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E. Scott Fruehwald

# BRINGING LEGAL EDUCATION REFORM INTO THE FIRST YEAR: A NEW TYPE OF TORTS TEXT

E. SCOTT FRUEHWALD



## I. INTRODUCTION

Legal education reform has reached the first year of law school. After the Carnegie Report appeared advocating more experiential education,[1] law schools began to add more skills courses in the second and third years of law school. For example, Washington and Law made its entire third year experiential.[2] However, initially,

1. WILLIAM M. SULLIVAN ET. AL., EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW (Jossey-Bass 2007) [hereinafter THE CARNEGIE REPORT]. The Carnegie Report, which criticized traditional legal education, designated three "apprenticeships" for educating today's lawyers: 1) the "cognitive apprenticeship," which focuses on expert knowledge and modes of thinking, 2) the "apprenticeship of practice," which educates students in "the forms of expert practice shared by competent practitioners," and 3) the "apprenticeship of identity and purpose," which "introduces students to the purposes and attitudes that are guided by the values for which the professional community is responsible." *Id.* at 28. The Report argued that traditional legal education did a good job teaching the first apprenticeship, but not the other two. *Id.* at 25, 79.

2. Bill Henderson, *Washington & Lee is Biggest Legal Education Story of 2013*, THE LEGAL WHITE BOARD (2013), http://lawprofessors.typepad.com/legal

legal education reform had little effect on the foundational first year.

Recently, this has begun to change with law schools reforming their first-year curriculums. For example, the University of Tennessee started a first-year curriculum in the fall of 2016 that added practical training, more legal writing, and career planning to the traditional curriculum.[3] Elon Law has similarly reformed its first year.[4]

Reform of the first year of law school is vital because it lays the foundation for the second and third years, as well as legal practice. It is not enough to add a few skills courses to the second and third years and think that will solve the problems in legal education.[5] This is like putting a band-aid on a major slash. As Dean Bierman of Elon Law School has insisted, "first-year law students need to experience how legal theory is applied in practice."[6]

Of course, changes to the first year must be done properly, following the latest research in how students learn.[7] You cannot just

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whiteboard/2013/01/biggest-legal-education-story-of-2013.html.

3. *UTennessee Revamps First Year Curriculum*, PRELAW (2016), www.nationaljurist.com/content/utennessee-revamps-first-year-curriculum.

> The changes we've implemented bring the innovative teaching approaches we already use in our upper-level courses to all first-year students,' said Paula Schaefer, associate professor of law and chair of the college's 1L curriculum task force. 'By integrating simulations into our 1L curriculum, our students will learn the law as they use it to solve client problems.' Experience-focused opportunities will be available through courses in civil procedure and torts and a lab course in transactional lawyering. Plus, the college's introductory criminal law and legal process courses will connect and reinforce theoretical concepts in a more active, writing-focused experience.

*Id.*

4. Luke Bierman, *How to Design an Experience-Based Future for Legal Education*, PRELAW (2016), www.nationaljurist.com/content/how-design-experience-based-future-legal-education.

> At Elon Law we undertook a comprehensive review and analysis of our whole educational program, which led to an ambitious redesign of our curriculum for the 21st century student. Experiential education is now part of the foundation and fabric of Elon Law, providing every student with first-year labs, attorney mentors, team-based legal problem solving for real-world organizations, bridge-to-practice courses, leadership training, four-member advising teams and full-time residencies in practice.

*Id.*

5. *See generally* THE CARNEGIE REPORT, *supra* note 1.

6. *Id.*

7. The best work on legal education reform has come from scholars who have immersed themselves in general education research. For example, Professor Michael Hunter Schwartz took a community college course in learning theory and instructional design in 2000. MICHAEL HUNTER SCHWARTZ & DENISE RIEBE, CONTRACTS: A CONTEXT AND PRACTICE CASEBOOK xxv (2009); *see also* E. Scott Fruehwald, *Improving First-Year Doctrinal Classes*, THE CASE STUDIES

add a few skills experiences to the first year and hope that will work. The first year must start with the basics so that students are ready to solve more advanced problems. In other words, the first year must emphasis the legal reasoning process, how it is applied, and simple problem solving. As Dean Bierman has declared, "From students' very first day in law school until their very last, experiential components must be seamlessly integrated and strategically sequenced with academic courses."[8]

An important part of reforming the first year is to adopt text books that have been written with the new purpose of the first year in mind and that are based on general learning theory. This article discusses the lessons I learned about writing texts for first-year students from writing an experiential torts text, A Companion to Torts: Think Like a Torts Lawyer (2015). The keys to writing a first-year text are to 1) starting the students out slowly and explicitly, 2) breaking legal reasoning, thinking like a lawyer, into its essential parts–deductive reasoning, reasoning by analogy, distinguishing, synthesis, and policy-based reasoning–and having students do exercises in each of these types of legal reasoning, 3) teaching students how to apply law to facts, and 4) having students solve increasingly harder problems using these skills.

Having students do exercises is particularly important. Students need many exercises in a skill to master that skill, and some skills are part of more complicated ones, which is especially true of legal analysis.[9] In addition, exercises give students self-formative assessment, which helps them understand what they are learning and not learning. Finally, students learn problem-

BLOG HARVARD LAW SCHOOL (2015), https://blogs.harvard.edu/hlscasestudies/2015/08/11/improving-first-year-doctrinal-classes/. Studies have shown that new techniques from general education, such as self-testing, formative assessment, spaced learning, carry over well to legal education. *See e.g.,* Jennifer M. Cooper & Regan A. R. Gurung, *Smarter Law Study Habits: An Empirical Analysis of Law Learning Strategies and Relationship with Law GPA*, PAPERS.SSRN.COM (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3004988; Deborah Jones Merritt, Ruth Colker, Ellen E. Deason, Monte Smith and Abigail B. Shoben, *Formative Assessments: A Law School Case Study*, PAPERS.SSRN.COM (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2955055.

8. Bierman, *supra* note 4.

9. DANIEL KAHNEMAN, THINKING, FAST AND SLOW 101, 238 (2011); K. Anders Ericsson, *The Influence of Experience and Deliberate Practice on the Development of Superior Expert Performance*, *in* THE CAMBRIDGE BOOK OF EXPERTISE AND EXPERT PERFORMANCE 693 (K. Anders Ericsson et.al. eds., 2006); SUSAN AMBROSE ET.AL., HOW LEARNING WORKS: 7 RESEARCH-BASED PRINCIPLES FOR SMART TEACHING 95 (2010) ("For students to develop mastery within a domain, they need to develop a set of key component skills, practice them to the point where they can be combined fluently and used with a fair degree of automaticity, and know when and where to apply them appropriately.").

solving by doing many problems over an extended period, while making mistakes and learning from those mistakes.[10]

Parts II through IV of this paper will present the theoretical basis for the exercises I used in my torts text.[11] Part II will discuss the neurobiology of learning, which must be the foundation for any effective approach to education. Part III will examine the effectiveness of particular learning techniques in relation to the neurobiology of learning. Part IV will lay out "Bloom's Taxonomy," a description of the six stages of cognitive learning. Parts V and VI will then present how I wrote my torts text, based on the theory of the first half. Part V will discuss how to organize the text. Part VI will give the types of exercises that should be included in such a book. These exercises comprise retrieval exercises, issue-spotting exercises, legal reasoning exercises on rule-based reasoning, analogical reasoning, distinguishing cases, rule synthesis, and policy-based reasoning, reflection exercises, metacognitive exercises, professionalism and professional identity exercises, and extended problem-solving exercises.

## II. THE NEUROBIOLOGY OF LEARNING

Any effective approach to learning must be based on how the brain works.[12] The brain is the result of both nature and nurture: "macro-architecture of the brain is genetic, but the micro-architecture is environmental."[13] The brain is prewired in how it receives input and how it reacts to that input.[14] However,

10. ROY STUCKEY ET AL., BEST PRACTICES IN LEGAL EDUCATION 142 (2007).

11. "Pedagogy includes both a theory and a method 'based on such a theory.'" Paul D. Callister, *Time to Blossom: An Inquiry into Bloom's Taxonomy as a Hierarchy and Means for Teaching Legal Research Skills*, 102 LAW LIB. J. 191, 191 (2010-12).

12. A group of educational researchers have declared, "any conversation about effective teaching must begin with a consideration of how students learn." AMBROSE, *supra* note 9, at 1. These authors continued, "We finally have the makings of a research-based theory of how people learn that is educationally relevant (that is, the science of learning) and a set of evidence-based principles for how to help people learn that is grounded in cognitive theory (that is, the science of instruction)." *Id.* at xiii. Another set of researchers has asserted, "People generally are going about learning the wrong ways." PETER C. BROWN ET.AL., MAKE IT STICK: THE SCIENCE OF SUCCESSFUL LEARNING ix (2014).

This section is partially based on material from Chapter Two of my book, DEVELOPING YOUR PROFESSIONAL IDENTITY: CREATING YOUR INNER LAWYER (2015).

