Re-conceptualizing Doctrinal Teaching: Blending Online Videos with In-Class Problem-Solving

Debora L. Threedy and Aaron Dewald

There are many criticisms that could be, and have been, made about legal education, including the overemphasis on the reading of judicial opinions, the lack of skills training, the high anxiety and stress experienced by law students, the lack of feedback (which is a cause in part for the high anxiety and stress), the lack of preparation for the business of law practice, and so on.[1] In this essay, we are going to concentrate on one criticism and discuss ways to address it.

In the first section of the paper, we point out the fundamental disconnect between what we teach and what we test. We are focusing on the traditional doctrinal class, particularly in the first year. In a nutshell, we teach case reading and analysis but we test problem-solving. The unstated assumption is that the analytical skills involved in the task of case reading will transfer[2] to the task of problem-solving. It is this unstated assumption that we challenge.

In the second part of the essay, we look at what learning science can tell us about how to teach problem-solving. We discuss how there are different kinds of problems and we categorize legal problems as complex, ill-structured problems. We also discuss what learning science suggests is the best method

Debora L. Threedy is the Lee E. Teitelbaum Professor of Law on the faculty of the S. J. Quinney College of Law at the University of Utah. She is also the Faculty Director of the Center for Innovation in Legal Education. She has been teaching law for nearly thirty years. **Aaron Dewald** is the Director of the Technology Initiative and Associate Director of the Center for Innovation in Legal Education at the S. J. Quinney College of Law at the University of Utah. He is also a Ph.D. student in learning science, giving him a unique perspective on technology use in pedagogical situations. Aaron received his B.S. in Information Systems from North Dakota State University in 2001, and his M.Ed. in Instructional Design and Educational Technology from the University of Utah in 2010.

1. *See e.g.*, Michele R. Pistone & John J. Hoeffner, *No Path but One: Law School Survival in an Age of Disruptive Technology*, 59 Wayne L. Rev. 193 (2013); Michael Hunter Schwartz, *Teaching Law by Design: How Learning Theory and Instructional Design Can Inform and Reform Law School*, 38 San Diego L. Rev. 347 (2001).

2. *See infra* notes 9-13 and accompanying text.

for teaching students how to solve such problems: using hypothetical cases as problems to be solved.

In the in the final section, we discuss how flipped, or hybrid, or blended learning environments (the terms are often used interchangeably) can contribute to the ultimate goal of having our students learn the analytical skills necessary for solving legal problems. We offer practical suggestions for moving doctrinal coverage online through the use of instructional videos; these suggestions are informed by our own experience in developing 37 short videos for first-year contracts.[3] We also discuss the mechanics of using in-class problem-based learning in a typical doctrinal class.

The Criticism: We Are Not Teaching What We Test

In doctrinal classes, particularly in the first year, the day-to-day substance of class revolves around the analysis of judicial opinions.[4] Students are asked to identify some or all of the following: the relevant facts and the procedural posture of the case, the issue or issues, the rules, the arguments made by each party, the judge's reasoning, the holding, and the outcome. In the best of Socratic worlds, the professor asks students to predict the outcome if one or more of the facts are changed. In the process, students are pushed to problematize the opinion they have read:[5] to identify the unstated assumptions, indeterminacies, and logical lapses; to question what values the outcome furthers and which values are dismissed; and to ask whether the conclusion is the best available. In other words, students spend the bulk of their time learning how to read and critique cases.

Knowing how to read a judicial opinion is an important skill. In fact, it could be argued that this is the fundamental skill of legal practice. And it is a difficult thing to do. It takes students some time to realize that all opinions share a basic formula and to be able to identify the elements of an opinion. The language of law is often arcane and full of strange terminology, particularly in older cases. Some opinions are not well-written. Judges on occasion fail to articulate clearly their reasoning. In some instances, judges themselves may not be aware of, or at least do not make transparent, the competing values involved in the decision. Every opinion is an artifact of its historical context, and that context may not be explicitly acknowledged.

Moreover, at the same time they are learning the *skill* of how to read cases, students are also learning *a new domain* of knowledge: contracts, torts, civil procedure, etc. To fully understand the cases, the students have to achieve some familiarity with both the substance of the doctrinal domain for each class and the procedural posture of the case.

---

3.   The videos can be viewed at TheFirstYear.org or at LegalEDweb.com.

4.   Roy Stuckey et al., Best Practices in Legal Education 21, 207 (2007).

5.   Todd E. Pettys, *The Analytic Classroom*, 60 Buff. L. Rev. 1255, 1313-14 (2012).

In light of all this, after a semester of reading cases in a particular doctrinal area, what should the reasonable student expect to encounter on the final exam? From a pedagogical perspective, having spent the semester learning how to read a case like an expert in that particular area of law, it would be reasonable to expect that the exam would consist of a new case, one the student had never read before, dealing with an unfamiliar area within the doctrinal domain of the class, which the student would then be asked to analyze. But, of course, this is not what the student encounters in the final exam.

