I. INTRODUCTION .................................................................211

II. BACKGROUND ........................................................................216
   A. SILOS EVERYWHERE.........................................................216
   B. LEGAL EDUCATION ASSUMPTIONS ...............................217

III. ADAPTIVE STRATEGIES ......................................................220
   A. THE CASE FOR INTERCONNECTION .................................220
   B. USING LEARNING SCIENCE TO CREATE BETTER LEARNING .........................................................222
   C. COMMODITIZE FULLY—REWARD TEACHING AND MENTORING .........................................................225
   D. PERFORMANCE TRACKING—CREATE REGULAR AND HELPFUL FEEDBACK CYCLES FOR IMPROVEMENT ......227
   E. USE CLASSROOM TIME JUDICIOUSLY BY APPLYING JUST-IN-TIME TEACHING AND FLIPPED-CLASSROOM METHODS .......................................................................................229
   F. TEACH AND USE TECH CREATIVELY ...............................230
   G. USE ACTIVE LEARNING METHODS ACROSS THE CURRICULUM TO TRANSITION STUDENTS ..................231

III. CONCLUSION...........................................................................233

I. INTRODUCTION

In the parable about a scorpion and a frog, a scorpion wishes to cross a large river and asks the frog to carry it across. The frog refuses, observing that the scorpion would sting the frog and kill it. In response, the scorpion says that if the scorpion kills the frog, they would both drown, and that would be a self-defeating strategy. The frog thinks it over and consents. Halfway across the river, the scorpion stings the frog. As they both are sinking

* Elon University School of Law. © April 11, 2015.
into the fast-moving water, the frog croaks out incredulously, "Why would you sting me and kill us both?" The scorpion responds, "Because I am a scorpion; that is what scorpions do."

Legal education orthodoxy is analogous to the scorpion. It is known for being very good at what it does—teaching students to "think like lawyers." Its "sting"—teaching critical thinking—has left its mark on law, politics, business, and numerous other fields. The goal of teaching critical thinking was and is the gravamen of the law school process and the focus of the signature pedagogy of legal training, the Socratic method. While many peripheral and minor changes have been implemented along the way, the singular focus on the analytic method has worked very well over the years, producing many successful and highly-

1. For illustrations of what thinking like a lawyer means, see generally FREDERICK SCHAUER, THINKING LIKE A LAWYER: A NEW INTRODUCTION TO LEGAL REASONING (2009). The current format of legal education—reviewing appellate case reports collected in books and divided into discrete subject areas—goes at least as far back as Professor Christopher Columbus Langdell of Harvard and his nineteenth century casebook on Contract Law. See CHRISTOPHER COLUMBUS LANGDELL, A SELECTION OF CASES ON THE LAW OF CONTRACTS: WITH REFERENCES AND CITATIONS (1871).


3. While the Socratic method has many variants, it generally refers to a series of questions posed to the same student or small number of student(s), calling upon the students to analyze an appellate case, a hypothetical problem, or legal argument. Richard K. Neumann, Jr., A Preliminary Inquiry into the Art of Critique, 40 HASTINGS L.J. 725, 728-29 (1989) ("The term 'Socratic' often is used misleadingly to identify a style of classroom teaching in which a professor interrogates students. As actually practiced in the classroom, however, this method is not Socratic at all: the accurate term would be 'Langdellian' or even Protagorean. Langdell's technique coincides with the pedagogical technique of Protagoras, the leading Sophist and Socrates' rival, [who used] a method Socrates scorned.").

regarded graduates.  

This Article suggests, though, that legal education orthodoxy today is at risk of drowning itself if it continues to ride its singular emphasis on critical thinking. This is particularly true when viewed from the perspective of job availability in a shifting professional environment. While teaching critical thinking remains important, if not essential, it alone does not appear to provide a successful adaptive strategy for the future.

The source of much of the educational domain's recent instability has been external to legal education. The structural changes of the legal profession have been exacerbated by the economic recession of 2008, adding a new and powerful consideration to the calculus for legal education success—the legal services marketplace. The assumption of just a decade ago, that all qualified law school candidates would be able to find good jobs upon graduation, has dissipated. In light of changes in the job market, there has emerged the recurring question of whether law school is a rational and economical choice for those who are qualified to enter. The recession has led students to examine the value of a law degree with the proverbial microscope. Tools for evaluating legal education have broadened as well, with Internet blogs and other media providing global perspectives—and pressures.


7. Yurko, supra note 2.


9. See id.

A byproduct of reframing legal education as a commodity has been a new emphasis on valuation.\(^\text{11}\) With legal jobs disappearing as a result of economic contraction,\(^\text{12}\) globalization providing additional external pressures,\(^\text{13}\) and the proliferation of legal information on the Internet offering anyone access to their own version of a law library,\(^\text{14}\) the commoditization of legal education has become a more recognizable phenomena—a product to be weighed and measured in comparison to its alternatives. With high costs\(^\text{15}\) and an uncertain and volatile job market,\(^\text{16}\) the educational process has come under repeated and sometimes hostile scrutiny, especially in blogs and the media.\(^\text{17}\)

A closer examination of a primary objective of legal education—preparing students to become practicing lawyers—also provides an independent need for change. Thinking like a lawyer is only a part of preparing students for the performance and work of a lawyer or related occupations. In the modern world, the ability to communicate with and influence others is important. Law students must be able to communicate with


