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From Socrates to Selfies: Legal Education and the Metacognitive Revolution

Jaime Alison Lee

FROM SOCRATES TO SELFIES: LEGAL EDUCATION AND THE METACOGNITIVE REVOLUTION

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ABSTRACT

Metacognitive thinking, a methodology for mastering intellectually challenging material, is revolutionizing legal education. Metacognition empowers people to increase their mental capabilities by discovering and correcting flaws in their thinking processes. For decades, legal educators have employed metacognitive strategies in specialized areas of the curriculum. Today, metacognition has the potential to transform legal education curriculum-wide.

Current scholarship is rich, generous, and creative in exploring how metacognition can be used to enrich specific sectors of the law curriculum. What is missing, however, is a holistic examination of how metacognitive theory and practice have developed across these different sectors, with the purpose of improving the theoretical framework and increasing its effectiveness. This Article comprehensively reviews the many facets of the metacognitive revolution, drawing parallels for the first time between experiential and non-experiential pedagogies and further relating them to recent accreditation mandates. It then addresses the likelihood that an important phase of the metacognitive revolution—the mandate to implement formative assessments with meaningful feedback—might be widely but poorly implemented, and thus cause more harm than benefit. To mitigate this problem, the Article suggests two new ways of conceptualizing what constitutes "meaningful feedback." The first is that for feedback to be meaningful, it must be accompanied by metacognitive reflection. The second is that feedback takes on meaning when prefaced by the deconstruction and

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abstraction, or "naming," of legal thinking processes. Both insights emerge only upon a holistic examination of metacognitive theory and practice as they have developed across disparate sectors of the legal curriculum.

TABLE OF CONTENTS

INTRODUCTION

A revolution is afoot in legal education that is both momentous and misunderstood. Metacognitive thinking, an intellectual strategy for mastering complex material that focuses on planning, performance, self-reflection, and self-correction, is dramatically reshaping the law curriculum. Metacognitive theory is supported by decades of research[1] and holds great promise to improve core legal competencies and to enhance good judgment, intelligence, lifelong learning skills, and mental health.[2] Metacognitive techniques have long been employed in pedagogies focused on legal writing, experiential learning, some first-year courses, and other curricular specialties, and their growing influence is demonstrated by the recent accreditation mandate to use formative assessments (that is, mid-course evaluation tools) throughout the curriculum.[3] This mandate has the potential to broadly transform legal education. However, the theoretical framework for metacognition in legal education is incompletely developed, which may cause this phase of the metacognitive revolution to ultimately fail in its goals. To address this vulnerability, this article undertakes a holistic examination of metacognitive theory and practice across different sectors of the law curriculum, with the aim of discovering guiding principles for the effective use of metacognition in legal education. The article highlights a number of these guiding principles, including two new approaches to the formative assessment mandate.[4]

Metacognitive theory holds that human performance improves when people strategically plan and reflect on past

1. *See, e.g.*, Michael Hunter Schwartz, *Teaching Law Students to Be Self- Regulated Learners*, 2003 MICH. ST. DCL L. REV. 447 (2003) [hereinafter Schwartz I] (detailing extensive studies in the effectiveness of self-learning curriculums for law school instruction); *see also* Cheryl B. Preston et al., *Teaching "Thinking Like a Lawyer": Metacognition and Law Students*, 2014 BYU L. REV. 1053, 1062 (2015); Anthony Niedwiecki, *Teaching for Lifelong Learning: Improving the Metacognitive Skills of Law Students Through More Effective Formative Assessment Techniques*, 40 CAP. U. L. REV. 149, 150 (2012) [hereinafter Niedwiecki I].

2. *See infra* Part II.

3. *See infra* Section I.D.2.

4. *See infra* Part III.

experiences in order to improve future performance.[5] The fundamental idea is that people learn, think, and perform more effectively when they deliberately map out their intellectual choices, evaluate the strengths and weaknesses of their thinking processes, and purposefully adjust those thought patterns in ways intended to improve their outcomes.[6] The metacognitive thinker masters material more deeply and more efficiently, develops a lifelong ability to conquer new problems, improves her judgment, and even increases her intelligence.[7] In short, if a metaphorical road represented a person's learning trajectory, with a starting line marked "novice" and a finish line marked "mastery," the metacognitive approach shortens the length of that road.[8]

The metacognitive approach holds great promise to enhance every person's intellectual capacity, regardless of her prior academic credentials or skill levels. Metacognition can enhance any type of legal expertise, whether the goal is to understand the Erie doctrine or the business judgment rule; conquer the traditional issue-spotting exam; craft an opening statement for a jury; or explore how the law interacts with other societal forces. Metacognitive theory has been used in a growing number of contexts within the legal academy, including traditional doctrinal courses,[9] a first-year class devoted to legal reasoning and self-regulated learning,[10] legal research and writing courses,[11]

5. *See infra* Section I.A.

6. *See infra* Section II.A.

7. *See infra* Section II.A.

8. Barbara Lentz, *Incorporating Reflection into Law Teaching and Learning*, *in* EXPERIENTIAL EDUCATION IN THE LAW SCHOOL CURRICULUM 17, 18–21 (Emily Grant, Sandra Simpson & Kelly Terry eds., 2018); *see also, e.g.*, E. Scott Fruehwald, *How to Help Students from Disadvantaged Backgrounds Succeed in Law School*, 1 TEX. A&M L. REV. 83, 107 (2013) (explaining that students who are not taught metacognitive thinking skills are less efficient learners than students who have those skills).

9. *See, e.g.*, Carol Springer Sargent & Andrea A. Curcio, *Empirical Evidence That Formative Assessments Improve Final Exams*, 61 J. LEGAL EDUC. 379, 384 (2012).

10. *See* Schwartz I, *supra* note 1, at 484.

11. *See, e.g.*, Anthony S. Niedwiecki, *Lawyers and Learning: A Metacognitive Approach to Legal Education*, 13 WIDENER L. REV. 33, 54 (2006) [hereinafter Niedwiecki II]; Nancy Millich, *Building Blocks of Analysis: Using Simple "Sesame Street Skills" and Sophisticated Educational Learning*

experiential classes,[12] legal ethics,[13] academic support,[14] professional and moral identity development,[15] and in the context of teaching methods focused specifically on millennials,[16] the problem method,[17] and students from disadvantaged backgrounds.[18] Metacognition's influence is so broad that many of its principles are now embedded into the American Bar Association (ABA)'s accreditation standards.[19]

What makes the metacognitive approach "revolutionary"? Understanding its significance requires a brief look at what the revolution is upending. For nearly 150 years, the primary methodology for legal education has been the Langdellian case

Theories in Teaching a Seminar in Legal Analysis and Writing, 34 SANTA CLARA L. REV. 1127, 1128 (1994); Kristina L. Niedringhaus, *Teaching Better Research Skills by Teaching Metacognitive Ability*, 18 PERSPECTIVES: TEACHING LEGAL RESEARCH AND WRITING 113, 113 (2010).

12. *See infra* Section I.E. This article employs the terms "experiential" and "non-experiential" merely for convenience, with the former referring to clinical, externship, and simulation courses. *See* AM. BAR ASS'N, STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS 2018–2019 § 304(a) (2018) [hereinafter 2018–2019 ABA STANDARDS]. For an analysis of the intellectual incoherence of such labels "doctrine" vs. "skills" courses and their harmful effects, see Linda H. Edwards, *The Trouble with Categories: What Theory Can Teach Us About the Doctrine-Skills Divide*, 64 J. LEGAL EDUC. 181, 210–27 (2014); *see also* Margaret Martin Barry, Jon C. Dubin & Peter A. Joy, *Clinical Education for This Millennium: The Third Wave*, 7 CLINICAL L. REV. 1, 27–30 (2000) (discussing how the divide between "experiential" and other courses often determines faculty status and compensation, which in turn affects how academic institutions are governed).

13. *See, e.g.*, Filippa M. Anzalone, *Education for the Law: Reflective Education for the Law*, *in* HANDBOOK OF REFLECTION AND REFLECTIVE INQUIRY: MAPPING A WAY OF KNOWING FOR PROFESSIONAL REFLECTIVE INQUIRY 85, 93 n.53 (Nona Lyons ed., 2000).

14. *See, e.g.*, Louis N. Schulze, Jr., *Using Science to Build Better Learners: One School's Successful Efforts to Raise Its Bar Passage Rates in an Era of Decline*, 68 J. LEGAL EDUC. 230, 231–32 (2019).

15. *See, e.g.*, E. Scott Fruehwald, *Developing Law Students' Professional Identities*, 37 U. LA VERNE L. REV. 1, 5 (2015); Christine Cerniglia Brown, *Professional Identity Formation: Working Backwards to Move the Profession Forward*, 61 LOY. L. REV. 313, 317 (2015); Timothy Casey, *Reflective Practice in Legal Education: The Stages of Reflection*, 20 CLINICAL L. REV. 317, 348–50 (2014).

16. *See, e.g.*, Renee Nicole Allen & Alicia R. Jackson, *Contemporary Teaching Strategies: Effectively Engaging Millennials Across the Curriculum*, 95 U. DET. MERCY L. REV. 1, 15–16 (2017); Ruth Vance & Susan Stuart, *Of Moby Dick & Tartar Sauce: The Academically Underprepared Law Student & the Curse of Overconfidence*, 53 DUQ. L. REV. 133, 148–61 (2015); Shailini Jandial George, *Teaching the Smartphone Generation: How Cognitive Science Can Improve Learning in Law School*, 66 ME. L. REV. 163, 180–82 (2013); Jason S. Palmer, *"The Millennials Are Coming!": Improving Self-Efficacy in Law Students Through Universal Design in Learning*, 63 CLEV. ST. L. REV. 675, 696–99 (2015).

17. *See* Shirley Lung, *The Problem Method: No Simple Solution*, 45 WILLAMETTE L. REV. 723, 758–59 (2009).

18. *See* Fruehwald, *supra* note 8, at 114–15.

19. *See infra* Section II.D.

method, which dissects judicial opinions in order to deduct universal legal principles,[20] coupled with Socratic questioning techniques. Critics of these traditional methods argue that they not only teach the wrong material,[21] but also that they teach it poorly.[22] Professor Michael Hunter Schwartz critiques the Socratic method as expecting students to "self-teach"[23] and to learn "vicariously,"[24] in that

> law professors structure classroom interactions as one-on-one, professor-on-student dialogues. Professors expect that the other students in the classes will learn by watching these interactions . . . . Vicarious instruction assumes some sort of rebound learning effect; somehow the professor's comments, questions, and corrections of the selected student not only will help the selected student, but will rub off on all the students in the class. This method also presupposes that the non-

20. *See, e.g.*, Robert Rubinson, *The Holmes School of Law: A Proposal to Reform Legal Education Through Realism*, 35 B.C. J.L. & SOC. JUST. 33, 48 (2015).

21. For instance, a primary critique of the Langdellian method argues it fails to teach practical skills as well as "ways of thinking within and about the role of lawyers—methods of critical analysis, planning, and decision-making," and thus inadequately prepares students for the practice of law. *See* Barry et al., *supra* note 12, at 34.

22. *See e.g.*, Sheila I. Vélez Martínez, *Towards an Outcrit Pedagogy of Anti-Subordination in the Classroom*, 90 CHI.-KENT L. REV. 585, 593 ("A long line of articles and reports by scholars, foundations, and ABA special committees has consistently highlighted the need for pedagogical diversification in law school."); *see also* Rubinson, *supra* note 20, at 49.

23. Michael Hunter Schwartz, *Teaching Law by Design: How Learning Theory & Instructional Design Can Inform & Reform Law Teaching*, 38 SAN DIEGO L. REV. 347, 350 (2001) [hereinafter Schwartz II].

24. *Id.* at 351. For a similar critique of the Socratic method as "implicit teaching," see Niedwiecki II, *supra* note 11, at 33–34 ("Most professors probably believe that [Socratic] instruction helps students to 'think like a lawyer,' with the goal being that the students will eventually ask themselves similar questions when they analyze cases on their own . . . . [In reality, t]his often *prevents* a student from being able to fully transfer the in-class experience to new situations [because] the purpose of the questioning is never explicitly explained to the students, and there is generally no questioning that delves into the explicit thought processes of the students." (emphasis added)). *See also* Martínez, *supra* note 22, at 591 (noting that the Socratic method, as implemented by many law faculty, omits the important act of engaging students in knowledge production); Lentz, *supra* note 8, at 27 (explaining that as implemented, Socratic dialogue is merely questions, but without reflection or learning). For a defense of traditional law teaching methods, see Gary Shaw, *A Heretical View of Teaching: A Contrarian Looks at Teaching, the Carnegie Report, & Best Practices*, 28 TOURO L. REV. 1239 (2012).

> selected students know to play along, answering the queries in their heads and learning to think like lawyers by experiencing vicariously what the speaking student actually experiences.[25]

Schwartz likens this traditional law classroom experience to trying to learn how to swim by watching other people jump in a pool one-by-one and try to swim with no prior training.[26] He contrasts this method with proper swim lessons that provide explicit instruction on successful kicking and breathing techniques and offer every student ample personal time in the pool to practice, get feedback, and work on improving their skills.[27] Schwartz's analogy demonstrates why frequently-recommended reforms for legal education include clearer instruction, more opportunities for evaluation and feedback, and more engaged learning methodologies, through which students do not seek to learn passively but instead actively participate in generating their own knowledge.[28] All of these reforms are part of the metacognitive approach.

Critics of traditional law teaching methods also point out that those methods have never been proven effective,[29] unlike the metacognitive approach, which is backed by decades of research. Professor Schwartz notes that hundreds of studies link

25. *See* Schwartz II, *supra* note 23, at 351.

26. *Id.* at 354–55.

27. *Id.* at 356.

28. *See id.* at 376, 380. For discussions of passive learning, see Elizabeth M. Bloom, *A Law School Game Changer: (Trans)formative Feedback*, 41 OHIO N.U. L. REV. 227, 236–37 (2015) (discussing the passive role that students play by merely receiving feedback rather than taking a participatory role in the feedback process) [hereinafter Bloom I]; Carolyn Grose, *Beyond Skills Training, Revisited: The Clinical Education Spiral*, 19 CLINICAL L. REV. 489, 494–95 (2013) (discussing the passive "'banking concept of education' where students are seen as empty vessels into which teachers pour their knowledge" (quoting William P. Quigley, *Introduction to Clinical Teaching for the New Clinical Law Professor: A View from the First Floor*, 28 AKRON L. REV. 463, 474 (1995))).