Having spent the semester practicing one skill (how to read and analyze a case), on the final exam the student is asked to demonstrate a completely different skill—how to solve a legal problem, that is, how to answer a hypothetical problem involving one or more legal issues in the particular domain of the class.

This is crazy.

So does this mean that we law professors should all switch to final exams that ask students to analyze cases? At first blush, this is attractive: no more agonizing over the writing of the final exam problems. From the perspective of learning science, this at least has the virtue of actually testing what the students have been learning to do over the course of the semester.[6]

But there are those who would argue that, as important as the ability to analyze a case is, the goal of a doctrinal class should be to prepare students to solve the legal problems that will arise in that particular domain of law.[7] The skill of legal problem-solving is, after all, the skill that is tested on the typical law school essay exam. In order to make what we teach and what we test congruent, we should not change what we test; we should change what we teach. Rather than spending our time teaching students how to read cases, we should be teaching them a different analytical skill set: how to solve legal problems.

Perhaps there is a reader who begs to differ with the statement that answering an essay exam question involves a "different skill" than reading a case. There are indeed similarities between the two skill sets. Both reading cases and answering exam questions involve identifying the relevant facts in a situation, identifying the legal issue or issues presented by those facts, identifying the legal rules and principles that will be used to resolve the issue, and applying those rules to the facts. And these similarities have seduced generations of law professors (Professor Threedy included) into believing that students should be able to *transfer* what they've learned about reading cases to the task of solving a legal problem (i.e., answering an exam question).

---

6. Some empirical studies, however, question whether law students are, in fact, learning how to analyze cases. Pettys, *supra* note 5, at 1284-91**.**

7. Jessica Erickson, *Experiential Education in the Lecture Hall*, 6 Ne. U. L.J. 87, 94-95 (2013).

Debora Threedy:

For years I have told my students that the same basic skill set is involved in both reading cases and analyzing problems, that both involve identifying issues, rules, arguments and conclusions, and that the difference is that reading cases involves a "historical" mode (figuring out what some judge did in the past) while analyzing problems involves a "predictive" mode (figuring out what some judge is likely to do in the future).

I even went further. I described for my students the basic types of legal arguments: deductive, analogical and dis-analogical, and policy-based.[8] I asked my students to identify where judges had used these kinds of arguments in their opinions. And I explicitly told them that I expected them to make these kinds of arguments on their final exams.

And for years I have been taken aback by the fact that the majority of my students either fail to make these arguments or fail to make them well on the final exam. Slowly it dawned on me that the problem is in the assumption that the ability to analyze a case would transfer to the ability to analyze a legal problem.

The concept of "transfer" is one with which most law professors are probably unfamiliar. It is a term of art in learning science.[9]

Aaron Dewald:

The difficulty in switching from reading cases to solving problems can be considered a matter of transfer. Transfer is a mechanism by which learning happens in a particular context that can increase or decrease learning in another context.[10] Ultimately, it is up to the instructor to craft instruction in such a way that it encourages students to see similarities between contexts so that they can transfer lessons learned in one context to another novel context.[11] It has been said that transfer remains a "holy grail" in education; something sought but difficult to find.[12] Some research indicates that it will never be found, that the type of transfer that teachers strive for rarely if ever occurs.[13]

Problem-solving is one of the most complex, highest-level analytical tasks a student can be asked to perform.[14] One way to ease the burden on students

8.   There are also inductive arguments, but as the opportunity to make such arguments rarely arises in first year contracts I don't spend much time on this category. Instead, students use inductive reasoning when they identity the issue(s) presented by a particular problem.

9.   *See e.g.*, David N. Perkins & Gavriel Salomon, *Teaching for Transfer*, 46 Educ. Leadership 22, 22 (1988).

10.   *Id.*

11.   Mark K. Singley & John R. Anderson, The Transfer of Cognitive Skill 1-2 (1989).

12.   Lauren B. Resnick, *Introduction*, *in* Knowing, Learning and Instruction 1, 8 (Lauren B. Resnick ed., 1989).

13.   Douglas K. Detterman, *The Case for the Prosecution: Transfer as an Epiphenomenon*, *in* Transfer On Trial 1, 21 (Douglas K. Detterman & Robert J. Sternberg eds., 1993).

14.   Susan Pederson & Min Liu, *The Effects of Modeling Expert Cognitive Strategies During Problem-Based*

who are trying to problem-solve is to use expert modeling.[15] Expert modeling involves showing students the cognitive process employed by experts (i.e., judges) in solving similar problems.[16] Telling a student how to solve a problem and modeling for students how others (i.e., judges) have solved similar problems are good, but not sufficient to achieve transfer.

Some scholars have argued for the use of "hugging" to help students transfer learning from one context to another.[17] Hugging occurs when "instruction directly engage(s) the learners in approximations to the performances desired."[18] One might argue that "hugging" occurs in legal education by having students analyze (through case briefing) how a judge solved a legal problem and then try to approximate that performance at the end of the year by solving a similar legal problem on the final exam.