\(^{12}\) See Jordan Furlong, The Agile Lawyer Will Rise as Permanent, Full-time, Salaried Employment Vanishes, LEGAL REBELS: THE NEW NORMAL (Jan. 30, 2014, 2:45 P.M.), http://www.abajournal.com/legalrebels/article/the_rise_of_the_agile_lawyer. Law schools assumed that their graduates would be able to obtain jobs in traditional fields of practice across state, national, and international boundaries. With globalization and increasing uncertainty and transformation in the job market, these assumptions were not met. See Laurel S. Terry, The Legal World is Flat: Globalization and Its Effect on Lawyers Practicing in Non-Global Law Firms, 28 NW. J. INT’L L. & BUS. 527, 536-41 (2008) (describing the increasing impact of outsourcing and offshoring on the practice of law); Yurko, supra note 2 (citing opinions that the market dislocation from 2009 has caused the severe shortage of jobs that face new lawyers in the legal market).

\(^{13}\) See generally Terry, supra note 12.


\(^{16}\) Press Release, supra note 6.

clients, work on teams, and manage projects to succeed. Lawyers also must deal with clients, serve the aims of their firms or organizations, act with integrity in and out of court, and much more. Students will need to perform competently and exhibit professionalism in their everyday work lives, even as nascent graduates. New lawyers must be culturally competent, which means they must measure up within different professional domains, where requirements can vary from firm to firm, in state, federal, or local government work, and from advocacy to advice work. As one commentator noted, there are different stages of cultural competence, and these can be navigated by law students and lawyers alike. To meet these needs, it is increasingly apparent that the preparation of lawyers must adapt better to the external changes in the legal services market place. This must be done within the curriculum and beyond it, in educational culture and the interstices between student and attorney. Today, while the training function is still shared, law students who have no experience working on teams, dealing with clients, or managing projects generally will be less attractive to the


19. See id. at 393-98.

20. See Andrea A. Curcio et al., A Survey Instrument to Develop, Tailor, and Help Measure Law Student Cultural Diversity Education Learning Outcomes, 38 NOVA L. REV. 177, 186-92 (2014) (discussing the evolution from cultural competence to cultural sensibility and describing the benefits of the latter for lawyers in all areas of practice); see also Serena Patel, Cultural Competency Training: Preparing Law Students for Practice in Our Multicultural World, 62 UCLA L. REV. DISC. 140 (2014) (proposing a course to train law students in cultural competency).


22. See, e.g., BRIAN TAMANAH, FAILING LAW SCHOOLS (2012).

23. The curriculum remains ripe for change. Courses are sequenced in name only. Few courses blend the teaching of doctrine, process, skills, and values. See, e.g., David Zarfes et al., Teaching Transactional Law to New Lawyers, CORP. COUNSEL 1-2 (December 16, 2014), http://www.law.uchicago.edu/files/files/teaching_transactional_law_to_new_lawyers.pdf (discussing the absence of effective law school instruction in transactional work); cf. Hyatt, supra note 18, at 392-93, 398. Such training is particularly important when corporate clients are increasingly refusing to pay for work performed by first- and second-year associates. See Zarfes et al., supra, at 23.

profession\textsuperscript{25} than those who learned about the practice of law and began forming a professional identity while in school.\textsuperscript{26}

This Article uses the current environment of uncertainty and complexity as an opportunity to promote strategic thinking about legal education. The Article suggests changes that might help law schools adapt to the volatile and global climate likely ahead. The proposed changes, to be clear, do not deviate from the high expectations and standards law schools have for their students—
to turn out well-adjusted practitioners with the competencies and skill sets needed to achieve excellence in their chosen fields.\textsuperscript{27} While one legal cultural mantra appears to lament "failing law schools."\textsuperscript{28} this Article takes a more upbeat approach, focusing on and offering adaptive structures to better position law schools for success in the future.

II. BACKGROUND

A. SILOS EVERYWHERE

A system of silos, meaning separate, walled-off components, has emerged in legal education.\textsuperscript{29} The traditional law school has developed a discrete conveyor belt program. The system has been successful for more than a century, allowing legal education to

\begin{footnote}
\textsuperscript{25} But see Jacob Webb Yackee, Does Experiential Learning Improve JD Employment Outcomes? 3, 14-15 (Univ. of Wis. Legal Studies Research Paper No. 1343, 2015), available at http://ssrn.com/abstract=2558209 (acknowledging that experiential learning may provide various benefits to law students, but concluding that "there is not much evidence that law schools that provide greater opportunities for skills training have substantially better employment outcomes than do those law schools that provide fewer opportunities." (emphasis added)).

\textsuperscript{26} Law schools have long struggled with how to teach professionalism as a part of the legal education, including whether to teach it as a stand-alone course, part of other courses, and even what its inculcation really means. See Neil W. Hamilton, Professionalism Clearly Defined, 18 PROF. LAW., no. 4, 2008, at 4, 5.

\textsuperscript{27} See, e.g., Beverly Petersen Jennison, Beyond Langdell: Innovating in Legal Education, 62 CATH. U. L. REV. 643, 661-62 (2013) ("Most importantly, schools need to accept their responsibility to prepare students to enter the practice of law. Students need to be prepared to become practicing lawyers—not academics, not appellate judges, not law clerks—but real, live, breathing, and practicing attorneys." (footnotes omitted)).

\textsuperscript{28} Brian Tamanaha even used this trope as the title of his well-known book, Failing Law Schools. See TAMANAH, supra note 22.