29. *See, e.g.*, Andrea A. Curcio, Gregory Todd Jones & Tanya M. Washington, *Does Practice Make Perfect? An Empirical Examination of the Impact of Practice Essays on Essay Exam Performance*, 35 FLA. ST. U.L. REV. 271, 272–74 (2008) (discussing the lack of empirical evidence behind traditional legal pedagogy); Martínez, *supra* note 22, at 595 (arguing that the effectiveness of the case-dialogue method has "never been demonstrated").

aspects of metacognition to better educational outcomes,[30] and he and other scholars have also connected it to other learning theories, including cognitivism (focusing on how the brain processes and stores learning)[31], constructivism (emphasizing the learner's personal experience and the active construction and negotiation of meaning),[32] social cognitivism (exploring the relationship of learning and social interactions),[33] experiential learning theory,[34] transfer theory,[35] and andragogical theory (focusing specifically on how adults learn).[36]

Educational experts in other disciplines have long embraced metacognition[37] and there is good reason that legal experts are now exploring it. The metacognitive approach trains thinkers to not only more deeply and efficiently master core legal skills, but it also especially succeeds in developing the ability to transfer learning from one context to another.[38] This is especially useful for legal thinking, which requires that abstract, complex concepts be transferred to an endless variety of new contexts in ways that are highly flexible and creative, yet also retain

30. For an extensive review of the literature, see Schwartz I, *supra* note 1, at 472–86. *See also* Preston et al., *supra* note 1, at 1062 (noting that metacognition is regularly covered in general education and educational psychology textbooks, handbooks, and journals and "has become an extremely important concept in education scholarship"); Margaret Y. K. Woo & Jeremy R. Paul, *From the Editors*, 65 J. LEGAL EDUC. 705, 705–06 (2016) (introducing the 2016 volume of the Journal of Legal Education dedicated almost exclusively to the topic of metacognition).

31. *E.g.*, Schwartz II, *supra* note 23, at 371–72; Schwartz I, *supra* note 1, at 454.

32. *E.g.*, Schwartz II, *supra* note 23, at 380; Schwartz I, *supra* note 1, at 454.

33. *E.g.*, Elizabeth M. Bloom, *Teaching Law Students to Teach Themselves: Using Lessons from Educational Psychology to Shape Self-Regulated Learners*, 59 WAYNE L. REV. 311, 316 (2013) [hereinafter Bloom II].

34. *See* Lentz, *supra* note 8, at 28; *see also infra* Section I.E.

35. *See*, *e.g.*, Tonya Kowalski, *True North: Navigating for the Transfer of Learning in Legal Education*, 34 SEATTLE U.L. REV. 51, 52–53 (2010).

36. *See, e.g.*, Frank Bloch, *The Andragogical Basis for Clinical Legal Education*, 35 VAND. L. REV. 321, 327 (1982) (citing psychologist Malcolm Knowles); Casey, *supra* note 15, at 328–31 (discussing other learning theories used to explain behavior observed in the clinical classroom that was not addressed by Bloch's thesis); Niedwiecki II, *supra* note 11, at 47.

37. *See, e.g.*, Niedwiecki II, *supra* note 11, at 35 (Metacognition is "widely accepted and universally applied in many educational environments."); *see also* Preston et al., *supra* note 1, at 1062. The classic learning taxonomy produced by Benjamin Bloom, commonly referred to as "Bloom's Taxonomy," was revised in 2001 to include metacognition. Allen & Jackson, *supra* note 16, at 25.

38. *See infra* Section II.A.3.

analytical integrity.[39] Metacognition training holds significant promise to foster greater excellence in legal thought, increase bar passage rates, heighten satisfaction among clients and employers, as well as to increase personal motivation, engagement, and mental health among law students and practitioners.[40]

For all of these reasons, the metacognition revolution is changing what law schools teach and how they teach it. Recent scholarship is brimming with creative, well-designed proposals that are carefully grounded in both learning theory and experience and that generously share insight into how metacognition can be applied to legal studies.[41] Much work remains to be done, however, to fully understand how metacognition is best applied in the context of legal thinking.

What is missing from the current body of literature is a holistic analysis of metacognitive theory and practice across different sectors of the law curriculum, with the purpose of revealing points of weakness and ways to correct them. This Article undertakes this project. The next two parts of this Article explain the metacognitive approach, demonstrate how broadly and deeply it is embedded into the legal curriculum, and discuss its importance. Part I details the steps in metacognitive thinking and illustrates how this approach has been used in courses for first-year students, legal writing, and experiential education, among others, and explains how industry-wide reform efforts also embrace elements of the metacognitive approach. Part II then explains how the metacognitive approach benefits legal education, drawing on learning and educational psychology theory to explain its power to improve the quality of legal thinking and the mental health of law students and lawyers.

Part III examines how the spreading influence of metacognition also carries risks, and how these risks can be addressed. In

39. *See infra* Section II.A.3.

40. *See infra* Section II.B.

41. *See, e.g.*, Schwartz II, *supra* note 23, at 383–84. Literature cited throughout this article contains many concrete examples of metacognitive techniques.

particular, the ABA now requires law schools to incorporate a fundamental component of the metacognitive approach, formative assessment with meaningful feedback, throughout the entire curriculum.[42] This presents an opportunity for broad curricular transformation based on metacognitive principles. An inadequate understanding of what constitutes "meaningful feedback," however, may severely undermine the effectiveness of the ABA mandate.

Current literature seeks to cure this limitation primarily by improving the type and form of feedback provided, particularly with respect to the use of "model" answers in connection with traditional midterm issue-spotting exams.[43] This is an appropriate and necessary response. This article proposes, however, two new ways to conceptualize what meaningful feedback is. First, it argues that improved feedback techniques must be more deliberately selected with metacognitive purposes in mind, and that second, that better feedback must also be accompanied by another metacognitive strategy: the deconstruction and abstraction, or "naming," of legal thinking processes. These two proposals are intended to prevent weak implementation of the meaningful-feedback mandate and to maximize the benefits of the metacognitive revolution.

I. THE METACOGNITIVE REVOLUTION AND ITS COMPONENTS

This section explains the metacognitive approach and provides concrete examples of how it is currently implemented in the law school curriculum. It further discusses how metacognitive principles were embraced by influential curricular reform proposals published decades ago, and how these principles today are reflected in accreditation standards set by the ABA. This discussion highlights core principles reflected in the many different components of the metacognitive revolution, including courses focused on first-year students, experiential learning,

42. 2018–2019 ABA STANDARDS, *supra* note 12, § 303(a)(3).

43. *See, e.g.*, Bloom I, *supra* note 28, at 242.

and legal writing. In addition, since this is one of very few articles to meaningfully incorporate clinical theory and practice into discussions about metacognition, this section closes with a brief review of the close alignment between clinical theory and metacognitive theory.

A. *The Metacognitive Approach*

Broadly speaking, "[c]ognition is the way in which we think about, approach, obtain, and process information. Metacognition is the study of how we cognate."[44] Metacognition requires a person to closely examine how she personally approaches an intellectually challenging situation, and to strategically alter her thinking patterns and behavior in order to increase their effectiveness.[45] A person with strong metacognitive skills actively defines her intellectual goal; plans out strategies for achieving the goal; attempts to implement those strategies; monitors whether her attempt was successful or not; identifies flaws in her thinking and behavior that hampered her success; and adjusts her thought processes and actions in order to improve her outcome next time.[46] In sum, metacognition "refers to the processes used to plan, monitor, and assess one's understanding and performance,"[47] and to consciously alter one's thinking and behavior, to better succeed at the task at hand.

How does a metacognitive thinker gain such an acute level of self-awareness and successfully channel it into intellectual self-improvement? A review of the literature focused on the context of legal education reveals a twelve-step process that this article refers to as "the metacognitive approach."[48] When faced with an

44. Paula Lustbader, *Construction Sites, Building Types, and Bridging Gaps: A Cognitive Theory of the Learning Progression of Law Students*, 33 WILLAMETTE L. REV. 315, 324 (1997).

45. Allen & Jackson, *supra* note 16, at 14.

46. *Id.*

47. *Id.*

48. The term "metacognition" has been defined in many ways, and its meaning continues to evolve. *E.g.*, Robin A. Boyle, *Employing Active-Learning Techniques & Metacognition in Law School: Shifting Energy from Professor to Student*, 81 U. DET. MERCY L. REV. 1, 8 (2003); Patti Alleva & Jennifer A. Gundlach, *Learning Intentionally and the Metacognitive Task*, 65 J. LEGAL EDUC. 710,

intellectual task—such as reading or briefing a case, taking a midterm, writing a motion, or meeting with a client[49]—a strong metacognitive thinker does the following:

1. Identifies the goals or desired outcomes of the upcoming activity;[50]

2. Identifies what resources she already possesses that may help her achieve those goals, along with when and how to use these resources. Resources can include prior personal knowledge and experiences, intellectual and emotional skills,[51] and techniques for achieving personal productivity;[52]

3. Identifies additional resources that may help her achieve the goals, but that she does not yet possess; and identifies how to access those resources, and when and how to use them;

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714 n.14, 722 (2016); Niedwiecki I, *supra* note 1, at 155. The twelve steps of the metacognitive approach, as outlined above, are extrapolated from various sources that define the subsets of the metacognitive or self-regulated learning processes. The twelve-step process articulated above organizes these many components into a single list. *See, e.g.*, DENISE RIEBE & MICHAEL HUNTER SCHWARTZ, PASS THE BAR!, 78–80 (2006); Schwartz I, *supra* note 1, at 452; Casey, *supra* note 15, at 322; Preston et al., *supra* note 1, at 1058; Bloom II, *supra* note 33, at 313, 316–17; Niedwiecki II, *supra* note 11, 41–44.

49. While the performance of legal skills or tasks is viewed by some as only occurring in experiential or legal research and writing experiences, the metacognitive approach views any performance of a component of legal analysis as an experience from which one can learn. This includes the performance of tasks during, or in preparation for, a non-experiential course, such as pre-class reading, case briefing, participating in class dialogue, studying for quizzes or exams, taking an exam, etc. *See, e.g.*, Schwartz II, *supra* note 23 (applying the metacognitive approach to many facets of law school performance to teach students how to become self-regulated learners).

50. *See* Schwartz I *supra* note 1, at 453.

51. Examples of emotional skills include the ability to stay motivated, and the ability to combat feelings that may hinder progress toward the goal, such as frustration, anxiety, or boredom. *See* Schwartz I, *supra* note 1, at 456, 459. "[L]earning involves not only cognition and metacognition, but an affective aspect as well. Deep thinking about one's own thinking necessarily implicates awareness and monitoring of thoughts *and* emotions. Correspondingly, teaching that does not engage the affective 'may result in relatively incomplete, temporary, and unsophisticated learning.'" Alleva & Gundlach, *supra* note 48, at 724 (footnote omitted).

52. Productivity techniques may include strategies for, *inter alia,* focusing one's attention deeply on the task at hand, minimizing distractions, and allocating one's time effectively among different tasks. *See, e.g.*, Bloom II, *supra* note 33, at 330; Schwartz I, *supra* note 1, at 458–59.

4. Identifies personal weaknesses or barriers that may hinder progress toward the goals;
5. Identifies an array of possible strategies that she could use to achieve the goals;
6. Selects the specific strategies that she believes will be most effective and efficient;
7. Performs the task, using the selected strategies;
8. Collects information that may indicate whether the performance was successful or not, including information generated by external sources (e.g., a test grade or a judge's ruling) as well as information generated by the actor herself;
9. Identifies the specific characteristics of a performance that achieves the goals identified in step 1, as well as the specific characteristics of a performance that fails in those goals;
10. Evaluates specific ways in which her own performance either met or failed to meet the goals;
11. Identifies what contributed to both the successful and unsuccessful aspects of her performance; and
12. Identifies how she should adjust or adapt her thinking and behavior in order to improve her performance in the future.

Once the metacognitive thinker reaches step 12, she starts the cycle anew at step 1, redefining her learning goals based on what she has just experienced. As she proceeds once again through the entire cycle, she applies what she learned from her prior experience to further modify her thinking and actions. The more often that the cycle is repeated, the more opportunities she has to refine her approach and to achieve greater success. The actual performance of the task at hand serves as the central catalyst for learning, and careful attention to her own thought

processes and behaviors empowers her to self-improve. In sum, a strong metacognitive thinker carefully plans out, evaluates, and modifies her thinking processes and behaviors, with the explicit purpose of improving her outcomes.

The metacognitive approach may seem to some like a common sense or "natural" learning process, but it is in fact highly counterintuitive and unnatural for most, since it asks people to question their instinctual thinking patterns and behaviors, and to affirmatively replace their default patterns with different ones. Thus, "'[m]etacognition is not an automatic process,' but is rather, the result of an active and constant manipulation of one's cognitive process."[53] Consequently, the metacognitive approach is not innate or easily adopted, but must be explicitly taught,[54] consciously engaged in, and repeatedly practiced in order to be successful.[55]

Accordingly, law students need careful, step-by-step training to build and develop their metacognitive skills over time.[56] The twelve steps will eventually become more automatic and seamless (for example, a very experienced trial lawyer can absorb feedback from a witness, judge, and jury simultaneously, and accordingly can alter her cross-examination strategies mid-

53. Niedwiecki II, *supra* note 11, at 42 (*quoting* Rebecca Jacobson, *Teachers Improving Learning Using Metacognition with Self-monitoring Learning*, 111 EDUC. 579, 581 (1998)).

54. *See, e.g.*, Bloom II, *supra* note 33, at 329 ("I work to provide my students with 'pedagogical context' by being "explicit and transparent about teaching metacognition." (internal citations omitted)); Fruehwald, *supra* note 8, at 109.

55. "[S]uccessfully training students to be metacognitive thinkers requires time and repetition." Adam Lamparello, *The Integrated Law School Curriculum*, 8 ELON L. REV. 407, 434 (2016) (discussing a writing program that runs over the course of six semesters).

56. *See, e.g.*, Preston et al., *supra* note 1, at 1062–73 (discussing a study demonstrating that entering law students have poor metacognitive skills); Casey, *supra* note 15, at 350–51 ("[T]hinking in action is particularly difficult for [student] practitioners because they do not have experience to guide them in deciding what to consider," such that teaching the reflective process through *post-hoc* examination, which "decoupl[es] . . . thought and action," is critical "to develop the capacity of the new lawyer to think in action" and to "instill a default preference for reflection."). "Millennials" may be particularly in need of formal training in order to engage in self-reflection. *See e.g.*, Alistair E. Newbern & Emily F. Suski, *Translating the Values of Clinical Pedagogy Across Generations*, 20 CLINICAL L. REV. 181 (2013); Emily A. Benfer & Colleen F. Shanahan, *Educating the Invincibles: Strategies for Teaching the Millennial Generation in Law School*, 20 CLINICAL L. REV. 1 (2013).

stream or "in real time"[57]). However, such metacognitive mastery usually only comes after many years of professional practice. For law students lacking those years of experience, metacognitive skills must be taught explicitly and practiced repeatedly. The following section discusses commonalities in how these skills are taught by metacognitive experts in various areas of the curriculum.

B. *The Recursive Cycle*

The most well-developed models for teaching metacognition in law school break it down into a clearly articulated, three-phase cycle that occurs recursively over a period of study. Two very similar models are discussed below, one that is designed for first-year students and refers to the three-phase cycle of "forethought, performance, and reflection."[58] The other model has been widely taught for decades in experiential courses and refers to a similar cycle of "plan, do, and reflect."[59]

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57. *See* Casey, *supra* note 15, at 350–51 ("The truly reflective practitioner engages in contemporaneous thinking in action…[she] has the capacity to analyze the context and adapt the performance while the decision is still under consideration.").