Unfortunately, reading how a judge solved a legal problem does not well approximate the performance to be desired (i.e., solving a legal problem). Rather than reading about how a judge solved a case, students should be performing the role of the judge themselves. The only way to get really good at solving legal problems is to solve legal problems, not just read about how someone else solves them.[19] What this means for legal education is sobering: You cannot effectively teach students how to solve legal problems by having them read cases.

Problem-Based Learning in Legal Education

All problems are not alike. We know this intuitively, but little attention has been paid to the precise question of how to categorize legal problems. David Jonassen has theorized that different kinds of problems require different sets of problem-solving skills to master, which in turn require different forms of instruction.[20]

Categorizing Legal Problems

To categorize problems, Jonassen has identified five characteristics: structuredness; context; complexity; dynamicity; and domain specificity.[21]

Learning, 26 J. Educ. Computing Res. 353, 354 (2002).

15.   *Id.* at 373-75.

16.   Susan M. Williams, *Putting Case-Based Instruction into Context: Examples from Legal and Medical Education*, 2 J. Learning Sci. 367, 371 (1992).

17.   Perkins & Salomon, *supra* note 9, at 28-30.

18.   David N. Perkins & Gavriel Solomon, *Transfer of Learning, in* International Encyclopedia of Education (2d ed. 1992), *available at* http://learnweb.harvard.edu/alps/thinking/docs/traencyn.htm.

19.   "The lesson learned from studies of transfer is that, if you want people to learn something, teach it to them. Don't teach them something else and expect them to figure out what you really want them to do." Detterman, *supra* note 13, at 21.

20.   David H. Jonassen, Learning to Solve Problems 6 (2011).

21.   *Id.*

Structuredness exists on a continuum between well-structured and ill-structured.[22] Basically, a well-structured problem has a correct answer, while an ill-structured problem possesses multiple possible solutions.[23] Moreover, ill-structured problems have "vaguely defined or unclear goals and constraints, multiple solution paths, and multiple criteria for evaluating solutions so they are more difficult to solve."[24] Most law school exam questions are ill-structured, as there are usually reasonable arguments that can be made for each side in the legal dispute.

There may be, however, a well-structured problem embedded within the ill-structured problem. For example, in a contracts exam question, the student may need to recognize that the statute of frauds applies and it is not satisfied. Whether the statute applies, and whether it is satisfied, can be a well-structured problem: The transaction involves the sale of real estate and there is no writing.[25] Whether an exception applies may be debatable, however, and therefore the overall question of whether the statute of frauds will prevent enforcement of the contract is ill-structured.

The context of problems also varies over a continuum.[26] The more abstract a problem, the more shallow the context. Law school exam questions can run the gamut from very shallow context (e.g., "A sues B in federal court") to a very detailed factual representation.

Complexity involves how many components/issues there are in the problem and how they interact.[27] "Complex problems impose more cognitive load on the problem solver."[28] That is, complex problems require the solver to use more working memory to process the various components. The typical law school exam problem is complex, as it involves more than one issue and the issues can interrelate in different ways. Ill-structured problems are typically complex problems.

Dynamicity refers to problems that change over time, as new complications arise or new facts are uncovered.[29] The problems used in law school skills classes are typically dynamic; for example, in an oral argument, a judge asks an unanticipated question that sends the discussion into a new area. Law school exam questions are usually less dynamic, however.[30]

22. *Id.*

23. *Id.* at 6-7.

24. *Id.* at 323 (citing David H. Jonassen, *Toward a Theory of Problem Solving*, Educ. Tech. Res. & Dev., Dec. 2000, at 63).

25. The statute of frauds applies to transfers of interests in real estate, and to satisfy the statute there must be a writing. Restatement (Second) of Contracts §§ 110(1)(d), 131 (1981).

26. Jonassen, *supra* note 20, at 8.

27. *Id.* at 9.

28. *Id.*

29. *Id.* at 10.

30. However, Threedy thinks that the best exam she ever wrote was an example of a dynamic

Finally, domain specificity refers to the assumption that different domains of knowledge involve different forms of reasoning.[31]

Decoding the Domain

Within law, there is a well-accepted methodology for solving problems. This methodology is often referred to by the acronym IRAC (or one of its derivatives): Issue-Rule-Arguments-Conclusion.[32] The process of using IRAC is often taught explicitly in legal writing courses, but learners struggle with transferring the skill from the writing context to their performance in doctrinal classes.[33] In other words, learners struggle to decode or deconstruct the underlying methodology of legal analysis.

The methodology of legal problem-solving represented by IRAC can be broken down into component parts. For example, issue-spotting is both the first step in legal analysis and a discrete skill that many learners struggle to master.[34] Issue-spotting is a kind of inductive reasoning: students must move from the specifics of the problem to the generality of an issue category. Some students, those with strong inductive skills, are able to issue-spot intuitively but, at least in Threedy's experience, many students have difficulty with it.