\textsuperscript{29} See ROBERT STEVENS, LAW SCHOOL: LEGAL EDUCATION IN AMERICA FROM THE 1850S TO THE 1980S 212 (1983) (noting the "fragmentary nature of the curriculum"); see generally id. (tracing the history of legal education from the apprenticeship model through the rise of the case method and the various (mostly unsuccessful) attempts to modify this pedagogical approach).
\end{footnote}
move from an almost-exclusively apprenticeship form to an almost-entirely academic program. It has operated through well-cabined courses such as torts, contracts, and evidence, separate cohorts or sections in the first year of school, and equally cabined instructors who can successfully teach their subjects with little coordination, inspection, or intervention from the institution. This is true for full-time professors and adjunct instructors alike. Today, with the demand for a more effective process, the use of silos is especially unsupportable. As the following section demonstrates, the silo system is based on a panoply of assumptions, many of which are inaccurate or outdated.

B. LEGAL EDUCATION ASSUMPTIONS

Underlying the traditional silos are deep structures based on assumptions about the quality of legal education. These assumptions range from whether students are learning because of or despite their teachers, to whether there are gaps in the education for practice, to whether the education sufficiently prepares students for different legal domains equally. These assumptions are often embedded in the deep structures of traditional orthodoxy and may not be seen by students who become part of the process. Some of these assumptions are discussed below.

One assumption involves what coverage of substantive material means. Professors in silos teaching subjects “cover” the substantive law students need to develop a deep understanding of

30. An early law school, for example, was the private Litchfield Law School, founded in Connecticut in 1784. STEVENS, supra note 29, at 3-4. In its move to academia, law became viewed as a science. LANGDELL, supra note 1, at v-vii; STEVENS, supra note 29, at 52-55.

31. No matter where a law school is located today, it is part of the global marketplace, at least in the eyes of students who attend. While many students practice in the regions around their alma maters after graduation, they must be equipped to deal with statewide, national, and international issues. See generally Larry Catá Baker, Parallel Tracks?: Internationalizing the American Law School Curriculum (in Light of the Carnegie Foundation’s Report), in THE INTERNATIONALIZATION OF LAW AND LEGAL EDUCATION 49 (Ius Gentium: Comparative Perspectives on Law & Justice Ser. Vol. 2, Jan Klabbers & Mortimer Sellers eds., 2008) (evaluating various models for integrating a transnational component into American legal education). Additionally, graduates of law schools must compete not only with other regional schools, but graduates of schools across the country and around the world. See, e.g., Terry, supra note 12, at 535-39 (discussing the competition posed by outsourcing). Without such competitive competencies, students will be unprepared for modern law practice.
that subject area and perform competently in advanced courses. While the knowledge domain in law school requires students to understand a substantive body of material in order to pass a course, the bar exam, and succeed in practice, "coverage" is a very loose term that does not account for what the students are getting as compared to what the professor is giving. A professor could cover a subject with a single case in fifteen minutes, or, by contrast, assign ten cases, ten problems, and outside work over a period of two weeks.

Another assumption is that individual professors in different sections teach roughly the same substantive law in fairly similar sequences. That is, it is assumed that property professors are (or are not) teaching nuisance and takings, and that torts professors are (or are not) teaching defamation. It is also assumed that somewhere in the first-year curriculum professors provide at least an introduction to statutory interpretation. Yet these assumptions can go untested for long periods of time. The longer these assumptions go untested, the more difficult it is to change the culture. While schools increasingly use curriculum maps to root out gaps, many still exist.

It also is assumed that end-of-semester student perceptions of teaching properly assess teaching, yet this method of evaluation has been widely criticized and often been found wanting. First, these perceptions are but a snapshot of what

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33. See generally id. (defining curriculum maps and discussing the implementation of curriculum mapping at one law school).

34. Martin D.D. Evans & Paul D. McNelis, Student Evaluations and the Assessment of Teaching: What Can We Learn From the Data 4 (Sept. 2000) (working paper), available at http://faculty.georgetown.edu/evansml/wpapers_files/evalstudy.pdf (suggesting, based on a study at Georgetown University, that student evaluations are of limited value); see also GREGORY S. MUNRO, INST. FOR LAW SCH. TEACHING, OUTCOMES ASSESSMENT FOR LAW SCHOOLS (2000), available at http://lawteaching.org/publications/books/outcomesassessment/munro-gregoryoutcomeassessment2000.pdf (suggesting that small group evaluation conducted by a facilitator would produce more valuable feedback). There have been numerous criticisms of the law school feedback and evaluation processes, which essentially focus on rank and ordering as compared to meaningful and regular feedback as a learning tool. See, e.g., Deborah Moss Curtis, Beg, Borrow, or Steal: Ten Lessons Law Schools Can Learn From Other Educational Programs in Evaluating Their Curriculum, 48 U.S.F. L. REV. 349, 357-58 (2014); Steven Friedland, A Critical Inquiry into the Traditional Uses of Law School Evaluation, 23 PACE L. REV. 147, 150, 173-76 (2002) ("Like a monument in a
the students think about the course. Second, the responses are not required, and all students might not participate.\(^{35}\) Third, most perceptions are framed by multiple choice questions and might not capture the depth of feeling of the participants.\(^{36}\) Fourth, the questions often focus on teaching delivery, not on what, how, or how much the students are learning.\(^{37}\)

