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Introduction

Ten years have passed since the American Bar Association Commission on Ethics 20/20 ("the Commission") took on the monumental task of preparing lawyers for increased globalization, data storage and electronic communications.[1] One direct result of the Commission's recommendations was the

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addition of Comment 8 to Rule 1.1 of the Model Rules of Professional Conduct (MRPC)—the rule governing competency. Specifically, Comment 8 adds a duty to "keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology."[2] To date, 40 states have adopted language the language of Comment 8 into their own ethics guidelines.[3] However, only three states explicitly require technology training for licensed attorneys.[4]

While the modern lawyer has surely been forced to confront some of the many evolutions in legal tech, legal academia still exists in such a vacuum that students may remain unaware of emerging technology trends. In order to mitigate the potential for issues of technological competency in their alumni, law schools must begin to recognize the complicated technological scenarios in which new lawyers will find themselves— both in terms of issues that will affect their clients' future legal matters, like intellectual property disputes with artificial intelligence software, and developments that will affect the way they work as attorneys such as automated firm management software. This Article seeks to provide an avenue to remedy gaps in technology training.

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well as Rebecca Kite, Ryan Hampstead, Sibyl Marshall, Briana Rosenbaum and Shamika Dalton for their guidance and inspiration and Eli Pearson and Will Choate for their patience among procrastination.

[1] AM. BAR ASS'N COMM'N ON ETHICS 20/20 RESOLUTION (Sept. 19, 2011).

[2] MODEL RULES OF PRO. CONDUCT r. 1.1 cmt. 8 (AM. BAR ASS'N 2020).

[3] Robert Ambrogi, *Another State Adopts Duty of Technology Competence for Lawyers, Bringing Total to 40*, LAWSITES (MARCH 24, 2022), https://www.lawnext.com/2022/03/another-state-adopts-duty-of-technology-competence-for-lawyers-bringing-total-to-40.html [https://perma.cc/6C6Z-8ZMM].

[4] North Carolina and Florida both mandate technology training as part of continuing legal education (CLE) requirements, in the amount of 1 hour and 3 hours respectively. Starting July 2023 New York attorneys will be required to attend one hour of cybersecurity training per year. Cybersecurity hours may be related to the ethical obligations surrounding cybersecurity or the technological skills needed to maintain secure firm and client data. While it is not required, the State Bar of Maine has recognized the importance of technology training in the 2019 revision of their CLE requirements, setting out the following guidance related to the overarching goals of CLE programs: "The purpose of minimum continuing legal education (MCLE) requirements is to promote and sustain competence and professionalism and to ensure that attorneys remain current on the law, law practice management, and technology in our rapidly changing society." *See*: Debra Cassens Weiss, *New York is the First State to Require CLE Course in Cybersecurity*, ABA JOURNAL (Aug. 8, 2022), https://www.abajournal.com/news/article/new-york-is-first-state-to-require-cle-courses-in-cybersecurity [https://perma.cc/34EL-92TV], Bob Ambrogi, *Maine's New CLE Rule Gives a Tepid Nod To Technology Competence*, LAWNEXT (May 20, 2019), https://www.lawnext.com/2019/05/maines-new-cle-rule-gives-a-tepid-nod-to-technology-competence.html [https://perma.cc/34EL-92TV], and *Mandatory CLE*, AM. BAR ASS'N (accessed May 15, 2023), https://www.americanbar.org/events-cle/mcle/ [https://perma.cc/SZ4K-WWDG].

Legal education is steeped in tradition and slow to progress.[5] However, if lawyers entering the practice today (i.e. law students) are to "keep abreast" of changes in technology, they must have a baseline knowledge of the technologies they will encounter in their time as twenty-first century lawyers.[6] This Article asserts that the responsibility for providing that knowledge falls squarely onto legal educators. While many law schools have created some sort of technology training, formal courses are almost always electives,[7] often sought out by only the students who are already most comfortable with technology.[8] This reality, coupled with the institutional difficulties of changing the subject matter and instruction methods law students traditionally encounter, creates a landscape in which students are sent out to practice without even menial knowledge of law practice technology. How can these students then be asked to educate themselves on changes to something they were unaware even existed?

This Article anticipates and seeks to cure the "baseline knowledge" problem the lack of technology training will cause for new attorneys, without extreme disruptions to existing curricular structures, through the deployment of microlearning modules that students may access at their point of need, rather than at a predetermined point in a syllabus. Part I of this Article examines the relationship between adult-learning principles and the practice of creating meaningful educational opportunities through microlearning. This examination and the accompanying suggestion of a microlearning lesson-bank are

[5] *See* Mark Britton, *Behind Stables and Saloons: The Legal Profession's Race to the Back of the Pack*, 90 FLA. B.J. 34 (Jan. 2016); Edward Adams, *Web 2.0 Still a No-Go: Lawyers Slow to Adopt Cutting-Edge Technology*. 94 ABA Journal 9 (2008); Mark A. Cohen, *Lawyers and Technology: Frenemies or Collaborators?* FORBES (Jan. 15, 2018), https://www.forbes.com/sites/markcohen1/2018/01/15/lawyers-and-technology-frenemies-or-collaborators/?sh=3118131e22f1 [https://perma.cc/A27C-2XNT].

[6] The ABA seems to agree with this assertion, but not to the extent of adding required technology training to the list of standards for law school accreditation. Mentions of technology in law schools can be found in various ABA materials, including the 2021 Technology Report which states "ideally, [technological competency] begins at the law school level." *See*: ABA TECHREPORT 2021 https://www.americanbar.org/groups/law_practice/publications/techreport/2021/techtraining/ [https://perma.cc/HTX8-TN27].

[7] A 2019 list of law schools offering some form of technology education can be found at: *Law School Innovation Index*, LEGAL SERV. INNOVATION INDEX (accessed May 15, 2023), https://www.legaltechinnovation.com/law-school-index/. [https://perma.cc/BX4E-PXMH].

[8] *See, e.g.,* Ding Hoo Ting and Christina Lee, *Understanding Students' Choice of Electives and Its Implications*, 37 STUDIES IN HIGHER EDUC. 309 (2012). (Study assessing the likelihood of selection of electives based on three factors: perceived difficulty of subject matter, perceived interest in subject matter and perceived exposure to future career skills. Of these three factors, exposure to future career skills was the least likely indicator of course selection. Ting and Lee also cite to previous studies indicating that expected course grade and personality/reputation of instructor are also reputable indicators of elective selection).

then bolstered by a discussion of law office technology competencies- both what they are (or what they should be[9]) and how they fit uniquely well with the advantages gained by using microlearning as a teaching tool. Part I concludes by discussing how students would benefit from the availability of microlearning lessons outside of the structure of traditional coursework.

Part II of this Article will identify ways to incentivize the completion of technology training through microcredentialing and other incentivization methods, in order to ensure student participation is high enough to close the training gap. Part II of this Article will also discuss leveraging the natural relationship between law school departments like career services and the use of technology training in differentiating and elevating students in a competitive job market and a time of nation-wide financial uncertainty.[10] From the examination of that relationship, as well as the relationship between technology training and other courses/departments in law schools comes the resulting encouragement for educators working with law practice technology to form interdepartmental partnerships, both to assist with dissemination of training outside of the classroom, and to bolster student perceptions of the importance of technology.

When adding new elements to any established programs, and in particular to the law school curriculum, ensuring early success is of paramount importance. This Article offers a suggestion for creating a successful technology training program for law students by building upon foundations rooted in previously successful programmatic endeavors.[11] This Article asserts that the success of any technology training program should be viewed through the lens of three measurements of success: 1) student participation, 2) student learning and success, and 3) thoroughness of training offered. This Article seeks to address those measurables by acknowledging the preferred learning methods of the current student

[9] *Infra* Part 1(c).