Similarly, constructing the different kinds of legal arguments is itself a skill. The arguments considered legitimate in legal reasoning include inductive, deductive, analogy-based (that is, the use of precedents), and policy-based arguments.[35] Many professors would say that the "argument" section of IRAC is by far the most important. As discussed above, legal problems are by and large ill-structured problems, and the ability to form a coherent argument, and to anticipate and refute counterarguments, is central to solving ill-structured problems.[36]

In summary, the typical essay question on a law school exam presents a complex although non-dynamic, ill-structured problem that may involve either

---

problem. The question was presented in four stages. The student was giving a fact pattern and asked to analyze issues surrounding contract formation. Then in stage two, additional facts were added and the student had to analyze whether there was a legally sufficient excuse for nonperformance, and so on, through the final stages.

31. Jonassen, *supra* note 20, at 11.

32. *See, e.g.*, Michael T. Gibson, *A Critique of Best Practices in Legal Education: Five Things All Law Professors Should Know*, 42 U. Balt. L. Rev. 1, 25 (2012). Threedy prefers to use the acronym IRACC, which stands for Issue-Rule-Arguments-Counterarguments-Conclusion. She prefers to highlight the need for counterarguments, as Jonassen reports that students learning argumentation have trouble anticipating and rebutting an opponent's arguments. Jonassen, *supra* note 20, at 325.

33. *See* Gibson, *supra* note 32, at 25.

34. *Id.* at 18-20.

35. *E.g.*, Larry O. Natt Gantt, II, *Deconstructing Thinking Like a Lawyer: Analyzing the Cognitive Components of the Analytical Mind*, 29 Campbell L. Rev. 413, 457-62, 472-73 (2007).

36. *See* Jonassen, *supra* note 20, at 324.

a shallow or deep situational context, embedded within a domain-specific form of reasoning. Given the assumption that different kinds of problems require different forms of instruction, what method of instruction should be used to foster learning how to solve such problems?

In this instance, legal education gets it right: the case method. Or at least partially right. The use of "cases," that is, judicial opinions, is a good way to model problem-solving; reading cases, however, is not a sufficient methodology for enabling law students to learn to solve legal problems themselves. But using hypothetical cases as *problems to be solved* does give students the opportunity to practice legal problem-solving.[37]

Hypothetical Cases as Problems to be Solved

Legal education is centered around case studies.[38] In fact, legal education could be said to be the first field to incorporate case studies into the curriculum. Christopher Columbus Langdell is generally credited with introducing the case method.[39] At the time, in 1870, the idea of using actual judicial opinions as teaching materials was revolutionary; previously, legal educators gave students an overview of an area of law through lecture and the assigned reading of legal treatises.[40]

Despite this early adoption of the case study method of instruction, law schools were soon eclipsed by business and medical schools in finding innovative ways to use and maximize the case study as a teaching method.[41] Legal classrooms tend to use case studies as exemplars of how an expert solved the problem (i.e., the judge deciding the case) and, if the professor uses hypotheticals in class, as a source of analogical arguments. Medical education took the case method and turned it into problem-based learning, that is, the case study became a problem to be solved.[42]

Problem-based learning has made inroads into legal education; it is now considered the major alternative to the traditional case method.[43] There are a number of textbooks that are structured around problems.[44] Indeed, most case

---

37. Jonassen points out that case studies can be used pedagogically in different ways: as worked examples or models of how experts solved the problem, as analogies, as a source of different perspectives, and as a problem to be solved. Jonassen, *supra* note 20, at 150.

38. Pettys, *supra* note 5, at 1267, 1275.

39. *Id.* at 1264-66.

40. *Id.* at 1264-65.

41. *See, e.g.*, W. Warren H. Binford, *Envisioning a Twenty-First Century Legal Education*, 43 Wash. U. J.L. & Policy 157, 177-80 (2013).

42. Howard Barrows & Robin Tamblyn, Problem-Based Learning (1980); Jonassen, *supra* note 20, at 154-57.

43. Shirley Lung, *The Problem Method: No Simple Solution*, 45 Willamette L. Rev. 723, 724 (2009) (citing Craig Anthony Arnold, *How Do Law Students Really Learn? Problem-Solving, Modern Pragmatism, and Property Law*, 22 Seattle U.L. Rev. 891, 900 (1999) (internal citation omitted)).

44. *E.g.*, Douglas J. Whaley & Stephen M. McJohn, Problems and Materials on Commercial

books have at least a few problems at the end of chapters, which professors may or may not incorporate into their classroom agenda. And at the dawn of the new technology a decade or so ago, Professor Douglas Leslie created a set of materials focused on solving problems that he called the CaseFile Method and distributed them on a CD.[45]

The materials consisted of a narrative problem, followed by a number of cases that were relevant to the problem. Students appreciated having the context of a problem, but complained that they had a hard time grasping the "big picture." This was the basic criticism of problem-based learning as it existed then: In order to solve the problems, students needed to learn the "big picture"—but there was no time for both teaching the doctrine and working through the problems.[46] By moving the "big picture" materials, that is, the background doctrine, online, it is now possible to devote in-class time to the task of problem-solving.