Numerous assumptions involve the effectiveness of student assessment, such as the assumption that isolated law school exams fairly test what students have learned in each course. The problems with using a single examination to test not only knowledge, but also how that knowledge is transferred to new situations, are well documented.\(^{38}\) Most psychometricians advocate several evaluations to ensure reliability, but longstanding tradition in law school bases grades on a single final exam.\(^{39}\) The use of a single exam diminishes claims of reliability.\(^{40}\)

It is assumed that the critical thinking taught in siloed classes will be comprehensive, including all levels of Professor Benjamin Bloom's learning taxonomy, from knowledge, to comprehension, application, analysis, and, ultimately, synthesis and evaluation.\(^{41}\) Yet, no routinized inspection currently exists for determining whether, how, or how well this learning is occurring, if it is at all. "Critical thinking" in law school has become a broad concept serving as a proxy for a family of skills, and the inherent ambiguity surrounding the concept has
town square that has long since lost its meaning, the evaluation process has become more highly valued for its perpetuation of rank and hierarchy than for its accuracy of measurement or its pedagogical attributes.\(^{42}\).

35. See Evans & McNelis, supra note 34, at 4 ("Clearly, the surveys fall well short of aggregating the views of all students in every class.").


37. See id. supra note 36, at 615-17, 623-24.

38. See MUNRO, supra note 34, at 36 ("The irony in the fact that legal education has chosen the bluebook essay exam as its primary means of evaluation is that the instrument itself lacks a sound basis in educational or assessment principles.").

39. Id. at 34.


permitted course emphasis and methodology to avoid critical inspection.

It is sometimes thought that inspection or even institutional control over a course will invade academic freedom. An invasion of such freedom will not occur, though, if the focus of the inspection is placed on institutional outcomes and the sequencing of courses, as compared to the methodological approaches chosen by the teachers. If prerequisites are not meeting their goals, is that an academic freedom issue or a performance and competency matter?

III. ADAPTIVE STRATEGIES

A. THE CASE FOR INTERCONNECTION

By eliminating silos, the legal academy can begin to negotiate away from traditional assumptions and start creating accurate data and better student-performance outcomes through coordinated efforts. If law school is to be based on sequenced courses that build upon one other, such as those existing in legal writing programs, eliminating silos will be critical to achieving better results. Professors teaching the same course to different students (or different courses to the same students) should be able to cost-effectively share information with each other to ensure the learning is consistent for different sets of students. Shared information could start with syllabi, learning outcomes, emphases, and the methods used.

If silos are to be overcome, visible links will be critical to ensuring communication between professors of different sections of the same course, different courses, and different subject areas. Visible links can mean meetings, emails, and even team-teaching. Collaboration would serve as a quantum leap away from the silo system by promoting interconnectivity and a greater awareness of what students are facing in other classes. Collaborative methods could include sharing exams and testing methods prior

42. See Curtis & Moss, supra note 32, at 487.
43. See, e.g., Steven I. Friedland, Outcomes and the Ownership Conception of Law School Courses, 38 WM. MITCHELL L. REV. 947, 963-66 (2012) (arguing that agreement upon outcomes does not impact academic freedom).
44. See, e.g., Carol McGeehan Parker, Writing Throughout the Curriculum: Why Law Schools Need It and How to Achieve It, 76 NEB. L. REV. 561, 595-97 (1997) (suggesting a particular sequential structure for a two-semester legal writing curriculum).
to assessment. Torts and property law professors, for example, could better understand how jointly-shared doctrinal concepts, such as nuisance, trespass, and torts within the landlord–tenant relationship, apply within each domain. Further, it is time to break down the walls between doctrinal courses and clinical education for our students’ sake. Clinical and doctrinal professors could co-teach classes and blend different pedagogical approaches so that even first-year law students get a taste of what real lawyers do. This blending extends to the silos of ethics and professionalism, which could become solid foundational bases of all courses across the curriculum.

This integration would be the next step taken after destroying the silos.\textsuperscript{45} Integration is justified now, more than ever, by the new job market reality. Today we live in a collaborative legal world. Collaboration does not just mean working with others.\textsuperscript{46} It means understanding group dynamics, communicating well with others, interviewing clients and witnesses, and conducting other relationships in a professional manner.\textsuperscript{47} Collaboration has many positive points beyond just the efficacy of the work product.\textsuperscript{48} Through collaboration, more voices can be heard—not just those whose shouts are the loudest. Practicing lawyers exercise collaborative skills daily.\textsuperscript{49} Furthermore, lawyers must do much more than know the law—they must manage people, from direct reports to peers, and work in an environment requiring multiple relationships.\textsuperscript{50} If students

\textsuperscript{45} See, e.g., Jennison, supra note 27, at 658-60 (citing SULLIVAN ET AL., supra note 4, at 13-14, 26-28, 191).

\textsuperscript{46} For a discussion of how to incorporate team-learning into a variety of classroom environments, see TEAM-BASED LEARNING: A TRANSFORMATIVE USE OF SMALL GROUPS IN COLLEGE TEACHING (Larry K. Michaelsen et al. eds, 2004). See also THOMAS A. ANGELO & K. PATRICIA CROSS, CLASSROOM ASSESSMENT TECHNIQUES: A HANDBOOK FOR COLLEGE TEACHERS 349-51 (2d ed. 1993) (providing a peer-review evaluation form for students to use after working in a group).