58. Schwartz I, *supra* note 1, at 454 (emphasis omitted).

59. *See generally* Kimberly O'Leary, *Evaluating Clinical Law Teaching-Suggestions for Law Professors Who Have Never Used the Clinical Teaching Method*, 29 N. KY. L. REV. 491, 510 (2002) ("Many clinical professors find the heart of the course is in teaching students how to engage in the three-part process for their professional lives (developing action plans, executing those plans, reflecting on those plans)."); William P. Quigley, *Introduction to Clinical Teaching for the New Clinical Law Professor: A View from the First Floor*, 28 AKRON L. REV. 463, 477 (1995); Meredith Heagney, *Plan, Do, Reflect: Clinical Teaching at the Law School*, U. OF CHIC. L. SCH. (Apr., 22, 2013), https://www.law.uchicago.edu/news/plan-do-reflect-clinical-teaching-law-school. Externship pedagogy has similarly long emphasized a cycle of "Plan, Do, Reflect, Integrate," as memorialized in a leading textbook for externship courses, *Learning from Practice*, the second edition of which states as "its central theme [] teaching students how to learn from experience, how to become reflective practitioners." As the authors say, the text is infused with the "mantra-like method for reflective lawyering: Plan, Do, Reflect, Integrate." Erica M. Eisinger, *The Externship Class Requirement: An Idea Whose Time Has Passed*, 10 CLINICAL L. REV. 659, 672 (2004); *see also* J.P. OGILVY, LEAH WORTHAM, & LISA G. LERMAN, LEARNING FROM PRACTICE, 3 ("to maximize learning from experience, need to plan for the experience, have the experience, reflect on what happened, and integrate or synthesize what is been learned with existing knowledge and other sources of learning.") [hereinafter LEARNING FROM PRACTICE]. For a four-stage variation on this cycle, see, e.g., Nancy M. Maurer & Liz Ryan Cole, *Design, Teach, and Manage: Ensuring Educational Integrity in Field Placement Courses*, 19 CLINICAL L. REV. 115, 145–46 (2012).

Professor Michael Hunter Schwartz developed a groundbreaking two-week course for first-year students[60] that teaches a variety of skills that law students must master, such as identifying case holdings, understanding how lawyers "stretch" and "squeeze" precedent, and breaking down rules into subparts.[61] The course also explicitly teaches the benefits of the metacognitive approach, its step-by-step process, and how to engage in each step, with the goal of training students to become "self-regulated learners."[62] As students grapple with specific legal analysis skills, they are simultaneously guided through exercises that expose them to metacognitive techniques and strengthen their skills.[63] Tools of instruction include faculty modeling of the skills to be learned, practice questions and exams with feedback, as well as reflection, journaling, cooperative learning groups, attention to adaptive (regulating) behaviors, and attention to affective concerns that can hinder learning such as motivational factors and stress management.[64]

These exercises help students to plot out their learning strategies, aid them in evaluating whether they are properly learning the material, and encourage them to design and implement strategies for improvement.[65] The course takes place just before the traditional first-year curriculum begins, so students can apply these methods throughout their first-year doctrinal courses and beyond. Professor Schwartz also directed a task force focused on re-designing the traditional first-year curriculum to actively further the self-regulated learning process, with the goal of creating an integrated curriculum.[66]

60. Schwartz I, *supra* note 1, at 484. The course was first piloted in Fall of 2002 at Western State. *Id.* at 451.

61. MICHAEL HUNTER SCHWARTZ, EXPERT LEARNING FOR LAW STUDENTS *passim* (2d ed. 2015) [hereinafter SCHWARTZ III].

62. *See id.* at 4–5.

63. *See* Schwartz I, *supra* note 1, at 495–97.

64. *See id.* at 495–97 (discussing techniques and rationale for teaching the metacognitive approach); SCHWARTZ III, *supra* note 61.

65. Schwartz I, *supra* note 1, at 499–501.

66. *Id.*

Professor Schwartz's model presents the metacognitive approach as a 3-phased cycle of "forethought, performance, and reflection," which mimics the "basic, recurring, overarching instructional approach typical of successful self-regulated learning programs."[67] In the "forethought" phase, a student explores and prepares for the activity (steps 1-6 in the metacognitive approach as described above).[68] The student then performs the activity (step 7, above), such as briefing a case in preparation for class, taking a practice test, or drafting a written assignment.[69] Finally, the student reflects on and evaluates her performance (steps 8 through 11, above), both looking backward to examine what she did and whether she was successful or not, and looking forward to identify how she will fix flaws in her thinking and actions next time.[70] Then, the forethought-performance-reflection cycle begins again as she prepares for the next round of activity, applying the lessons culled from the prior experience to try to improve her outcomes.

Another curricular area that frequently refers to a three-phase process is experiential learning.[71] The "forethought, performance, and reflection" phases are more commonly referred to by experiential experts as "plan, do, reflect," but the phases are conceptually identical: first, students prepare for the task at hand, then they engage in the task, and finally they seek to understand their actions and the results, and to identify and implement ways to improve.[72]

The three-phase cycle works in an experiential course similarly to how it works in a nonclinical course. The main difference is that in a nonexperiential course, the cycle generally centers around the performance of a classroom task such as briefing a case or taking a midterm exam,[73] while in clinical

67. *Id*. at 491, 454–55.
68. *See id*. at 455–58.
69. *See id*. at 458–60.
70. *See id*. at 460–61.
71. *See supra* note 59.
72. *See supra* note 59.
73. *See, e.g.*, SCHWARTZ III, *supra* note 61, at 32.

settings the cycle centers around the performance of a lawyering activity, such as a client interview.[74] The initial planning phase for a client interview usually involves readings and seminar discussion exploring theoretical frameworks for interviewing along with concrete interviewing techniques.[75] These help students articulate their goals for the task: what do they hope to accomplish during the client interview? Why? How? Such questions aid in the first of the twelve steps, which is goal setting.[76]

The planning stage continues as students assess available resources, such as the client file and doctrinal knowledge learned in prior courses; determine if additional resources or research is necessary; and then use these resources to prepare a written interview strategy, including drafting specific questions they will ask the client. These activities correspond to the planning and task-performance steps of the process.[77]

Students then receive feedback on their research and interview plans and revise as necessary. This phase corresponds to the reflection stage,[78] with the cycle starting over again as the students re-consider their interview strategy, conduct additional legal and factual research, and revise their questions. They might also perform a mock interview, gain more feedback, and reflect on the experience, then once again revise their plans, completing yet another "plan, do, reflect" mini-cycle.

Once students are adequately prepared, they interview the actual client and afterward are guided through another post-performance reflection, during which they use their own self-assessment, any feedback from the client, and input from peers and faculty to evaluate how their performance succeeded or failed and why. The results of these reflections then help prepare them for their next performance, which may be a follow-up interview with the same client or a meeting with a new client, renewing the cycle once more and enabling students to

74. *See, e.g.*, O'Leary, *supra* note 59, at 496.

75. *See, e.g.*, *id.* at 496–97.

76. *See* Grose, *supra* note 28, at 497.

77. *See supra* Section I.A (discussing steps 2–7 of the metacognitive process).

78. *See supra* Section I.A (discussing steps 8–12 of the metacognitive process).

transfer lessons learned to a different context. Clinical educators employ the plan-do-reflect cycle in this way—repeatedly and extensively—for all types of lawyering activities, including legal research, legal writing of all forms, trials and hearing, negotiations, and so forth.[79]

C. *Reflective Questioning*

How are students taught to engage in the metacognitive approach? Whatever the underlying content being taught , the most prevalent technique for engaging students in metacognition is to ask carefully crafted reflective questions.[80] Faculty use reflective questioning to deliberately guide students to key issues that need attention—whether they are doctrinal issues, analytical thinking processes, or any other content that must be learned—while encouraging students to identify their own strengths and weaknesses and strategies for improvement, which is one of the hallmarks of metacognitive approach, as discussed further in Part II.

The simplest example of reflective questioning might merely focus student attention on the key steps of goal setting and self-improvement. Questions might include: "what do you hope to learn from the upcoming experience? What did you in fact learn from this experience? Why is this lesson relevant, and how will

79. *E.g.*, O'Leary, *supra* note 59; *see infra* Section I.C (providing examples of clinical teachers using reflective questioning to guide students through the three stages in the context of a trial and other lawyering activities).

80. For illustrative purposes, this section provides specific examples of metacognitive reflective questions already in use in the context of legal education. It does not, however, touch upon the extensive literature on reflection, which crosses many disciplines and addresses a voluminous range of issues. For a minute sampling of this literature, *see* DONALD SCHÖN, EDUCATING THE REFLECTIVE PRACTITIONER: TOWARD A NEW DESIGN FOR TEACHING AND LEARNING IN THE PROFESSIONS (1987); Elaine Surbeck et al., *Assessing Reflective Responses in Journals*, 47 EDUC. LEADERSHIP 25 (1991); Christopher Branson, *Improving Leadership by Nurturing Moral Consciousness through Students' Self-Reflection*, 45 J. EDUC. ADMIN. 471 (2007); Paul. J. Silva & Ann G. Phillips, *Evaluating Self-Reflection and Insight as Self-Conscious Traits*, 50 PERSONALITY & SOC. PSYCHOL. REV. 370 (2002); STEPHEN KEMMIS, ACTION RESEARCH AND THE POLITICS OF REFLECTION, IN REFLECTION: TURNING EXPERIENCE INTO LEARNING 139, 141 (David Boud et al. eds., 1985).

your new knowledge affect your future actions?"[81] Such questions may be sufficient for very simple learning activities, or for those whose metacognitive skills are already well-developed.

More comprehensive reflective questions are better suited for those engaging in complex material and/or who require training in the metacognitive process. Such questions walk students through each individual step of the metacognitive approach. For example, to help a student plan for producing a research memorandum or taking a midterm, faculty may ask her to:

- "determine what skills are called for and in what form,"
- "consider what resources are available, and"
- "think about what generalized information from [the present course] or other courses might aid her inquiry."[82]

Once a student has performed—for example, after she submits the draft memorandum or sits for the midterm—post-performance questions then guide her through the reflection stage. A student might be asked:

- to predict her grade or other external feedback that she will receive;
- to compare her prediction with the actual grade or feedback received;
- to assess why her prediction was accurate or inaccurate;
- to articulate which specific aspects of the activity she performed well, and which she did not perform well;

81. *See, e.g.*, Lentz *supra* note 8, at 30–32 (explaining how reflective questions help students achieve learning goals and giving examples of helpful questions).

82. Kowalski, *supra* note 35, at 58.

- to identify what contributed to those specific successes and failures; and
- to develop ways to address their shortcoming as she prepares for the next memorandum or exam.[83]

Such questions walk students through the processes of self-evaluation and self-improvement by focusing them on feedback from outside sources, but also heavily emphasize the generation of feedback by the students themselves.[84] They also encourage students to actively use this feedback to strategically and intentionally design strategies for self-improvement.[85]

Examples from the experiential learning context further demonstrate how reflective questioning guides students in actively generating much of their own metacognitive content. Ann Shalleck's seminal article on clinical supervision demonstrates this in the context of a faculty-student discussion during the early stages of trial preparation.[86] Questions might include:

- "What are the legal consequences of [certain facts presented by the client's case]? . . . Think back to what you know about remedies from other cases . . ."
- "What do you think the judge might think about the [] issues you're raising?"
- "Given the conflict you've identified [between your client's interests and the judge's interests], how can you appeal to values that help your client?"
- "[D]o you have a sense of which [witnesses] are the most important for your case theory?"

83. *See* SCHWARTZ III, *supra* note 61, at 242.

84. See, e.g., Kowalski, *supra* note 35, at 57–58.

85. *See, e.g., id.*

86. Ann Shalleck, *Clinical Contexts: Theory and Practice in Law and Supervision*, 21 N.Y.U. REV. L. & SOC. CHANGE 109, 117–23 (1994).

- "You have hard choices to make—how to pick witnesses and structure each direct examination . . . . Remember our class discussion about investigation and its relation to case theory. Think about how each piece fits with the story you're telling. When we meet next time, let's talk about other ideas you may have and what you've decided to do."[87]

These questions are carefully crafted to direct the students to grapple with the preparatory stages of the metacognitive process, including identifying goals for the upcoming task (e.g., anticipating potential doctrinal and judicial concerns), and identifying resources and strategies to meet those goals (e.g., doctrinal knowledge from prior courses and trial strategies previously covered in the clinical seminar, including techniques for the effective use of case theory, witnesses, and direct examination).

Clinical faculty also use reflective questioning to guide post-performance evaluation and self-improvement. Professor Beryl Blaustone developed a thoughtful six-stage feedback model that asks a student who has just completed a moot, simulation, or live-client performance to reflect first on their performance strengths, and then on their weaknesses, in each case followed by peer reflections and faculty feedback.[88] The model provides a rigorous, structured format for generating both internally- and externally-generated reflections to help the student evaluate her performance and consider improvements for next time.[89] Clinical faculty use many different types of reflective questioning to guide students through the planning, performance, and reflection stages of all manners of lawyering activities, including interactions with clients and opposing counsel, legal research and writing, community education and legislative work,

87. *Id.* at 117–21.

88. Beryl Blaustone, *Teaching Law Students to Self-Critique and to Develop Critical Clinical Self-Awareness in Performance*, 13 CLINICAL L. REV. 143, 144 (2006).

89. *Id.*

and various dispute resolution processes, such as mediations and negotiations.[90]

As these examples show,[91] both clinical and non-clinical educators use carefully crafted questions that intentionally require students to closely examine and articulate their own mental processes, thus engaging students deeply in generating their own learning. This is a hallmark of metacognitive approach and a key reason that it is so effective.[92]

In designing reflective questions, faculty must carefully consider what specific issues to direct students towards, factors such as the existing metacognitive skill level of the students and the complexity of the material being learned, and the appropriate format (e.g., in writing, via group or individual discussion, via polling, etc.).[93] Faculty must also consider the appropriate level of faculty review and oversight of metacognitive reflections, which may range from none (e.g., written answers that are never reviewed by faculty) to highly intensive (e.g., faculty provide multiple rounds of reflective questions on multiple drafts of court papers).

In sum, reflective questioning is a core metacognitive technique that can be implemented in ways ranging from relatively

90. *See infra* Section I.E.

91. Many other examples abound in the literature. For an example from the externship context, see LEARNING FROM PRACTICE, *supra* note 59, at 5–6 (proposing reflective questions for an extern who is drafting an order for a judge, such as "before you begin drafting the order, you will want to think through some personal goals for the project. . . . What specific skills you want to improve? What type of critique and feedback you want? You might discuss the task and review your learning goals with your faculty supervisor and seek the supervisor's input." After the "doing" stage of writing the order, the text suggests how one might "reflect, analyze, and integrate": after getting feedback from the judge, "you could talk to the judge's clerk to get another perspective. You could write a journal entry about your experience. You could talk to others or read articles about writing style or standards for reopening a default judgment. You can think about how to incorporate the judge's suggestions. . . . [S]ome reflection and analysis should be you to integrate your learning from this experience with prior knowledge to create new, or to modify existing common knowledge.")