The Role of Blended Instruction in Problem-Based Learning

In a blended learning environment, some instruction occurs online, while other instruction occurs face to face in the classroom; in other words, online and in-class learning are blended into one course.[47] Blended learning is not a panacea for the ills that bedevil legal education, but it can be a vehicle for delivering basic rules, concepts and principles, that is, the black-letter law, in a highly efficient manner.

As others have noted, in order to teach higher-level analytical skills in law school classes, doctrinal coverage needs to be done more efficiently.[48] In part, this is because the doctrinal coverage thought necessary in many areas of law has expanded, at the same time that many of the foundational first-year classes have been temporally compressed. In contracts, in the past decade or so, new issues have arisen, as for example, regarding the enforceability of mandatory arbitration clauses and what constitutes assent in electronic contracting. At the same time, many first-year contract courses have been compressed from a five-credit, yearlong course to a four-credit, one-semester course.

The other part of the need for efficiency in teaching basic doctrine is that teaching higher-level skills is a time-intensive endeavor. In today's world, efficiency translates into online. By moving basic doctrine online, time can be opened up in class for active learning exercises.

Before moving into a more in-depth discussion of online materials, we want to pause to address a common objection that is made by law professors

---

Law (10th ed. 2012).

45. Professor Scott's materials are now available online at www.CaseFileMethod.com.

46. *See* Lung, *supra* note 43, at 745-47.

47. *See* Pettys, *supra* note 5, at 1305-09; William R. Slomanson, *Blended Learning: A Flipped Classroom Experiment*, 64 J. Legal Educ. 93 (2014).

48. *See* Binford, *supra* note 41, at 173-74.

to the idea of putting the teaching of black-letter law online. The objection is usually framed as "you are just spoon-feeding them."[49] Fleshed out, what this objection argues is that in every law school class, particularly in the first year, the true learning objective is not the domain knowledge, but the ability to "think like a lawyer."[50] By requiring students to take individual cases and put them together in a way that makes sense of that area of law, professors are training them to think as a lawyer thinks. By giving them the outline or schematic for an area of law, by explicitly explaining what the rules are and how they fit together, the objection goes, you are depriving students of the opportunity to think like a lawyer.

Threedy is willing to grant that there is a grain of truth in this objection, although she thinks it is a very small and somewhat misguided grain. (Dewald is not willing to grant even that.) The small grain of truth is that when students struggle to put the pieces of the doctrinal puzzle together in any area of law, they are constructing meaning out of the cases they have read, and the construction of meaning is central to deep comprehension of anything.[51] Requiring them to do this is misguided, however, because it leads them to believe that the ultimate objective is to construct a schematic for the course, which again means they are blindsided with the final exam. The final exam does not test them on their outline or map for the course, or even on their overall understanding of the area of law; the exam tests them on their ability to use that understanding to solve problems.

Moving Doctrinal Coverage Online

In learning theory terms, basic doctrinal coverage falls into the category of knowledge transfer.[52] The learning outcome is for students to remember and understand the doctrine, the principles, concepts and rules for a given area of law. The online materials just replace the short lectures we give when we introduce a topic, or provide an overview, or sum up on review. Online learning is well-suited for knowledge transfer, for several reasons.

First, when lectures are put online, learners are given control over the rate at which they cover the material. If the materials present difficulties, the learner

49.   A colleague made such a comment during a faculty discussion about blended learning. *But see* Gibson, *supra* note 32, at 29-30 (stating that being explicit about learning objectives is not spoon-feeding).

50.   What constitutes "thinking like a lawyer" has never been definitively defined. *See* Gantt, *supra* note 35, at 413-15.

51.   Erickson, *supra* note 7, at 94-97.

52.   Bloom's Taxonomy explains human learning as a progression through six levels of increasing complexity: Knowing and Remembering; Comprehension; Application; Analysis; Synthesis; and Evaluation. Gibson, *supra* note 32, at 6-8. Basic doctrinal coverage involves the first two levels: Knowing and Remembering; and Comprehension. *Id.* at 8. Answering an essay exam question, that is, solving a novel legal problem, involves the third level, Application, and as Gibson points out, moving from the second level, Comprehension, to the third level, Application, is "a huge step." *Id.* at 9.

can pause and rewind as many times as necessary. Conversely, if the material is easily mastered, the learner can move quickly through the materials.

Second, online learning materials can make use of dual-coding theory.

Aaron Dewald:

Dual-coding theory shows that learners process information along two channels: verbal and visual.[53] In doing so, learners can better encode information, resulting in better recall.[54] Put simply, text-based information is better-remembered when you have some sort of visual imagery than in its absence.[55]

Third, assessments of basic doctrine are easily doable through multiple-choice questions, and thus can give learners timely, formative feedback on their grasp of the material.