13. AMBROSE, *supra* note 9, at 10; *see also* BROWN, *supra* note 12, at 168. "[T]he architecture and gross structure of the brain appear to be substantially determined by genes but the fine structure of neural networks appears to be shaped by experience and to be capable of substantial modification." *Id.*

14. DUANE F. SHELL ET.AL., THE UNIFIED LEARNING MODEL: HOW MOTIVATIONAL, COGNITIVE, AND NEUROBIOLOGICAL SCIENCES INFORM BEST TEACHING PRACTICES 10 (2010).

experience affects the brain on the micro-level by neural firing.[15] In other words, genetics provides the framework, experience the details. Learning is the details.

Thinking, learning, memory, and perception are physical processes in the brain.[16] One can succinctly describe how these processes work: "Brain cells [neurons] fire in patterns."[17] This process is both electrical and neurochemical. Neurons work by passing on electrical charges to other neurons that are connected to them by synapses.[18] The firing neuron sends a chemical signal called a neurotransmitter across the synaptic gap to other neurons.[19] These signals either excite the neurons by increasing their electrical activity causing them to fire or inhibiting their activity.[20] Neurons interact to create complex representations, concepts, and processes.[21]

Based on the above, "learning is a relatively permanent change in a neuron."[22] Because neurons are changed by activity, "learning occurs when the firing ability of a neuron is changed."[23] Similarly, the synapses change with each firing, and linked neurons firing together strengthen the synapses.[24] Importantly for learning, activity causes neurons to grow or die and creates and eliminates neural connections.[25] In addition, practice gradually thickens the

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15. *Id.*

16. PAUL THAGARD, THE BRAIN AND THE MEANING OF LIFE 42-66 (2010). The brain has two main functions: 1) "to take in and save information about the world from the senses," and 2) "produce motor outputs that generate functional behaviors in the world."; *see also* SHELL, *supra* note 14, at 8-9. The parts of the brain associated with learning are located mainly in the cortex. *Id.* at 7.

17. THAGARD, *supra* note 16, at 44 (quoting Steven Pinker); *see also* SHELL, *supra* note 14, at 8-9. Humans are born with approximately 100 billion neurons. BROWN, *supra* note 12, at 166. Benedict Carey has aptly called a neuron a "biological switch." BENEDICT CAREY, HOW WE LEARN: THE SURPRISING TRUTH ABOUT WHEN, WHERE, AND WHY IT HAPPENS 6 (2014). He continued, "It receives signals from one side and–when it "flips" or fires–sends a signal out the other, to the neurons to which it's linked." *Id.*

18. THAGARD, *supra* note 16, at 44. I will use synapse when I am referring to the connections between neurons. I will use connections in its more general meaning.

19. *Id.* at 44-45.

20. *Id.* at 45.

21. *Id.* at 46-50; SHELL ET.AL., *supra* note 14, at 12.

22. SHELL ET.AL., *supra* note 14, at 7. In this book, Dr. Shell and his co-authors have produced a unified model of learning that synthesizes research on learning theory. As the authors assert, "What the ULM does is bring these disparate topics together under a single umbrella." *Id.* at 1. Professor Pinker points out that "the brain changes when we learn." STEVEN PINKER, THE BLANK SLATE: THE MODERN DENIAL OF HUMAN NATURE 85 (2002).

23. SHELL, *supra* note 14, at 8.

24. *Id.* at 9.

25. *Id.*

myelin coating of the axons,[26] which increases the electronic signals strength and speed of the electrical signals and performance.[27]

There are two types of memory: long-term memory and working memory. When humans learn something, it becomes knowledge stored in the brain in long-term memory consisting of the firing potentials and interconnections of neurons.[28] Professor Duane Shell, an educational cognitive psychologist, and his colleagues define knowledge as: "Knowledge is everything we know. It not only means facts and concepts, but also problem-solving skills, motor behaviors, and thinking processes."[29] In other words, it includes procedural knowledge.[30] They continue: "Knowledge . . . is entirely the result of the micro-architecture of the brain . . . It is due to neural patterns in that region having been strengthened and weakened in ways that correspond to learning algebra, calculus, etc. The strengthening and weakening of neurons is learning. Thus, the micro-architecture of the brain and as a result, virtually all of our knowledge is the result of learning."[31]

Developing an excellent long-term memory is important because humans need knowledge--background information--to solve problems.[32] People cannot develop skills unless they possess knowledge to use with those skills.[33] Moreover, background knowledge provides context. Factual knowledge in long-term memory also facilitates "chunking," which will be discussed later.[34]

Working memory is both the key to learning and its bottle neck.[35] Working memory has two functions–temporary storage and processing of information.[36] The senses receive a great deal of input, which is aggregated into sensory output and sent to the working

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26. Susan Stuart & Ruth Vance, *Bringing a Knife to the Gunfight: The Academically Unprepared Law Students and Legal Education Reform*, 48 VAL. L. REV. 41, 76 (2013). Axons are "long extensions connecting neurons from one area of the brain to another." *Id.*

27. BROWN, *supra* note 12, at 170-71; *see also* CAREY, *supra* note 17, at 6.

28. SHELL, *supra* note 14, at 33. "Long-term memory is the vast storehouse in which you maintain your factual knowledge of the world." DANIEL T. WILLINGHAM, WHY DON'T STUDENTS LIKE SCHOOL: A COGNITIVE SCIENTIST ANSWERS QUESTIONS ABOUT HOW THE MIND WORKS AND WHAT IT MEANS FOR THE CLASSROOM 14 (2009). In other words, long-term memory is each individual's personal library.

29. SHELL, *supra* note 14, at 2.

30. WILLINGHAM, *supra* note 28, at 16.

31. SHELL, *supra* note 14, at 10.

32. WILLINGHAM, *supra* note 28, at 16; "All new learning requires a foundation of prior knowledge." BROWN, *supra* note 12, at 5

33. WILLINGHAM, *supra* note 28, at 25.

34. *Id.* at 34.

35. SHELL, *supra* note 14, at 3, 10-13. "Working memory does not have a clearly defined anatomical area. It appears to be a collection of brain regions in the prefrontal cortex along with other structures such as the hippocampus." *Id.* at 11.

36. *Id.* at 2, 19.

memory.[37] However, the working memory cannot handle all this sensory input, so one of its roles is "attention"–to process some of this input and ignore other parts.[38] Attended memory activates neurons in a temporary memory area, which "creates a neural representation of the sensory input in working memory."[39]

Working memory has only about four slots.[40] However, these slots can hold from single letter to complex chunks (schemas),[41] which are an aggregation of single, related bits of knowledge.[42] From a neurobiological viewpoint, chunks are neurons connected by synapses.

Working memory is devoted to a task when slots are available for input and attention or processing is directed to the slot.[43] Attention directs sensory input, and it prevents a temporary memory from being erased.[44] Humans can focus attention, and this mainly depends on concentration.[45]

Storage is the "process of turning a specific [sensory] input into a permanent trace" in the long-term memory.[46] "Long-term potentiation" preserves this input for a few hours.[47] "If the neural pattern does not decay, it activates a neural pattern in the cortical region that produces a permanent memory trace of the original input."[48] When a trace is the same as a neural pattern already in long-term memory, the pattern is fired, and it is strengthened in the long-term memory.[49] If this happens frequently, the pattern is further strengthened, and working memory recognizes it more quickly--called retrieval.[50] To become a permanent memory, a pattern needs to be retrieved again and again.[51] In other words,

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37. *Id.* at 11.
38. *Id.*
39. *Id.*
40. *Id.* at 27; *see generally* J. Scott Saults & Nelson Cohen, *A Central Capacity Limit to the Simultaneous Storage of Visual and Auditory Arrays in Working Memory*, 136 J. EXPER. PSYCH., GEN. 663 (2007).
41. SHELL, *supra* note 14, at 27. "Chunks dramatically expand working memory capacity." *Id.* at 28; *see also* Hillary Burgess, *Deepening the Discourse Using the Legal Mind's Eye: Lessons from Neuroscience and Psychology that Optimize Law School Learning*, 29 QUINNIPIAC L. REV. 1, 41 (2010) ("When students form connections between information in their long-term memory, they can chunk the entire schema into one memory slot.").
42. SHELL, *supra* note 14, at 27; *see also* WILLINGHAM, *supra* note 28, at 34-35.
43. SHELL, *supra* note 14, at 22.
44. *Id.* at 21, 24.
45. *Id.* at 20, 29.
46. *Id.* at 11.
47. *Id.*
48. *Id.*
49. *Id.* at 12, 22.
50. *Id.* at 12; *see also* BROWN, *supra* note 12, at 3-4.
51. SHELL, *supra* note 14, at 12.

repetition is essential to learning because it affects long-term memory and the connections within long-term memory.[52]

Retrieval of knowledge requires cues.[53] Cues are associated with specific knowledge, and they help the brain recall the knowledge later. Practicing and applying what you've learned generates cues, as does relating knowledge to what we already know.[54]

When two sensory inputs are in working memory together then stored in long-term memory, the two inputs will form a neural pattern. When one of the inputs is retrieved, it fires the neuron of the other one because the neurons are chained together, also known as matching.[55] This function also occurs when more than two inputs are involved in the pattern.[56] The fact that this can continue infinitely allows our brains to build knowledge of concepts and objects.[57] In other words, because patterns are connected by the chaining of neurons, matching a part of a chain activates the entire chain.[58] This us called pattern matching. Thus, with the help of long-term memory and chunking, working memory can process a great quantity of knowledge.[59] For example, human brains store the appearance, taste, and odor of an apple together.[60] Consequently, when a person sees an apple, she can also link to its smell and taste in a single slot.[61] In sum, "learning is about connections."[62] Connections provide organization of knowledge.[63] Experts have many connections between nodes, while novices have few connections.[64]