[10] *See Percentage of recent college graduates in the United States who are underemployed from January 2017 to December 2022,* STATISTA (Feb. 2023), https://www.statista.com/statistics/642037/share-of-recent-us-college-graduates-underemployed/ [https://perma.cc/2P6L-4C6Z] (stating that, while the figure is trending downwards, 38.1% of recent college graduates were underemployed as of Dec. 2022); *see also* Stephen Miller, *2022 Salary Increases Look to Trail Inflation,* SOC'Y FOR HUMAN RES. MGMT. (Sept. 14, 2021), https://www.shrm.org/resourcesandtools/hr-topics/compensation/pages/2022-salary-increases-look-to-trail-inflation.aspx [https://perma.cc/B77E-HUCK] (discussing the failure of salary increases to meet current inflation trends).

[11] *e.g.* The creation and addition of experiential learning opportunities after changes to the ABA Standards and Rules of Procedure for Law School Accreditation, discussed further *Infra* Part 1(b).

body and considering meaningful incentivization for that group, while increasing the likelihood of knowledge retention through the study of andragogical theory in instructional design and offering educators suggestions for prioritizing certain technological skill sets over others, considering the true needs of the modern attorney.

Part One: Microlearning and Andragogy

a. Microlearning: What, How, and Why Now?

If you are involved in the study or practice of modern pedagogy, you have likely heard the term "microlearning." While a concise definition of the term can be hard to find, most sources agree that the overarching goal behind the concept itself is to increase student retention by shortening lessons and narrowing their focus.[12] Instructional designers[13] often deploy microlearning in the form of interactive video modules, which include a post-instruction opportunity for assessment and practice of newly acquired skills. Keeping in mind the specific needs of law students and the unique qualities of law practice technology,[14] the best definition of microlearning for the purposes of this Article is as follows: learning accomplished by presenting short segments of information, delivered in a digital media format, with a focus on flexibility of students' ability to access and complete materials and the opportunity to practice learning concepts upon completion.

As any legal professional knows, language matters and even the carefully curated definition above has enough ambiguity to discourage an inexperienced instructional designer. For instance, how short is

[12] *See, e.g.,* Mary Jo Dolasinski & Joel Reynolds, *Microlearning: A New Model*, 44 J. HOSP. TOUR. 3 (Jan. 2020); Ai-Dung Taylor & Woei Hung, *The Effects of Microlearning: a Scoping Review*, 70 EDUC. TECH. RESEARCH DEV. (2022).

[13] For the purposes of this paper, an "instructional designer" is the person who is responsible for the creation of pedagogically sound instruction, including, but not limited to the microlearning lessons suggested herein. While this person can be a specifically credentialed employee within the law school or at the broader college or university level, it may also refer to law professors or law librarians who find themselves taking on the responsibility for lesson creation. For more information on what instructional designers do and how they fit into the law school environment, see: *Law School Instructional Design for Online Programs*, CAP LAW ONLINE (accessed May 15, 2023), *https*://caplawonline.com/law-school-instructional-design/ [https://perma.cc/E99H-SNT2].

[14] *See infra* Part 1(c) for a discussion of the relationship between adult-learning, microlearning and the unique qualities of law practice technology.

"short"? How much practice is needed to enhance student retention? Are there certain digital media formats that are more successful than their counterparts? For answers to these questions, educators should look to generational trends in attention span, ability to focus and preferred media formats. To begin that discussion, we look towards characteristics of Generation Z (Gen Z) adults, who will represent much of the law school student body for the next decade.[15]

While generational delineations are not an exact science, and even experts in social sciences disagree on the exact span of a "generation" and the characteristics assigned to each grouping, the patterns derived from generational boundaries should not be ignored.[16] The Pew Research Center, a leader in generational research, the defines Gen Z as those individuals born between 1997 and 2012. Considering the technological advances made in that period, Gen Z students are entering law school with an entirely new set of experiences surrounding technology.[17] While Baby Boomers were heavily influenced by the evolution of television, Gen X by the growth of computer science and Millennials by the Internet explosion, these technologies have been a large part of the lives of Gen Z Americans since birth. On-demand entertainment platforms powered by mobile devices, Wi-Fi and enhanced cellular service are no longer amenities but instead viewed as the societal norm.[18] In light of their early experiences with technology, members of Gen Z qualify for the moniker of "digital natives."[19] Much has been written about digital natives and their technology skills, and many of those works have come to the same conclusion: because digital natives have been perpetually surrounded by technology, educators may have developed an inaccurate perception of their technological literacy and removed previous technology-

[15] Michael Dimock, *Defining Generations: Where Millennials End and Generation Z Begins.* PEW RESEARCH CTR. (Jan. 17, 2021) https://www.pewresearch.org/short-reads/2019/01/17/where-millennials-end-and-generation-z-begins/ [https://perma.cc/4UNQ-LCR6].

[16] *Id*.

[17] *Id.*

[18] *Id.*

[19] Marc Prensky, *Digital Natives, Digital Immigrants*, 9 ON THE HORIZON no. 5 at 1 (2001). (Here, Prensky first coined the term "Digital Natives" to mean those who are "native speakers of the digital language of computers, video games and the Internet.").

training courses prematurely.[20] The result of this removal is that, while digital natives can usually work out how to use certain technologies with time, they are often inefficiently or incorrectly using technology platforms to their detriment.[21]

Another consequence of Gen Z's continued reliance on the internet is found in the way they engage with and retain information, particularly regarding an individuals' attention span. While "attention" is a nebulous concept in and of itself,[22] there have been attempts to measure how and why people's attention shifts, particularly in a learning environment.[23] One such study, conducted by Microsoft in 2015 (before many Gen Z students left middle school), found that the average attention span was only eight seconds.[24] The results of this study, published in *Time* magazine, have resulted in the oft quoted quip that the attention span of human beings is now shorter than that of goldfish, despite the fact that measuring the attention span of a goldfish seems even more impossible than measuring the attention span of a student.[25] Unfortunately, other examples of inconsistency in research surrounding the concept of attention abound, with different measurables producing estimates of attention span ranging anywhere from the aforementioned eight seconds to 20 minutes and everything in-between.[26] However, while we may not be able to precisely determine how long the average student is able to focus on one educational deliverable

[20] Marc Prensky, *Digital Natives, Digital Immigrants, Part II: Do They Really Think Differently?*, 9 ON THE HORIZON no. 6 at 1 (2001). (In this follow-up to his previous article, Prensky asserts that the term "digital native" had taken on much more meaning than the simple metaphor he intended. He clarifies that his initial description of younger students only related to the *comfort* they showed with technology and not their possession of meaningful skills).

[21] Iantha M. Haight, *Digital Natives, Techno-Transplants: Framing Minimum Technology Standards for Law School Graduates*, 44 J. LEGAL PROF. 175 at 193 (2020). (Asserting that "many youth and young adults only know how to use technology for communication, entertainment and perhaps basic word processing, and have no desire to learn what they need to succeed in the job market.").

[22] Jason M. Lodge and William J. Harrison, *The Role of Attention in Learning in the Digital Age*, 92 YALE J. BIOLOGY & MED. 21 at 26 (2019). (Describing attention as a "complex process that interacts with perception, memory and conscious experience).

[23] Neil A. Bradbury, *Attention Span During Lectures: 8 Seconds, 10 Minutes or More?*, 40 ADV. PHYSICAL EDUC. 509 (2016). (Discussing potential ways to concretely measure "attention" including note-taking, personal assessment, direct observation, and recall and retention).

[24] *Attention Spans.* CONSUMER INSIGHTS, MICROSOFT CANADA (2015). https://dl.motamem.org/microsoft-attention-spans-research-report.pdf [https://perma.cc/J2TL-A5B3].