The authors, along with a colleague, Professor Terry Kogan, applied these ideas to a first-semester contracts class. What the authors learned is that law professors already have tools in place for successful course flipping. What follows are some practical suggestions for creating the online videos.

Creating Online Videos

The contract videos covered the Second Restatement of Contracts.[56] Each video was short—between three and 16 minutes in length. In the authors' experience, the optimal video length is around 10 minutes. Communications coach Carmine Gallo offers that learners have a limited amount of cognitive processing power to use during a given learning exercise.[57] This explains why pure "lecture capture," where a video camera is set up at the back of the room to record an entire class, does not work effectively. The videos are too long, there are too many irrelevant parts, and it can be difficult to capture the discourse between professor and student.

Keeping the videos short also has another advantage: The students do not feel overburdened. For contracts, we ended up with 37 separate videos. Despite that number, not a single student complained about the videos being too much extra work. Typically a student has to watch only one video per class. Based on feedback and surveys, students seem to think the "extra" 10 minutes of work is time well spent.

53. Allan Paivio, Mental Representations 53-54 (1990).

54. Ruth Colvin Clark & Richard E. Mayer, E-Learning and the Science of Instruction 71, 79 (3d ed. 2011).

55. Arthur M. Glenberg & William E. Langston, *Comprehension of Illustrated Text: Pictures Help to Build Mental Models,* 31 J. Memory & Language, 129 (1990); W. Howard Levie & Richard Lentz, *Effects of Text Illustrations: A Review of Research*, 30 Educ. Comm. & Tech. J. 195, 222 (1982).

56. The videos can be viewed at TheFirstYear.org or at LegalEDweb.com.

57. Carmine Gallo, Talk Like TED 184-88 (2014).

Limiting each video to around 10 minutes does not mean that every subject needs to be covered in its entirety in 10 minutes. Rather, it means that each video's topic must be sufficiently discrete that it can be covered in that time. For example, the statute of frauds in contracts is a single subject but it is a complex one, so it needed to be subdivided. It took three videos to cover it.

Once the topic has been identified, it is a three-step process to produce the video: write the script; assemble the visuals; and combine the audio and visuals.

Step 1: Script writing

The first step, and potentially the most important step, is to write the script. The script ensures coverage of the material in the time allotted. It also allows for the opportunity to adapt the language for speaking as opposed to reading the material. Ten minutes translates to approximately three traditional, single-spaced pages.

Debora Threedy:

With the contracts videos, Terry and I split up the task of writing the scripts. I found that if I was very familiar with the material, it took me only a couple of hours to write a single script.

Aaron Dewald:

One of the most important things to keep in mind: You are an expert in your field. Sometimes experts can find difficulty in teaching novices what they know. It seems so easy and straightforward to experts, but they have automatized their knowledge and have spent years working on their comprehension of complex topics. Novices might need some extra help along the way to ensure they have learned the material, including explicit, concrete explanations to accompany abstract, difficult concepts.[58] The goal of the script is to bridge this gap between novices and experts. When writing your script, take care to tailor the information to the audience. Finding student volunteers to proofread a script for clarity can be advantageous. They can advise the teacher in how to write efficiently to convey the message to the audience. Simply put, a script can help optimize the information for the novice learner.

Step 2: Assembling the visuals

The second step is to assemble the images that are needed for use in a video. Images can be obtained from clip art providers or can be made in-house. Basic

---

58. Roxana Moreno, Gamze Ozogul & Martin Reisslein, *Teaching with Concrete and Abstract Visual Representations: Effects on Students' Problem-Solving, Problem Representations, and Learning Perceptions*, 103 J. Educ. Psychol. 32, 39 (2011).

skills in Photoshop[59] can be advantageous. Then, PowerPoint[60] or Keynote[61] is used to assemble the images into a slideshow. Many professors may already have slideshows that can be repackaged into videos. Most modern presentation software has an ability to export the slideshow as a video file. Check the documentation for how to accomplish this with the software.

> *Aaron Dewald:*

> *A very important reminder: The slides should contain a strong visual presence. The dual-coding theory posits that information travels along a verbal and visual channel in a learner's mind. Spoken words travel along the verbal channel, while printed words travel along both the verbal and visual channel, which potentially overloads the two channels with information.[62] That means if you are narrating a slide with the spoken word AND you have on-screen text that accompanies the slide, learners are more likely to be overloaded with information, reducing their ability to process and encode the transmitted knowledge. Using appropriate visuals can reduce the cognitive processing by the learner and also lead to a more robust encoding of the information.[63]*

<div align="center">Step 3: Combining script and visuals.</div>

The third step is probably the most intimidating for the typical law professor. And that is to "marry" the script and the slides into a single video. There are three popular methods for doing this: mini-lecture capture, computer-based recording, or multimedia.