Motivation affects working memory.[65] Just because working memory slots are available does not mean they are being used.[66] Working memory is substantially connected to and receives input from the emotions.[67] Emotion from emotional inputs and long-term

52. *Id.* at 14.
53. BROWN, *supra* note 12, at 75.
54. *Id.* at 75-76.
55. SHELL, *supra* note 14, at 14.
56. *Id.*
57. *Id.*
58. *Id.* Pattern matching is usually not exact. *Id.* at 35.
59. *Id.* at 57.
60. *Id.* at 12.
61. *Id.*
62. *Id.* at 20. Researchers have demonstrated that part of being an expert is having many connections between neurons.
63. AMBROSE, *supra* note 9, at 49-54.
64. *Id.* at 49.
65. SHELL, *supra* note 14, at 3, 13.
66. "Students may have all their working memory capacity available, but if they are not motivated to focus their attention on the learning task, and allocate their capacity to that task, they likely will not learn anything." *Id.* at 66.
67. *Id.* at 13.

memory influences attention and allocation of working memory, which affects the effort an individual expends in learning.[68]

Based on the above, Dr. Shell and his co-authors have developed the three basic principles of learning (the Unified Learning Model or ULM):

1. Learning is a product of working memory allocation.

2. Working memory's capacity for allocation is affected by prior knowledge.

3. Working memory allocation is directed by motivation.[69]

They then set out five rules of learning:

1. New learning requires attention.

2. Learning requires repetition.[70]

3. Learning is about connections.

4. Some learning is effortless; some requires effort.[71]

5. Learning is learning.

In sum, learning occurs when teachers help students active the learning neural mechanisms in their brains.[72]

## III. THE EFFECTIVENESS OF SPECIFIC LEARNING TECHNIQUES

Active learning is the most important technique to help students learn, retain material, and use that material. As Peter Brown and his colleagues averred in the best-selling book *Make it Stick*, "It is better to solve a problem than memorize a solution."[73] Learning is not a passive activity, but it is one in which students must participate. Memorization by itself is superficial learning; one must use the facts to truly learn. Active learning strategies also help students absorb complex material better than passive ones because active learning involves students in manipulating and processing information.[74]

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68. *Id.* "If you don't pay attention to something, you can't learn it!" WILLINGHAM, *supra* note 28, at 55; SHELL, *supra* note 14, at 14.

69. *Id.* at 3. The ULM is a micro-level cognitive model. *Id.* at 65.

70. Repetition is much more than rote memorization or "drill and kill." *Id.* at 181. Repetition is most effective when there is variety in the repetition. Contextualizing also gives variety to repetition. *Id.*

71. BROWN, *supra* note 12, at 3 "Learning is deeper and more durable when it is effortful." *Id.*

72. *Id.* at 16.

73. *Id.* at 88.

74. Robin A. Boyle, *Employing Active-Learning Techniques and Metacognition in Law School: Shifting Energy from Professor to Student*, 81 U. DET.-MERCY L. REV. 1, 3-4 (2003); Paula Lustbader, *From Dreams to Reality: The Emerging Role of Law School Academic Support Programs*, 31 U.S.F. L. REV. 839, 855 (1997); *see also* Gerald F. Hess, *Heads and Hearts: The Teaching*

Several researchers recently published a comprehensive study on active learning in STEM, Science, Technology, Engineering and Mathematics, training.[75] They concluded that active learning had a significant impact on student performance.[76] According to Scott Freeman, one of the authors of the study, "The impact of these data should be like the Surgeon General's report on 'Smoking and Health' in 1964–they should put to rest any debate about whether active learning is more effective than lecturing."[77]

Researchers have extensively studied the effectiveness of specific active learning techniques.[78] One study rated the effectiveness of ten types of self-study techniques commonly used by students.[79] They found that practice testing and distributed practice received high utility assessments, elaborative interrogation, self-explanation, and interleaved practice received moderate utility assessments, and five techniques had low utility assessments: summarization, highlighting, the keyword mnemonic, imagery use for text learning, and rereading.[80] I discuss the more effective learning techniques below.

Practice testing, a type of active learning, is "[s]elf-testing or taking practice tests over to-be-learned material."[81] Several hundred studies have demonstrated that self-testing improves learning and retention because testing solidifies learning especially when accompanied by feedback.[82] From a neurobiology of learning

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*and Learning Environment in Law School*, 52 J. LEGAL EDUC. 75, 102 (2002) ("Active learning methods are effective in achieving many of the primary goals of legal education, including higher-level thinking skills (analysis, synthesis, evaluation, and critical thinking), content mastery (By developing knowledge and concepts, students attain a deeper level of understanding), professional skills . . . and positive attitude . . .")).

75. Aatish Bahtia, *Active Learning Leads to Higher Grades and Fewer Failing Students in Science Math, and Engineering*, WIRED.COM (2014), www.wired.com/2014/05/empzeal-active-learning/ ("Students in active learning classes outperform those in traditional lectures on identical exams."). The authors noted that active learning especially benefits minorities and women in STEM fields. *Id.*

76. *Id.*

77. *Id.*

78. Henry L. Roediger III & Mary A. Pyc, *Inexpensive Techniques to Improve Education: Applying Cognitive Psychology to Enhance Educational Practice*, 1 J. APPLIED RESEARCH IN MEMORY AND COGNITION 242, 242 (2012), www.bryanburnham.net/wp-content/uploads/2014/01/Roediger-Pyc-2012-Inexpensive-techniques-to-improve-education-Applying-cognitive-psychology-to-enhance-educational-practice.pdf.

79. John Dunlosky et.al., *Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology*, 14 PSYCHOLOGICAL SCIENCE IN THE PUBLIC INTEREST 4 (2013); *see generally* Roediger & Pyc, *supra* note 78, at 243.

80. Dunlosky, *supra* note 79, at 5. As one scholar has stated, "not just any repetition will do." WILLINGHAM, *supra* note 28, at 59.

81. Dunlosky, *supra* note 79, at 6.

82. *Id.* at 29; Roediger & Psy, *supra* note 78, at 245-46; BROWN, *supra* note 12, at 28-39. In one study of the testing effect, students scored a grade level

viewpoint, self-testing improves retention because it triggers elaborative retrieval processes.[83] "Attempting to retrieve target information involves a search of long-term memory that activates related information, and this activated information may then be encoded along with the retrieved target, forming an elaborated trace that affords multiple pathways to facilitate later access to that information."[84] In other words, it causes neurons to fire strongly, and it strengthens synapses. Moreover, practice testing also helps retention and test performance by helping students organize knowledge and process and see distinct features of things.[85] Finally, researchers have suggested that practice tests involving generative responses, such as recall or short answer, are more effective than ones that are less generative, such as multiple choice or recognition.[86]

With distributive practice, students spread learning of a particular item over time.[87] Spacing learning aids retention much more than massing learning, such as cramming.[88] When students try to cram learning into a short time, retention suffers because such learning does not involve retrieval and is too easy.[89] Moreover, "embedding new learning in long-term memory requires a process of consolidation, in which memory traces (the brain's representations of the new learning) are strengthened, given meaning, and connected to prior knowledge–a process that unfolds over hours and may take several days."[90]

Elaborative interrogation is "[g]enerating an explanation for why an explicitly stated fact or concept is true."[91] This technique is

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higher on material that had been quizzed in comparison to material that had not been quizzed. BROWN, *supra* note 12, at 35. For a study of law students and self-testing *see* Cooper & Gurung, *supra* note 7.

83. Dunlosky, *supra* note 79, at 30.

84. *Id.*

85. *Id.*

86. *Id.* at 31; *see also* BROWN, *supra* note 28, at 40-41.

87. Dunlosky, *supra* note 79, at 6.

88. *Id.* at 35; Roediger & Pyc, *supra* note 78, at 243. "If information is repeated in a distributed fashion or spaced over time, it is learned more slowly but is retained for much longer." *Id.* Psychologist William James explained why cramming is ineffective:

> Things learned in a few hours, on one occasion, for one purpose, cannot possibly have formed many associations with other things in the mind. Their brain-processes are led into by few paths, and are relatively little liable to be awakened again. Speedy oblivion is the almost inevitable fate of all that is committed to memory in this simple way.

WILLIAM JAMES, THE PRINCIPLES OF PSYCHOLOGY 445 (1890). The only thing that one can add today to James's explanation is that the "associations" are neural connections–synapses.

89. Dunlosky, *supra* note 79, at 36. Spaced practice involves "effortful recall of learning." BROWN, *supra* note 12, at 82.

90. BROWN, *supra* note 12, at 49.

91. Dunlosky, *supra* note 79, at 6; *see also* WILLINGHAM, *supra* note 28, at

effective because it causes the learner to draw on prior knowledge to generate an explanation for a fact or concept.[92] This activates pre-existing schema in the mind, which helps organize the new information by processing similarities and differences between the new and old material.[93] Relating new information to prior knowledge strengthens the retention of the new information and creates more connections among items stored in long-term knowledge, which helps retention and retrieval.[94]

Self-explanation is "[e]xplaining how new information is related to known information, or explaining steps taken during problem solving."[95] Self-explanation requires students to explain their learning process.[96] Self-explanation improves learning by relating new learning to old learning.[97] In other words, it creates new connections among neurons.