[25] Kevin McSpadden, *You Now Have a Shorter Attention Span Than a Goldfish*, TIME MAGAZINE (May 14, 2015). https://time.com/3858309/attention-spans-goldfish/ [https://perma.cc/WYU9-K79V].

[26] Lodge & Harrison, *supra* note 22 (Citing research that indicates attention span ranges anywhere from the aforementioned 8 seconds to 20 minutes, depending on the methodology used to evaluate "attention.").

or another, we can look to students preferences in media digestion as a way to meet them at their desired commitment level.

Because of their near-constant Internet presence, much can be learned from how and where Gen Z students are spending their time online.[27] In a 2022 survey of Americans between the ages of 13 and 25, 88% of respondents reported using YouTube, a significantly higher portion of the population than any other social media platform. The same study, however, showed that Tik Tok is the fastest-growing social media platform, with 68% percent of respondents reporting usage in 2022, compared to 47% in 2020.[28] Reinforcing the idea that attention span lasts anywhere from mere second to 10-15 minutes, the average YouTube video in 2018 was 11.7 minutes[29] and the average viral TikTok video in 2022 was 41.9 seconds.[30] The popularity of these platforms and the innate brevity of their content lends to the assumption that Gen Z students prefer and will better retain short bits of information, like those found in microlearning lessons.

When examined collectively, changes in the way that people interact with digital information reinforce the concept of microlearning as an effective method for modern instruction. While there are still areas of flexibility within the creation of microlearning modules, anyone employing microlearning should follow the general guidelines of a narrow focus, a visually engaging product and an opportunity for practical interaction with the source material. To that end, a brief discussion of established best practices in microlearning follows as a review of the aforementioned concepts.

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[27] Ellyn Briggs, *Gen Z is Extremely Online*. MORNING CONSULT (Dec. 12, 2022). https://morningconsult.com/2022/12/12/gen-z-social-media-usage/ [https://perma.cc/8WMY-TSSS]. (Survey of Americans between the ages of 13 and 25 indicating that 92% of Gen Z spends four or more hours a day online.)

[28] *Id*.

[29] *Average YouTube Video Length as of December 2018, By Category*, STATISTA (2018). https://www.statista.com/statistics/1026923/youtube-video-category-average-length/ [https://perma.cc/Y4P9-EKLR].

[30] *Average TikTok Video Length from August 2022 to January 2023, By Number of Video Views*. STATISTA (2023). https://www.statista.com/statistics/1372569/tiktok-video-duration-by-number-of-views/#:~:text=Small%20accounts%20produced%20videos%20of,as%20of%20the%20examined%20period [https://perma.cc/CBE4-9ET5].

As previously alluded to, microlearning activities should consist of an entire lesson. They should include narrow guidance through the content to be mastered, as well as an opportunity for practice, feedback and/or reflection.[31] Microlearning lessons should be easy to access at a student's point of need.[32] Delivery mechanisms should be those that students are already familiar with or will not require any extraneous effort to acquaint themselves with. While microlearning can be part of a larger learning goal or lesson plan, individual trainings should be independent of each other. [33] Ideally, microlearning lessons should be between four and six minutes long, though they may remain effective for longer segments, if active participation is required.[34] Microlearning comprehension checks are most useful to students if they occur throughout the course of a lesson.[35] Multiple-choice questions and reflection checks are often the most successful way to gauge a student's understanding of the material in the lesson, thus giving both student and instructor measurable outcomes by which they can evaluate the quality of both the lesson itself and the learning outcomes it promises.[36] When employing these best practices, microlearning has proven efficacy,[37] and will increase the likelihood of student retention, an important factor when considering that the duty of technological competence spans across an attorney's entire career.

b. Andragogy, Metacognition and the Law School Environment

To understand why microlearning practices are particularly effective in the law school classroom, instructors must understand the basic concepts of andragogy, or the "art and science of helping adults learn."[38] While andragogy and pedagogy are closely aligned disciplines, the etymology of the two terms perfectly captures their difference. Both terms are derived from the Greek word "agogos" meaning

[31] Yvonne Mery. *A Case for Microlearning*. 58 LIBR. TECH. REP., no. 5 at 10 (2022).
[32] *Id.*
[33] *Id.*
[34] Philip Guo, *Optimal Video Length for Student Engagement*. EDX BLOG (November 13, 2013). https://blog.edx.org/optimal-video-length-student-engagement [https://perma.cc/2XKZ-QHN5]. (Preliminary results of a study on student engagement of videos of varying length, taken in conjunction with the previous discussion of attention span).
[35] Mery, *supra* note 31 at 12.
[36] *Id*.
[37] Taylor & Hung, *supra* note 12.
[38] MALCOLM KNOWLES, THE ADULT LEARNER: A NEGLECTED SPECIES (1st ed. 1973).

"leader," the difference coming in the roots "andr-" meaning "man" and "paidos" meaning "boy" or "child." Thus, andragogy is the leading (or teaching) of adults and pedagogy is the leading (or teaching) of children.[39] In modern educational theory, however, pedagogy has come to be an overarching term for the study of all educational practices. By contrast, andragogy is a specific discipline related to adult-learning practices only and, therefore, particularly applicable to students in traditional Juris Doctorate (JD) programs.

To apply concepts of andragogy to law student learning, we look to the doctrine's foremost scholar, American educator Malcolm Knowles. As far back as 1973, Knowles identified several characteristics of adult learners and assumptions that can be made about the predicted success of material mastery based upon those characteristics.[40] These characteristics are as follows:

1. Self-concept: In this first assumption, Knowles compares the dependency of a young learner on her teacher to the psychological need of an adult-learner to be self-directed. As a student matures, they will retain more information if they are allowed to engage with materials autonomously and decide for themselves what information and skills are most important.
2. Role of learner's experience: As learners age and gain life-experience, they begin to attach more meaning to concepts that are learned through experience. This shift in priorities leads to greater emphasis on experiential learning techniques for adults, including simulation exercises, problem-solving and field experience. Students will also have identified learning methods and processes that work for them individually through metacognition, or the "awareness and understanding of one's own thought processes."[41] It is important to offer adult learners a variety of instructional design models in order to meet their varied needs.

[39] A Simple, Easy to Understand Guide to Andragogy. LIFELONG LEARNING MATTERS (May 22, 2017). https://www.cornerstone.edu/blog-post/a-simple-easy-to-understand-guide-to-andragogy/ [https://perma.cc/3HXN-HDNE].

[40] Knowles, *supra* note 38 at 45.

[41] Metacognition can be characterized in two parts: 1) the awareness of what a person brings to the learning experience and 2) the on-going process of actively planning, monitoring, evaluating and creating pertinent learning

3. Readiness to learn: Adults tend to gravitate toward learning experiences that offer some sort of benefit to their societal development, for example, finding or retaining employment or seeking training that will have a positive impact on their wage.
4. Orientation to learning: Adults are also performance-centered in their learning goals. Knowles posits that adults become truly ready to learn the moment they experience a *need* to learn. Adult educators thus have a responsibility to acknowledge skills and concepts that students need to know, and adult learning should be centered around life-application. Lessons should be designed to increase competencies that can be applied immediately in order to help the student achieve their full potential. [42]
5. Intrinsic motivation: Adults learn best when compelled by internal motivation. While this does not mean adults can't be motivated by external factors, internal motivation has greater long-term motivational power. Educators working with adults should consider the reasons behind teaching specific concepts and skills and thoroughly explain that reasoning to students.[43]

From these five assumptions about adult-learners, Knowles extrapolates and identifies four guiding principles of successful adult instruction:

1. Adults should be involved in the planning and evaluation of their instruction.
2. Experience should provide the basis for learning activities.
3. Lessons should have immediate relevance and impact on the learner's job and/or personal life.
4. Adult learning should be problem-centered rather than content-oriented.[44]

Knowles's assumptions demonstrate the ideal instructional design concepts for adult learning. While these notions put the onus of student success on the educator, it should be noted again that adult learners

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strategies in order to complete a task. *See* Howard T. Everson & Sigmund Tobias, *The Ability to Estimate Knowledge and Performance in College*: *A Metacognitive Analysis*, 26 INSTRUCTIONAL SCI. 65 (1998).