\textsuperscript{47} Cf. Curcio et al., supra note 20, at 190-92 (commenting on the necessity of understanding the cultural perspectives of clients, colleagues, and judges).

\textsuperscript{48} See L. Dee Fink, Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams, in TEAM-BASED LEARNING, supra note 46, at 19-24 (identifying four benefits to team-based learning: increased understanding of content, improved ability to apply the content to solve problems, experience working in a team, and an appreciation of the effectiveness of a team-based approach).


\textsuperscript{50} See John O. Mudd & John W. LaTrielle, Professional Competence: A Study of
only see role models who are in silos, get limited experience in teams, and have limited understanding of what a coaching or mentoring role might involve, they will be less able to acquire and implement the competencies needed to succeed in the twenty-first century legal environment.

B. USING LEARNING SCIENCE TO CREATE BETTER LEARNING

“The more I know about my students, the more I know about myself, the more wisely I will teach.”51—Professor Louis Schmier

We too often base our notions of teaching and learning in legal education on anecdotal data.52 While useful to some extent, the information is not empirical, tested, or testable. This “anecdata” is grounded on the strong cultural lineage of the Socratic method and the exceptionalism of legal education pedagogy.

The anecdotal foundation extends to teacher training. Other than an initial long weekend of optional training,53 law professors are expected to hit the ground running in the classroom without in-depth formal training. While a “learn on the job” approach can work, especially when the tradition of the Socratic method54 is handed down from one generation to the next, its customary envelope promotes a non-innovative solution. The strong tradition also maintains its status through the tenure system, where professors who try different approaches and who do not earn positive teacher evaluations will be hurt by their efforts.55 Further, the teaching styles of junior professors often unknowingly create a level of comfort and habits that last


52. Gerald Hess, From Anecdote to Analysis: LSSSE’s Promise, in LAW SCHOOL SURVEY OF STUDENT ENGAGEMENT: 2005 ANNUAL SURVEY RESULTS 18, 18 (2005) (highlighting that the LSSSE will enable data-driven instructional and curricular design decisions).


54. See supra note 3.

55. Junior professors are appropriately reluctant to jeopardize advancement by standing out. In a risk-adverse profession, it cannot be expected that newer members of the academy would take strong risks in the classroom. See Russell L. Weaver, Langdell’s Legacy: Living with the Case Method, 36 VILL. L. REV. 517, 544 (1991).
throughout their professional career, making change more difficult at a later time. The isolated nature of legal education, based on its hybrid status as a professional program that is only partially in the academic world, allowed legal education to disconnect from educational advances in other learning domains.

Using learning science, though, to reach better learning outcomes across the legal education landscape, seems to be within easy reach of legal education. Learning science is used in a wide variety of other educational fora, from grade school through professional school. Developmental learning theory, for example, has studied the intellectual development of students over time, and a well-established thesis is that students learn differently based on differing cognitive structures and beliefs.

Learning science suggests professors cannot force students to learn; all professors can do is create good learning environments for students. These environments include learning-centered, knowledge-centered, assessment-centered, and community-centered environments. Strategies to develop these environments have appeared in the literature of various educational domains, many of them empirically based. If law

56. See Weaver, supra note 55, at 544.
57. See, e.g., EXPLORING MORE SIGNATURE PEDAGOGIES (Nancy L. Chick et al. eds., 2012) (examining recent developments in pedagogical approaches unique to various disciplines).
59. Id.
62. Id.
63. Gerald Hess, Heads and Hearts: The Teaching and Learning Environment in Law School, 52 J. LEGAL EDUC. 75, 82-86 (2002); see also Wangerin, supra note 58 at 1251-55 (discussing empirical studies of intellectual development in law students).
professors created these environments with intentionality after training or access to relevant analysis, the pedagogical product could be improved.64

Engaged or active learning, for example, has been shown to lead to better results for students.65 Engaging students in and outside the classroom seems well suited for legal education, especially with the emphasis on outcomes and transitioning students to life as professionals. Indicia of engaged learning include students who are creating deliverables, involved in collaborative opportunities and problem-solving, invested in and have a responsibility to the process, and offering differing methods of presentation.66

Another example of borrowing learning science methods from other disciplines is “Just-in-Time” teaching, which traces its origins to physics in the 1990s.67 This method asks students to

64. Hess, supra note 63, at 87-110 (providing specific suggestions for creating better learning environments in law school classes).


66. One such problem is The Mountain Climbers. The premise: Two mountain climbers are roped together for a climb up a 20,000 foot mountain peak. At 14,000 feet, one slips over the edge. The only way the climber who has not slipped can save herself is to cut the rope, letting the other climber fall over the side of the mountain at least several hundred feet. This was based on a true story of two climbers in the Andes Mountains. I change the facts a bit and tell the students the climbers are you and the person who is closest in the world to you. I then divide them into small groups to discuss the issues and ask, “Would you cut the rope?” If not, both die. I get many different responses, from “I cannot cut,” “I would be too guilty,” to “I will cut,” “I am one of two parents and this is for my children,” to “I don’t know.” There is always a lively discussion with interesting perspectives.