Interleaved practice, the opposite of blocked learning, involves covering different material or doing different kinds of learning in the same session.[98] For example, a student could study torts, then property, then come back to torts. Interleaving is effective because it is difficult; it requires effortful learning.[99] In addition, it helps students develop their problem-solving skills because they can see the proper approach for different fields and compare them.[100] In other words, interleaved learning helps students develop the ability to use knowledge and skills in new contexts, which is called transfer.[101] This also requires students to retrieve information from long-term memory, thus enhancing long-term memory.[102]

Scholars have tested additional learning techniques. Varied practice, learning knowledge or a skill in different ways, helps transfer learning from one context to another because different types of learning use different parts of the brain.[103] Moreover,

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63. Teachers "must design lessons that will ensure that students are thinking about the meaning of the material." *Id.*

92. Dunlosky, *supra* note 79, at 8. "For example, if they learn that it takes Neptune longer than Mars to revolve around the sun, they should ask themselves why this is the case. By trying to answer the 'why' question, the students have to think the issue through to understand it and then they will remember it better." Roediger & Pyc, *supra* note 78, at 246.

93. Dunlosky, *supra* note 79, at 8.

94. BROWN, *supra* note 12, at 5

95. Dunlosky, *supra* note 79, at 6. "For example, while reading a new page of text, they might be asking themselves: What facts on this page do I already know? What facts are new?" Roediger & Pyc, *supra* note 78, at 246.

96. Dunlosky, *supra* note 79, at 11.

97. *Id.* at 11; AMBROSE, *supra* note 9, at 15. "In essence, new knowledge "sticks" better when it has prior knowledge to stick to." *Id.*

98. Dunlosky, *supra* note 78, at 6; *see also* BROWN, *supra* note 12, at 49-50.

99. BROWN, *supra* note 12, at 85.

100. Dunlosky, *supra* note 79, at 40, 41.

101. Roediger & Pyc, *supra* note 78, at 243-44.

102. Dunlosky, *supra* note 79, at 41.

103. BROWN, *supra* note 12, at 51.

"varied practice helps learners build a broad schema, an ability to assess changing conditions, and adjust responses to fit."[104] Another effective learning method is deliberate practice, or focused practice, which is goal-directed and involves gradually doing harder and harder things.[105] With deliberate practice, students are working on the details of an area, such as when a violinist concentrates on the interpretation of a passage.[106] Deliberate practice must 1) be designed to specifically improve performance, 2) include repetition, 3) involve continuous feedback, and 4) be highly demanding mentally.[107] It forces learners to go beyond their comfort zones so that they can master a thing that is initially beyond their grasp.[108] This is how an average violinist becomes a superior one, and it will work, too, for law students.

Finally, cognitive scientists have shown that rereading and text highlighting are not as effective study techniques as those discussed above.[109] However, reading while self-explaining, reflecting, and questioning is a very effective technique for learning.[110]

## IV. BLOOM'S TAXONOMY

The revised "Bloom's Taxonomy," a seminal description of the six stages of cognitive thinking, is consistent with the neurobiology of learning presented above.[111] Bloom's shows how people learn; it is the roadmap of learning.[112] Students need to be proficient in all stages of the taxonomy to be effective lawyers.

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104. *Id.* at 65.

105. *Id.* at 188.

106. SHELL, *supra* note 14, at 156.

107. GEOFF COLVIN, TALENT IS OVERRATED: WHAT REALLY SEPARATES WORLD-CLASS PERFORMERS FROM EVERYBODY ELSE 67-72 (2008).

108. Ericsson, *supra* note 9, at 694.

109. Cooper & Gerung, *supra* note 7; Roediger & Pyc, *supra* note 78, at 247; BROWN, *supra* note 12, at 3 ("A single simple quiz after reading a text or hearing a lecturer produces better learning and remembering than rereading the text or reviewing lecture notes.").

110. Roediger & Pyc, *supra* note 78, at 247.

111. David R. Krathwohl, *A Revision of Bloom's Taxonomy: An Overview*, 41 THEORY INTO PRACTICE 212, 214 (2002). "The taxonomy has been widely documented as supporting student mastery of learning and as an assessment tool to measure student competency and knowledge acquisition." Christine N. Venter, *Analyze This: Using Taxonomies to "Scaffold" Students' Legal Thinking and Writing Skills*, 57 MERCER L. REV. 621, 637 (2006); *see also* Stuart & Vance, *supra* note 26, at 50. "One of the most useful heuristic tools for examining the building blocks of increasingly sophisticated cognitive skills is Bloom's Taxonomy of Educational Objectives." *Id.*

112. Michael T. Gibson, *A Critique of Best Practices in Legal Education: Five Things All Law Professors Should Know*, U. BALT. L. REV. 1, 21 (2012).

The steps of the revised taxonomy are 1) remember, 2) understand, 3) apply, 4) analyze, 5) evaluate, and 6) create. Here is a more detailed version:[113]

I. **Remember**–Retrieving relevant knowledge from long-term memory.

A. Recognizing

B. Recalling

Verbs: define, duplicate, list, memorize, recall, repeat, reproduce, state.

II. **Understand**–Determining the meaning of instructional messages, including oral, written, and graphic communication.

A. Interpreting

B. Exemplifying

C. Classifying

D. Summarizing

E. Inferring

F. Comparing

G. Explaining

Verbs: classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase.

III. **Apply**–-Carrying out or using a procedure in a given situation.[114]

A. Executing

B. Implementing

Verbs: choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write.

IV. **Analyze**–Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.[115]

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113. Krathwohl, *supra* note 111, at 214. The verbs are from Richard C. Overbaugh & Lynn Schultz, *Bloom's Taxonomy*, ODU.EDU, www.odu.edu/content/dam/odu/col-dept/teaching-learning/docs/blooms-taxonomy-handout.pdf (last visited Jan. 24, 2018).

114. Professor Gibson has remarked, "Application forces us to confront material we subconsciously are afraid to confront. It shows which part of a rule or concept we do not understand." Gibson, *supra* note 112, at 10.

115. Scholars have broken down analysis even further:

(A) to identify the material's unstated assumptions;
(B) to distinguish the material's facts and its hypotheses;
(C) to distinguish the parts of the material that concern facts and the parts that reflect standards or norms;
(D) to identify which parts of the material are conclusions, and which parts support those conclusions;
(E) to recognize which parts of the information (such as which elements

A. Differentiating

B. Organizing

C. Attributing

Verbs: appraise, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.

V. **Evaluate**–Making judgments based on criteria and standards.

A. Checking

B. Critiquing

Verbs: appraise, argue, defend, judge, select, support, value, evaluate.

VI. **Create**–Putting elements together to form a novel, coherent whole or make an original product.

A. Generating

B. Planning

Verbs: assemble, construct, create, design, develop, formulate, write.

Examples:

1. Remember: Define proximate cause. What are the elements of negligence? What are the policies behind torts law? Name the intentional torts.

2. Understand: Describe how negligence works. Giving an example of negligence. Being able to put defamation in the intentional tort category. Summarizing the law of adverse possession. Inferring negligence from running a red light. Comparing criminal battery to torts battery. Explaining battery to another person. Interpreting a statute. What facts are material? Identify the type(s) of legal reasoning used by the judge in this case.

3. Apply: Do the following facts constitute negligence? Applying a statute to a set of facts. Collecting a judgment.

4. Analyze: How is case A similar to case B? How is case A different from case B? Putting the elements of battery in a logical order. Breaking apart the facts of a case and showing how they do or do not constitute false imprisonment. Breaking down the parts of a statute and understanding how the parts fit together.

5. Evaluate. Did I follow the proper steps in doing this research? Does my conclusion make sense? Critique the court's decision. Is this the best rule for this problem from a policy standpoint? What is the ideological view behind this case?

6. Create: Synthesizing a group of cases to come up with a rule. Planning a litigation strategy. Writing an analysis of a problem.

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of a rule) are essential to a particular argument;
(F) to identify logical fallacies in an argument;
(G) to realize 'causal relations and the important and unimportant details in [a] historical account'; and
(H) to recognize the motive or purpose or bias behind an author's writing.
Gibson, *supra* note 112, at 10.

Creating an outline of criminal law. Writing a dissent to the main case.

## V. ORGANIZATION OF A NEW TYPE OF TEXTBOOK

My new type of first-year textbook can be organized in two ways. The first option is like a regular casebook with exercises at the end of each chapter. The other one is a supplemental text containing just exercises, which could be used with any existing casebook or treatise.

The chapter topics would resemble the chapter topics in traditional casebooks. For example, the chapters in my torts text consist of 1. Intentional Torts to the Person, 2. Intentional Torts against Property, 3. Defenses to Intentional Torts, 4. Negligence, 5. Negligence Defenses, 6. Owners and Occupiers of Land, 7. Damages, 8. Other Negligence and Torts Issues, 9. Strict Liability, 10. Misrepresentation, 11. Defamation and Privacy, 12. Products Liability, 13. Other Torts.