[42] Knowles, *supra* note 38.

[43] Seven years after his initial publication of the four characteristics of adult learners, Knowles added the fifth and final characteristic. MALCOM KNOWLES, THE MODERN PRACTICE OF ADULT EDUCATION: FROM PEDAGOGY TO ANDRAGOGY (rev. ed. 1980).

[44] MALCOM KNOWLES, ANDRAGOGY IN ACTION. APPLYING MODERN PRINCIPLES OF ADULT EDUCATION (1st ed. 1984).

bring a wide variety of learning experiences and styles to educational endeavors and the exploration and assessment of unique instruction methods is the responsibility of the students themselves.

When they enter law school, most students have spent at least seventeen years in a formal education setting. Throughout this time, they have experimented with multiple ways to study, create and learn. While this experimentation and self-evaluation should continue in law school, students are likely to have pre-identified some of the individual processes that will yield the most efficient and reliable models of personal learning.[45] Because of law students' years of educational experience, Knowles's principles and assumptions are particularly relevant in the law school classroom, and their consideration in lesson planning could measurably improve learning outcomes.[46] To put the principles and assumption in their simplest form: adult learners flourish when they experience both independence and variety in selecting educational opportunities. Adult students should be allowed to self-select courses and projects that best suit their learning needs and outcomes. Before that self-selection can occur, however, law schools will need to expand learning opportunities outside of the traditional Socratic Method model, with a focus on diversifying types of teaching and assessment.[47] As is often the case, it is helpful to look to the history and evolution of a particular scenario in order to orient ourselves to the direction of the future. The proceeding discussion briefly illustrates how law school learning has changed in the last century and suggests that law school administrators remain flexible as guidance on successful learning continues to evolve.

Given the current nature of legal education, it is curious to consider that before the turn of the twentieth century, most lawyers were solely educated "on-the-job," through an apprenticeship with an experienced attorney.[48] Over the next fifty years, however, academic instruction became almost the sole

[45] Anthony Niedwiecki, *Lawyers and Learning: A Metacognitive Approach to Legal Education*. 13 WIDENER L. REV. 33 (2006).

[46] STEPHEN BROOKFIELD, UNDERSTANDING AND FACILITATING ADULT LEARNING: A COMPREHENSIVE ANALYSIS OF PRINCIPALS AND EFFECTIVE PRACTICES (1986).

[47] *See, e.g.,* Charletta A. Fortson, *Now Is Not the Time for Another Law School Lecture: An Andragogical Approach to Virtual Learning for Legal Education*, 65 ST. LOUIS U. L.J. 505 (2021).

[48] *See, e.g.,* ROBERT STEVENS, LAW SCHOOL: LEGAL EDUCATION IN AMERICA FROM THE 1850S TO THE 1980S (1983); Charles R. McManis, *The History of First Century American Legal Education: A Revisionist Perspective,* 59 WASH. U. L.Q. 597 (1981).

path to practicing law.[49] The rise in popularity of the casebook method of teaching combined with the fact that few law professors had meaningful practice experience resulted in institutions hesitant to add practical experience to their curricula.[50] This situation was not addressed by the ABA until 2005, when accreditation standards were revised to require schools to provide students with "substantial instruction in… professional skills generally regards as necessary for effective and responsible participation in the legal profession.[51] In 2010, after many law schools failed to comply with this vague standard, further guidance was given, clarifying that "substantial instruction" equaled one credit hour.[52]

Only four years after the guidance memo requiring one credit hour of professional skill instruction, the ABA revised its educational standards again to provide that schools require "one or more experiential course(s) totaling at least six credit hours."[53] The standards further define an experiential course as "a simulation course,[54] a law clinic, or a field placement."[55] After these new requirements were put in place, it was no longer possible for students to leave law school without developing some of the skills that they would need in practice. Simulation courses, clinics and field placements are perfect complements to

[49] California, Vermont, Virginia and Washington offer alternatives to attending law school before taking the bar exam. New York, Maine and West Virginia offer paths to licensure that involvement a combination of some law school and a supervised apprenticeship. *See* David Merson, *Can You Take the Bar Exam Without Going to Law School?*, JURIS EDUCATION (Jan. 18, 2023) https://www.juriseducation.com/blog/can-you-take-the-bar-exam-without-going-to-law-school [https://perma.cc/9NYL-K7U6].

[50] *See, e.g.,* Richard E. Redding, *"Where Did You Go to Law School?" Gatekeeping for the Professoriate and Its Implications for Legal Education*, 53 J. LEGAL EDUC. 594 (Dec. 2003) (Discussing a 2003 study that found new law professors at "top 25 law schools" had an average of 1.4 years of practice experience, and approximately 15% of professors across all law schools have zero practice experience).

[51] *ABA STANDARDS AND RULES OF PROCEDURE FOR THE APPROVAL OF LAW SCHOOLS*, 2005-2006 A.B.A. SEC. LEGAL EDUC. AND ADMISSIONS TO BAR STANDARD 302(a)(3).

[52] *ABA Consultant on Legal Education, Consultant's Memo 3, Standard 302(a), Standard 304, Standard 504, Standard 509* (Mar. 2010), https://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/governancedocuments/2013_consultants_memo_s302a4_304_504_509.pdf [https://perma.cc/8MXV-BKLR].

[53] *ABA STANDARDS AND RULES OF PROCEDURE FOR THE APPROVAL OF LAW SCHOOLS*, 2022-2023 A.B.A. SEC. LEGAL EDUC. AND ADMISSIONS TO BAR STANDARD 303(A)(3).

[54] *ABA STANDARDS AND RULES OF PROCEDURE FOR THE APPROVAL OF LAW SCHOOLS*, 2022-2023 A.B.A. SEC. LEGAL EDUC. AND ADMISSIONS TO BAR STANDARD 304(A). (Under Standard 304, a "simulation course" is one that "Provides substantial experience not involving an actual client, that (1) is reasonably similar to the experience of a lawyer advising or representing a client or engaging in other lawyering tasks in a set of facts and circumstances devised or adopted by a faculty member, and (2) includes the following: (i) direct supervision of the student's performance by the faculty member; (ii) opportunities for performance, feedback from a faculty member, and self-evaluation; and (iii) a classroom instructional component.")

[55] *Id*.

Knowles's principles and assumptions of adult learning in that students are active participants in their own training. These courses highlight real-life applications wherein the skills and concepts being taught are immediately applicable to the tasks at hand, which enhances student engagement and retention.[56]

Unfortunately, while simulations and clinics are more closely aligned with successful adult learning than previous iterations of legal training, there is no guarantee that a student will encounter or be trained in the use of relevant legal technology. In fact, even with the added requirement of experiential learning, technology-related concepts can still be viewed as "too-practical" in legal academia.[57] While many law schools have increased the number of course offerings that satisfy the experiential learning requirement in Standard 303,[58] these classes are still largely electives that students will need to self-select. While that self-selection does bolster the likelihood of successful learning under Knowles's principle of active participation,[59] it also allows students who are self-conscious about their skill set in a particular area to avoid it entirely. Conversely, students who may feel over-confident in in their capabilities (particularly regarding Gen Z "digital natives") could also choose to avoid relevant learning opportunities altogether when, in truth, they are in desperate need of further training. [60]

Whether or not a law practice technology course is labeled as a "simulation course"[61] for the purposes of the ABA, a broad view of the subjects covered in this type of course demonstrates a focus on skills-based learning.[62] Students who complete these courses should, at the very least, leave with a basic understanding of the technologies affecting the legal industry. This understanding will equip them with

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[56] Knowles, *supra* note 38.