I use this example doctrinally, extrapolating the mountain climbers to euthanasia issues—“Would a reasonable person kill someone because of the love they have for each other?” I mostly use it, though, for the “code” discussion that follows. The mountain climbers code indicates that the rope should be cut. I then ask them about lawyers—are there difficult code provisions, responsibilities and accountabilities that might be required of them as lawyers? Does morality play a role? See TOUCHING THE VOID (2003) (a documentary about two actual climbers facing a somewhat similar issue high in the Andes after summitting a previously unclimbed face of a mountain in Peru).

engage in web-based assignments and then send their responses to the instructor before class.\textsuperscript{68} This communication device allows the instructor to observe the learning status of the students and determine what material should be emphasized or de-emphasized.\textsuperscript{69} It provides an economical and data-oriented approach to address what should be the focus of classroom time and what should not.\textsuperscript{70}

Concept mapping methodology could be used as well.\textsuperscript{71} This learning strategy utilizes visual depictions of a concept to help students better understand that concept and recall it at a later time.\textsuperscript{72} While this strategy has been used in many educational domains,\textsuperscript{73} it has not been commonly used in legal education.\textsuperscript{74} It offers the incorporation of yet another form of learning science to improve the law school classroom.

**C. COMMODITIZE FULLY—REWARD TEACHING AND MENTORING**

If education is the primary goal of a law school, should not the top educators be recognized by salary, promotion and status? The answer to this question involves a more rigorous examination of valuation. Valuation criteria might include teaching loads, the mentoring/advising function, creation of materials, and the amount of extra, outside learning opportunities.\textsuperscript{75} A teacher of a two-credit course with eight

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\textsuperscript{68} Novak, supra note 67.

\textsuperscript{69} Id.

\textsuperscript{70} See id.


\textsuperscript{72} See id. at 28-29.


\textsuperscript{75} Some schools in other countries factor advising and office hours into teaching loads. See Chris Bertram, Comment to University Teaching Loads, CROOKED TIMBER (Mar. 24, 2009, 9:42 PM), http://crookedtimber.org/2009/03/24/university-teaching-loads/ (reporting that “prep time, marking time, [and] office hours [are] . . . factored into” teaching loads and that different courses get “different credits under the model”); Martin, Comment to University Teaching Loads, CROOKED
students, for example, simply does not have the same workload as a teacher of a two-credit course with eighty students, especially if the teacher wants to individualize the learning process and provide feedback. Some professors also spend many hours encouraging, working with, and challenging students outside of class. Others spend few hours, if any at all, engaging with students. Institutions ought to account for this differential. To do so, incentives will be needed.

Teaching incentives will be necessary to counteract the dominant culture of traditional legal education, in which the primary currency for promotion and tenure has been scholarship. It has been the most important of the three major criteria: teaching, scholarship, and service. The system likely would be very different if teaching and learning were to receive greater emphasis in the promotion process and were incentivized by other means, from salary increases to publication expectations.

In addition, institutions could provide greater inspection and measurement of teaching effectiveness by creating processes in addition to simply gathering the perceptions of students at a single point toward the end of a course. It is unclear how the single student assessment of teaching has become the primary assessment for decades, but a more comprehensive measuring system, including routine peer review, would also lend credibility to the teaching function.

More than ever, though, mentoring is critically important for the success of students, teachers, and schools. The idea of


76. While scholarship is a very important function of faculty, the resources of legal education often are tilted in favor of scholarship over teaching. It is rare for a lateral professor to be hired or to get tenure primarily because of teaching—although the opposite might be true. If the classroom is as important as one thinks—indeed, much of the school's value is in the classroom—then that value should be reflected in how teaching is treated.

77. Further, why do law faculty careers depend on student-run journals? If the true currency of faculty gravitas is scholarship, should not the standard be peer-reviewed journals?
mentoring and guiding novices towards expertise and good judgment aligns naturally with the practice of law and is tailor-made for the differing competency levels within a law school.\textsuperscript{78} Mentoring provides a more individualized environment and creates an "us-us" configuration as compared to an "us-them" configuration. If professors were not only experts in the teaching of substantive law but also focused on mentoring small groups of students, the nature, pace, and ethos of law school would likely change because of the shift in power and accountability of both professor and students.\textsuperscript{79}

D. PERFORMANCE TRACKING—CREATE REGULAR AND HELPFUL FEEDBACK CYCLES FOR IMPROVEMENT

Professional athletes and musicians have engaged in performance tracking for a long time—meaningful self-monitoring to determine their progress in advance of a contest or public performance. Today, this kind of tracking is commonplace even for the average person, who might want to track calories, steps, or sleep.

Mass tracking occurs through "Big Data." This involves computers taking considerable amounts of raw information and connecting that information in useful and often unseen ways through algorithms—sorting mechanisms—in order to provide descriptions and predictions.\textsuperscript{80} Given the ease of gathering data today, especially from networks and the Internet, such analysis and its use as feedback will only grow.

Unlike athletics and music, legal education does not generally rely on any data gathering structures related to the learning process. While there are end-of-semester final examinations, that data is not linked with other data to form useful conclusions for the test-takers or professors, other than a

\textsuperscript{78} See Toni A. Campbell & David E. Campbell, Faculty/Student Mentor Programs: Effects on Academic Performance and Retention, 38 RES. HIGHER EDUC. 727, 738-39 (1997) (demonstrating the positive effects of mentoring on students' GPAs and drop-out rates).