My torts text provides interleaving and spacing in three ways. First, the exercises are subject matter cumulative, requiring students to draw on knowledge learned in earlier chapters in later ones. Second, several chapters include review exercises, which reinforce knowledge from previous chapters. Finally, my text uses the types of exercises presented below throughout the chapters, interleaving and spacing the cognitive skills being learned.

Lastly, I start out with simpler exercises and work up to more complicated ones so that the students wouldn't be overwhelmed at the beginning.[116] Because of interleaving, I drill several stages of Bloom's Taxonomy in each chapter.

## VI. KINDS OF EXERCISES

I created the following types of exercises using the most effective learning techniques from the above to develop all stages of the Bloom taxonomy. I developed a wide-variety of exercises to help long-term memory, create connections among ideas, perfect skills, and produce domain transfer.

### *A. Retrieval Exercises*

Retrieval exercises, a type of self-testing, require students to retrieve knowledge from long-term memory. As stated above, a strong long-term memory is important because it provides knowledge and is key to problem-solving. For example, studies have shown that the key difference among chess masters is long-term

116. "[W]hen novices are given too great a challenge, learning is hampered." AMBROSE, *supra* note 9, at 131.

memory.[117] In addition, people who have background knowledge that they can relate to new knowledge remember the new knowledge better than those who do not.[118] Retrieval is much better than rereading or typical studying because it causes the neurons in long-term memory to work harder.[119] It also helps students realize what they know and what they need to work on;[120] making mistakes is a key part of learning.[121] Retrieval exercises can be simple questions.

Examples:

> Question: Write down the elements of negligence.
>
> Question: What are the defenses to battery?
>
> Question: How do pre-existing conditions affect the award of personal injury damages?

Questions will become more complex as the semester progresses. Example:

> Question: Make a chart with all the intentional torts and all the defenses to each tort. (Ex. Battery: consent, necessity, defense of others, etc.) Try to do this drawing only on your memory. If you get stuck, you can use a book. However, you should repeat this exercise until you no longer need to consult an outside source.

**Bloom's taxonomy**: Retrieval exercises help students with the first stage of Bloom's taxonomy: remember.

## *B. Issue-Spotting Exercises*

Issue spotting is the foundational skill for first-year law students because it helps them identify "the meaningful features of the problem."[122] While traditional Socratic classes do teach issue spotting, many students struggle with this skill because they must learn it within long cases. Having short issue-spotting exercises would help many law students become proficient with this skill more quickly.

Examples (these problems concern trespass to property):

> Exercise: Identify the issue in the following facts.
>
> Facts: Marge was cleaning her horse's hoofs. Her horse kicked her

117. WILLINGHAM, *supra* note 28, at 39.

118. *Id.* at 42.

119. Jeffrey D. Karpicke, *Metacognitive Control and Strategy Selection: Deciding to Practice Retrieval During Learning*, 138 J. EXPER. PSYCH.: GEN. 469, 469 (2009). "Once a word pair could be recalled, practicing retrieval two additional times promoted long-term retention much more than studying it two additional times or removing it from further practice, and additional studying produced little benefit relative to dropping items." *Id.* at 483.

120. BROWN, *supra* note 12, at 5-6.

121. *Id.* at 7.

122. AMBROSE, *supra* note 9, at 118.

from her property onto the Bentoit Farm. Her flight knocked down a fence on the Bentoit Farm, which cost $500 to repair.

Answer: Can a person be liable for trespass when a horse kicks them from their property onto another's property? Or, can a person be liable for trespass when they did not voluntarily enter another's property?

Facts: The Lively Dance Club is open to 4 a.m. every night. Thor cannot sleep because of the noise from the club entering the house he owns.

Answer: Is a physical invasion of property necessary for a trespass? Can noise constitute a trespass to property?

**Bloom's taxonomy**: Issue-spotting exercises help students with remember, understand, and apply. Because they require that students use knowledge, they are particularly good at helping them reinforce knowledge and create new connections in the brain to access that knowledge. They also require that students grasp the meaning and intent of the knowledge–understand.

## *C. Legal Reasoning Exercises*

Some skills divide into component skills. Students need to practice these mini-skills to become proficient on the overall task.[123] Legal reasoning divides into five mini-skills: 1) rule-based reasoning (deductive reasoning), 2) analogical reasoning, 3) distinguishing cases, 4) synthesis (inductive reasoning), and 5) policy-based reasoning. Students need to do many exercises in all five types of legal reasoning to become competent legal problem solvers.

One way to help students understand the five types of legal reasoning is to require them to identify the type or types of legal reasoning a judge is using when they read a case. The students should do so in detail, for example, showing how the reasoning by analogy works. They should also evaluate whether the judge used the legal reasoning technique convincingly.

Other examples:

Problem: Label the following types of legal reasoning.

1. A contract requires an offer and an acceptance to be binding. In this case, the plaintiff's letter of July 15 was an offer, and the defendant's phone call on July 16 accepted that offer.

2. *Smith* held that someone who grabs a hat out of another person's hand can be liable for battery. In our case, the defendant grabbed a plate out of our client's hand, which is like grabbing a hat out of a person's hand. Therefore, the defendant should be liable for battery.

123. *Id.* at 100-01. The authors added, "The advantage to practicing a component skill in isolation is that it allows students to focus their attention solely on the skill that needs work." *Id.* at 101.

3. If this court adopts strict liability for defective products, it would make proving liability easier for plaintiffs.

Answers: 1. Rule-based reasoning or deductive reasoning, 2. Reasoning by analogy, 3. Reasoning by policy.

Problems: Identify the type of legal reasoning at each bolded letter.

In case I, an exotic animal lover kept a tiger on his property, being very careful to make sure it did not escape. The tiger escaped and bite a neighbor causing him to incur $500 in medical costs. The court held that the tiger owner was liable for the damages under strict liability on the ground that one who owns a wild animal that escapes and causes personal injury should be liable regardless of fault because the owner brought the wild animal into the neighborhood knowing it was dangerous. (**A**) In case II, a person owned a pit bull. The pit bull escaped even though the owner was very careful to keep it caged up, and it bite a neighbor causing her to incur $500 in hospital bills. The court held that the pit bull owner was strictly liable for the personal injuries because a pit bull is like a tiger. (**B**) In case III, grandma owned a sweet French poodle named Fluffy, which had never even growled at another person before the incident. When a loud helicopter flew overhead, Fluffy became frightened, causing him to bite a neighbor who incurred $500 in medical bills. The court held that Grandma was not liable for the neighbor's medical expenses on the grounds that an owner of a poodle, unlike the owner of a tiger or a pit bull, had no reason to know that Fluffy might bite someone and that someone who has no reason to know of a danger should not be held strictly liable and a French poodle is not like a pit bull or a tiger. (**C**) Based on cases I, II, and III: An owner of an animal that has reason to know that animal might be dangerous can be held strictly liable for personal injury caused by that animal. (**D**)

Answers: A. Reasoning by policy (the court didn't have a precedent on this issue so it was forced to make its decision based on policy), B. Reasoning by analogy (a pit bull is like a tiger because it is a dangerous animal so the rule from case I applies to case II), C. Reasoning by policy and distinguishing cases (a poodle is not like a tiger or a pit bull so the rule from cases I and II should not apply to case III), D. Inductive reasoning (rule synthesis; you are taking the holdings from the three cases and coming up with a broad rule that is consistent with all three cases).

**Bloom's taxonomy**: Requiring students to recognize the type of reasoning a judge is using helps develop understanding because the students must uncover the meaning and content of the material. It also involves analyze because students must be able to separate the parts of a case.

The following subsections contain exercises on each of the mini-skills of legal reasoning.

### *1. Rule-Based Reasoning Exercises*

Rule-based reasoning involves applying a rule (a statute, a case holding, or an administrative regulation) to a set of facts. Rule-based reasoning is a type of deductive reasoning: major premise-minor premise-conclusion.

All As are Bs,
All Cs are As,
Therefore, all Cs are Bs.
Example:

> Proof that a) the defendant's acts were outrageous, b) the defendant's acts were intentional, c) the defendant's acts caused, d) the plaintiff extreme emotional distress establishes intentional infliction of emotional harm. (Major Premise) The facts prove a, b, c, and d. (Minor Premise) The plaintiff has established intentional infliction of emotional harm. (Conclusion) (Of course, this needs a lot more detail. I am only using it to illustrate the skeletal structure of rule-based reasoning.)

### *2. Application Exercises (Rule-Based Reasoning)*

Application exercises are a type of rule-based reasoning. Application exercises present students a short factual scenario and require them to apply their legal knowledge to answer a question concerning the facts. In other words, they are mini problem-solving exercises.

Application exercises help students retain knowledge in their long-term memories because they involve recall. They are active exercises that require students to do more than just review or recognize material.[124] Consequently, students will retain the material much better than with other study methods. They also help students develop the ability to transfer knowledge to different situations. Finally, they help students develop their problem-solving skills by starting them out with simple problems.

Professors should employ application exercises with every unit in the course. As Professor Gibson has noted,

> Application is a huge step. People who comprehend information may not be able to decide when or how they should use it. It is one thing for a medical student who has just memorized the symptoms of Disease X to answer correctly if her supervisor asks, "Does this patient have Disease X?" It is another thing when the medical student has studied a hundred diseases and is able to answer correctly if her supervisor asks, "What disease does this patient have?"[125]

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124. WILLINGHAM, *supra* note 28, at 26. "[F]acts must be taught, ideally in the context of skills . . . " *Id.*

125. Gibson, *supra* note 112, at 9.

I would suggest ten to twenty exercises covering each legal rule and its variations for each unit.