[57] Victoria Hudgins, *"Too Practical?" Why Some Law Schools Don't Offer E-Discovery Education.* LEGALTECH NEWS (Aug. 20, 2019). https://www.law.com/legaltechnews/2019/08/20/too-practical-why-some-law-schools-pass-on-offering-e-discovery-education/?slreturn=20230411100431 (available through Lexis and Bloomberg Law). (Interview with Drexel University Dean Daniel Filler, in which he posits that many law schools aren't offering e-Discovery training because it is "ironically too practical.").

[58] Susan Swihart, *Innovative Law Schools Embrace Experiential Learning*. BLOOMBERG LAW NEWS (Mar. 14, 2023). https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-innovative-law-schools-embrace-experiential-learning [https://perma.cc/UU7K-28YK].

[59] Knowles, *supra* note 38.

[60] *See infra* Part 1(a).

[61] *ABA STANDARDS AND RULES OF PROCEDURE FOR THE APPROVAL OF LAW SCHOOLS, supra* note 54.

[62] *Law School Innovation Index*, LEGAL SERVICES INNOVATION INDEX (last visited May 15, 2023). https://www.legaltechinnovation.com/law-school-index/ [https://perma.cc/2PWP-HFRH].

the tools they need to satisfy MRPC 1.1 Comment 8 and the need to "keep abreast of changes" to relevant technology and remain aware of the risks and benefits thereof.[63] Unfortunately, the reach of these classes is limited, even with the ABA's requirements for experiential learning. In order to provide tech training to students outside of those who opt to take a full technology course, law schools must turn to novel methods of instruction, and especially those that align with the principles of adult learning.

While recent trends in legal education and the ABA's encouragement of experiential learning are surely to the benefit of the students, when considering the efficacy of andragogical practices in adult learning, educators should see that we must allow these trends to continue with both flexibility and commitment.[64] The creation of the above-referenced microlearning bank begins to address issues with student attention span and learning-medium preferences while supporting the concepts in Knowles's theory of andragogy. However, there are other considerations that arise should law school administrators choose to proceed with this type of educational deliverable: what skills and concepts should be the focus of such lessons, who will create and deliver them and how can the law school incentivize student participation outside of the classroom? The proceeding sections of this work tackle those topics.

c. Teaching Legal Tech: What Students Need Most

Any discussion of law practice technology education must include recognition of the fact that there is not currently a standard set of competencies an attorney must master.[65] In determining what technology skills deserve the prioritized attention of those creating microlearning lessons, we must look to the competencies themselves and their individual importance in the current legal industry. Fortunately for educators and instructional designers, much has been written by legal scholars about what concepts such a list would contain. Recent scholarship has alluded to or directly asserted a need for attorney competency

[63] MRPC, *supra* note 2.

[64] BROOKFIELD, *supra* note 46.

[65] See, e.g., Don Macaulay, *What is a Lawyer's Duty of Technology Competence?*, SMART LAWYER (Feb. 2, 2018), https://nationaljurist.com/smartlawyer/what-lawyers-duty-technology-competence/#:~:text=At%20the%20core%20of%20legal,may%20affect%20their%20legal%20representation [https://perma.cc/46YF-RMER]; Tad Simons, *For a Lawyer, What Does "Technology Competence" Really Mean?*, LEGAL EXECUTIVE INST. BLOG (Apr. 20, 2018), http://www.legalexecutiveinstitute.com/lawyers-technological-competence/ [https://perma.cc/8N8X-57PH].

in the following areas: electronic communications,[66] e-Discovery,[67] artificial intelligence[68] and even coding.[69] Other works go so far as to assert an exact list of technological competencies and the specific skills contained therein.[70]

Included in many scholarly discussions on the skills needed for competency is the recognition of guidance from the ABA's Committee on Ethics and Professional Responsibility (the Committee) and their various formal ethics opinions covering social media usage,[71] attorney responsibilities following a breach of client data,[72] multi-jurisdictional remote practice,[73] and other technology-related topics.[74] A recent opinion of the Committee that is of paramount importance is the discussion of virtual practice in Formal Ethics Opinion 498 (2019).[75] In this opinion, the Committee asserts that evolutions in technology have made the virtual practice of law possible to such an extent that a brick-and-mortar law office is no longer necessary and is, in fact, not required by the MRPC.[76] The Committee goes on to discuss various Rules of Professional Conduct that an attorney in virtual practice will inevitably encounter and the knowledge that those attorneys should posses in order to make decisions that are not in conflict with those rules. Included in that discussion are Model Rules 1.4, 1.6 and 5.3 covering Communication, Confidentiality and Supervision respectively. Guided by the principles included in those rules and their comments, the Committee then sets forth the following list of common virtual practice issues:

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[66] Randy Diamond, et al., *Let's Teach Our Students Legal Technology: but What Should We Include?*, 23 AALL SPECTRUM Sept.-Oct. 2018, at 23.

[67] *Id*. *See also*: Meredith Capps, *Add E-Discovery to Your Legal Tech Toolbox" Tips for Providing E-Discovery Support and Instruction in Law Firm and Academic Libraries,* 26 AALL SPECTRUM Sept.-Oct. 2021, at 18.

[68] Diamond, et. al., *supra* note 66 at 27. *See also*: Brendan Johnson & Francis Shen, Teaching Law and Artificial Intelligence, 22 MINN. J.L. SCI. & TECH. 23 (2021).

[69] Diamond, et. al., *supra* note 66 at 27. *See also*: Alfredo Contreras & Joe McGrath, Law, Technology, and Pedagogy: Teaching Coding to Build a "Future Proof" Lawyer, 21 MINN. J.L. SCI. & TECH. 297 (2020)

[70] *See, e.g.*, Haight, *supra* note 21 at 220 (Appendix: Outline of Proposed Legal Competence Standards for Law Graduates). *See also* Heidi Frostestad Kuehl, *Technologically Competent: Ethical Practice for 21st Century Lawyering*, 10 CASE W. RES. J.L. TECH. & INTERNET 1, 27 (2019).

[71] *See* ABA Comm. On Ethics & Pro. Resp., Formal Op. 462 (2013), ABA Comm. On Ethics & Prof. Resp., Formal Opinion 466 (2014) and ABA Comm. On Ethics & Prof. Resp., Formal Opinion 496 (2021).

[72] ABA Comm. on Ethics & Pro. Resp., Formal Op. 483 (2018).

[73] ABA Comm. on Ethics & Pro. Resp., Formal Op. 495 (2020).

[74] A complete list of the Committee's Formal Ethics Opinions can be found at: https://www.americanbar.org/groups/professional_responsibility/publications/ethics_opinions/ [https://perma.cc/P9SR-FVLF].

[75] ABA Comm. On Ethics & Pro. Resp., Formal Op. 498 (2021).

[76] MRPC *supra* note 2.

1. Hard/Software systems
2. Accessing client files and data
3. Virtual meeting platforms and videoconferencing
4. Virtual document and data exchange platforms
5. Smart Speakers, Virtual Assistants and Other Listening-Enabled Devices, and
6. Supervision (In particular, supervision of vendors providing technological assistance and supervision of attorneys and staff devices under a BYOD, or Bring Your Own Device, policy).

While the Committee here is specifically referring to attorneys engaged in virtual practice, it stands to reason that any attorney possessing knowledge of the potential risks and benefits associated with the technologies and scenarios listed above would be far less likely to be found "incompetent" than an attorney who received no educational training in these areas. The above list and the recommended processes and procedures for their use in The Committee's opinion provides a solid foundation for legal educators creating a practice-centered technology program, whether the practice itself would be virtual or not.