92. *See infra* Section III.B.

93. *See, e.g.*, Niedwiecki II, *supra* note 11, at 64–68 (suggesting that faculty with limited time to spend on metacognitive strategies can use technology such as learning blogs, message boards, comment functions, and online assessments).

simple[94] to highly intensive, depending on the circumstances. It can also be supplemented with other techniques, such as requiring students to draft their own metacognitive questions, take quizzes focused on metacognition, and articulate their revised understanding of the material after engaging in reflection.[95] Further examples of detailed, well-designed metacognitive exercises that are adaptable to many contexts can be found in Professor Schwartz's textbook for incoming first-year students[96] and elsewhere throughout the literature.

D. *Metacognition and Curricular Reform*

As noted, the metacognitive approach is already employed within many curricular specialties, including courses focused on experiential learning, first-year students, legal research and writing, ethics, professional identity and development, and academic support. However, the revolution is not being carried out only by individual educators in specialized corners of the curriculum. Curricular reform experts, tasked with improving legal education nationwide, have embraced key elements of the metacognitive process over the past several decades and have increasingly brought them into "mainstream" discourse. Among the most influential of these reform efforts are the sweeping accreditation changes adopted in 2014 by the ABA mandating that certain aspects of metacognitive training be incorporated into every law curriculum, as discussed below. Chief among these is the obligation to provide all law students with repeated opportunities for personal performance and

94. *See, e.g.*, Alleva & Gundlach, *supra* note 48, at 727 (Metacognition "may not be as onerous to integrate as one might think. The metacognitive task need not be overly complicated, and simple illustrations might suffice for introducing the skill to first-year students. Also, the class time a professor devotes to these exercises might be minimized by flipping some or all of this instruction out of class.").

95. *See* Elizabeth M. Bloom, *Creating Desirable Difficulties: Strategies for Reshaping Teaching and Learning in the Law School Classroom*, 95 U. DET. MERCY L. REV. 115, 135–50 (2018) [hereinafter Bloom III].

96. SCHWARTZ III, *supra* note 61.

reflection—activities that lie at the heart of the metacognitive process.

Before discussing the accreditation mandates themselves, it is worthwhile to note that these mandates were preceded by three influential studies concerning the future of legal education that emphasized certain metacognitive principles. The first, popularly referred to as the MacCrate Report, was issued in 1992 after three years of work by an ABA task force.[97] Among other things, the MacCrate Report emphasized that lawyers must develop skills in self-reflection and self-awareness, enabling them to engage in "lifelong learning" and continued intellectual growth even after formal education ends.[98] These are hallmarks of the metacognitive process.[99]

Two additional reports were issued a decade and a half later, in 2007, and later deemed by a special ABA committee as demonstrative of "the best thinking" of legal educators.[100] These reports are known colloquially as the "Carnegie Report,"[101] which discussed the results of a two-year study commissioned by the Carnegie Foundation for the Advancement of Teaching, and as "Best Practices," produced by the Clinical Legal Education Association.[102] Among other things, both reports highlighted the importance of the cycle of planning, doing, and reflecting,[103] with the Carnegie Report stating that students "must become 'metacognitive' about their own learning."[104]

97. AM. BAR ASS'N, SECTION OF LEGAL EDUC. AND ADMISSION TO THE BAR, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT—AN EDUCATIONAL CONTINUUM, REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSION: NARROWING THE GAP (1992) [hereinafter MACCRATE REPORT].

98. *Id.*, at 336.

99. *See infra* Part III.

100. LORI E. SHAW & VICTORIA L. VANZANDT, STUDENT LEARNING OUTCOMES AND LAW SCHOOL ASSESSMENT: A PRACTICAL GUIDE TO MEASURING INSTITUTIONAL EFFECTIVENESS 25 (2015) (citing the conclusion of the Outcomes Measures Committee, appointed in 2008 by the ABA's Section on Legal Education and Admissions to the Bar).

101. WILLIAM M. SULLIVAN ET AL., EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW 15–17 (2007) [hereinafter CARNEGIE REPORT].

102. ROY STUCKEY, ET AL., BEST PRACTICES FOR LEGAL EDUCATION: A VISION AND ROADMAP vii (2007) [hereinafter BEST PRACTICES].

103. CARNEGIE REPORT, *supra* note 101, at 107; BEST PRACTICES, *supra* note 102, at 126–27.

104. CARNEGIE REPORT, *supra* note 101, at 173.

These reports were among those studied closely by the ABA as it undertook a comprehensive 8-year review of accreditation standards, resulting in monumental reforms adopted in 2014.[105] The revisions endorse elements of the metacognitive approach by requiring all accredited institutions to give students multiple opportunities for performance and reflection, as discussed below.[106] Under these new standards, every legal educator and administrator must now grapple with the teachings of the metacognitive revolution to some extent.

A brief review of the accreditation standards will demonstrate these points. The discussion begins with the standards for experiential education, which reflect the earliest embrace of metacognitive techniques, followed by a discussion of the 2014 standards, which mandate certain techniques to be used throughout the law curriculum as a whole.

1. *Experiential standards*

Experiential learning standards were the first to emphasize student self-reflection, with the purpose of encouraging self-assessment and self-evaluation. Since 2005, all schools were required to provide "substantial opportunities for . . . real-life practice experiences . . . designed to encourage reflection by students on their experiences . . . and the development of one's ability to assess his or her performance and level of competence."[107] Today's standards require that every student complete six or more credit hours of experiential learning,[108] which must offer multiple "opportunities for student performance, self-evaluation, and feedback."[109] Externships must additionally incorporate "ongoing, contemporaneous, faculty-guided

105. SHAW & VANZANDT, *supra* note 100, at 25–26.

106. 2018–2019 ABA STANDARDS, *supra* note 12; *see infra* Section I.D.1.

107. AM. BAR ASS'N, ABA STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS 2005–2006 § 302(b)(1) (2005). Even earlier, the 2004–2005 standards required all field placements to "provide opportunities for student reflection on their . . . experience, through a seminar, regularly scheduled tutorials, or other means of guided reflection." *Id.* at § 305(e)(7).

108. 2018–2019 ABA STANDARDS, *supra* note 12, at § 303(a)(3).

109. *Id.* at § 304(a)(3)–(4).

reflection."[110] These standards clearly emphasize fundamental metacognitive principles.

2. *Throughout the broader curriculum*

In 2014, the ABA adopted a requirement that the non-experiential curriculum also provide multiple opportunities for student performance, accompanied by feedback.[111] All law schools must now not only employ summative assessments, which measure competency at the end of the course of study (e.g., a final exam), but also formative assessments, which measure student competency while a course of study is ongoing (e.g., a midterm exam or other mid-course assignment).[112] The critical difference between the two is that while summative assessment merely measures student learning at the close of the course, formative assessment gives students an opportunity to learn from the experience and to try do better on the next one; this is why formative assessment specifically must "provide[] meaningful feedback to improve student learning."[113] While the ABA

110. *Id.* at § 304(a)(5); *see also* Rebecca B. Rosenfeld, *The Examined Externship Is Worth Doing: Critical Self-Reflection & Externship Pedagogy*, 21 CLINICAL L. REV. 127 (2014) (arguing that classes and educators should aid students in their reflections to foster present and future learning).

111. 2018–2019 ABA STANDARDS, *supra* note 12, at § 314. Standard 314 does not require formative assessment to be used in every course but does require that formative assessment be used within the law school curriculum as a whole. *See* SHAW & VANZANDT, *supra* note 100, at 28. For the phased-in implementation timeline for this requirement, see AM. BAR ASS'N, *Transition to and Implementation of the New Standards and Rules of Approval of Law Schools* (Aug. 13, 2014), https://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/governancedocuments/2014_august_transition_and_implementation_of_new_aba_standards_and_rules.pdf.

112. 2018–2019 ABA STANDARDS, *supra* note 12, at § 314 (Interpretation 314-1 states: "Formative assessment methods are measurements at different points during a particular course or at different points over the span of a student's education that provide meaningful feedback to improve student learning. Summative assessment methods are measurements at the culmination of a particular course or at the culmination of any part of a student's legal education that measure the degree of student learning.").

113. *Id.*; *see also* SHAW & VANZANDT, *supra* note 100, at 6–7 ("The best formative assessments involve individual feedback not only as to the product produced, but the process employed . . . instead of simply providing a numeric or letter grade [], it is important that [the] professor specifically identify what was wrong with [the work] product…ideally, [the] professor will also help the student explore the reasons for this failure. . . . Formative assessment helps a student see where in the learning process he made a wrong (or a correct) turn and make any needed changes on his next assignment.").

did not define "meaningful feedback," experts explain that it requires enough guidance to enable a student to reflect upon and improve her performance.[114]

The formative-assessment-with-meaningful-feedback requirement thus echoes the 3-phased metacognitive cycle. Scholarship linking metacognition and formative assessment has blossomed since the ABA standards were proposed, with one scholar noting that when administering formative assessments, "it is critical to reinforce metacognition and self-regulated learning principles by stating that receiving the score or written feedback is not the end of the learning process. In fact, receiving the grade is somewhere in the middle of the process. The next step is to evaluate one's process, attribute the results, and plan for future assignments."[115]Along these lines, the ABA further recommends that all law schools consider training students in "self-evaluation."[116] At least 24 schools have already adopted either "reflection" or "evaluation" as an official learning outcome.[117] This recommendation is yet another way that the ABA today promotes metacognitive concepts as fundamental to the process of learning law.

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114. *See* 2018–2019 ABA STANDARDS, *supra* note 12, at § 314; Elizabeth Ruiz Frost, *Feedback Distortion: The Shortcomings of Model Answers as Formative Feedback*, 65 J. LEGAL EDUC. 938, 942 (2016) ("Feedback is not truly formative unless it helps a student develop her learning strategies or knowledge to a higher degree than before the particular assessment event.").

115. Cara Cunningham Warren, *Achieving the American Bar Association's Pedagogy Mandate: Empowerment in the Midst of a "Perfect Storm,"* 14 CONN. PUB. INT. L.J. 67, 99 (2014); *see also, e.g.*, Larry O. Natt Gantt, II, *The Pedagogy of Problem Solving: Applying Cognitive Science to Teaching Legal Problem Solving*, 45 CREIGHTON L. REV. 699, 754 (2012); Steven I. Friedland, *Rescuing Pluto from the Cold: Creating an Assessment-Centered Legal Education*, 67 J. LEGAL EDUC. 592, 605 (2018).

116. The suggestion arises in the context of the ABA's requirement that every law school articulate its curricular goals in the form of "learning outcomes," or the professional competencies deemed to be so fundamental that every student must receive instruction in those competencies. *See* 2018-2019 ABA STANDARDS, *supra* note 12, at § 301.

Some learning outcomes are mandatory, while others are not mandatory but are suggested. *See id.* at § 302.

117. Jodi S. Balsam et al., *Assessing Law Students As Reflective Practitioners*, 62 N.Y.L. SCH. L. REV. 49, 52 (2018). For example, Alexander Blewett III School of Law identifies "the capacity for self-reflection as key to continuous learning, self-improvement, and self-development." *Our Mission, Goals, and Graduates*, UNIV. OF MONT., https://www.umt.edu/law/files/admissions/student-learning-outcomes.pdf (last visited Nov. 16, 2019).

3. *Institutional mandate*

Finally, it is noteworthy that the metacognitive revolution is transforming not only the classroom, but the institutional accreditation process itself. The ABA now requires every law school to metacognitively assess and improve its own curriculum.[118] The standards state that every institution must "conduct ongoing evaluation of [its] program of legal education, learning outcomes, and assessment methods; and shall use the results of this evaluation to determine the degree of student attainment of competency in the learning outcomes and to make appropriate changes to improve the curriculum."[119] This requires periodic evaluation by each institution of a representative cross-section of students[120] for the purpose of assessing whether the institution is succeeding in teaching its required competencies.[121]

This institutional assessment process also mimics the 3-phase "plan, do, reflect" metacognitive cycle by requiring planning and goal setting (schools must designate learning outcomes and determine how to achieve them); focusing on institutional performance (whether a school's students in fact achieve competency); and requiring institutional self-evaluation and the identification of improvements for the future.[122] Thus, the ABA demands that not only students, but faculty and their institutions as a whole, must now routinely engage in the metacognitive process.

118. 2018-2019 ABA STANDARDS, *supra* note 12, at § 315.

119. *Id.*

120. SHAW & VANZANDT, *supra* note 100, at 28 ("Periodic measures of the performance of sample groups of students provide snapshots of whether your school is achieving its outcomes. Institutional outcomes assessment uses your students' collective performance as a measure of your school's performance.").

121. *Id.* at 26 ("Outcomes Assessment is a way to require schools to identify exactly what competencies they seek to provide and to take a hard look at whether they are actually graduating students who possess those competencies.").

122. SHAW &VANZANDT, *supra* note 100, at 26, 28; Heagney, *supra* note 59.

E. *Experiential Theory and Practice*

The discussion above draws examples from both the non-experiential and experiential realms to illustrate the components of the metacognitive revolution. Given that prior literature on metacognition in legal education very rarely refers to clinical theory and practice,[123] it is helpful to briefly explain why this article takes a different approach.

As demonstrated above, metacognition and experiential methodology share a number of foundational principles and practices. Both treat the performance of a task as the central catalyst for learning.[124] Experts in both realms widely embrace the same teaching techniques,[125] such as the 3-phase cycle and reflective questioning, and emphasize the same educational benefits, including lifelong learning skills,[126] transfer skills, and student empowerment.[127] A seminal article from 1984 on clinical methodology refers to the "development of 'models of analysis for understanding past experience and for predicting and planning future conduct'" that uses reflective questioning focused on goal identification, strategy selection, self-evaluation, and

123. The connection between metacognition and clinical theory and practice is sometimes noted in passing. *See, e.g.*, Alleva & Gundlach, *supra* note 48, at 738 (noting that clinical pedagogy is explicit about its teaching of the metacognitive process); Schwartz II, *supra* note 23, at 380–81 (noting that clinics use and write about metacognition); Anzalone, *supra* note 13, at 92 (stating that clinics write the most about reflection); Kowalski, *supra* note 35, at 85 (noting that clinics sometimes use the transfer skills she espouses). Other passing references appear to assert that there is no connection. *See, e.g.*, Preston et al., *supra* note 1, at 1082, 1090 (stating that experiential learning pedagogy "needs to be constructed with acute awareness of the need to inculcate metacognitive skills" and describing the first advocacy of metacognition in the law curriculum as occurring in 1988); Shaw, *supra* note 24, at 1284 (identifying "another factor—one that proponents of contextual or experiential learning have missed"—as "the crucial need for students to master metacognition as an integral part of being a good lawyer").