Examples:

> Question: John walks up to a pretty girl in a bar, and he starts to talk to her. Her boyfriend then hits John in the mouth, and John is hurt. Has a tort occurred? If so, which one?
> Answer: The way to answer this question is to think about all the potential torts, then see if the facts fit the elements of any of those torts. In this case, the facts constitute battery.
>
> Question: Robin went to Dr. Samali, a plastic surgeon, for a nose job. Robin looks terrible after the surgery, and she sues Dr. Samali for battery. Does Dr. Samali have a defense?
>
> Answer: Yes. Robin consented to the operation.
>
> Question: Larry went to Dr. Samali for a nose job. He signed a consent form for the operation. While doing the operation, Dr. Samali decides that Larry's ears could also use a little work. Both the nose job and ear job look terrific. However, Larry sues Dr. Samali for battery for doing the ear job. Does Dr. Samali have a defense?
>
> Answer: No. Dr. Samali went beyond the scope of consent when he did the ear job. Also, the fact that the operation came out well is irrelevant. Battery does not require proof of damages.
>
> Question: Mara owns five acres of property with a house in Shelby County. Sander and his family live on the property under a five-year lease. Last month, Sander put in a new walkway to the house. He did a poor job, and the walkway became dangerous after a storm. The postman was injured on the walkway while delivering the mail. Can the postman recover from Mara?
>
> Answer: No. While Mara owns the property, she does not have possession or control of the property; she is not an occupier of the property.

**Bloom's taxonomy**: Application exercises involve the first three stages of Bloom's taxonomy–remember, understand, and apply. Because students must recall the law from their long-term memories, these exercises reinforce their knowledge. Applying the law to facts strengths understanding. Finally, application exercises provide practice in apply since they concern applying appropriate knowledge to new situations.[126]

### *3. Analogical Reasoning Exercises*

Reasoning by analogy involves finding similarities, and it compares the specific to the specific. With legal reasoning by analogy, one argues that the facts of the precedent case are like the facts of the current case so that the rule of the precedent case should

126. "Students must develop and learn when and how to apply the skills and knowledge they learn." AMBROSE, *supra* note 9, at 5.

apply to the current case.[127] A lawyer can also argue using analogy between policies. Because two cases are rarely exactly the same, one must convince the reader that the facts of the two cases are similar enough that the rule from the precedent case should apply to the present one.

There are several ways to structure analogical reasoning exercises.

Examples:

> Exercise: Is the following case a convincing precedent for the new case?
>
> Precedent: Bob Tatum is a professional boxer. He fights for the world title in Las Vegas against Tiger Ali. Tiger knocks Bob to the mat with a sharp left to the head. Bob is badly injured, and he sues Tiger for battery. Holding: Tiger has a defense to battery because Bob consented to being punched by participating in the boxing match.
>
> New case: Kevin Miller is the catcher for the Toledo Mud Hens. While standing in the on-deck circle, he gets hit with a batted ball. Kevin is badly injured. Kevin wants to sue his teammate and his club for his injury.
>
> Answer: Yes. It is a convincing precedent because the facts are very similar. Aboxer consents to a getting punched, a battery, by stepping into a boxing ring. Likewise, a baseball player consents to the usual dangers of playing baseball, which includes getting hit by a line drive when he steps on the field. The consent defense applies to both cases.
>
> Exercise: Use the Tatum case to analyze the following facts.
>
> Facts: Jerry is attending a baseball game with his family. While sitting in the stands, he gets hit with a line drive. Jerry is badly injured. Jerry wants to sue the batter and his club in tort.
>
> Answer: Answering this question is much harder than answering the last one. In the first exercise, the substantial similarity between the facts of the two cases was obvious. Here, while there are important similarities, they are also material differences. The plaintiff was a spectator, not a participant. From a policy standpoint, the consent rule makes sense for athletes. Athletes get punched, tackled, and hit with flying objects as a part of the game. To allow recovery for every battery or negligence that occurs in an athletic contest would end most sports.
>
> A good attorney could argue either side in this case. For the defendant, the attorney would argue that a spectator is like a participant because spectators also sometimes suffer injuries when they attend baseball games, and this is common knowledge. The plaintiff's attorney would argue that a spectator is not like a participant because the policy behind assuming consent for participants does not apply to spectators.
>
> Exercise: Mark was a knife thrower at a carnival. Linda volunteered to allow Mark to throw knives at her as a part of his act. One of the

127. *Id.*

knives came dangerously close to Linda's head, and she sued Mark for assault. Assault is defined as making one apprehensive of a harmful touching. Which of the following would most help Mark's case?

a. There is no battery without a harmful touching.

b. A person who is unconscious cannot recover for an assault.

c. These is no false imprisonment, if a person can return the way he came.

d. Consent is a defense to battery.

Answer: d. Linda consented to having knives thrown at her. If consent is a defense to a battery, it should also be a defense to an attempted battery-assault. The definition of assault does not require a harmful touching, so a doesn't help. Concerning b, there was no indication in the facts that Linda was unconscious. c is irrelevant to this case.

Exercise: Read the following case and determine whether it is an appropriate analogy for the cases that follow. Assume you are trying to find appropriate cases for a brief. [Full case, followed by several factual situations.]

**Bloom's taxonomy**: Analogical exercises require understanding and analysis.

*4. Distinguishing Cases*

In distinguishing cases, one argues that the facts of the precedent case are not like the facts of the present case so that the rule from the precedent case does not apply to the present case.[128] In other words, it is the opposite of analogical reasoning. As with analogical reasoning, it is a question of degree. Being able to see subtle differences, as is required with distinguishing cases, is a key skill in the ability to organize knowledge.[129]

Examples:

Distinguish case A from case B.

Problem: Case A: Facts: Sean and Arnaud are hunting deer in the woods. Sean suddenly yells, "there's a deer," and Arnaud shoots. Unfortunately, it is not a deer; it is Ani, and she is badly hurt. Outcome: The jury finds Sean and Arnaud jointly and severally liable for Ani's injuries. Case B. Facts: Elmer is hunting a rabbit. Thinking he sees a rabbit, he quickly shoots. However, he hits Kristin who is picking wildflowers. His bullet grazes her, and she has to go to the emergency room to have the wound sewn up at a cost of $100. At the same time, Elmer shot Kristin, Colin also shot at her thinking she was a duck. This shot badly injured Kristin in an amount of $100,000. Kristin's lawyer knows that Colin is broke. He would like to recover all of Kristen's damages from Elmer.

128. *Id.*

129. AMBROSE, *supra* note 9, at 61; *see also* BROWN, *supra* note 12, at 53-55.

Answer: Gloria cannot recover the full amount from Elmer because he only caused part of the injuries ($100). Joint and several liability does not apply when the injuries are separate.

Problem: Case A: Jose works for Gonzalez Construction Company. He is injured on the job. His damages include pain and suffering. Outcome: the court will not allow Jose to recover for paining and suffering from his employer because the matter is covered by worker's compensation. Case B: Becky is driving home from work. Her employer, Barbara Jean, suddenly comes up behind her. Barbara Jean is texting her husband, so she does not notice that Becky is stopped at a red light. Barbara Jean's car hits Becky's. Becky's alleged damages include pain and suffering. Barbara Jean would like to limit Becky's damages.

Answer: In case A, Jose is clearly acting within the scope of his employment. Thus, worker's compensation and its limits apply. In case B, although Barbara Jean is Becky's employer, worker's compensation does not apply because the accident is unrelated to the employment.

**Bloom's taxonomy**: Like analogical-reasoning exercises, distinguishing cases drill students in understanding and analysis.

*5. Synthesis Exercises*

Rule synthesis involves using holdings from several related cases to come up with a general rule. It is a type of inductive reasoning--going from the specific to the general. The law is like a jigsaw puzzle, and a lawyer must assemble the pieces. To synthesize a rule, you should look at the similarities among the facts of the precedent cases and the differences among the facts of those cases. You should also look at the reasoning behind the holdings.

Examples:

Problem: Synthesize a rule from the following cases. Case 1. Facts: Safari Adventures operates rugged adventure tours in the American West. To go on one of their tours, a person has to sign one of their waivers. The waiver says, "While Safari Adventures takes all reasonable precautions to protect tour members, our tours operate in rugged areas of the Rocky Mountains. Therefore, all participants on our tours waive all claims against Safari Adventures except those based on recklessness." Outcome: The court upholds the waiver.

Case 2. Facts: West Indies Cruises operates luxury cruises in the Caribbean. Before going on a cruise, passengers must sign the following waiver: "Passengers on West Indies Cruises waive all claims against West Indies Cruise, including those for negligence." Holding: "This court holds this waiver to be unconscionable because its terms are unfair."

Case 3. Facts: All taxicabs within the city limits have the same waiver posted prominently on the outside and inside of their cabs: "Taxicab owners are not liable for property left in their cabs." Kuan leaves her valuable cello in a taxicab. When she calls the cab company the next

day, they cannot find her cello. Kuan sues the taxi company for the value of the cello. Holding: Kuan cannot recover because the terms of the waiver were not unfair.