Law practice technology educators could similarly evaluate the importance of a particular skill set by its presence and prevalence among several commercial services that provide technology training to students and attorneys alike, either through their own use of microlearning or through longer lesson sets that often result in a certification for the user.[77] Unfortunately, while these services are being used with greater frequency in firms,[78] they can be cost-prohibitive for solo practitioners,[79] students and educational institutions, thus strengthening the need for the creation of an in-house bank of technology lessons that

[77] One such company is Procertas LTA, co-founded by KIA Audit author Casey Flaherty. Through Procertas, students can earn Expert, Qualified, Intermediate or Beginner certifications in modules like "Word Brief," "Excel for Legal," and "PDF for Legal." *See generally*: Ari Kaplan, *Empowering Proficiency with the Legal Tech Assessment*, ABOVE THE LAW (June 22, 2018), https://abovethelaw.com/career-files/empowering-proficiency-with-the-legal-tech-assessment/ [https://perma.cc/CXV4-HJWD].

[78] Comparing previous versions of the *ABA Legal Technology Survey Report*, we see that 74.9% of respondents received some sort of technology training at their firms in 2022, compared to 67% in 2021 and 59% in 2020. See: Sofia Lingos, *2021 Technology Training,* ABA TechReport 2021 (Dec. 8, 2021) https://www.americanbar.org/groups/law_practice/publications/techreport/2021/techtraining/ [https://perma.cc/BL75-WDNF] and Mark Rosch, *2022 Technology Training*, ABA TechReport 2021 (Dec. 8, 2021) https://www.americanbar.org/groups/law_practice/publications/techreport/2022/tech-training/ [https://perma.cc/US2H-PXC7] .

[79] The 2022 *ABA Legal Technology Survey Report* makes special mention of the fact that data on technology training may be skewed by the fact that while nearly all respondents at firms of 50 to 500 attorneys have available technology training, while less than one-third of solo practitioners can say the same. *See Id.*

students and alumni can rely on. Identifying the skills that these commercial services purport to improve can guide in-house instructional designers in selecting lesson topics that are truly valuable in the legal industry. Two such commercial training providers are the Legal Technology Core Competencies Certification Coalition[80] (LTC4) and the National Society for Legal Technology[81] (NSLT). While the intricacies of the programs offered by these two companies varies greatly,[82] there are several overlapping themes in their training, indicating a high level of importance for the mastery of these skills. Examples of overlapping offerings include document management software, billing and time tracking software and trial presentation software. Because these companies are frequently enlisted by firms to train practicing attorneys, it can be inferred that these skills are necessary in the successful practice of law.[83]

In addition to the previous discussion of specific topics and skill sets needed to achieve competency, scholarship in the legal technology arena frequently discusses what body is ultimately responsible for creating a technology competency standard in academia and ensuring compliance.[84] In reality, until the ABA provides more specific guidance through either the MRPC or the Standards and Rules of Procedure for Approval of Law Schools, it will be up to individual states or law schools themselves to determine what technology-related skills deserve a spot in an already crowded curriculum.

[80] LTC4, https://ltc4.org/ [https://perma.cc/CZ3J-LM99] (last visited May 15, 2023).

[81] National Society for Legal Technology, https://legaltechsociety.org/ [https://perma.cc/CT8X-VCME] (last visited May 15, 2023).

[82] For details on the different offerings, *see* LTC4, *Core Competency Learning Plans* https://ltc4.org/store/ [https://perma.cc/LBS9-CLHY](last visited May 15, 2023) and NSLT, *Software Programs Database* https://legaltechsociety.org/Software-Programs [https://perma.cc/2HRC-P34V] (last visited May 15, 2023).

[83] In addition to the discussion of technology training in firms found in the 2022 ABA TechReport (*supra* note 80), LTC4 in particular lists several AmLaw firms as partners including Baker Hostetler, Butler Snow and Jones Walker. *See* LTC4, *Law Firms & Law Schools: Our Ever Expanding Network* https://ltc4.org/law-firms-and-law-schools/ [https://perma.cc/MP7T-659J] (last visited May 15, 2023).

[84] Haight, *supra* note 21 at 178 (asserting "law schools are critically positioned to grapple with [the issue of technology competency]."). *See generally*, Frostestad Kuehl, *supra* note 70 (discussing the role of law schools, state courts and the ABA in providing further guidance on technology competence).

d. Andragogy, Microlearning and Law Practice Technology: A Natural Trio

The marriage of andragogy principles and microlearning is as straightforward as any concept in higher education, and the combination of the two fits particularly well with ideas and skills that ensure technological competency under the MRPC.[85] Each of Knowles's principles of andragogy is bolstered using microlearning and could have a significant impact on the successful learning of law students. A reexamination of Knowles's principles while considering their relationship to microlearning and law practice technology follows:

1. Self-Concept:

Adult learners have the educational experience to learn independently. They do not need, or want, to be guided through every aspect of a lesson. Due to the extremely narrow focus of microlearning and the opportunity to put new skills to use, modules allow for minimal instruction and learners evaluate their own performance upon completion. The use of a collection of microlearning modules independent of a specific course lends to a student's ability to choose lessons and explore them individually. A student's ability to pick and choose both relevant and engaging topics from those offered in the proposed bank of microlearning lessons will satisfy the desire for autonomy while guiding students towards topics most likely to ensure technological competence.

2. Learner's experience:

Adult learners have gone through years of metacognitive experimentation and evaluation to find what learning methods produce the best outcomes for their personal learning styles. Microlearning complements this principle by adding another option to the educator's arsenal. Looking back at the first section of this Article, we know that many students will prefer the opportunities that microlearning provides, but it may not be the best learning model for all students. Having the flexibility to use various learning models when they see fit can make a marked difference in the educational growth of an adult.[86]

[85] MRPC, *supra* note 2.
[86] Brookfield, *supra* note 46.

While this Article focuses on the benefits of technology training through microlearning, an increased institutional focus on technology competencies themselves through the creation and dissemination of a module bank could encourage students who do not respond effectively to microlearning to seek other learning opportunities that better fit their learning preferences.

3. Readiness to learn:

Here, Knowles focuses on the societal benefit to adult students. There are many ways that students can see a benefit to their personal and professional lives via microlearning. For instance, the opportunity to access lessons at a student's discretion allows autonomy in scheduling work obligations and time for personal care. Students may also enhance their credentials through a related process called microcredentialing.[87] Technology training itself offers benefits to the societal situations of law students and attorneys in various ways. Examples of potential advantages include distinguishing one's employment credentials from those in the same job market who lack technological training and improving efficiency when working with technologies like Microsoft Office products, thereby allowing students and attorneys to accomplish tasks in less time— resulting in greater work/life balance.

4. Orientation to learning:

This principle is perhaps the most compatible with microlearning because it recognizes that students are most successful in learning skills and concepts that they need to know in the immediate future. A bank of well-crafted microlearning lessons allows for quick mastery of certain skills and an efficient introduction to others. The innate brevity of microlearning allows students to work educational modules into their schedule when it is most convenient for them, or, preferably, when the skills found in those modules are in immediate need. Adult learners prosper when they are given autonomy. This is true for both the choice of learning topics and the freedom to explore those topics when the need arises.

[87] *Infra* Part III (discussion of the concept and practical application of microcredentialing).

This principle and its relationship to technology training posits an important consideration for law school administrators in that the competency requirements under MRCP 1.1 last for the entirety of an attorney's career. While a student may complete law school without ever needing to exhibit a particular competency, it is possible they will encounter a skill or knowledge set that they lack once they enter the workforce. A microlearning lesson bank that is current, thorough and available to students and alumni alike will allow for adult learning past the time of formal education.