124. *See, e.g.*, Jerome Frank, *Why Not a Clinical Lawyer-School?*, 81 U. PA. L. REV. 907 (1933); Anthony G. Amsterdam, *A Clinical Legal Education—A 21st Century Perspective*, 34 J. LEGAL EDUC. 612, 616–17 (1984) ; DAVID A. KOLB, EXPERIENTIAL LEARNING: EXPERIENCE AS A SOURCE OF LEARNING AND DEVELOPMENT (Amy Neidlinger et al., eds., 2d ed. 2014).

125. While not all clinicians universally adhere to the same methods and principles, after an extensive literature review, Professor Carolyn Grose articulated a number of principles at the core of a "diffuse consensus" on the clinical approach. Grose, *supra* note 28, at 491–92.

126. "Clinical pedagogy aims to teach students how to learn." *Id.* at 494–95.

127. *See infra* Section III.B.

self-improvement—a statement that equally describes the metacognitive approach.[128]

The focus on self-reflection as a catalyst for self-improvement is especially well-documented in the clinical literature. Decades ago, experts were already exploring the practical and theoretical bases for using reflection as a primary tool for learning and improvement. In 1979, for example, David Barnhizer wrote about the clinical use of reflection to prompt students to explore their professional responsibilities,[129] and in 1981, Kenneth Kreiling cited Donald Schön's influential theory[130] of "professional practice" or "theories in action" to explain how clinicians develop students' self-reflection skills.[131] Today, this emphasis on "[d]eliberate and systematic reflection"[132] remains one of the three most dominant clinical teaching methodologies, such that "[t]he bottom line is that clinical pedagogy aims to teach students to approach lawyering as a theory-driven practice, framing each activity with intentionality and reflection."[133]

128. Amsterdam, *supra* note 124, at 617.

129. David R. Barnhizer, *The Clinical Method of Legal Instruction: Its Theory and Implementation*, 30 J. LEGAL EDUC. 67, 147 (1979) (pointing out that clinical methodology "consistently creates the opportunity, structure, and motivation for law students reflectively and critically to analyze their own personal systems and attitudes of professional responsibility in an internalized, nonabstract setting, prior to their being subjected to the intense and distorting pressures of the postgraduate legal profession.").

130. *See* CHRIS ARGYRIS & DONALD SCHÖN, THEORY IN PRACTICE: INCREASING PROFESSIONAL EFFECTIVENESS 1–20 (1974).

131. Kenneth R. Kreiling, *Clinical Education and Lawyer Competency: The Process of Learning to Learn from Experience Through Properly Structured Clinical Supervision*, 40 MD. L. REV. 284, 289–90 (1981).

132. Grose, *supra* note 28, at 500.

133. *Id.* at 493, 500 ("Reflection is the method that guides students' extraction of theory from practice, and the application of practice to theory; and it pushes students to generalize from the specific and transfer their learning beyond that specific. The role of the clinical teacher is 'to . . . enhance self-reflection, self-consciousness and a more encompassing understanding of those phenomena of the legal order which are the focus of pedagogic inquiry.'"); *see also* Barry et al., *supra* note 12, at 72; Casey, *supra* note 15, at 331–48; Laurie Morin & Louise Howells, *The Reflective Judgment Project*, 9 CLINICAL L. REV. 623, 637–40 (2003); Phyllis Goldfarb, *A Theory-Practice Spiral: The Ethics of Feminism & Clinical Education*, 75 MINN. L. REV. 1599, 1649–52 (1991) ("The success of [placing students in lawyering roles] as pedagogy depends on the employment of a method of careful and sensitive review throughout the planning and evaluation process. Such a review should encompass a scrupulous self-assessment to help students understand what has transpired and plan future conduct.").

Given the close alignments between the metacognitive and clinical approaches, it is not surprising that a leading scholar has already examined the symmetries between them in the context of non-legal education.[134] Nor is it surprising that legal scholars celebrated a foundational 1978 clinical textbook as "an example of metacognition at its best," [135] correlating the textbook's major themes with the key components of metacognition as defined by the inventor of that term.[136] Furthermore, it is not surprising that much of the metacognition scholarship on *non*-experiential law teaching is in fact produced by those who also teach experiential courses.[137]

What is surprising, however, is the lack of discussion about how experiential and non-experiential scholarship on metacognitive principles can inform and strengthen each other. A possible explanation for this absence is that clinicians themselves do not often use the term "metacognition," perhaps because that term had not yet entered academic discourse by the time that foundational works of clinical scholarship were being written.[138] Another possible reason is that faculty who teach clinical

134. *See* Alice Y. Kolb & David A. Kolb, *The Learning Way: Meta-cognitive Aspects of Experiential Learning*, 40 SIMULATION & GAMING 297 (2009).

135. John M. A. DiPippa & Martha M. Peters, *The Lawyering Process: An Example of Metacognition at Its Best*, 10 CLINICAL L. REV. 311, 312 (2003) (discussing GARY BELLOW & BEA MOULTON, THE LAWYERING PROCESS: MATERIALS FOR CLINICAL INSTRUCTION IN ADVOCACY (1978) as part of a symposium celebrating its 25th anniversary and its influence on the field of clinical law teaching); *see also* Leah Wortham, *The Lawyering Process: My Thanks for the Book and the Movie*, 10 CLINICAL L. REV. 399, 406 (2003).

136. DiPippa & Peters, *supra* note 135.

137. *See* Elizabeth Adamo Usman, *Making Legal Education Stick: Using Cognitive Science to Foster Long-Term Learning in the Legal Writing Classroom*, 29 GEO. J. LEGAL ETHICS 355, 386–87 (2016).

138. *See e.g.*, DiPippa & Peters, *supra* note 135, at 315 ("Without using the term metacognition, Bellow and Moulton embraced a metacognitive approach that only later was formally introduced to learning theory."); *accord id.* at 315 n.20 ("Metacognition as a defined process developed around the mid to late 70s the same time that THE LAWYERING PROCESS was being written. John H. Flavell was the first to define and use this term."). Another possible reason is that clinical and non-clinical teaching are seen as too distinct to engage in productive dialogue; admittedly, engaging in the actual practice of law creates learning opportunities of unique intensity and complexity that cannot be replicated in nonclinical settings, *see, e.g.*, Amsterdam, *supra* note 124, at 616–17, and differences naturally exist in how metacognitive theory is applied in nonclinical and clinical settings. However, these differences do not mean that important concepts and ideas cannot be translated from one setting to another.

courses too often receive no institutional support for the production of scholarship, which limits academic dialogue.[139] Whatever the reasons, the gap between clinical and metacognition scholarship hinders the productive cross-fertilization of ideas.

Part III of this article offers a first contribution towards closing this gap. Prior to turning to that effort, however, Part II explains the benefits of the metacognitive approach and why it deserves such extensive attention.

II. THE POWER OF THE REVOLUTION

Having demonstrated how broadly and deeply the metacognitive revolution is already embedded into the law curriculum, the next question is: why does this revolution matter? The short answer is that metacognition can dramatically improve all manners of legal competencies. It also develops the skills necessary for continued intellectual growth after formal education ends and enhances the elusive, yet critically important qualities of "good judgment" and "intelligence." These and other powerful implications of the metacognitive approach are discussed below.

A. *Metacognition Strengthens Competencies*

1. *Legal competencies*

As demonstrated above, the metacognitive process is taught contemporaneously with other material that is fundamental to legal analysis. The underlying content may be doctrinal content alone; doctrinal analysis combined with methods of communicating with others about the law, such as a client or tribunal; the exploration of moral and ethical dimensions of the law; or any

139. *See, e.g.*, ROBERT R. KUEHN & DAVID A. SANTACROCE WITH MARGARET RUETER & SUE SCHECHTER, CENTER FOR THE STUDY OF APPLIED LEGAL EDUCATION, THE 2016-17 SURVEY OF APPLIED LEGAL EDUCATION (2017); Peter A. Joy & Robert R. Kuehn, *The Evolution of ABA Standards for Clinical Faculty*, 75 Tenn. L. Rev. 183, 191 (2008); Barry et al., *supra* note 12, at 74–75; *Cf.* Mary Beth Beazley, *Finishing the Job of Legal Education Reform*, 51 WAKE FOREST L. REV. 275, 295 (2016) (encouraging enhanced status for legal writing faculty).

other material. Whatever the underlying content, metacognitive thinking results in deeper learning of that content.[140] Metacognition has also been shown to improve students' abilities to integrate out-of-classroom experiences and personal values with classroom learning and to gather feedback and use it to improve performance, as well as to increase student engagement and motivation.[141]

Most empirical literature on the benefits of metacognition exists in non-law contexts[142] and provides overwhelming evidence of its educational value; as previously noted, hundreds of studies link certain aspects of metacognitive learning to better educational outcomes, and as that body research is well-covered elsewhere, it need not be explored here.[143] As for the law-specific context, the benefits of metacognition have been touted by the ABA and the authors of the MacCrate Report, the Carnegie Report, and Best Practices among others.[144] Faculty who teach the metacognitive approach also report improvement in student competencies as measured both through their own observations[145] and through empirical studies. After teaching two pilot sections of his course for first-year students on core legal analysis skills and metacognitive skills,[146] for example, Professor Schwartz found that 90% of students demonstrated

140. For an extensive review of the literature, see Schwartz I, *supra* note 1, at 466–67, 472–84; Alleva & Gundlach, *supra* note 48, at 723 n.55 (citing "notable support for the theory that integrating the teaching of metacognitive skills with the teaching of substantive content can improve students' deep learning of the subject matter").

141. For just one discussion of the many benefits of metacognitive training, see Lentz, *supra* note 8, at 38–39.

142. Schwartz I, *supra* note 1, at 473–75 (citing only 4 studies in the context of legal education).

143. *See id.* at 472; *infra* Section II.D; *see also* Preston et al., *supra* note 1, at 1062.

144. *See infra* Section II.D; *see also* Schwartz I, *supra* note 1, at 467–68.

145. One anecdotal example provided by a legal writing professor, reports that metacognitive exercises helped her students generate their own highly productive advice to themselves, such as to "(1) read cases more carefully; (2) outline before they write; (3) allow more time for correcting citation before the assignment is due; and (4) spend more time thinking before writing." Joi Montiel, *Empower the Student, Liberate the Professor: Self-Assessment by Comparative Analysis*, 39 S. ILL. U. L.J. 249, 251–52 (2015).

146. Schwartz I, *supra* note 1, at 484.

competency on the final exam with respect to case reading and case briefing.[147]

Empirical studies conducted by Professor Andrea Curcio in her civil procedure and evidence courses also demonstrate the value of metacognitive techniques. In the first study, students who took practice essay questions with feedback performed better on average on the final exam than students who took no formative assessments.[148] A second study gave some students not just formative assessments but also metacognitive reflective exercises; an impressive 70% of these students scored nearly a full letter grade higher than those who participated in neither formative assessments nor reflective exercises.[149] Importantly, the addition of reflective exercises also enabled some students with low first-year GPAs to "catch up" with and perform as well as their better-credentialed peers, while formative assessments alone only benefited those with already-strong LSAT scores and GPAs.[150] Thus, these studies suggest both the benefits of formative assessments, and that additional metacognitive reflection exercises can provide even greater benefits to a greater number and wider range of students, including some with low first-year grades.

2. *Intelligence*

Metacognition has been shown to not only enhance learning within specific law courses, but to maximize intelligence itself. By improving higher-order thinking such as analysis and synthesis, and by enabling transfer of concepts between seemingly disparate contexts,

> [m]etacognition enhances intelligence and increases the ability to learn and to perform

147. *Id.* at 505.

148. Andrea A. Curcio, Gregory Todd Jones, & Tanya M. Washington, *Developing an Empirical Model to Test Whether Required Writing Exercises or Other Changes in Large-Section Law Class Teaching Methodologies Result in Improved Exam Performance*, 57 J. LEGAL EDUC. 195, 196 (2007); Sargent & Curcio, *supra* note 9, at 383–84.

149. Sargent & Curcio, *supra* note 9, at 395.

150. *Id.* at 401.

> thinking tasks—it is the skill that maximizes the utility of intelligence. Thus, students with lesser intellectual ability who have greater metacognitive skills often demonstrate academic performance similar to students with higher intellectual ability. For instance, one study found that "intellectual ability uniquely accounted for 10% of variance in learning performance, metacognitive skillfulness uniquely accounted for 17% of variance in learning performance, while both predictors shared another 22% of variance in learning." Thus, metacognitive abilities combined with intelligence are a greater predictor of learning performance than intelligence alone.[151]

Preston further cites studies finding that among students of similar intelligence levels, those who received metacognitive training outperformed peers who did not,[152] and that students initially performing at an average level (fiftieth percentile) can rise to the top quarter by using metacognitive strategies.[153]

3. *Lifelong learning*

Metacognitive training also empowers students with an effective method of learning that will benefit them throughout their lifetimes.[154] A strong metacognitive thinker is a "lifelong" learner, meaning that no matter what new intellectual challenges she faces throughout her career, she can master that challenge with relative efficiency.[155] As one scholar puts it, metacognitive training "teach[es] students how to fish."[156] Another

151. Preston et al., *supra* note 1, at 1060–61.

152. *Id.* at 1061.

153. *Id.* at 1061–62. However, other studies suggest that a high or low GPA could not be predicted solely by the students' level of metacognition. *Id.* at 1071.

154. *See, e.g.*, Schwartz I, *supra* note 1, at 468–71 ("Teaching students how to be lifelong learners is, in fact, the core goal of the self-regulated learning movement."); Alleva & Gundlach, *supra* note 48, at 724.

155. *See, e.g.*, Lentz, *supra* note 8, at 21.

156. Grose, *supra* note 28, at 501.

describes it as "the beginning of the students' development of conscious, rigorous self-evaluative methodologies for learning from experience — the kind of learning that makes law school the beginning, not the end, of a lawyer's legal education."[157]

The continued capacity to learn is critical for lawyers, who certainly do not graduate from law school or obtain a law license having learned everything necessary to practice competently.[158] Both student lawyers and experienced lawyers constantly must learn new areas of legal doctrine and changes to doctrine previously studied, as well as aspects of non-legal disciplines such as forensic science and business contexts.[159] The ability to self-teach is especially important given that lawyers often practice with significant independence, and very often in practice areas not covered in the classroom.[160] The capacity for lifelong learning is viewed by many as a more valuable skill than the acquisition of doctrinal knowledge or concrete lawyering skills.[161] It is critical for all law students to acquire this skill, as research suggests that even academic high achievers, such as those admitted to law school, do not necessarily know how to learn.[162] In fact, some suggest that those with stronger academic records need the most intensive metacognitive training, since they may fail less often and thus are less experienced in self-

157. Amsterdam, *supra* note 124, at 617.

158. "Law is a thirty- or forty-year course of study." Preston et al., *supra* note 1, at 1076; *see also, e.g.*, SULLIVAN ET AL., *supra* note 101, at 173 ("Professional schools cannot directly teach students to be competent in any and all situations; rather, the essential goal of professional schools must be to form practitioners who are aware of what it takes to become competent in their chosen domain and to equip them with the reflective capacity and motivation to pursue genuine expertise.").