Case 4. Facts: Sheryl takes driving lessons from Bowman Driving School. Although most driving schools do not have a waiver of liability, Bowman requires all students to sign a waiver that waives all claims against Bowman including for negligence. Sheryl is injured while taking a driving lesson due to her instructor's negligence. Outcome: The court upholds the waiver because Sheryl could have gone to another driving school; thus, she didn't lack bargaining power.

Answer: A court will uphold a waiver of liability unless it is unconscionable. A waiver is unconscionable if there is a lack of bargaining power and the terms are unfair. The first thing to do to solve this problem is to determine how many factors are in the rule. In this case, there are two factors. Then, diagram the factors to see how the presence or absence of a factor affects the outcome. Finally, determine whether the terms are conjunctive or disjunctive.

Problem: How does the following case affect the rule you synthesized above? Facts: Janet goes to an attorney to have him draft a contract for the sale of property. Before the attorney will see her, he has her sign a waiver that frees him from all liability for negligence in handling her transaction. Most of the attorneys in the area do not require such a waiver. Janet losses $100,000 because the attorney made a serious mistake in drafting the contract. Held: Janet can recover from the attorney despite the waiver because attorneys cannot require clients to waive liability because they are professionals.

Answer: The new case does not affect the general rule at all because it concerns a different situation. The existing cases involved waiver under normal circumstances. The new case concerns waiver in cases involving professionals. Because professionals are usually held to a higher standard than average individuals, the rule for them does not apply to average individuals. Always be certain that the cases you are trying to synthesize go together.

Other types of synthesis exercises can also help students acquire synthesis skills. For example, a professor could assign students to write an essay on defamation using several sources, such as treatises and encyclopedias. Synthesis of multiple sources creates a generative effect because materials created by the learner are more easily remembered and used than materials produced by the teacher.[130] This is a good example of deep learning.[131]

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130. Jennifer McCabe, *Metacognitive Awareness of Learning Strategies in Undergraduates*, 39 MEM. COGN. 462, 465 (2011).

131. Under this process, "the learner transforms the information in long-term memory, which includes linking the information into new knowledge structures." John A. McNulty et.al., *Study Strategies are Associated with Performance in Basic Science Courses in the Medical Curriculum*, 1 J. EDUC. & LEARNING 1, 2 (2012).

**Bloom's taxonomy**: Synthesis exercises involve stage six–create–because they make students combine separate parts to create something new. To be able to do this requires understanding and analysis.

*6. Policy-Based Reasoning*

With policy-based reasoning, the lawyer argues that applying a particular rule to a case would create a precedent that is good for society. For example, in early products liability cases, lawyers argued for strict liability when a product injured a consumer because manufacturers could better spread the cost of injuries than consumers. One can also use policy-based reasoning with reasoning by analogy. For instance, one could argue that the policy behind the rule in the precedent case also applies to the present case so the rule from the precedent case should also apply to the present case.

Examples:

> Problem: The following exercise requires you to decide based on policy.
>
> 1. In the 1970s, X Corp. built a plant in a rural area. While the plant put out pollution, it didn't bother anyone because it was surrounded by farmland. Over the years, the area around the plant became more built-up. In 2008, developers built a subdivision with 1,000 expensive homes next to the plant. When the new homeowners moved in, they discovered that smoke from the plant "smelled funny." The homeowners want the plant to eliminate the smell or shut down. It would cost ten million dollars to eliminate the smell. Assume the plant complies with all laws and there is no danger to health. Argue both sides–that the plant should eliminate the smell or be shut down and it shouldn't be required to do anything. (The builder of the homes has gone bankrupt.) Is there a compromise?
>
> Answer: The plant owners would argue that they were there first and that the subdivision came to the problem. In any case, they are not doing anything to endanger health. The property owners would argue that the pollution is affecting their enjoyment of the property and that personal uses are more important than industrial ones. Homeowners need places to live. A compromise would be if the property owners each paid the plant owners ten thousand dollars to eliminate the smell. While at first, this might seem unfair, the facts said the homes were expensive. Ten thousand dollars each is probably not much when compared to the value of the homes.
>
> Policy Application Exercises: For the following exercises, decide whether strict liability should be, might be, or should not be applied based by the policies behind strict liability. There does not have to be a case on any of these issues; I just want your opinion based on the policies. Note that doing these exercises are like doing exercises on reasoning by analogy or distinguishing cases. Here, the analogical reasoning is that the policy behind the precedent case is like the policy behind the new case, so the rule from the precedent case applies

to the new case. Distinguishing is that the policy behind the new case is not like the policy behind the original case, so the rule of the first case should not be applied to the second one.

1. Betty owns a pit bull, which was bred to be dangerous, and it bit someone.

2. Loraine owns a poodle that bit someone.

Answers: There is no one right answer to most of these. The key is to apply the policy behind holding defendants strictly liable to new situations.

**Bloom's taxonomy**: Policy-based reasoning involves understanding, application, analysis, and evaluation.

## *D. Multiple Choice Exercises*

You can also create legal reasoning or retrieval exercises as multiple-choice exercises.

Examples:

Problem: Peggy complained several times about a broken lock on her apartment building's front door. Although he knew the building was in a dangerous neighborhood, the landlord failed to fix the lock. Sven, a resident of the building, propped the front door of the apartment door open as he was moving out. While the door was propped open, a thief entered the building and stole Peggy's television and computer. Can Peggy recover from her landlord for negligence?

A. No. A landlord does not owe a duty to his tenants to protect their property.

B. No. Sven's negligence was a superceding cause.

C. No. Peggy should have bought a better lock for her door.

D. Yes. In most jurisdictions, a landlord is strictly liable for the safety of his tenants.

Answer: B.

Problem: Zachary owns a house at 5426 Limestone Lane. A public road runs in front of his house. Because of a defect in the road, Jeffrey is thrown off his bicycle into the middle of the road immediately adjacent to Zachary's property, and he is badly injured. Zachary sees the accident, but he does nothing. Jeffrey sues Zachary for his injuries. This jurisdiction has adopted the traditional rules for owners and occupiers of land.

A. No recovery. The rules for owners and occupiers of land protect Jeffrey.

B. Jeffrey can recover from Zachary because Zachary had a duty to make sure the road next to his property was safe.

C. Individuals do not have a duty to rescue unless they caused or should have prevented the harm.

D. Jeffrey cannot recover because he was not an invitee.

Answer: C. Because the accident was not on Zachary's property, usual negligence rules apply.

## *E. Miscellaneous Exercises*

You can be creative with the type of exercise you use for certain content.

Examples:

Exercise: Identify the Defense.

Identify the defense or doctrine for the following hypos (contributory negligence, last clear chance, pure comparative negligence, modified comparative negligence, assumption of risk, failure to mitigate, automobile guest statute).

Cecilia is involved in a traffic accident. The other driver hit Cecilia's car because he was not paying attention. However, Cecilia also contributed to the accident by not using her turn signal. Outcome: No recovery.

Answer: Contributory negligence.

**Bloom's taxonomy**: This exercise drills students in remember and understand.

Exercise: Relating Concepts

1. Are there any contract doctrines that resemble strict liability?

2. Are there any criminal law doctrines that resemble tort strict liability?

Answers: 1. Under contract law, a party is usually liable for breach of warranty even if she is not at fault. How are the policies behind breach of warranty similar to or different from torts strict liability?

2. Some statutes make a person or entity strictly liable for committing a crime even if they have no criminal intent. How are the policies behind these statutes like or different than the policies behind strict tort liability?

Note: You may have additional answers to some of the above.

**Bloom's taxonomy**: This exercise helps students develop understanding, evaluation, and analysis.

Exercise. Have your students write a complaint based on a set of facts.

Writing complaints forces students to be able to understand the law well enough to fit it to the facts, and it helps them to be able to apply the law to multiple situations.

## *F. Reflection Questions*

Reflection questions, a type of elaborative interrogation, help students think about why certain rules exist or why certain policies exist. Understanding the "why" behind what students are doing,

aids both their retention of and ability to use knowledge.[132] Reflection also helps students see underlying principles and deep structure so that they can transfer knowledge and skills to other areas.[133] While some students have developed the habit of reflection, professors need to help other students make it into a habit.[134]

Examples:

Question: Why is consent a defense to an intentional tort?

Question: Why do courts use a reasonable person standard for negligence? Would a subjective standard be better? Why or why not?

Question: Why do courts require both causation in fact and proximate cause to recover for negligence?

Question: Which is a better rule, contributory negligence or comparative negligence? Why?

**Bloom's taxonomy**: understand and evaluate.

## *G. Metacognitive Questions*

Metacognition involves understanding how one thinks–the cognitive processes that a person uses when they are undertaking a mental task. It is "our awareness of the learning process,"[135] or "thinking about one's own thinking."[136] In other words, metacognition controls the cognitive process–the actual thinking.[137] Metacognition consists of two main subdivisions: knowledge of cognition and regulation of cognition or control.[138] It involves knowing strategies, and when to adopt a strategy. It concerns monitoring one's learning and activities. It requires thinking about one's learning processes and problem-solving methods so the student can improve those processes.

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132. *Id.* at 109.

133. *Id.*

134. BROWN, *supra* note 12, at 59.

135. Cem Balcikanli, *Metacognitive Awareness Inventory for Teachers (MAIT)*, 9 ELEC. J. RES. EDUC. PSYCH. 1309, 1312 (2011).