5. Intrinsic motivation:

Educators working with adults should consider ways to enhance a student's internal motivation. In the context of law schools and technology training, this must come in the form of educating students about their duty of technological competence. In the current law school landscape, technology courses are few and far between, no doubt leading students to dismiss their importance. Greater conversations about what skills students need in the workplace, and how those skills will help them as attorneys will lead to stronger internal motivation.

Extending beyond the specific principles in andragogical theory, legal practice technology competencies are well-suited for microlearning because they can often be broken into smaller bits of learning while still enforcing major concepts relevant to competency. For instance, because of an attorney's duty to refrain from charging unreasonable fees under MRPC 1.5,[88] efficiency in document production should be treated as a vital skill. Such efficiency is the result of a combination of numerous smaller skill sets such as keyboard-shortcut mastery, use of headings and subheadings in word processing software and the use of features that automate previously manual tasks like the creation of a table of authorities. Each of these skills can be the subject of an individual microlearning lesson that would be accessed at the point of a student or alumni's immediate need, while lending to the overall efficiency of the attorney's abilities in document creation, and the likelihood of technological competency. A further example of smaller learning opportunities leading to competency in a broader sense is the practice of E-

[88] MRPC, *supra* note 2.

Discovery. Because many students will find themselves unfamiliar with the underlying concepts of e-Discovery they may find the skills necessary to navigate the process difficult to master. For this reason, microlearning lessons covering Electronically Stored Information (ESI), metadata and common (yet complex) data storage procedures would provide the baseline knowledge of the concept of e-Discovery that is necessary to understand the nuances of the process itself.

Having illustrated the natural complements of microlearning and andragogy and how they may be used to successfully teach law practice technology competencies, we will address the final roadblock in this Article's proposal: ensuring student participation. As previously discussed, it can be difficult to adequately communicate the need for technology competency to students, especially considering the sluggishness of the industry to adopt new technologies[89] and the vague language addressing competency in MRPC.[90] However, the final Part of this Article attempts to identify potential motivators for students, as well as calling for a cultural change in educational institutions, placing greater emphasis on technology training through both subtle and explicit means.

Part Two: Incentivization and Dissemination: Microcredentialing and Interdepartmental Partnerships

a. Ensuring Student Participation

Juris Doctorate programs have a well-known reputation for difficulty— both in learning and comprehending relevant subject matter and in the amount of course work required to ensure proficiency.[91] The stress of completing graduate school during, and/or immediately after a global pandemic has left

[89] *See generally supra* note 5.

[90] MRPC, *supra* note 2.

[91] *See generally* THE PAPER CHASE (20th Century Fox 1973) (Toombs: "Kingsfield drove him mad. He's driven a lot of lawyers mad over the past 40 years that he's been teaching here. I heard he ripped up a 1-L this morning so bad, the guy lost his breakfast." James T. Hart: "That's true. That was me."); LEGALLY BLONDE (MGM Distribution Co. 2001) ("Oh, sweetheart, you don't need law school. Law school is for people who are boring and ugly and serious. And you, button, are none of those things."); and *Crazy Ex- Girlfriend* (CW television broadcast Oct. 26, 2018) ("Don't be a lawyer! Don't do it, quickest way to ruin your life.").

today's law students even more exhausted and anxious than previous cohorts.[92] For these reasons, it is difficult to imagine adding anything else to a law student's already full plate. Law school administrators will need to be innovative and empathetic in how they choose to enhance technology training. Fortunately, there are a growing number of ways to incentivize student participation in technology training without mandating completion through the curriculum.

One such incentive particularly relevant to the previous discussion of microlearning is the concept of "microcredentialing." Microcredentials are short, focused credentials often used to provide opportunities for skills-based training outside of the setting of a traditional degree program.[93] Microcredentials are meant to be stackable, meaning the more training a student completes, the more credentials they receive. The concept of microcredentialing has steadily risen in popularity in the last five years, particularly in the arena of required professional development for educators at primary and secondary educational institutions.[94] Many institutions of higher learning are also beginning to offer microcredentialing opportunities on topics ranging from interior design to astrophysics.[95] Several law schools offer opportunities for students and non-students to earn microcredentials, a decision that not only provides greater avenues for training and education, but, in some instances, is also a means to generate revenue for the institution.[96]

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[92] Karen Sloan, *Law Students Report Exhaustion, Anxiety, Food Insecurity Amid* Pandemic. REUTERS (November 1, 2021). https://www.reuters.com/legal/legalindustry/law-students-report-exhaustion-anxiety-food-insecurity-amid-pandemic-2021-11-01/ [https://perma.cc/NH5F-MELX].

[93] *See* The State University of New York, *Microcredentials,* https://www.suny.edu/microcredentials/ [https://perma.cc/9JG5-SQ3T] (last visited May 16, 2023); Carly Johansen, *What is a Microcredential? Here's What You Should Know.* Oregon State University, https://ecampus.oregonstate.edu/news/2022/what-is-a-microcredential/ [https://perma.cc/F2SP-Y5FA] (last visited May 16, 2023). (It should be noted here that information on microcredentials can also be found using the spelling "micro credentials" or "micro-credentials.")

[94] Jenny DeMonte, *Micro-credentials for Teachers: What Three Early Adopter States Have Learned So Far*, American Institutes for Research (2017) https://www.air.org/sites/default/files/downloads/report/Micro-Creditials-for-Teachers-September-2017.pdf [https://perma.cc/4JR3-963C] (last visited May 16, 2023).

[95] The State University of New York, *Find a Microcredential at SUNY* (last visited May 15, 2023). https://www.suny.edu/microcredentials/microlist/[https://perma.cc/8RYK-BF66].

[96] *See* University at Buffalo, *Data Analytics in Sports Law Micro-Credentials* https://www.law.buffalo.edu/sports-center/sports-law-microcredentials.html [https://perma.cc/587K-GWUS] (last visited May 16, 2023); Duquesne University, *Business Essentials for Lawyers Micro-Credential* https://www.duq.edu/academics/colleges-and-schools/law/academics/business-essentials-for-lawyers-micro-

The most common deliverable upon completion of a microcredential lesson or course is a digital badge.[97] Digital badges are a novel way to present one's educational experiences through icons. These icons are not static images but are instead web-based and clickable. Each unique icon contains verifiable metadata including information regarding the institution issuing the credential, the date of issuance, and the criteria the student needed to meet in order to earn the badge. Many digital badges are customizable and can be tailored to include links to the students work-product or other web-based resources. Once digital badges are earned, they can be used by students in several ways, including in as part of a digital resume or e-portfolio or on the students LinkedIn and other social media pages.[98] Several commercial companies exist solely to design and create digital badges for institutions that offer microcredentialing.[99]

Students completing lessons through a microlearning lesson bank could receive digital badges for stackable sets of skills under the umbrella of a larger concept. For example, under the previously discussed technological competencies, students could receive digital badges in document automation techniques and other time-saving features before being granted a terminal badge for efficient use of word processing software. The same concept could easily apply to the skill sets surrounding e-discovery, cybersecurity and coding skills for attorneys.

In order to maximize the motivation of students and alumni to earn digital badges or other microcredentialing deliverables, law schools will need to promote the need for technological competency before and after licensure. While many law schools have begun to highlight the importance of technology through increased elective offerings, a bolder, institution-wide initiative will be necessary to prevent

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credential.php [https://perma.cc/8UZ5-5E4U] (last visited May 16, 2023); and University of Pittsburgh *LLM Micro-credentials Program* https://www.law.pitt.edu/academics/programs-foreign-trained-lawyers/llm-program/llm-micro-credentials-program [https://perma.cc/2NEK-VM5H] (last visited May 16, 2023).

[97] University of Denver, *Micro-credentials and Badges*, https://www.du.edu/registrar/academic-programs/micro-credentials-badges [https://perma.cc/FN5C-ZEDU] (last visited May 16, 2023).

