in Law Schools: A New Paradigm*, 88 CHI.-KENT L. REV. 757, 758-59 (2013) (describing training in law practice management as “urgent” and noting that “[t]raining in law practice management and law practice technology is a critical solution that will further align the skills that law students must have upon graduation with the employment needs of a radically changing legal market.”).

²⁰⁸ For in-depth discussion of the impact of the COVID-19 pandemic and “virtual” law practice, see Nicole Black, *7 Types of Tech Tools to Help Lawyers Set up Virtual Offices*, A.B.A. J. (Mar. 19, 2020, 10:25 AM) <https://www.abajournal.com/web/article/law-in-the-time-of-coronavirus-what-tools-do-lawyers-need-to-set-up-virtual-offices> [https://perma.cc/Z9G8-GCHE]; Law Journal Editorial Board, *COVID-19 Highlights Need for Tech Savvy in the Profession*, N.J. L.J. (Mar. 29, 2020, 10:00 AM), <https://www.law.com/njljournal/2020/03/29/covid-19-highlights-need-for-tech-savvy-in-the-profession/> [https://perma.cc/3WSQ-ZFDH]; Jean O’Grady, *COVID-19 Has Been a Boon for Law Firm Knowledge Management – How do you make it last?*, THOMSON REUTERS (June 1, 2020), <https://www.legalexecutiveinstitute.com/practice-innovations-special-edition-covid-19-knowledge-management/> [https://perma.cc/HN4R-SMPH].

beyond is thick, wide-ranging, and itself the subject of scholarship.²⁰⁹ The ABA's only formal ethics opinion mentioning Comment 8's duty of technology competence from 2017 involved safeguarding electronic client information and used flexible case-by-case factors to determine whether a lawyer made reasonable efforts to do so.²¹⁰ Those factors include the sensitivity of the information, cost and difficulty of using additional security safeguards, the likelihood of disclosure if safeguards are not used, and whether such safeguards "adversely affect the lawyer's ability to represent clients" (such as by making a device or communication software "excessively difficult to use."²¹¹ With different approaches here and there, most state ethics decisions and bar guidance follow along similar lines, leaving lawyers to navigate quality of electronic service providers, comingling electronic data, firewalls, encryption, antivirus software, breach notification procedures, password protection, disaster recovery, etc.²¹²

Lawyers need not become IT experts. But they do need to stay abreast of technology enough to know what they don't know, understand what electronic data is and where it's kept, recognize security risks and gaps, and be ready to enlist experts to help ensure reasonable steps to secure information. Reports from the ABA in 2019 suggest lawyers are "failing at cybersecurity,"²¹³ and entire books are

²⁰⁹ See, e.g., Stuart Pardau & Blake Edwards, *The Ethical Implications of Cloud Computing for Lawyers*, 31 J. MARSHALL J. INFO. TECH. & PRIVACY L. 69 (2014); Eliu Mendez, *Dropping Dropbox in Your Law Practice to Maintain Your Duty of Confidentiality*, 36 CAMPBELL L. REV. 175 (2013); Blaustein et al., *supra* note 13 at 10.

²¹⁰ ABA Comm. on Ethics & Pro. Resp., Formal Op. 477 (2017).

²¹¹ *Id.*; see also ABA Comm. on Ethics & Pro. Resp., Formal Op. 477R (2017), available at <https://www.americanbar.org/news/abanews/publications/youraba/2017/june-2017/aba-formal-opinion-477r--securing-communication-of-protected-cli/> [<https://perma.cc/4JB9-K9X3>].

²¹² See generally Johnson, *supra* note 13 at 175-76 (listing numerous state decisions and guidance documents on technology competence and security of client information) ("The issue of cloud or other internet or electronic storage of data is disproportionately covered in ethics opinions, as compared to any other type of technology."); see also Hazelwood, *supra* note 86 at 248-264 (providing excellent overview of ethics opinions analyzing confidentiality concerns with use of technology for client communication).

²¹³ Jason Tashea, *Lawyers are Failing at Cybersecurity, says ABA TechReport 2019*, A.B.A. J. (Oct. 24, 2019, 1:36 PM), <https://www.abajournal.com/news/article/lawyers-are-failing-at-cybersecurity-says-aba-techreport-2019#:~:text=Lawyers%20are%20failing%20on%20cybersecurity,article%20on%20cybersecurity%20released%20Wednesday> [<https://perma.cc/PGF7-7VSN>] (citing ABA Techreport as noting "[t]he lack of effort on security has become a major cause for concern in the profession.").

available to give guidance.²¹⁴ This final section offers a few baby steps toward solving that problem by trickling this competency into the legal practice course in two respects: Hardware Security and Cloud Computing.