136. Michael Hunter Schwartz, *Teaching Law by Design: How Learning Theory and Instructional Design Can Inform and Reform Law Teaching*, 38 SAN DIEGO L. REV. 347, 376 (2001) [hereinafter Schwartz, *Law Teaching*].

137. Marcel V.J. Veenman et.al, *Metacognition and Learning: Conceptual and Methodological Considerations*, 1 METACOGNITION LEARNING 3, 6 (2006). Professors Fleming and Dolan explain,"[w]e now understand the brain as a network of regions working in concert, and thus, it is perhaps unsurprising that one set of regions (such as the prefrontal cortex: PFC) might process, hierarchically, information arising from lower levels (such as primary sensory regions)." Stephan M. Fleming & Raymond J. Dolan, *The Neural Basis of Metacognitive Ability*, 367 PHIL. TRANS. R. SOC. B 1338, 1338 (2012); *see also* Anthony S. Niedwiecki, *Lawyers and Learning: A Metacognitive Approach to Legal Education*, 13 WIDENER L. REV. 33, 42-43 (2006). "[C]ognition primarily focuses on the skills needed to perform a task, while metacognition involves the understanding of how a task is performed." *Id.*

138. Balcikanli, *supra* note 135, at 1313-14.

The best way to improve metacognition is through metacognitive questions–questions that force students to think about their learning strategies, their study habits, problem-solving, etc.

Examples:

1. Do you think about how you study? Are your study methods effective?

2. How do you prepare for torts class? After doing so, do you feel prepared for class?

3. What do you do after class? Do you review your notes? Write in a journal? Relate what you have learned in this class to earlier classes? Reflect on what you've learn? Do you create visual learning tools (graphic organizers) to help you study?

4. Do I always have clear goals when I tackle a problem?

5. Do I have an effective case analysis strategy?

6. What would my legal writing professor think about how I have written up my analysis?

7. How would an opposing lawyer attack my arguments?

8. Do I set learning goals?

9. Do I use different learning techniques depending on the situation?

10. Do you critically assess what is being said in class, or do you just try to absorb it?

11. When you finish solving problems, do you evaluate how well your problem-solving strategy worked?

**Bloom's taxonomy**: depending on the question, metacognitive questions can involve any step of Bloom's taxonomy.

## *H. Professionalism and Professional Identity Questions*

First-year courses should also help students develop their professional identities--"*what it means to be a lawyer in today's world*."[139] There are many different questions a professor can use to help develop their students' professional identities.

Examples:

1. Think about how you have seen adults, such as your parents or teachers, handle moral or ethical dilemmas? How did they handle these situations? How would you have handled them?

139. ROBERTO L. CORRADA & DAVID THOMSON, REPORT ON THE 2012 CONFERENCE AND INTRODUCTION TO THE 2013 CONFERENCE: THE DEVELOPMENT OF PROFESSIONAL IDENTITY IN LEGAL EDUCATION: RETHINKING LEARNING AND ASSESSMENT 2 (2013); SULLIVAN, *supra* note 1.

2. What do you think your role will be in the legal system when you graduate from law school?

3. Should a lawyer lie to protect his client?

4. You represent a department store that is being sued for false imprisonment. In a request for production of documents, the opposing attorney has asked for all video tapes of the incident. You are in possession of a video tape that will probably cause your client to lose the case. What do you do?

5. A client comes to you for advice in an area of law that you know nothing about. What do you do?

6. Right before you go to court for oral argument, you discover a case from your jurisdiction decided yesterday, which helps your opponent's case. If your opponent doesn't mention the case in court, should you reveal it to the court?

7. If you became a torts attorney, would you rather be a plaintiff's attorney or a defense attorney? Why?

8. You represented a plaintiff in a tort suit in which your client recovered $100,000 from the defendant. You have collected the judgment, and all appeals are exhausted. The defendant in the earlier suit would like you to represent his company in a suit where his company has been sued for putting a defective product on the market. Can you represent him?

9. You are representing Gretchen in an automobile accident. Gretchen was injured in an automobile in which she was a passenger. She intends to sue Hans, who was the driver of the other car. Gretchen wants you to also represent Jan, her best friend, who was the driver of the car in which Gretchen was injured. Jan didn't suffer any injuries, but she wants to recover for the damages to her car. When you first researched this suit for Gretchen you thought that Jan might be partially liable for the accident. You thought that Hans might sue Gretchen for his injuries and for the damage to his car. You also advised Gretchen that she might want to sue Jan. Gretchen said she couldn't sue her best friend. You live in a pure comparative negligence state. Can you represent both Gretchen and Jan?

**Bloom's taxonomy**: Depending on the question or problem, professionalism and professional identity exercises can involve any step of Bloom's Taxonomy.

## *I. Problem-Solving Exercises*

Complex problem-solving exercises bring the above exercises together.[140] As Dean Schwartz has declared, "It is not enough to teach students the principles, concepts, and procedures, and assume the students can combine those principles, concepts, and procedures to solve complex problems; novices need explicit problem-solving

140. Students need to practice combining component skills. AMBROSE, *supra* note 9, at 92-94.

instruction."[141] Students also need to develop the ability to understand when to use a skill.[142]

Example:

> Question: Think in detail how you would solve this problem. Go through all the problem- solving steps in detail, including how you would research the problem. I am more interested in how you would solve the problem than your actual answer. I give my approach to solving the problem in the answer.
>
> Your client, Jennifer Taylor wants to sue her therapist, Dr. Martin. Jennifer started seeing Dr. Martin because she experienced some emotional problems after her sister died. After several sessions, Dr. Martin suggested that he and Jennifer have sex to "loosen her up." Jennifer initially agreed, but after a few sessions she began feeling uncomfortable. When one of her friends told her that therapists did not normally have sex with their patients, Jennifer stopped seeing Dr. Martin. Jennifer wants to know whether she has any legal recourse against Dr. Martin. Dr. Martin is employed by Stewart Medical Practice, PLLC.
>
> Answer: The first thing I would do is read through the facts several times. Then, I would try to identify the issues based on my knowledge of the law. If I felt that my background knowledge in this area was poor, I would read in a secondary source about the subject. You probably have knowledge about medical malpractice from your torts class, but I doubt you have specific knowledge about the facts involved in this case. Even I would do some background reading before I went very far because I have not encountered this type of problem before.
>
> What secondary source would you choose? Normally, you should start in a legal encyclopedia or a treatise, such as *Prosser and Keaton on Torts*. However, these sources may not be of much use because the problem is so specific. I would look for a law review article, and I would also check a treatise on medical malpractice.
>
> Next, you need to identify the issues. Are there any intentional torts here? Battery might apply. However, she did consent to the treatment. However, might the therapist's actions have negated consent? I will write down battery as a potential issue, and I will research the consent problem further when I start the research phase.
>
> Malpractice would probably be a relevant issue. Is sex an acceptable method of treating emotional problems in the therapeutic community? I will have to research this later, but this is probably the main issue in my suit.
>
> Any other possibilities for the cause of action? If there are, consider whether they are worth researching further or whether spending time on them would not be an efficient use of time.

141. Schwartz, *Law Teaching*, supra note 136, at 39.
142. AMBROSE, *supra* note 9, at 107.

> Are we ready to move on to the research stage?[143] What about the practice that employs the therapist? Might they be liable under respondeat superior? If they were liable for their employees' torts, it would make collection of the judgment easier. Are there any insurance issues? If malpractice insurance covered the therapist and or the practice under these facts, it might make collection easier.
>
> Let's research the main issue of malpractice. First, you must determine which state's law would apply. I would guess that states have differing rules on our specific issue. Next, how will you research the problem–Lexis, Google, a digest, Shepards, etc.? Think through all the possibilities. Which one(s) will work best with this problem? How will you double-check your research and make certain it is up to date?
>
> After you have finished researching, you need to organize the materials. Which materials are binding? Which are persuasive? What are the levels of the courts? When were the cases decided? Why are the preceding questions important?
>
> Next, you need to synthesize the materials. Then, you should apply the law to the facts. Finally, you should check and reflect on your analysis.
>
> The next step depends on where you are in the litigation. Your boss might ask you to write an objective memorandum analyzing the case. Do you think you can do this? You might have to write a memorandum in support of summary judgment. Do you think you can do this? Summer jobs usually involve doing research and writing objective memos. They also may involve drafting pleadings, such as summary judgment pleadings or even appellate briefs. The better you can do this, the more likely you are to get invited back the next summer or receive a favorable letter of recommendation.

**Bloom's taxonomy**: A properly designed problem-solving exercise should involve all stages of Bloom's taxonomy.

## VII. CONCLUSION

Cognitive psychologists have proven the adage that "practice makes perfect," at least the right kind of practice. Now, law schools must change their approaches to teaching first-year students and follow the discoveries of cognitive scientists. One way to do this is to develop textbooks based on general education research and which drill students on all stages of Bloom's Taxonomy.

Some may think that having a textbook on torts with exercises to the extent advocated above is "overdoing it." However, cognitive psychologists and learning specialists would disagree. As Professor Ambrose and her colleagues have observed, "Generally speaking,

143. You can always come back to earlier stages in the problem-solving process if necessary.

both professors and students underestimate the need for practice."[144]

144. *Id.* at 135.