\textsuperscript{79} Being an expert does not necessarily equate with being a good mentor. The intentional inclusion of the mentoring function in law school would help develop the student learning process both in law school and beyond. Mentoring in law school would pave the way for mentoring in the real world; mentored students could then receive mentoring more naturally in practice and even become mentors themselves.

grade point average that serves to rank and order the students, often in a relative rather than an absolute fashion. There are few mechanisms in place to provide meaningful and prompt diagnostic and formative feedback on a regular basis. Imagine taking piano lessons with a teacher who listened to you play, but does not provide feedback until after the grand recital—and then only in the form of a letter grade for the semester's performance. This kind of feedback would be less than optimal—it would not be timely, responsive to the needs of the performer, specific to the strengths and weaknesses shown, or allow for efforts at improvement.

The Alverno College Diagnostic Digital Assessment provides a helpful illustration of the potential for an assessment-centered framework that works on a more granular level than simply final grades.\(^\text{81}\) Alverno College describes its Diagnostic Digital Portfolio as:

> a vehicle students and faculty use for the selection of key performances (samples of student achievement) that enable reflection and analysis of each student's learning patterns.

Technically, it is a web-based, relational, searchable database of selected assessments and assignments from each student that can be accessed anytime and anyplace. It is a way to store and make more accessible the criteria students need to meet, the feedback they receive, and their self assessments from courses, internships, and external assessments. It also stores results from key inventories students take such as the Kolb Learning Style Inventory.\(^\text{82}\)

The possibilities for further student improvement during legal education through the mechanisms of monitoring, observation, and evaluation are significant. A digital diagnostic portfolio provides the vehicle by which this improvement could occur.

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82. See ALVERNO COLL. FACULTY, \textit{SELF ASSESSMENT AT ALVERNO COLLEGE} 3, 14 (Georgine Loacker ed., 2000) ("Self-assessment is the ability of a student to observe, analyze, and judge her performance on the basis of criteria and determine how she can improve it.").

E. USE CLASSROOM TIME JUDICIOUSLY BY APPLYING JUST-IN-TIME TEACHING AND FLIPPED-CLASSROOM METHODS

Class time is extremely valuable and should be recognized as such. It should be used judiciously, primarily to improve skill sets. The idea of flipped classrooms, giving students first contact with information before class, so the class time can be used to apply or otherwise follow up on the information students received, highlights the issue of what should be taught during class time. While traditional legal education flips the classroom to some extent by assigning reading in advance, the flipping can now be enhanced with advance problems, podcasts, quizzes, and other digital formats. The choice of how to use classroom time has received justifiable scrutiny in a digital age where learning can occur remotely in places far away from a classroom.84

Questions about classroom content should be examined with considerable care. For example, if writing is a particularly important goal, it should be practiced regularly in the classroom as well. Students could be asked a question and, instead of answering orally, could write down their answers first. If professional identity formation is important, teachers could create classroom role-plays—or pre-class videos85—that explore the concept of professional identity in the substantive domain. If project management and collaboration are important, students could be assigned to work with each other before class, and continue the work in class on projects, with the teacher walking from group to group as occurs in studio design classes.

Learning science methods can be used here as well to promote classroom efficiency. These include Just-in-Time teaching, which has been used in the sciences to first provide

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84. See Gerald F. Hess, Blended Courses in Law School: The Best of Online and Face-to-Face Learning?, 45 MCGEORGE L. REV. 51, 59-60 (2013) ("When students use online instruction to gain understanding of content, teachers can use classroom time to address student misconceptions about a topic, build community, debate issues, engage in hands-on activities, and perform higher-level thinking (including analysis, synthesis, and evaluation).") ; see also Kathleen Elliott Vinson, Watch, Listen, and Learn, SUFFOLK L. ALUMNI MAG., Fall 2008, at 40, 40, available at http://ssrn.com/abstract=1478127 (discussing the use of podcasts to supplement in-class learning).

85. These videos could be assigned prior to class, along with a set of questions to answer. Students will then be better able to work through and follow up on the important points in class.
information for students out-of-class and to get feedback on what they have learned to adapt to focusing on important points in class. Flipping the classroom in general is efficient—it directs students to have an initial engagement with the material before a class, which will then be used to apply the outside learning to new problems, themes, and dilemmas.

**F. TEACH AND USE TECH CREATIVELY**

Using technology to assist student learning does not simply mean PowerPoint slides anymore. In the face of the digital revolution, many students are competent or at least comfortable with all kinds of technology. Further, law practice is being significantly impacted by technological advances, making it all the more important for all law graduates to be familiar with how to use technology—at the very least to be able to e-file documents.

Technology is also a tool that can open up creative approaches to legal education. Students born in the digital age generally are not fearful of working with advancing technologies. In fact, students are often quite comfortable with the opportunities they open. The legal academy should not only use advancing technologies but also teach students how to use them.

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86. See supra text accompanying notes 67-70.
89. Peter Hoffman, Law Schools and the Changing Face of Practice, 56 N.Y.L. SCH. L. REV., 203, 217-19 (2012). (examining the use of technology in depositions, discovery, case management, and courtroom presentation documents); Hess, supra note 84, at 59 (“The Internet has become a critical source for factual research . . . . In litigation, pleadings and motions are served and filed electronically, evidence is presented digitally in the courtroom, and e-discovery has become a central part of practice.”).
90. Caron & Gely, supra note 65, 558-62 (discussing the use of “clickers” to facilitate active learning).
92. Courses in coding and other forms of technological proficiency can supplement students’ knowledge of LexisNexis and Westlaw, particularly if students will become sole practitioners or small law firm members and responsible for developing and maintaining websites.
Uncharted possibilities also exist with respect to using technology to promote mobile learning.93 Students born in the digital age engage in a wide variety of learning methods, from gaming, to videos, to podcasts. These methods are sometimes live and synchronous, with a professor talking directly to students, but are just as likely to be mobile and asynchronous, including podcasts, blogs, discussion posts, and the like.