1. Hardware Security

Hardware Security is a simple starting point. It’s the easiest “data” for many lawyers to picture: the tangible things we hold and move and use that store electronic information such as desktop and laptop computers, tablets and smartphones, printers, thumb drives and other external storage devices, etc. Even as more lawyers move to cloud-based storage, basic security on common devices where lawyers create and access electronic information is still important.

- Introduce data security to students by taking a few minutes to discuss where they plan to do their coursework and whether their computer or device is appropriately password protected and backed up to another source. Consider a “Password for Lawyers” note on a course syllabus or learning management system, including tips such as:
 - Strong device passwords of at least 12 unique characters that are regularly changed or use fingerprint or face recognition
 - Different passwords for different devices where client information will be accessed
 - General acceptance of apps encrypted for password management and protection
 - General caution against keeping passwords as default on a device or, worse yet, in hard copy (i.e., a post-it note!).²¹⁵
- Create a “Security Best Practices” course guidance document with students through a short class discussion in person or online. Students can brainstorm aspects of hardware security to consider while working on behalf of a hypothetical client. For example:
 - Set up a phone, laptop, or mobile device to lock automatically after a few minutes of inactivity
 - Ensure that their operating system is up to date to help avoid problems and allow for security updates
 - Avoid when possible doing client work on a home, shared

²¹⁴ See, e.g., JILL RHODES ET. AL., *THE ABA CYBERSECURITY HANDBOOK: A RESOURCE FOR ATTORNEYS, LAW FIRMS, AND BUSINESS PROFESSIONALS* (A.B.A., 2nd ed. 2017).

²¹⁵ See Antigone Peyton, *Kill the Dinosaurs, and Other Tips for Achieving Technical Competence in Your Law Practice*, 21 RICH. J.L. & TECH. 7, 9-11 (2015) (“All password management systems have potential vulnerabilities, but they are better than a note stuck on your computer.”).

- computer
- Avoid when possible using a public printer (when feasible) such as at a local library
 - Take care to position screens to not be visible to others when doing client work in a public location such as at a coffee shop
 - Store external storage devices like a thumb drive in the same secure location to help avoid misplacing them
 - Save documents at least every hour while working and always to two locations (this goes more to routine data loss and technical issues but can help avoid the “my computer broke and I lost my memo” disaster)
- Dovetail data security with document proficiency and legal research tools this Article discussed earlier. If students install Microsoft Word add-ins such as WordRake or use a “drag and drop” legal research tool such as CARA where they upload a document, does doing so keep the underlying electronic client data in the documents secure?²¹⁶ Just posing a short question along those lines can go a long way to shifting students’ mindsets about information security in the new (for them) context of work product and the attorney-client privilege.

2. Cloud Computing

Having your head stuck in the clouds is not a good thing; having your data there is.

In basic terms, cloud computing means storing and accessing electronic data in remote online servers: document storage platforms accessible via the internet instead of from only a specific device or location such as an internal software/IT system. Common examples include Dropbox, iCloud, Amazon Web Services, Microsoft Office 365, Google Cloud, Evernote and law-specific cloud providers like Clio and Rocket Matter.²¹⁷ Decades ago, ethical guidance on whether lawyers could use cloud computing was hazy. But today, the practice is a common and preferred option for lawyers and law firms – though not without complication.

As commonplace as cloud computing is for students (Gen Zers have grown up

²¹⁶ See generally *supra* Part IV (A and B). The short answer to this question (at least for these two writing and research tools I’m familiar with and have used) is yes.

²¹⁷ See generally Dennis Kennedy, 2019 *Cloud Computing*, A.B.A. (Oct. 2, 2019), https://www.americanbar.org/groups/law_practice/publications/techreport/abatechreport2019/cloudcomputing2019/ [<https://perma.cc/8GNY-CAYP>] (summarizing results from 2019 ABA Legal Technology Survey and listing common providers while noting that “while lawyers talk the talk about security concerns in cloud computing, to a shocking degree they do not walk the walk.”).