First, there is the mini "lecture capture." This typically involves setting up a video camera and recording the professor giving the lecture, with the slides projected on a screen. The advantage of this method is it is very similar to what happens every day in a classroom. The disadvantage is that, unless there is access to a video recording studio, the logistics of getting a classroom and setting up the video recorder can be cumbersome. The authors tried this method in the first experiment with flipping, and found it to be extremely unwieldy and time-consuming.

Second, there is the method popularized by the Khan Academy:[64] the computer-based recording. Most modern presentation software allows professors to record themselves or their slides (or both) as they present the script. The advantage of this method is that it can be self-paced and done when the professor has time. The disadvantage is that production values, especially the sound quality, are going to be less than ideal. Remember, the

---

59. *How to Edit a Photo on Photoshop*, Adobe Photoshop CC, https://helpx.adobe.com/photoshop/how-to/edit-photo.html (last visited Feb. 5, 2015).

60. *PowerPoint*, Microsoft Office, http://products.office.com/en-us/powerpo int (last visited Feb. 5, 2015).

61. *Keynote for Mac*, Apple, https://www.apple.com/mac/keynote/ (last visited Feb. 5, 2015).

62. Clark & Mayer, *supra* note 54, at 36-39.

63. *Id.* at 70-71.

64. Khan Academy, https://www.khanacademy.org/ (last visited Feb. 5, 2015).

narration is one of the most important vehicles for the information to be conveyed. Additionally, it can be difficult to edit the resulting recording in the presentation software, often requiring presentations to be re-recorded if (when) a mistake occurs.

The third delivery method is by making use of multimedia. This method results in the most polished product. This method involves two steps: putting the slide presentation into a video format and recording the script as a separate audio file.

Many universities have audio studios that faculty members can reserve. Alternatively, one can check with the local public radio station for the same facilities. If there is no access to such facilities, professional-grade microphones are available for about $150 that can be purchased at a local electronics retailer. If the resources exist, voice-over talent can be hired (or volunteers recruited) to record the scripts. This is often the most efficient, because the professor does not necessarily need to be the one speaking the script. The authors found no detrimental effects in having a non-professor be the narrator for the videos.

Once the audio recording is complete, the slide presentation video and the audio are combined through editing software such as ScreenFlow[65], iMovie[66], or Camtasia.[67] These programs are relatively inexpensive and are made for a home-based consumer. They allow the editor to match up each slide with the recorded audio.

No matter which delivery method is chosen, at the end of this process there will be a finished video. These videos can be made available to students in a number of ways, including YouTube, a learning management system, or a website.[68]

Finally, at this point, it is important to consider building a formative assessment to determine whether the "knowledge" was successfully transferred to the learner. This can be done through multiple-choice or true/false questions, which can also be put online. The authors used a separate document for quizzes, which students accessed through a learning management system called Canvas.

---

65.   *ScreenFlow*, Telestream, http://www.telestream.net/screenflow/overview.htm (last visited Feb. 5, 2014).

66.   *iMovie for Mac*, Apple, https://www.apple.com/mac/imovie/ (last visited Feb 5, 2014).

67.   *Camtasia*, TechSmith, http://www.techsmith.com/camtasia.html (last visited Feb. 5, 2014).

68.   The creation of TheFirstYear.org is ongoing and the authors have a standing offer to other law professors teaching first-year classes: Provide TheFirstYear.org with one or more scripts, and the Center for Innovation in Legal Education will then, using that script, design and produce the final video. In return for the production of the video, we ask only that we be given permission to post the final video on TheFirstYear.org. LegalEDweb.com will also post any legal education teaching video.

Debora Threedy:

> *I like using a learning management system because it tracks each student's responses, and allows me to monitor who is taking the quizzes and how well they are doing.*

In the authors' experience, the students really, really like the videos; student evaluations and separate surveys have come back overwhelmingly positive. Additionally, the contracts videos have tens of thousands of additional views on YouTube. Students have been a little less positive about the assessments, but more editing and testing needs to be done.

Revitalizing the Classroom

Once the online materials are prepared, to complete the "flip" or the "blend," active learning exercises need to be incorporated into the classroom.[69] The in-class active learning activities fall into one of three general categories—none of which is exclusive. In fact, there is much to be said for using all three. The first category is to use class time for what legal education calls "skills training." The second is to use class time for critical analyses of judicial opinions, focused on the assumptions, values and purposes of the judicial reasoning rather than on doctrinal development, what we will call "super-Socratic." The final category is to use class time for problem-based learning, that is, using class time to allow students to practice solving legal problems.

Skills Training

Depending on the professor's background and training, using class time for actual skills training is certainly possible. There are, however, some concerns. First and foremost, most doctrinal professors have not been focused on how to teach particular skills, such as how to take a deposition or cross-examine a witness. Dedicated skills professors warn that using a skills exercise in a doctrinal class could inadvertently do harm.[70] For example, setting up a negotiation simulation without first giving at least some rudimentary instruction on different negotiation styles and strategies could end up reinforcing stereotypes about using intimidation as a negotiation tactic, or approaching a negotiation with a zero-sum-game attitude, rather than using a collaborative approach, with a win-win attitude. Furthermore, most law schools have courses dedicated to teaching these skills, so there is rarely a curricular need for doctrinal professors to incorporate skills training into doctrinal classes.