G. USE ACTIVE LEARNING METHODS ACROSS THE CURRICULUM TO TRANSITION STUDENTS

The learning science literature shows that students learn better if they are active rather than passive.94 They enjoy the experience more as well. Active learning includes the traditional Socratic method. Yet there are many alternatives that could improve the educational process, including experiential approaches.95 Experiential education is often misunderstood. It is not simply learning by experience; people usually will learn something from experience, but it might not be the learning sought. Instead, experiential education refers to using experience in a directed and specific fashion to achieve certain outcomes—from learning theory to transferring knowledge to new situations.96 Professor David Kolb’s well-known four-step experiential learning cycle commences with experience, then proceeds to reflection, continues to abstraction and generalization, and finally advances to the application of theory

93. See Vinson, supra note 84, at 40 (discussing the use of podcasts for out-of-class learning and “clickers” for active in-class learning).

94. See, e.g., Michael Prince, Does Active Learning Work? A Review of the Research, 93 J. ENGINEERING EDUC. 223 (2004) (collecting studies demonstrating the effectiveness of active learning, collaborative learning, cooperative learning, and problem-based learning). Prince defines active learning as:

any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing, . . . . The core elements of active learning are student activity and engagement in the learning process. Active learning is often contrasted to the traditional lecture where students passively receive information from the instructor.

Id. at 1.

95. Schools such as Northeastern University School of Law and Elon University School of Law emphasize experience as part of the learning process. See Experiences, ELON L., https://www.elon.edu/law/academics/experiences/index.html (last visited August 30, 2015); The Leader in Experiential Education, NE. U. SCH. L., http://www.northeastern.edu/law/experience/ (last visited August 30, 2015).

to new circumstances. These steps can be readily utilized in legal education classes with a wide variety of objectives, from learning doctrine to advancing understanding about professional identity and its formation.

Experiential methodologies often have been associated with clinical education, not doctrinal courses. This, too, can change with the deployment of an active learning model, especially when legal education is viewed as a transitioning process from student to lawyer, and not simply as an academic "thinking" ground. Professor David Kolb viewed active learning as completely compatible with the acquisition of knowledge when he described learning as "the process whereby knowledge is created through the transformation of experience." This notion is consonant with a legal education that is mindful of improving students' legal analytical abilities in order to solve active problems of clients and others.

The use of experiential learning is especially helpful with the formation of professional identity. Talking about professional identity formation often will be less useful to students than practicing and engaging in identity formation through experience. This is because professional identity is carved from a blending of experience, cognitive reflection, and a directed understanding about that experience. Students who will

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97. Kolb, supra note 96, at 50-60; see also Chris Manolis et al., Assessing Experiential Learning Styles: A Methodological Reconstruction and Validation of the Kolb Learning Style Inventory, 23 Learning & Individual Differences 44, 44 (describing Kolb's model as "the most influential").


100. I use several exercises in criminal law and procedure classes to let students explore for themselves the moral geography underlying criminal rules and principles. I circulate among the small group discussions and then have a full-class discussion, careful to make sure all of the students have participated and had the positive learning environment to discuss and wrangle with the issues. In particular, these experiences give students the opportunity to wrestle with line-drawing and a significant premise—that professional identity and ethics are what occurs when no one else is looking and often are internally generated, sometimes quickly on-the-spot. The $20 Bill. The premise: As the students are walking home from the library late one night after studying they come upon the local ATM machine. It has a $20 bill sticking out of it. No one is in sight and the camera is broken. The question: Who would take the $20 bill and why? Students provide differing responses and even more rationales. I have heard the following explanations for taking the money:
confront professionalism issues throughout their careers could begin doing so in controlled environments in school, using the experiential model as a tool.

III. CONCLUSION

Legal education is at a crossroads. The firmly entrenched pedagogy that teaches students to “think like lawyers” no longer appears to suffice in the current volatile, uncertain, and globalized legal marketplace. This Article offers some ideas about how to take advantage of a strategic opportunity for change. These ideas include interconnecting the moving parts of courses and professors to work as a single unit using learning science across the curriculum; valuing teaching and mentoring as students transition to becoming lawyers; utilizing performance tracking, a type of diagnostic and formative assessment, as a regular, prompt and effective learning tool; enhancing the role of technology; and layering active and experiential education across the curriculum. While these changes might not suddenly turn around the aircraft carrier that is legal education, the new approach might allow the educational process to become a more nimble adaptation of its old familiar self.

someone will take it; I might as well; it really is no one’s when it is sticking out like that; the bank is insured; the bank won’t miss it; someone was foolish in leaving it and they need to be taught a lesson; finder’s keepers. Those who don’t take it provide differing explanations as well: the person who left it may need it; it is not mine; I would feel guilty; I don’t want to get caught; stealing is wrong. I then change the hypo: It is now $500 sticking out of the machine. Would that make a difference?

After discussing the individual results, I then extrapolate it to a discussion of what lawyers ought to do and are responsible for doing. I ask whether and how money affects the profession. I ask what their goals are involving money and what are proper ways to reach those goals.