with their personal “data” accessible at all times from all locations!), by no means does that translate to ethical, professional use. According to the ABA’s 2019 Techreport, “the big story may not be how many lawyers are using cloud computing, but how poorly they are using them.”²¹⁸ The flexibility, accessibility, and lower cost of cloud storage comes with significant risks. Chief among them is a data breach involving an outside vendor or malicious hacker of a law firm client information stored in the cloud (a breach is just as much a risk if not more with internal law firm storage too).²¹⁹ Many jurisdictions impose some often vague duty for a lawyer to try to ensure cloud storage is secure, and modern lawyers face decisions like when to entrust data to a third party provider or whether to add cyberinsurance to their malpractice coverage.²²⁰

Once again, this is just the tip of a complex iceberg. What lies beneath the water for students in practice is important enough to set in motion early in law school, and the legal practice course can do just that:

- Create a “Cloud Computing for Lawyers” document or weave these ideas into a broader “Data Security” section of a course syllabus or student discussion board. When using WiFi to access and save client work, encourage students to:

²¹⁸ ABA Techreport 2019, A.B.A., https://www.americanbar.org/groups/law_practice/publications/techreport/abatechreport2019/ [<https://perma.cc/62JM-JWTX>].

²¹⁹ See generally Blaustein, *supra* note 13 at 14 (detailing the threat of law firms as “prime targets” given the “treasure trove” of client information they have); Kevin Baker, *More Than 100 Law Firms Have Reported Data Breaches. Is Your Firm Next?*, LAW.COM (Feb. 13, 2020, 1:15 PM), <https://www.law.com/thelegalintelligencer/2020/02/13/more-than-100-law-firms-have-reported-data-breaches-is-your-firm-next/> [<https://perma.cc/DM2Y-7VEM>] (summarizing common cyber and ransomware attacks on law firms as popular victims given sensitivity of client data and user error). One recent example of a law firm data security disaster that received attention in the media is the ransomware demand of millions in spring 2020 New York Law entertainment law firm Grubman Shire Meiselas & Sacks faced relating to stolen data of celebrity clients like Madonna and Bruce Springsteen. See Sarah Coble, *Law Firm to the Stars Confirms Ransomware Attack*, INFOSECURITY (May 12, 2020), <https://www.infosecurity-magazine.com/news/law-firm-to-the-stars-confirms/> [<https://perma.cc/C8TH-E7F3>].

²²⁰ See, e.g., Ct. Comm. on Prof'l Ethics, Informal Op. 07 (2013) (“Lawyers who use cloud computing have a duty to understand its potential impact on their obligations.”); Ak. Eth. Op. 2014-3 (“A lawyer engaged in cloud computing must have a basic understanding of the technology used and must keep abreast of changes in the technology.”); Ill. Adv. Op. 16-06 (2016) (“Lawyers who use cloud-based services must obtain and maintain a sufficient understanding of the technology they are using to properly assess the risks.”); N.H. Comm. on Ethics, Adv. Op. 2012-13 (2013) (“Cloud computing can be an economical and efficient way to store and use data. However, a lawyer who uses cloud computing must be aware of its effect on the lawyer’s professional responsibilities.”).

- Avoid public networks when possible (realizing this may be difficult or impossible for some students)
- Use a strong and unique WiFi password if working at home
- Use organized electronic folders (such as those provided earlier regarding mobile lawyering) and one consistent cloud platform (in other words, don't save some client work to Dropbox but others to Google).
- Be extra cautious as a student and lawyer about clicking on links or opening attachments from unfamiliar or suspicious emails: hovering over a link before opening it can show the actual destination and whether it might be insecure.

Technology Spotlight Exercise
Appendix H

Data Security Self-Checklist Cover Page

Students won't become versed in the thorny weeds of data security while in school. Many won't in practice. Still, within realistic reach is thoughtfulness about the impact technology has on confidentiality and a lawyer's duty to stay abreast of how to treat client information with the most delicate care. Unfathomable amounts of electronic data²²¹ in the years to come, combined with countless options for electronic storage of it all, threaten a perfect ethical storm. Let's ensure students at least know enough to bring their umbrellas.