159. *See, e.g.*, Niedwiecki I, *supra* note 1, at 153–54.

160. *See* Grose, *supra* note 28, at 500–01.

161. *See, e.g.*, Beryl Blaustone, *Improving Clinical Judgment in Lawyering with Multidisciplinary Knowledge About Brain Function and Human Behavior for Effective Lawyering*, 40 U. BALT. L. REV. 607, 613 (2011) (discussing how BEST PRACTICES, *supra* note 102, focuses on self-regulated learning rather than substantive law knowledge); Bloom III, *supra* note 95, at 118 (commenting that a "universal" critique is that education focuses on "delivering content" instead of teaching students how to effectively learn).

162. Alleva & Gundlach, *supra* note 48, at 720.

reflection and self-improvement.[163] Thus, high performers with weak metacognitive skills might fail when faced with new and challenging situations, such as when attempting to "learn on the job," while those who may not have strong academic records but who have strong metacognitive skills can more successfully meet such challenges.

4. *Sound judgment*

In addition to developing lifelong learning skills, metacognition builds "good judgment." Among other things, good judgment enables a lawyer to "grasp[] the point of legal rules and discern[] the legally and morally salient features of particular fact situations."[164] While sound judgment can be developed through extensive life experience,[165] it develops more quickly and more effectively when experience is coupled with metacognitive reflection.[166] A long line of academic literature[167] supports the premise that reflection "forces the professional to increase awareness of the factors that affect judgment" by producing a "higher level of awareness and consciousness of the decision-making process."[168] Accordingly, strengthening students' legal judgment and decision-making capacities, especially in the face of ambiguity, is a central goal of the clinical movement, which seeks to "guide [students] to recognize choice moments and to be able to make intentional choices in the face of uncertainty. Simply put . . . : '[I]f we [as clinicians] are not teaching our

163. Anzalone, *supra* note 13, at 93–94; *cf.* Frost, *supra* note 114, at 947–48 (2016) ("Students who perform well on assessments tend to have stronger metacognitive skills.").

164. Lawrence B. Solum, *Empirical Measures of Judicial Performance: A Tournament of Virtue*, 32 FLA. ST. U. L. REV. 1365, 1385 (2005).

165. *See, e.g.*, Lentz, *supra* note 8, at 22.

166. *See* Casey, *supra* note 15, at 318; *see also, e.g.*, Blaustone, *supra* note 161; D. Don. Welch, *"What's Going On?" in the Law School Curriculum*, 41 HOUS. L. REV. 1607, 1620 (2005) (discussing the development of judgment through repeated experience, consideration of the full context, reflection, and other techniques).

167. For a detailed discussion of academic literature focused on reflection, see Casey, *supra* note 15.

168. *Id.* at 321.

students to recognize other choices, we have failed.'"[169] In short, by asking students to identify factors that might affect legal decision-making, and to intentionally choose the elements appropriate for the context, metacognition teaches students the thinking processes that help to create "good judgment."[170]

5. *Transfer*

Metacognition holds particular promise for legal education because it strengthens a core legal skill: the ability to transfer and adapt complex, abstract principles to new contexts.[171] Transfer is so fundamental to the enterprise of legal thinking that clinical educators have deemed it "the heart of clinical pedagogy … [and its] theoretical base."[172] Transfer takes place when familiar doctrine and skills are applied to facts different from those addressed by precedent, and when unfamiliar doctrine is learned using legal research and analysis skills previously applied in other contexts. Transfer is what enables lawyers to adapt their advocacy skills to different settings, whether that setting is an administrative hearing, a negotiation with opposing counsel, or a presentation to a corporate board. A lawyer must even "argue both sides" so that she can successfully anticipate and defend against counterarguments, requiring her to

169. Grose, *supra* note 28, at 494–95, 501 (describing one of "the jurisprudential and pedagogical themes of the clinical movement" as the "necessity of making choices about professional role and behavior" in light of indeterminacy and uncertainty."). *See generally* Jane Aiken, *Social Justice Provocateurs*, 7 CLINICAL L. REV. 287 (2001) (emphasizing the importance of uncovering assumptions).

170. *See, e.g.*, Susan D. Bennett, *Embracing the Ill-Structured Problem in A Community Economic Development Clinic*, 9 CLINICAL L. REV. 45, 62 (2002) (referring to metacognition as useful for developing the "wisdom" or "equanimity" needed for complex problem solving); R. Michael Cassidy, *Beyond Practical Skills: Nine Steps for Improving Legal Education Now*, 53 B.C. L. REV. 1515, 1520–22 (2012) (discussing how problem solving is one of the most important skills for an attorney); Jeffrey M. Lipshaw, *The Venn Diagram of Business Lawyering Judgments: Toward a Theory of Practical Metadisciplinarity*, 41 SETON HALL L. REV. 1, 72–73 (2011).

171. Transfer is a "core goal of all instruction," not just of legal education, but the transfer of prior knowledge to new contexts is a continual exercise for the legal thinker. *See* Schwartz II, *supra* note 23, at 366; *see also* Lucille A. Jewel, *Old-School Rhetoric and New-School Cognitive Science the Enduring Power of Logocentric Categories*, 13 LEGAL COMM. & RHETORIC: J. ALWD 39, 72 (2016) ("Adaptive expertise is fueled by a deep-seated metacognitive knowledge.").

172. Grose, *supra* note 28, at 494.

flexibly transfer the same facts and legal principles to support the opposite conclusion.

Metacognition is known as "the gold standard of transfer tools"[173] for a number of reasons. Metacognition training asks thinkers to carefully examine the legal skill they are being taught and to identify its purposes.[174] By understanding the thinking process and what outcomes it is used to achieve, the thinker can also understand its potential usefulness in other, disparate settings. The metacognitive thinker is even explicitly asked, at the beginning of the twelve-step cycle, to assess what she already knows that might be relevant to the new task at hand—an exercise that in itself hones the skill of transfer.[175] Similarly, it is an act of transfer to intentionally use past experience to improve future performance under changed circumstances, which is the very essence of the metacognitive process.[176]

B. *Students Serve as Self-Change Agents*

A final reason that the metacognitive process is a revolutionary tool for law teaching is that it explicitly puts the power to achieve excellence into the students' own hands.[177] By assigning students a primary role in generating their own intellectual growth, the metacognitive approach rebuts common assumptions that academic success is primarily determined by forces beyond a person's own control, such as innate talent or faculty caprice.[178] Metacognitive theory conveys that students themselves exercise significant control over their own success, which is fitting, since only the student herself can explore, assess, and improve the inner workings of her own mind. This premise is simple but consequential. It not only produces stronger legal

173. Kowalski, *supra* note 35, at 101; *see also* Alleva & Gundlach, *supra* note 48, at 723.

174. *See, e.g.*, Alleva & Gundlach, *supra* note 48, at 723.

175. Kowalski, *supra* note 35, at 73 ("Metacognition requires a 'deliberate effort' on the part of students to connect new knowledge to already-familiar concepts.").

176. *See id.* at 73–74.

177. *See, e.g.*, Boyle, *supra* note 48, at 8.

178. *See* Bloom II, *supra* note 33, at 319.

analysis and more well-developed ethical identities, but also improves motivation, engagement, and mental health.[179]

A number of learning theories explain why explicitly shifting power to students results in improved outcomes. The theory of "self-efficacy," which is supported by a vast body of academic literature,[180] holds that people perform better when they believe that their own actions influence their outcomes.[181] Self-efficacy is the opposite of the helpless feeling developed when one believes that one's intellectual capabilities are limited by nature or that grading systems are arbitrary.[182] Such beliefs may lead students to not even try to improve, since they presume that personal effort will reap no reward. In contrast, those with self-efficacy have confidence that their own actions make a meaningful difference to their success, which motivates self-action and self-improvement.

Educational theory also suggests that people who experience "autonomy" have more successful outcomes. Autonomy in this context means that the learner has personally endorsed a learning technique as important, useful, or otherwise of value to her personally, rather than adopting the strategy merely because an external authority has imposed it.[183] The metacognitive

179. *Id*.

180. Studies have specifically linked self-efficacy with better educational outcomes. *See* Schwartz I, *supra* note 1, at 478. *See also* Usman, *supra* note 138, at 372 (stating that efficacy is related to mindset theory, which "holds that one single factor—a student's belief that intelligence is either fixed or malleable— profoundly affects the student's ability to learn from failure, and therefore, in effect, to successfully employ the self-regulated learning cycle").

181. *See* Bloom II, *supra* note 33, at 319.

182. *See, e.g.*, *id.* at 329 ("The first step toward creating effective self-regulated learners is convincing my students that they can learn to be self-regulating and control their own learning.").

183. Paula J. Manning, *Understanding the Impact of Inadequate Feedback: A Means to Reduce Law Student Psychological Distress, Increase Motivation, & Improve Learning Outcomes*, 43 CUMB. L. REV. 225, 229–30 (2013) ("Autonomy is different from the concept of independence. Independence means not relying on or being influenced by external sources, whereas autonomy allows for external influences so long as those influences are self-endorsed. For instance, a student could view the action of completing an assignment (which comes from an external source) as either compliance with an external directive (i.e., because the student was told to do it), which is not autonomous, or as a means to learn a skill the student believes is important (i.e., because the student wants to learn how to analyze a legal problem and believes the assignment will help her do that), which is autonomous." (citations omitted)).

approach encourages autonomy by asking students to determine what they need to improve, why, and how. Consequently, it generates highly personalized feedback, tailored to the individual's own unique thought processes and learning styles in a way that only the individual herself can offer.[184]

Studies indicate that those with self-efficacy and autonomy perform better than others because of an increased motivation to act, an increased sense of reward, and deepened personal connections to the material being taught, among other things.[185] These studies comport with law faculty experiments demonstrating that students with a sense of autonomy had higher grade point averages, greater success on bar examinations, and more self-generated motivation.[186]

Qualities such as efficacy and autonomy also improve the thinker's mental health, which not only further improves performance but is a good in its own right. Students who understand how to achieve intellectually, and who feel personally empowered to make such achievement happen, are less likely to be disconnected, passive, and frustrated, and more likely to be motivated, enthusiastic, and more deeply engaged in academic endeavors.[187] Reported mental health statistics for law students and lawyers vary, but nearly all are alarming.[188] Those practicing law are reportedly more likely to experience alcoholism, divorce, suicide, and medical problems than the rest of the general population.[189] Those entering law school reportedly experience depression at normal rates of 8-9%, but by graduation the rate more than quadruples to 40%.[190] To the extent that

184. *See* Kowalski, supra note 35, at 72–74 (explaining that metacognition encourages students to understand their own learning styles).

185. Manning, *supra* note 183, at 230–31.

186. *Id.* at 230.

187. *See, e.g.*, Bloom II, *supra* note 33, at 319, 324-25; Lentz, *supra* note 8 at 38–39.

188. *See, e.g.*, Debra Austin & Rob Durr, *Emotion Regulation for Lawyers: A Mind Is a Challenging Thing to Tame*, 16 WYO. L REV 387, 387 (2016); Cathaleen A. Roach, *A River Runs Through It: Tapping into the Informational Stream to Move Students from Isolation to Autonomy*, 36 ARIZ. L. REV. 667, 669 (1994); A. Rachel Camp, *Creating Space for Silence in Law School Collaborations*, 65 J. LEGAL EDUC. 897, 903–06 (2016).

189. Preston et al., *supra* note 1, at 1079.

190. Lentz, *supra* note 8, at 38–39.

feelings of disempowerment, frustration, and disappointment in their learning environment contribute to this epidemic, the metacognitive approach may aid in reversing it.

In short, metacognition offers a path to more effective, more efficient intellectual growth, with concomitant benefits for emotional well-being. This is a critical offering at this time, when law schools are performing inadequately, according to various indicators such as low bar passage rates,[191] critiques from employers,[192] low enrollment,[193] high levels of student depression,[194] and low levels of student motivation[195] and engagement.[196] Certainly, no single silver bullet can solve these concerns. But the metacognitive process holds powerful promise to reshape legal education in ways that will produce more competent, healthier legal thinkers with the skills to develop their own ethical and moral identity, which benefits not only students, but also clients, employers, faculty, law schools, and the justice system overall.[197]

III. METACOGNITIVE THEORY: THE MEANING OF MEANINGFUL FEEDBACK

The metacognitive approach is already deeply embedded into some parts of the law curriculum, and its influence continues to spread. Of all of the recent accreditation changes, the

191. Marsha Griggs, *Building A Better Bar Exam*, 7 TEX. A&M L. REV. 1, 2 (2019).

192. *See, e.g.,* Robert J. Derocher, *What's Going on in Legal Education?*, A.B.A. (2012), https://www.americanbar.org/groups/bar_services/publications/bar_leader/2011_12/spring/legaled/.

193. Jack Miller, *Law Schools Face Diminished Enrollment Numbers*, HEIGHTS (Feb. 10, 2019), https://bcheights.com/2019/02/10/law-schools-face-diminished-enrollment-numbers/.

194. *See, e.g.*, Lentz, *supra* note 8, at 38–39; Lawrence S. Krieger, *Institutional Denial About the Dark Side of Law School and Fresh Empirical Guidance for Constructively Breaking the Silence*, J. LEGAL EDUC. 112 (2002).

195. *See, e.g.*, Kennon M Sheldon & Lawrence S Krieger, *Does Legal Education Have Undermining Effects on Law Students? Evaluating Changes in Motivation, Values, and Well-Being*, BEHAV. SCI. & L., 261 (2004) (describing the mental effects legal education has on law students).

196. LAW SCHOOL SURVEY OF STUDENT ENGAGEMENT, STUDENT ENGAGEMENT IN LAW SCHOOL: IN CLASS AND BEYOND (2010) http://lssse.indiana.edu/wp-content/uploads/2016/01/2010_LSSSE_Annual_Survey_Results.pdf.

197. *See supra* notes 13, 15.

mandate to use "formative assessment with meaningful feedback" throughout the curriculum is the one that will require the largest number of individual law teachers to start using metacognitive techniques in their classrooms.[198] This mandate is technically very narrow in scope—it requires just one of the twelve metacognitive steps, namely, student performance of a task (step 7), and the ABA does not define "meaningful feedback," which raises the real risk of very weak implementation by those unfamiliar with how metacognitive concepts are the driving force behind the mandate. As discussed below, this omission puts the mandate at risk of failing. Nevertheless, the mandate is an important milestone in that it creates broad new opportunities for exploring the most effective way to implement metacognitive theory in legal education. This is critical, because as the use of these techniques increases, so does the responsibility to ensure that they are used effectively. Implementing the mandate broadly, but poorly, would be highly counterproductive and would cause professional, institutional, and personal damage by failing to significantly increase professional competencies, while at the same time squandering faculty and institutional resources and reinforcing students' feelings of helplessness, defeatism, and disengagement by promising positive results but not delivering them.