That said, there is something to be said for taking a day or two out of the semester and conducting a mock negotiation or oral argument, particularly

---

69.   Pettys, *supra* note 5, at 1299-1303.

70.   Our thanks to our colleague Professor Linda Smith, who is Director of the Clinical Program at the S. J. Quinney College of Law, for pointing out this issue. The example that follows is based upon a conversation with her.

with first-year students. It breaks up the routine, raises the stakes, and gives them a taste, however small, of what lawyering involves beyond the knowledge of the legal rules.

Super-Socratic

Dean Todd Pettys has written an article with which we by and large agree, critiquing doctrinal classes.[71] His premise is that, despite the rhetoric that the purpose of law school classes is to teach students to think, in reality the need to cover the doctrinal topic defeats the time necessary to teach critical thinking. We also agree with the first part of his solution: "flipping" the class, or using hybrid or blended learning. Put the doctrinal coverage online, he suggests, and use class time for the analytical thinking.[72] However, where we part company from him is in his recommendations (concededly not meant to be all-inclusive) for what to do with the in-class time.

Most of his suggestions remain focused on teaching students how to read judicial opinions, albeit in greater depth and with a critical eye.[73] But even if we all did stellar jobs of teaching our students how to read and critique judicial opinions, that is not sufficient for them to learn how to solve legal problems.

Problem-Based Learning

To learn problem-solving, students have to practice solving problems. Practice exams and written exercises can provide opportunities to practice solving problems, but then the challenge is to give feedback. Giving individualized, timely feedback to an entire class on a regular basis can be overwhelming, and model answers or self-assessment rubrics may not give students all the guidance they need. Another possibility is to have students practice solving problems collaboratively.

There is no shortage of sources for problems. In addition to past exam questions, law professors now have access to a number of supplemental texts containing problems.[74] However, the logistics of creating a problem-based collaborative learning environment in a law school classroom can be daunting. The very architecture of the typical classroom is a challenge; stadium seating focused on a podium is not a configuration that lends itself to collaborative work among students. For this reason, pair- or triad-based exercises can be the easiest to orchestrate; students can work together without the necessity of moving.

Furthermore, law school classes, particularly in the first year, can be rather large, and orchestrating a problem-solving exercise that involves the entire

71. Pettys, *supra* note 5.

72. *Id.* at 1306-07.

73. *Id.* at 1313-19.

74. *E.g.*, Debora L. Threedy & Adam H. Miller, Developing Professional Skills: Contracts (2013).

class can be a challenge. One of the best and easiest exercises for collaborative work is called Think/Pair/Share, after the three steps of the exercise.[75] The first step is to give students a problem and ask them to work through it on their own (the "think" part of the exercises). The second step is to ask the students to turn to the person next to them, compare their results, and come up with a shared or compromise solution (the "pair" step). The final step is to randomly call on a few pairs (three to five is usually sufficient to bring out most of the points of the lesson) to share their results with the rest of the class (the "share" step).

This basic exercise has much to recommend it. It requires minimal planning and can even be done on the spur of the moment. It involves 100 percent class participation, as every student will have to engage with the material in a discussion with a fellow student. Finally, feedback is timely and efficient to administer from the teacher's perspective.[76]

More challenging to execute, but highly valued by students, are role plays or simulations. In these, the teacher must develop the exercise ahead of time. The problem and perhaps further materials, such as precedential cases, need to be handed out ahead of time, so that students have time to prepare. The simulated experience, such as a negotiation or oral argument, must be thought through with specific goals in mind; that is, the teacher must decide what the exercise is meant to accomplish. These goals could be doctrinal, strategic, skills-oriented, or a question of professional ethics and identity. Thought must also be given to how the work involved can be allocated among teams of students; the best-designed exercises require each student on a team to contribute in order for the team to be successful.

In summary, the purpose in creating online videos is to open up the time for in-class active learning exercises. The "blend" or the "flip" is not complete until such exercises are incorporated into the in-class time. By using exercises such as Think/Pair/Share, there is no substantial obstacle to the incorporation of problem-based learning into doctrinal classes–except for the will to do it.

Conclusion

Legal education stands at a crossroads. There is a growing chorus of voices saying we cannot go on as we have before. Over the past few decades there have been changes, such as an increased emphasis on the necessity of explicit training in legal writing and on skills training more generally. The typical doctrinal class, however, has been resistant to change. Blended learning offers a feasible and efficient way to alter the day-to-day structure of the typical doctrinal class, allowing teachers to leave the Langdellian model from the 19th century behind, and move into the 21st century.

---

75. Erickson, *supra* note 7, at 102.

76. Threedy uses a Think/Pair/Share exercise at least once a week in her first-year contracts classes.