VI. CONCLUSION

Some say "technology is just a tool" and nothing without people skilled enough to use it. Such is the case with technology and the modern "smart lawyer." Technology competence isn't a magic panacea. It won't turn an unethical or unprofessional lawyer into anything but that. But what if it can help an average

²²¹ One figure I've seen is that by 2025, worldwide data will grow 61% to 175 zettabytes – whatever those are. Epiq, *Legalweek New York 2020: The Time Has Come for Lawyers to React Proactively to Data and Technology*, JD SUPRA (Feb. 11, 2020), <https://www.jdsupra.com/legalnews/legalweek-new-york-2020-the-time-has-86913/> [<https://perma.cc/9DEW-HW27>] (noting lawyers must stay "up-to-date on the latest legal technology" and "be proactive about implementing emerging solutions into their practice" and referencing zettabyte estimate in "Digitization of the World" 2018 whitepaper by market intelligence company IDC).

lawyer’s work product or processes be a bit better? To be sure, the level of competency that’s “enough” to satisfy ethical obligations under Comment 8 or stand out as a valuable professional skill is an open question; this Article has no clear answer, but I hope it moves us closer to one.

This Article is as much about the people who will be using this technology—law students—and those who will guide them—their teachers—as it is about flashy software or the latest gadget. For readers skeptical of whether technology competence should be introduced to every law student in the required legal practice course, I hope this Article convinced you. For readers ready to make changes, I hope this Article supplied concrete suggestions and an unthreatening path forward. Law students should not face the same fate as the farm apprentice this Article started with—lost and outdated in an industry that’s advanced far more than the learning environment intended to prepare them for it.

Thinking like a lawyer is great. Learning to act like a smart one is even better.

VII. APPENDIX

APPENDIX A

DOCUMENT FORMATTING EXERCISE

Student Directions: Watch the short screencast linked below. Follow along with the video directions by opening this Word document and adjusting the default font and heading styles of the hypothetical content below (or copy and paste the content into a new document and work from there). Then, answer the short reflection questions at the bottom of this page.

Introductory Screencast: <https://suensemble.suffolk.edu/Watch/s9PZn72G>*

Demo Document Content:

EAGLE DRUG IS ENTITLED TO SUMMARY JUDGMENT BECAUSE THE TIME AND MANNER IN WHICH IT DETAINED MS. EVANS WAS REASONABLE.

[overview for this section]

Eagle Drug Detained Ms. Evans In A Reasonable Manner Because The Manager Searched Only The Contents of Her Bag.

Eagle Drug Detained Ms. Evans For A Reasonable Time Given That She Exited The Store Within Minutes, And The Time Was Spent Investigating Shoplifting.

Student Follow up & Reflection:

1. Have you adjusted your Microsoft Word Grammar & Style selections to optimal settings for automated suggestions on your legal writing? Describe one aspect you believe will help you “catch” areas of improvement in your work.
2. Microsoft Word spell check by default does not apply to words in all caps, such as POINT HEADINGS in a brief. Take a minute to adjust that setting now.
3. Microsoft Word allows a user to add words to its “dictionary” under Office – More Commands – Proofing – Custom Dictionary – Edit Word List. Take a minute to add in one or two new client or company names from your course writing problem.
4. How might automated document formatting connect to a lawyer’s ethical obligation to produce competent work in compliance with local court rules in a particular jurisdiction?

* This screencast was prepared by Suffolk University’s Legal Practice Skills Program, with support from the Suffolk Moakley Law Library and Legal Innovation & Technology Librarian Liza Rosenof. It can be used with students for academic purposes with proper attribution to Suffolk University Law School.

APPENDIX B**INTRODUCTION TO JUDICIAL ANALYTICS EXERCISE**

Student Directions: Using the Lexis Advance research platform, answer the questions below.

1. Find the decision by the Federal Circuit Court of Appeals from October 7, 2016 in a patent case between Apple and Samsung involving smartphone technology. What is the citation?

2. This was an appeal from a trial court decision out of the United States District Court for the Northern District of California. Which federal trial court decided the case?

3. Locate the *Legal Analytics* option at the bottom of the right-hand column on Lexis. Click on the federal trial court judge you named in response to question #2 above.
 - a. How long has this judge been on the federal bench?

 - b. On average, about how long do this judge's patent cases in California take from start to "finish"?

 - c. Is that timing longer or shorter compared to copyright cases before this judge?

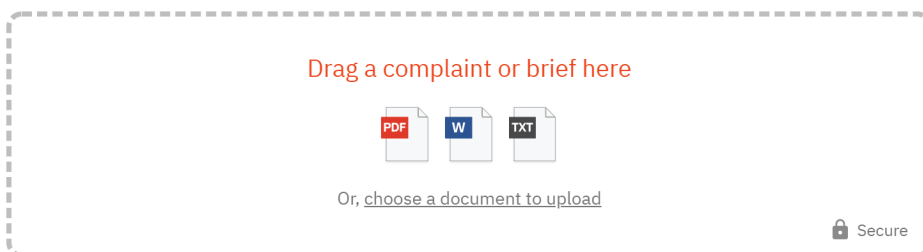
 - d. Suppose your client is involved in more patent litigation before this trial court judge, and concerned about the cost of lengthy proceedings. How many of the patent cases reached the "claim construction" phase?