[98] University at Buffalo, *What is a Digital* Badge? https://www.buffalo.edu/interprofessional-education/education/IPCP_Micro_Credential1/small-interprofessional-group-facilitator-tips1.html [https://perma.cc/J8VE-C86N] (last visited May 15, 2023).

[99] G2, *Top 10 Digital Badging and Micro-Credentialing Platform Alternatives & Competitors*, https://www.g2.com/products/digital-badging-and-micro-credentialing-platform/competitors/alternatives [https://perma.cc/8XNJ-ERHF] (last visited May 16, 2023).

failures in competency in the future. In order to create this institutional buy-in, those responsible for the current technology instruction will need to expand the reach of that instruction using interdepartmental partnerships.

b. Dissemination through Interdepartmental Partnerships

Should an institution choose to use the above microcredentialing process for technology training, natural partnerships emerge in several existing institutional departments. The first of these departments governs educational opportunities outside of traditional JD programs, including Master of Legal Studies programs and certificate programs in subjects like regulatory compliance and human resources.[100] The leaders of these programs, whether they be executive education directors or members of the existing faculty, would be a wealth of useful information for educators seeking to create and disseminate a microlearning lesson bank. Creators of executive education programs likely already have experience in creating buy-in for new programs, deciding the best platforms and methods for offering non-traditional courses, and developing best practices in delivering those courses— including addressing the needs of potential students through curriculum mapping and employer surveys.

Career services departments could also provide meaningful assistance and cooperation with a technology training program. These departments are of utmost importance at any law school, helping to ensure both student satisfaction and higher institutional rankings.[101] Career services departments are also constantly looking for ways to set their students apart from those graduating at peer institutions. One way to achieve this differentiation is by increasing technology training, a skill set that is of increasing importance to employers. In fact, a 2019 survey of employers in the legal field found that 62% of

[100] *See* 2U Inc., *Online Master of Legal Studies Programs,* https://onlinemasteroflegalstudies.com/ [https://perma.cc/47P8-XPX3] (last visited May 16, 2023); *Legal Certificates Guide and List in 2022* https://onlinemasteroflegalstudies.com/resources/legal-certificates/ [https://perma.cc/SAG8-NKEP] (last visited May 16, 2023).

[101] Robert Morse, et. al. *Methodology: 2023-2024 Best Law School Rankings*, U.S. NEWS AND WORLD REPORT (May 10, 2023). https://www.usnews.com/education/best-graduate-schools/articles/law-schools-methodology [] (Listing "Placement Success" as a combination of three indicators that comprise 58% of each school's rank. The three indicators are: employment outcomes 10 months after graduation, bar passage rate for first-time takers, and ultimate bar passage rate).

attorneys place greater emphasis on technical abilities than on soft skills when making hiring decisions.[102] Because career services departments are most closely aligned with post-graduation success, the advice and instruction they provide to students is essential. Should a career services department partner with educators creating technology training, the likelihood of success for those programs would certainly rise.

The same could also be said for the promotion of technology training in legal writing courses. Skills related to efficient document production and cybersecurity for work-product are ripe for cultivation when students are drafting first-year client letters, briefs and memos. Because legal writing is often billed as the most important course in the legal curriculum,[103] students are likely to place greater emphasis on the advice and direction received from legal writing instructors and could be more likely to complete trainings recommended in these courses. Also of note regarding legal writing instruction is the previously discussed andragogical concept of "readiness to learn." Because students will spend significant time using word processing software in a writing course, they may encounter the need for a skill they have yet to learn, such as the automatic creation of a table of authorities. Offering an asynchronous opportunity to learn these skills though a microlearning lesson bank not only benefits students, but potentially alleviates some instructional burden from legal writing instructors themselves.

Another beneficial and symbiotic partnership for creators of a technology training lesson bank or microcredential program is with the department of advancement. Offering access to a microlearning lesson bank to alumni not only increases the value of their law degree as they continue to practice but can also serve as a reason to bring alumni together at their alma mater, either to launch the program itself or to periodically remind alumni of its existence and guide them through its methods. Advancement offices could also choose to encourage the use of microlearning lessons through the granting of CLE credits. A

[102] ROBERT HALF LEGAL GROUP, *6 In 10 Lawyers Say Tech Skills Outweigh Soft Skills When Hiring Legal Job Candidates*, (October 16, 2019). https://www.prnewswire.com/news-releases/6-in-10-lawyers-say-tech-skills-outweigh-soft-skills-when-hiring-legal-job-candidates-300939489.html [https://perma.cc/7MGU-SJDY].

[103] Evidence of the importance of good legal writing abounds, perhaps most notably in the fact that legal writing courses (sometimes under different names) are required at every law school. *See also* DEVRY SMITH FRANK LLP, *The Importance of Legal Writing and How to Do It* (December 10, 2020) https://devrylaw.ca/the-importance-of-legal-writing-and-how-to-do-it/ [https://perma.cc/K9HH-NSTC].

combination of three five-minute microlearning lessons would offer an attorney .25 credits and a digital badge, while improving their efficiency, competency and confidence in the workplace and, perhaps, encouraging them to practice philanthropy to their alma mater.

A final suggestion for the integration of technology training into law school programs is through the school's preferred method of addressing the ABA's recent addition to the Law School Standards and Procedures regarding professional identity formation.[104] In this standard, the ABA requires schools to offer "substantial opportunities for students to develop a professional identity." In the 2022 Standards and Procedures for the Approval of Law Schools, additional guidance was given on the interpretation of this provision, stating: "The development of professional identity should involve an intentional exploration of the values, guiding principles, and well-being practices considered foundational to successful legal practice. Because developing a professional identity requires reflection and growth over time, students should have frequent opportunities for such development during each year of law school and in a variety of courses and co-curricular and professional development activities."[105] In light of this guidance, many law schools have created specific programs, especially in the first year, related to the creation and cultivation of a professional identity. These programs often include discussions of wellness practices, societal responsibilities of attorneys and other cultural competencies for professionals in the workforce. There is little evidence, however, that such endeavors offer guidance on the use of technology in the practice of law. Given Gen Z's undeniable relationship with technology, and the fact that they will often be relied upon by supervisors to explain and implement new technology,[106] training in these matters is a natural aspect of their "professional identity" *if* educators and administrators choose to frame technology skills in this way. Regarding a microlearning lesson bank, students taking part in a professional identity

[104] *ABA STANDARDS AND RULES OF PROCEDURE FOR THE APPROVAL OF LAW SCHOOLS*, *supra* note 53.
[105] ABA Standards and Rules of Procedure for the Approval of Law Schools, *supra* note 53.
[106] Jeff Bennion, *The Best Thing a Young Lawyer Can Do is Learn Technology* (June 14, 2016) https://abovethelaw.com/2016/06/the-best-thing-a-young-lawyer-can-do-is-learn-technology/ [https://perma.cc/8E67-DSVJ].

program or course could, at the very least, be encouraged to make technological competency part of their professional identity by creating microlearning modules and earning related microcredentials.

Conclusion

As Generation Z enters the legal workforce, they will need to be technologically competent in order to avoid violating Model Rule 1.1. While their increased comfort with technology may give them a false sense of security, new attorneys will encounter a variety of technologies in practice that are outside of the realm of a lay person's knowledge. In order to ensure that both matriculating law students and alumni are adequately trained in technology, law schools will need to place greater emphasis on competency through institutional culture. Using interdepartmental partnerships, law schools can deploy a well-rounded and thorough approach to illustrate the importance of technology training. Guided by the principals of andragogy and microlearning, schools can successfully train students and offer training opportunities to alumni using an easily accessible microlearning bank. Implementing such a tool in the law school environment will be to the benefit of students, faculty and other departments within the institution.