It is thus imperative to critically examine metacognitive theory for vulnerabilities and to refine it so that the formative assessment mandate is more likely to be properly implemented. This is especially important given how narrow the mandate is; since such a small slice of the metacognitive approach is mandated, that slice must be implemented very effectively if educational benefits are to result. This section therefore seeks to address an important vulnerability that could thwart the success of the formative assessment mandate: the vagueness of the concept of "meaningful feedback." Since the mandate was proposed, a flurry of literature has discussed many productive ideas of what good feedback looks like, especially in the context

198. *See supra* note 105 and accompanying text.

of a traditional midterm exam and an accompanying model answer, which is a common means of meeting the formative assessment mandate due to its familiarity and perceived efficiency. [199] This literature and its focus on techniques for providing better feedback is valuable and necessary. At the same time, however, this article argues that a broader theory of what constitutes "meaningful feedback" is needed, and it derives this theory from the metacognitive approach as the underlying basis for the mandate itself.

This article proposes a conceptual vision of what constitutes improved feedback. This vision has two parts. The first explains why the common technique of a midterm-with-a-model-answer will not fulfill the meaningful-feedback mandate and proposes a framework for choosing feedback strategies that will. Second, it proposes that most feedback will also become inherently more meaningful if faculty first engage in the deconstruction and abstraction, or "naming," of the legal thinking processes or techniques that they want students to master. As discussed below, the use of "naming" as a crucial step in the metacognitive process is supported by experts in many realms, including clinical educators, "transfer" theory experts, and those who employ the metacognitive approach in non-clinical courses.[200]

Ultimately, this article claims that the question to "how should law schools implement the formative assessment mandate?" is not simply "by providing midterms with more model-answer feedback." Rather, it argues that feedback techniques must be specifically selected with particular metacognitive goals in mind. In addition, it proposes that one of the most valuable tools for creating "meaningful feedback" is not in fact a

199. *See, e.g.*, Sargent & Curcio, *supra* note 9, at 379–85.

200. *See infra* Sections III.B.3–III.B.4. It is worth noting that metacognition literature often focuses on what *students* do, rather than on what *teachers* do. This feels appropriate since the metacognitive approach strongly emphasizes active student participation in their own learning processes. However, this may also cause the literature to fall short on explaining what teachers must do in order to successfully enable metacognitive learning. This may be a reason that metacognitive experts often engage in "naming" in practice without highlighting it as a critical part of their teaching strategy.

feedback technique at all, but the act of "naming," which helps students conceptualize what they are meant to be learning in the first place.

A. *The Meaning of "Meaningful Feedback"*

The formative assessment mandate has spurred an energetic and thoughtful discussion on how to best implement it, especially in the context of midterm essay exams with model answers. This is presumed to be the technique of choice for many faculty, yet it is also known to be largely ineffective, since students often have difficulty properly assessing whether and how their own work is different from model. Why do model answers so often fail to help students? Studies show that while model answers are appropriate for testing information recall, identifying concepts, and very simple problem-solving,[201] they are of limited value where students must learn higher-order thinking skills.[202] The reason is that models merely demonstrate what successful performance generally looks like, but do not convey how a student can actually use this information to assess and improve their own work; for instance, models do not communicate the complex analytical processes necessary to produce the work; do not articulate what specific qualities make the model successful or unsuccessful, or why those qualities are important; and do not explain why other approaches, including the approach taken by the student herself, are flawed.[203] Thus, a student must divine on her own what lessons to draw from the model, how those lessons apply to her own work, and how to create strategies to correct her flaws.[204] In other words, a student must already have relatively strong cognitive and metacognitive skills[205] to benefit from a model answer. For these reasons,

201. Frost, *supra* note 114, at 946–47.

202. *Id.* at 957; Sargent & Curcio, *supra* note 9, at 381–82.

203. Frost, *supra* note 114, at 958–59; *see also* Sargent & Curcio, *supra* note 9, at 381–82

204. *See* Frost, *supra* note 114, at 940.

205. *See id.* at 941.

model answers only are effective for a relatively small subset of students.

Metacognitive theory clarifies why the usefulness of model answers is limited. A midterm with a model answer only supports two of the twelve metacognitive steps: performance of a task (the exam itself, step 7) and the gathering of indicators of how well the student performed (the model answer, step 8). But when model answers are simply handed out, what is missing entirely is support for the crucial next steps of the metacognitive process: the student's identification of the specific characteristics that make the model successful or not (step 9), her evaluation of whether her own performance has those characteristics (step 10), her understanding of what thinking or behavior led her to perform poorly (step 11), and her identification of strategies to correct herself next time (step 12). These steps 9 through 12 are the heart of what makes feedback "meaningful," because they are the mental activities that enable a student to move from merely receiving information to actually using that feedback to change her work-product. In other words, feedback takes on meaning only when students actively engage in these additional mental processes. Yet these mental processes cannot be expected to simply happen on their own. They must be encouraged through enhanced feedback techniques deliberately designed and chosen to support students throughout these specific mental steps.

This hypothesis is supported by the fact that enhanced-feedback techniques recommended by experts generally do support specific steps in the metacognitive process. For example, one recommendation is to augment a model answer with a detailed explanation as to how exactly the model answer demonstrates competency,[206] such as by explaining very explicitly how the model successfully explained or applied the law (for example, by focusing on its organizational, analytical, and mechanical

206. Frost, *supra* note 114, at 958.

qualities).[207] Another is to identify and analyze the most common student mistakes through in-class discussion. Both of these techniques support metacognitive step 9 by helping students identify the specific characteristics of a successful and unsuccessful performance. Thus, even those who use model answers, instead of using the gold-standard form of highly individualized and personalized feedback, can find excellent techniques, recommended in existing literature, that supports specific mental steps within the metacognitive process and thus should increase the success of the model-answer process.[208]

However, it is important to acknowledge that both of the model-answer techniques just discussed support only one specific metacognitive step—step 9—and do not help students in the next step, which requires them to evaluate whether the characteristics of success and non-success are actually present in their own work. This lack of support for step 10 means that students who are unable to complete step 10 on their own will be unable to complete the rest of the metacognitive process, and thus be unable to improve their outcomes. In short, the lack of support for a single step in the process may cause the entire process to fail.

Therefore, even where numerous recommended feedback techniques are employed—such as a graded midterm (which supports step 8) combined with an explanation of the strengths of the model answer and common weaknesses in students (which support step 9)—many students may still not benefit. Thus, the goal should not be to simply to use a miscellaneous assortment of feedback techniques; rather, educators must choose techniques that specifically support each of the three metacognitive steps (steps 8, 9, and 10) necessary for a student to improve, that is, the feedback must support step 8 by indicating to the student what level of success her performance

207. Sargent & Curcio, *supra* note 9, at 381–82. Other techniques may include restating the original course material from which the answer was drawn and offering concrete ideas to students on how to improve performance next time. *Id.*

208. *See, e.g.*, SHAW & VANZANDT, *supra* note 100, at 6.

achieved, support step 9 by helping her understand what specific performance characteristics or traits demonstrate success, and which do not, and support step 10 by helping her to identify whether and how those characteristics are present in her own work product.

Feedback that supports these three steps, in turn, enables the student to conduct the two final steps of the process: the very personalized, internal examination of what caused the student to perform as she did, and what interventions are needed to improve her performance next time (steps 11 and 12). These final steps require the student to examine what intellectual and behavioral choices led her to produce imperfect work, and requires her to change those things about herself so that she can avoid those pitfalls in the future. The student herself is primarily responsible for this work, since only she is in the position to both understand and alter her own thoughts and actions. It is critical, however, for faculty to encourage students to complete these steps of the metacognitive process and to find ways to support them in this mental work. For example, reflective questions may help focus student attention on these final steps, as might a discussion of possible ways to correct common analytical mistakes.

In sum, since the midterm-with-model-answer approach touches upon only two of the metacognitive steps, in order for it to succeed with a broad range of students, it must be augmented with carefully selected feedback techniques that support each of the other steps of the metacognitive process. Moreover, educators must remember that while students necessarily must do much of the metacognitive work themselves, faculty are responsible for providing enough support and guidance to enable the students to do this work.[209]

This hypothesis applies not only to midterms with model answers, but also to other kinds of formative assessments. Fortunately, existing literature provides a rich array of both

209. *See, e.g.*, SCHWARTZ III, *supra* note 61, at 239; Alleva & Gundlach, *supra* note 48, at 733–34; Warren, *supra* note 115, at 99.

formative assessment methods and feedback techniques from which to choose. Assessors should therefore choose assessment and feedback methods that specifically support student engagement in metacognitive steps 8 to 12, since these steps are what put feedback into action and create "meaning" in terms of measurable improvement in the students' competency. If feedback methods do not support these crucial steps of the metacognitive process, the formative assessment mandate is very likely to fail in its goals.

B. *"Naming" Creates Meaning for Feedback*

The prior discussion is focused on the post-performance (e.g., post-exam) provision of feedback. This section offers a second new conceptualization of "meaningful feedback," which is focused on *pre*-performance activity, specifically, the pre-performance activity of "naming," or the deconstruction and abstraction of legal thinking processes. It argues that pre-performance "naming" creates context and meaning for post-performance feedback, making that feedback inherently more efficient and effective.

The starting premise here is that performance comes at a relatively late stage in the metacognitive process (step 7 of 12 steps). It is clear that every metacognitive step builds on each of the prior steps, that is, the success of any step depends on whether the preceding steps were taken in the right direction. It follows that to strengthen self-evaluation and self-improvement skills—the last steps in the metacognitive process—educators must improve not just the quality of feedback itself, but must also strengthen the foundation laid in earlier steps of the metacognitive process. Viewed from this perspective, the central question shifts from "how do educators provide more meaningful feedback, post-performance?" to "what must educators do *pre*-performance in order to equip students to productively use that feedback?"

The metacognitive process itself sheds light on the answer. The very first step in the metacognitive process requires the

student to define the learning goal.[210] It is apparent that if the learning goal is poorly understood at the outset, all of the following steps in the metacognitive process will likewise be misguided: the student will choose inappropriate resources and strategies for achieving that goal (steps 2-6), perform poorly since she does not know what she is meant to be doing (step 7), misidentify the characteristics that demonstrate that the learning goal has been met (step 9), and so forth.[211] In short, it is eminently understandable why a student who does not clearly understand the learning goals in the first place would find it very difficult to effectively use a model-answer or otherwise engage in productive metacognitive learning.

Accordingly, focusing solely on improving the quality of post-performance feedback takes a too-narrow view of both the problem and the solution. While better feedback is important and necessary, feedback itself can be made much more effective through the clearer definition of learning goals up front, so that students have a more accurate understanding from the beginning of what they should aim to accomplish and of what the feedback will ultimately be focused on.[212]

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210. *See supra* Section I.A.

211. *See* Fruehwald, *supra* note 8, at 108 ("The most important part of helping students develop metacognitive skills in the classroom is for the professor to set clear goals for the class.").

212. *See infr*a Section III.B.4. The importance of articulating clear metacognitive goals is echoed by the extensive literature on articulating clear learning outcomes, although metacognitive learning goals may not be precisely the same as the official learning outcomes. Learning outcomes can be developed at an institutional level for the curriculum as a whole, for a specific course, and for individual assessments (such as a midterm exam); performance standards are commonly used to measure whether learning outcomes are achieved. *See, e.g.*, SHAW & VANZANDT, *supra* note 100, at 18, 27, 36, 76–77; Janet W. Fisher, *Putting Students at the Center of Legal Education: How an Emphasis on Outcome Measures in the ABA Standards for Approval of Law Schools Might Transform the Educational Experience of Law Students*, 35 S. ILL. U.L.J. 225, 235–37, 242 (2011); Lori A. Roberts, *Assessing Ourselves: Confirming Assumptions and Improving Student Learning by Efficiently and Fearlessly Assessing Student Learning Outcomes*, 3 DREXEL L. REV. 457, 474–75 (2011); Marie Summerlin Hamm et al., *The Rubric Meets the Road in Law Schools: Program Assessment of Student Learning Outcomes as a Fundamental Way for Law Schools to Improve and Fulfill Their Respective Missions*, 95 U. DET. MERCY L. REV. 343, 375 (2018). Metacognitive learning goals may or may not be the same as the course's learning outcomes or performance standards. They should, however, refer to specific cognitive process that the students are meant to master. *See infra* Section III. B (discussing the importance of deconstructing lawyerly thinking processes into subcomponent parts). Moreover, while learning outcomes may focus on static knowledge

If proper goal definition is critical to accurate self-evaluation and to the overall success of the metacognitive approach, what does goal definition look like in the context of law teaching? A specific technique for achieving such clarity in defining learning goals is referred to here as "naming." Naming requires faculty to deconstruct lawyerly thinking processes into their component subparts, and to abstract those subparts and assign them names or labels. "Naming" is used by clinicians, transfer theorists, and by nonclinical metacognition experts, as discussed in detail below. That naming is used in many different realms of the metacognitive revolution supports the hypothesis that it is important to the process, can be useful in defining the meaning of "meaningful feedback," and should be given a new place of primacy within nonclinical metacognitive theory.

1. Deconstruction, abstraction, and "naming" in clinical theory and practice

The importance of deconstructing, abstracting, and "naming" the subcomponent parts of legal thinking is most clearly set forth in writings by clinical theorists. A primary goal of clinical educators, for example, is to "map out the lawyering process into its component parts and then to propose ideas and theories about what constitutes high-quality performance of each one."[213] Deconstruction and analysis of the components of lawyerly thinking is viewed as one of the three principle tenets of

or work product, metacognitive goals should focus on underlying *thinking processes* rather than on the end-products of that thinking. For example, a learning outcome focused on an end-product might be to "articulate the elements of burglary" or "produce a research memorandum," while the associated metacognitive goal focused on the underlying thinking process would be to "apply specific cognitive techniques for recalling the elements of a legal test" or "prioritize initial legal research by relevancy and significance." *See, e.g.*, Niedwiecki I, *supra* note 1, at 152 (noting metacognition focuses on processes, not product). Once the metacognitive learning goals are adequately defined by faculty, students can then design appropriate personal subgoals, which should be "concrete, short-term, challenging, and realistic," such as, 'By the end of the 1st day of class I will be able to classify a task with X percent of accuracy." *See* SCHWARTZ III, *supra* note 61, at 44.

213. Robert D. Dinerstein & Elliott S. Milstein, *Learning to Be a Lawyer: Embracing Uncertainty, Indeterminacy, and the Clinical Curriculum*, *in* TRANSFORMING THE EDUCATION OF LAWYERS: THE THEORY AND PRACTICE OF CLINICAL PEDAGOGY 327, 341 (Susan Bryant et al., eds., 2014).

clinical pedagogy,[214] with the underlying idea being to take a broad lawyering concept, such as "client-centered service" or "effective advocacy," and deconstruct it into its component subparts, allowing each part to be meaningfully examined, studied, practiced, and improved.[215]

As thinking processes are deconstructed, the newly-identified ideas and concepts are given a label or name,[216]

> so that they are clearly identified for later use. Naming involves giving students frameworks . . . . [A] failure to "name" may result in the student knowing how to do a specific task but not how to translate the lesson to other similar tasks. Naming also serves to create a shared vocabulary for the teachers and students to use during the clinic and for the student to use as he or she develops into a professional.[217]

According to Professor Carolyn Grose, naming is "at the heart" of clinical methodology in part because it helps lawyers "understand what we do and why we do it. We give names to things in order to make them exist and capable of analysis."[218] The act of naming thus involves abstracting or generalizing a concept, creating a shared understanding and vocabulary, so that the concept can be discussed and analyzed. A concept that arises within one specific factual context is transferred into a generalized or abstracted concept, with a unique name, so that

214. *Id.* at 496–97. Ever since the early days of clinical scholarship, clinicians have engaged in identifying, or naming, what, exactly, a lawyer does.