APPENDIX C

BRIEF ANALYSIS RESEARCH COMPARISON EXERCISE – CASETEXT

Student Directions: Complete this exercise using a memorandum or persuasive brief you have researched and drafted.

1. Sign up for free access to Casetext using your law school email address at <https://casetext.com/lawschool> or sign up for a free 14 day trial at <https://casetext.com/trial>.
2. "Drag and drop" your work product into Casetext's CARA tool:
Search with CARA A.I.



3. Enter the general legal topic to help narrow the search:

What issue or fact do you want CARA A.I. to focus on? ✕

4. Reflect on your experience trying out Casetext's CARA feature. Compare the research results with authorities you've already located, included in your work, or reviewed but chose not to include. Did the tool help to expand your research? Were the results relevant? Were you surprised at what the CARA tool provided? Was the authority in the correct jurisdiction?

APPENDIX D***E-Discovery Case Snapshot Exercise – Litigation Hold Letter****

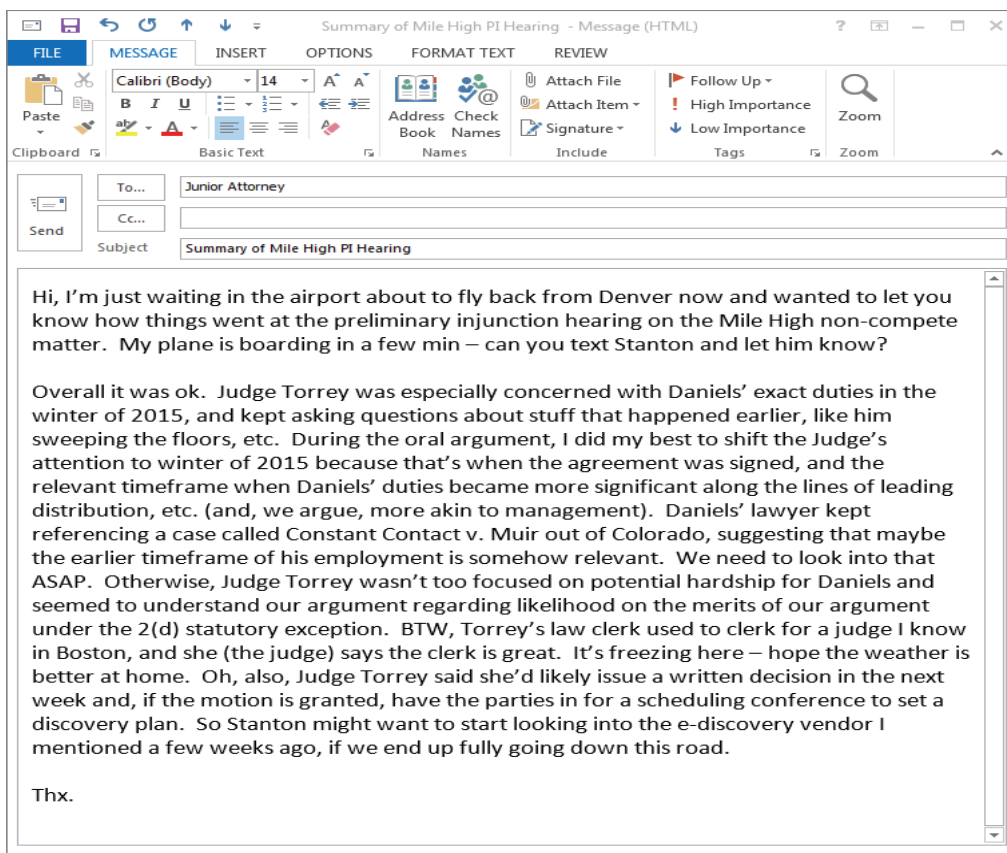
Student Directions: Watch the introductory video about e-discovery available at https://www.youtube.com/watch?v=CZNNZMO_7sE and background reading provided. Then, draft a litigation hold letter (also called a preservation letter) to your new client, no more than two pages long. Include the custodians for whom you want electronic data obtained and searched, the sources of their individual data you'll need to get, and an initial list of search terms you intend to use to search for relevant facts.

* This exercise could easily be adapted into a group exercise in or out of class or through an online discussion board, where students brainstorm these categories relevant to the e-discovery process at the outset of a new client and fact development (but don't necessarily draft a litigation hold letter). There are countless blogs, articles, and newsletters about e-discovery from which to choose for introductory reading.

APPENDIX E

LEGAL TEXTING EXERCISE

Student Directions: After the assigned introductory reading, review the email below from your supervisor on the Mile High/Daniels matter.* As they request, text the client an update. His phone number is 339-793-8740. The text must be sent by 3 p.m. on Monday, November 21. Note he (the client) may not have your cell phone number saved in his phone, so mention who you are in the text.



* The hypothetical case content in this exercise is specific to a particular memo writing problem and can be adjusted to fit the context of any student research and writing project in the legal practice course.

APPENDIX F**TIMEKEEPING EXERCISE**

Student Directions: As you begin client work, you may have an ethical obligation to track your billable time in an accurate manner, depending on how your client will pay. Follow the steps below to try out a convenient mobile timekeeping tool during your planning, research, writing, editing, etc. Attach an invoice of your time to your final written submission and respond to the reflection question below.

1. Download a basic, free version of the time tracking software called Toggl.* It will sync between different devices you might do course work on, such as a phone or laptop.
2. Use Toggl to track your project time with entries for different tasks: consultation with supervisors or colleagues, legal research, drafting, revising, client communication, etc. Try the calendar integration feature to have class sessions and other set events turned into time entries automatically. Play around with the tool to determine what fits best with your workflow patterns.
3. Once your writing project is complete, export a report of your time in an Excel, CSV, or PDF file. From there, think about the best way to invoice a client for that billable work time and create an invoice to attach to your final work product.
4. Submit a paragraph reflecting on the timekeeping process and thinking about these questions: Was it difficult? Easy? Did the tool make your records more reliable or less? What ethical considerations must an attorney remember in this context? Did your timekeeping reveal work that was inefficient? How might that impact client relations and a lawyer's reputation?

* Any widely available preferably free tool can be substituted here based on a professor's experience or preference.

APPENDIX G

MOBILE EDITING & PDF CREATION EXERCISE

Student Directions: Download two apps on your smartphone: Microsoft Word and Adobe Scan. Complete each of the exercises below by [due date]. Submit the documents as instructed.

1. Suppose you are traveling for work, but your supervisor needs a few corrections done quickly on-the-go in advance of a filing deadline. Using the Microsoft Word app, open the attached one-page draft motion*, locate, and then correct on your smartphone the ten errors you spot. After you've made the changes, e-mail the revised document to your supervisor (me) from your phone using a professional cover email message.

2. Your client brings an important financial document to a meeting. You want to ensure you have an electronic version to reference later and perhaps attach as an exhibit to a future court filing. Using the Adobe Scan app (you'll have to first create an account), create a PDF file from a document scan of the one-page document your client handed you. Use the crop or color tools within the app as needed to ensure a clear and readable electronic version of the document. Then, e-mail the PDF file to your supervisor (me) from your phone using a professional cover email message.

* Any short work product a professor creates with typos or other small errors could be used for this exercise such as a client letter.

APPENDIX H**DATA SECURITY SELF-CHECKLIST COVER PAGE**

Student Directions: Review this checklist at the start of your course project and submit it with your final written work. By signing your name at the bottom, you attest to using your best efforts as a law student to consider the security of electronic data involving your hypothetical client that may contain confidential or attorney/client privileged information.

Client/Matter name: _____

- ✓ Update laptop computer operating system and anti-virus protection.
- ✓ Turn off laptop computer or other work device when not in use.
- ✓ Set up automatic lock for computer and other devices used for client work.
- ✓ Avoid clicking on phishing links or downloading files from untrustworthy sources.
- ✓ Maintain awareness of device visibility while working in a public setting.
- ✓ Use 12 character or more password (or passphrase) on devices used for client work.
- ✓ Read the “terms of service” of a cloud-based storage platform used for client work.
- ✓ Maintain organized files for research, communication, client records, and work product.
- ✓ Save work product at least every hour or so while working, in two consistent locations.
- ✓ Keep laptop with client work in a secure, consistent location.
- ✓ Avoid when possible using a shared computer to access client documents/work product.
- ✓ Avoid external thumb drives where possible, or keep in a secure, consistent location.
- ✓ Secure and password protect your home wireless network.

Student Name:

X _____