215. *See id.* at 497.

216. *See id.* at 500–01.

217. Wallace J. Mlyniec, *Where to Begin? Training New Teachers in the Art of Clinical Pedagogy*, 18 CLINICAL L. REV. 505, 521 (2012) (footnote omitted). Naming is so fundamental to clinical theory and practice that scholars have suggested that when designing a teaching intervention, clinical teachers themselves begin by naming the situation that inspired the teaching opportunity. *See* Colleen F. Shanahan & Emily A. Benfer, *Adaptive Clinical Teaching*, 19 CLINICAL L. REV. 517, 527 (2013). For a similar use of metacognition by non-experiential faculty, see Filippa Marullo Anzalone, *It All Begins with You: Improving Law School Learning Through Professional Self-Awareness and Critical Reflection*, 24 HAMLINE L. REV. 324 (2001).

218. Grose, *supra* note 28, at 501.

it that can be referred to, analyzed, applied, and modified in other contexts. [219] Clinicians use naming to identify learning goals for students, since only after goals are named can students knowingly grapple with them and work productively towards achieving them.

2. *Deconstruction and abstraction in learning theory*

The idea that learning is facilitated by deconstruction, or the breaking down of complex processes into smaller, more discrete steps, is also supported by learning theory. Professor Barbara Lentz likens the process of learning how to engage in legal thinking to the process of learning how to perform a basketball free throw, and explains how a basketball novice must at first focus her attention separately on each discrete sub-step in the overall process of performing a free throw, and that only after repeated practice and reflection on the individual sub steps can she then begin to combine those sub-steps into a more cohesive, seamless performance.[220] This need to deconstruct expert knowledge into component subparts to make it graspable by a novice strongly correlates to the mapping of lawyering processes done by clinical faculty with their students.

The deconstruction of lawyerly thought processes into component subparts is also consistent with recommendations from the field of instructional design, the profession devoted to the creation of effective teaching methodologies.[221] As Professor Schwartz states, "[i]nstructional designers perform an

219. Deconstruction, abstraction, and naming are also critical to a broader goal of clinical teaching, which is to present theoretical frameworks for lawyering and for the lawyer's role and responsibilities within society. *See id.*, at 500–01. Focusing on articulating different theories of lawyering "brings into consciousness the often inchoate, pre-conscious theories and principles by which the student is operating. Only by bringing into consciousness and making explicit those theories that underlie action can the student observe, evaluate, and improve them." Phyllis Goldfarb, *A Theory-Practice Spiral: The Ethics of Feminism and Clinical Education*, 75 MINN. L. REV. 1599, 1650 (1991).

220. *See* Lentz, *supra* note 8.

221. *See, e.g.*, Schwartz II, *supra* note 23, at 383–84 ("Instructional design is a reflective, systematic, and comprehensive approach to creating instruction."); *Instructional Design Definitions*, INDUSTRIAL DESIGN CENTRAL, https://www.instructionaldesigncentral.com/whatisinstructionaldesign (last visited Jan. 25, 2020).

information-processing analysis of a goal to 'decompose' the goal into the mental steps a person must go through to perform it," thus "seek[ing] to identify and sequence all the mental steps involved in achieving the learning goal."[222]

Transfer theory further supports the abstraction or generalization of mental processes as key to learning how to transfer knowledge from one situation to another. Generalization enables students to recognize and apply a concept even when it arises in a different, unfamiliar context. Professor Kowalski emphasizes

> the importance of the need to generalize learning in order to apply it in new contexts. Charles Judd pointed out that transfer occurs "by way of understanding the abstract general principle underlying a phenomenon which can then be applied to situations that do not possess obvious identical elements." . . . [Generalization means that] 'understanding is transposable to a wider range of situations' . . . [and] identifies meaning as an important cohesive force, whose presence is necessary to the comprehension and adaptability of general principles.[223]

Thus, both deconstruction and abstraction are emphasized by general learning theory, instructional designers, and transfer theory in ways that strongly echo the clinical technique of naming.

3. *Deconstruction, abstraction, and "naming" in nonclinical metacognitive theory and practice*

Like clinical theory and transfer theory, nonclinical metacognitive theory and practice also demonstrate the importance of faculty clearly articulating for students the legal thinking and reasoning process that they want students to learn. Nonclinical

222. Schwartz II, *supra* note 23, at 398.

223. Kowalski, *supra* note 35, at 70.

writings do not use the term "naming," although nonclinical metacognition experts are clearly engaged in naming in their classrooms in much the same way that clinical experts are. This section first discusses nonclinical theory, which clearly supports the concept of "naming" even though it does not use that term. It then turns to nonclinical practice, which is relatively advanced in terms of naming.

The concept in nonclinical literature that is most closely related to deconstruction is "modeling," which is sometimes also referred to as engaging in cognitive "thinking aloud."[224] Modeling is when an expert describes to students her "inner monologue," demonstrating her intellectual process step-by-step "by stating out loud every thought with respect to the problem being solved, seeking to provide students with a rough information-processing demonstration."[225] "The ultimate goal is to slow down what normally is instantaneous analysis for the expert metacognitive thinker" by "freezing the frames at critical steps along the chain of reasoning."[226] Demonstrating in detail how the expert's thought process progresses is meant to assist the student in understanding the discrete sub-steps that lead the thinker to her final conclusion, and to enable the student to engage in those sub-steps herself.[227]

Modeling thus incorporates the concept of deconstruction.[228] Some explicit references to deconstruction also exist in the nonclinical literature, although these are merely references made in passing.[229] The concept of modeling itself is not fully developed

224. *See* Schwartz II, *supra* note 23, at 415.

225. *Id.* at 415–16; Schwartz I, *supra* note 1, at 491, 503–04; *see also* Alleva & Gundlach, *supra* note 48, at 729–31; Kowalski, *supra* note 35, at 98–99.

226. Alleva & Gundlach, *supra* note 48, at 731–32.

227. For an example of modeling, see *id.* at 730–31 (providing an example designed to counter the common misunderstanding that the Federal Rules of Civil Procedure are "black-letter law" that can only be interpreted in one way).

228. Schwartz II, *supra* note 23, at 398.

229. *See, e.g.*, Fruehwald, *supra* note 8, at 110 ("Part of being explicit in teaching [metacognition] is breaking down complex tasks into component skills (unpacking). While experts can often see how the parts fit together, novices often need help with unpacking."); Bloom II, *supra* note 33, at 332 ("I attempt to break down the overall goals of improved academic performance

or explored, however, except in the work of Professor Michael Hunter Schwartz,[230] and it is not often prioritized as a component of nonclinical metacognitive theory in law teaching. [231] This might suggest that modeling, and the associated concepts of deconstruction, abstraction, and naming of legal thinking processes, are unimportant to nonclinical metacognition experts. However, what these experts actually do in the classroom suggests the opposite. The literature reveals that nonclinical metacognitivists are, in fact, already intensely engaged in the project of deconstructing, abstracting, and naming the many different intellectual processes involved in "thinking like a lawyer."

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into small manageable steps. I find this strategy not only helps my students regulate their behavior but also facilitates their self-regulation of motivation.").

230. Experts acknowledge that proper modeling is extremely difficult to perform because faculty are very likely to perform certain mental processes without conscious effort, and therefore casual attempts at modeling are highly likely to omit crucial steps. Fruehwald, *supra*, note 8, at 109. Professor Schwartz appears to be the only legal scholar deeply engaged in exploring the problems of modeling and possible solutions. He suggests that one possible way to prevent incomplete modeling is to have a second expert actively question the faculty member as she models, so that she is encouraged to explain fully her thought process. Schwartz I, *supra* note 1, at 490. Another strategy he suggests is to undertake a comprehensive process of interviewing multiple experts, posing various hypotheticals, and mapping out expert responses with detail and care, in order to create a complete model. Schwartz II, *supra* note 23, at 398. Unfortunately, Professor Schwartz found no documentation that educators have engaged in these best practices, nor that any legal scholar had attempted to deconstruct the intellectual sub-steps required to analyze a problem within their specific doctrinal subject matter. *Id.* at 398. Schwartz himself appears to be the exception, as he provides an example of deconstruction of the contract law principle of illusory promise. *Id.* at 399–401; *see infra* Section III.B.4 (explaining that the practice of metacognition is much more well-developed than the theory with respect to deconstruction).

231. Why are deconstruction and abstraction largely absent in this body of work? It may be because while legal scholars have long attempted to articulate the thinking processes involved in legal analysis, *see, e.g.*, Steven I. Friedland, *How We Teach: A Survey of Teaching Techniques in American Law Schools*, 20 SEATTLE U. L. REV. 1, 22–23 (1996); Sanford Levinson, *Taking Law Seriously: Reflections on "Thinking Like A Lawyer,"* 30 STAN. L. REV. 1071, 1072–74 (1978), many have pointed out the difficulty, and perhaps impossibility, of defining what it means "to think like a lawyer." *See, e.g.*, Preston et al., *supra* note 1, at 1054 ("For decades, scholars have groaned under the weight of trying to describe what 'thinking like a lawyer' means."); Edwards, *supra* note 12, at 218 ("Teaching students to 'think like lawyers' is too vague to pass muster as an appropriate mission. Most law schools have not examined what lawyers do, much less what they think, how they think, and whether legal thinking is any different than critical thinking in any other discipline." (quoting GREGORY S. MUNRO, OUTCOMES ASSESSMENT FOR LAW SCHOOLS 49 (2000))); Kurt M. Saunders & Linda Levine, *Learning to Think Like A Lawyer*, 29 U.S.F.L. REV. 121, 121–22 (1994) ("There has been much debate as to exactly what thinking like a lawyer involves and how to best teach this process. . . . As yet, legal educators have not decided if and how thinking like a lawyer differs from thinking like an engineer, a physician, or a writer.").

One example is Professor Schwartz's text for incoming first-year students, which breaks down many foundational legal thinking skills into discrete sub-steps—identifying, for example, a precise four-step procedure for "applying rules to facts," and further identifying relevant subskills, such as the "ability to draw inferences from facts."[232] Other metacognition experts suggest that fundamental legal skills may include how to use authoritative interpretations of a rule to assess the validity of one's legal hypothesis,[233] how to assess whether a given fact is relevant,[234] and how and when to use inductive, deductive, or other forms of reasoning.[235] Professor Bloom refers to identifying the use of "different tools for analysis (such as rule-based, analogy-based, and policy-based)," because "[o]nce [students] are able to identify and articulate the specific components of successful writing, they are able to take the next step of using these tools in their own analysis."[236] Another technique used by Professor Bloom is to ask students to engage in a "cognitive think-aloud," which enables Professor Bloom to identify and deconstruct the student's thinking patterns, and further helps her to teach the student how to do that deconstruction work herself.[237]

A particularly comprehensive effort at deconstruction and abstraction is offered by Professor Kowalski, who offers a curriculum-wide map of skills commonly used in legal thinking, and maps how these processes may appear in different contexts within legal education and legal practice.[238] Specifically, Professor Kowalski names four categories of "core lawyering skills in

232. SCHWARTZ III, *supra* note 61, at 211, 215–20.

233. *See* Alleva & Gundlach, *supra* note 48, at 730.

234. *See* Niedwiecki II, *supra* note 11, at 59–60.

235. *Id.* at 58.

236. Bloom II, *supra* note 33, at 341.

237. *Id.* at 342. Professor Jennifer Cooper illustrates another example of "naming" cognitive techniques with her reference to different methods of reading, such as skimming, scanning, questioning, rephrasing, and connecting "new information to prior knowledge." Jennifer M. Cooper, *Smarter Law Learning: Using Cognitive Science to Maximize Law Learning*, 44 CAP. U.L. REV. 551, 583 (2016).

238. Kowalski, *supra* note 35, at 55–56.

their fixed, abstract forms": formal legal analysis, advocacy, critical thinking, and professionalism,[239] which categories in turn encompass many more specific skills, such as "[a]ddressing counter arguments," "[a]rguing in the alternative," "[a]sserting narrative and other human and emotional elements," "[q]uestioning the motives and policies behind laws and decisions," and so on.[240]

These examples both demonstrate that metacognition scholars deeply value deconstruction and abstraction, and illustrate the impressive and serious work that they are doing in naming the key components of the lawyerly thinking process. Unfortunately, this important work is largely overlooked in the scholarly literature. While educator-scholars are already engaged in this work of their own accord, it is not afforded a place of primacy in discussions of nonclinical metacognitive theory, and its centrality to success of the metacognitive process is frequently overlooked.

Appropriate recognition of this work, however, is critically important. Just as naming enables clinical students to engage in metacognitive learning, the deconstruction and abstraction of lawyering thinking processes in nonclinical education enables students to metacognitively grapple with those thinking processes. This in turn is crucial to the success of the mandate to implement formative assessment with meaningful feedback. In short, the naming of learning goals at the outset enables students to understand what they are striving towards, and to understand what feedback is meant to help them accomplish. Naming is thus a fundamental precursor to meaningful feedback, and thus is fundamental to the project of formative assessment itself.

239. *Id.*

240. *Id.* at 96.

CONCLUSION

Metacognitive thinking is today integrated into the legal curriculum more broadly and deeply than previously recognized. Further expansion of metacognitive principles into the curriculum is inevitable, given the accreditation mandate to implement formative assessment with meaningful feedback across the curriculum. While this creates opportunities for great benefit, if the metacognitive approach is not properly implemented it also poses a real threat of harm to institutions, students, and the profession. This Article has sought to define ways to prevent this harm, and to maximize the benefits of metacognition, by first recognizing the many different components of the metacognitive revolution as intrinsically related to each other, and then by examining them to point to what must be done to effectively implement the meaningful-feedback mandate. It posits that feedback techniques must be chosen with the deliberate goal of helping students complete the final steps of the metacognitive cycle. It further argues that nonclinical metacognitive theory should newly emphasize the naming of legal thinking processes as fundamental to the theory's practical success. Doing so will bring to the forefront the impressive work already being done with respect to naming, which in turn will greatly increase the effectiveness of the formative assessment mandate.

As law schools design their futures, institutions must now recognize and embrace the metacognitive revolution and its promise, along with its challenges. Drawing on the experiences and expertise that exists across all components of the revolution reveals common principles and methodologies and suggests how its theoretical framework must be revised in order to maximize its benefits.