

LEGAL RESEARCH IN THE NEXTGEN ERA

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INTRODUCTION

The NextGen Bar’s content scope areas have centered legal research as an analysis and strategy-focused discipline. This has provided an important opportunity for legal research instructors to openly position our subject matter as one grounded in critical thinking. In this time of explosive change around generative artificial intelligence (AI), where the temptation of ceding our choices to technology is ever-present, it is vital that we explicitly teach analysis as central to every stage of legal research. In this paper, the authors propose an evidence-based method of teaching legal research with critical analysis that is adaptable to any law school that will prepare students for the NextGen Bar and their greater careers.

To explicitly teach the role of critical thinking in legal research, legal research instructors need to make visible how to engage in analysis, exposing what is often left as an invisible part of legal researchers’ work. To do this, we must isolate each type of critical thinking that students engage in during the research process: digesting the problem in front of them and recalling the prior knowledge they already have in their long-term memories about that topic, defining concepts as

needed, considering and evaluating all the options available, deciding on a path and recognizing when a pivot from the chosen path is necessary, and finally reflecting on the efficacy of their decision points so they can replicate good outcomes or avoid certain challenges when conducting future research and decide what to do next. Each of these analytical tasks will be repeated again and again in the process of conducting legal research for a single problem.

A thoughtful research curriculum does not focus solely on navigating databases and legal bibliography. It can, and should, be so much more. In addition to adapting the focus of our content, an effective curriculum will help students develop cognitive schema to understand and analyze the law. It will provide students with an executable framework designed to help them retain what they need to know about research analysis. It will give students transparency of their learning goals, reduce the mystification they often feel about what they are supposed to be learning, and provide them clear direction in their learning objectives. A successful research curriculum will be built not just on content, but on how the learner retains and consolidates that information over the course of the semester.

Research into how students best learn has already transformed how the authors think about legal research instruction. Existing studies provide considerable guidance on how diverse bodies of students best learn and retain information, how to help students stay motivated and attentive, and many other topics. While it is incredibly important that law schools invest in research that will illuminate which strategies are the most powerful for law students particularly, for now we should use the scholarship that exists for college-aged and graduate level students to inform how we teach. Strategies proven to be powerful learning tools across multiple disciplines are highly likely to be powerful for our students too.

With the content scope for the bar in place,¹ there is some evidence of what will be assessed, but it leaves much unarticulated about what exactly should be instructed to ensure success. Like many instructional teams, the authors of this article submitted comments on the content scope areas for legal research in the NextGen Bar based on our own experiences and subject-matter expertise. Our suggestions, as well as the suggestions of many of our colleagues, are reflected in what the National Conference of Bar Examiners (NCBE) have chosen to include and exclude, most relevant to this discussion a focus on analysis rather than database navigation.

Instead of rote source memorization or overemphasis on database navigation, our approach focuses on critical analysis skills. Our teaching represents a paradigm shift from a time when most law sources were of quality and had similar access points,² so a focus on exposure to sources followed by lessons in access points for those sources was an appropriate program of instruction. Those law sources and their access points were designed to produce relevant results. Researchers had to engage in critical thinking to use those sources because they had to make choices about which source to use and what topics to look for inside of them. They took researchers directly to the right cases, and there was no other option for finding cases. Because those relevance-ensuring structures were necessary to research, that they required critical thinking was not explicitly visible. In fact, critical thinking was so engrained in everyday life that it did not need to be visible.

¹ NAT'L CONFERENCE OF BAR EXAM'RS, BAR EXAM CONTENT SCOPE: FIRST ADMIN. JULY 2026 (2023), <https://nextgenbarexam.ncbex.org/pdfviewer/ncbe-nextgen-content-scope-may-24-2023/>.

² The sources described here represent print materials, existing in the same physical space, most often various primary sources and the few secondary sources that existed at that time.

While most teaching did shift when searching became available, it shifted from teaching specific sources to also teaching database navigation and search techniques. So, logically, legal research instruction continued to focus on finding the law, underestimating the new need to focus on critical analysis. As our lives have become more automated, many tasks no longer require analytical thinking. We can now drive using a navigation system, without considering what map to use or if we understand the relevant landmarks. Because our students successfully, and constantly, use technological automation in their everyday lives, they rely on this habit in deeper research instead of engaging in analysis of how to accomplish the task at hand. But deeper research tasks, including the critical thinking necessary for effective legal research, cannot be automated. Practically and ethically, lawyers must do their own thinking. And so, when students copy and paste a legal question into ChatGPT or an internet search bar and hit go, they have already, in many ways, failed at being effective legal researchers and lawyers. They have not engaged in any critical thinking.

Of course, we will still teach students how to do effective searches and use automation when appropriate. We will also teach them the wealth of sources and skills that have always produced relevant results. The inventions of searching and prompting did not eliminate those important processes that once provided the only path to primary law. Many times, those processes will still be the better way to meet an information need.

There is no one perfect source for every problem nor does one skill meet every information need. But habits and early exposure to case law pre-law school and in their 1L doctrinal classes artificially make searching for cases their default choice. The answer is not only to teach students what sources to use, nor which skill to access the source, but that they have to stop, think, and choose a path for their work based on their information need. They must recognize that critical analysis is the first research task, is persistent throughout their work, and is also the most important action they must take. Much of our work as instructors is in resetting this automation default and forming new, more successful habits for our students. By far the most important task in instruction is to integrate critical analysis into our students' work.

The first iterations of the NextGen bar exam will take place in July 2026.³ At the time of this article, already twelve jurisdictions have committed to rolling out the new bar exam in either 2026 or 2027.⁴ With research being tested on a multistate bar exam for the first time—and the emphasis of research on the bar exam centering on strategy and analysis of sources, it is imperative that we begin adjusting our teaching methods now. Students taking the 2026 bar have already started law school. Even if your school's home state has not yet set a date for its first administration of the bar exam, it is very possible that students at your institution may be taking the bar exam in another jurisdiction that is administering the NextGen Bar in 2026 or 2027. If your institution has not already enrolled students who will be taking the NextGen Bar exam, it will soon.

We have identified four foundational areas every student must learn: structure, sources, skills, and strategy. Structure, the first foundational area, focuses on analysis in every step, embedding the word analysis in the title of each step to emphasize its critical role in legal research. We have included our example of structure in this paper, which we have named the Four-Step Legal

³ NAT'L CONFERENCE OF BAR EXAM'RS, ABOUT THE NEXTGEN BAR EXAM, <https://nextgenbarexam.ncbex.org/> (last visited Mar. 1, 2024).

⁴ NAT'L CONFERENCE OF BAR EXAM'RS, NEXTGEN (JULY 2026), <https://www.ncbex.org/exams/nextgen> (last visited Mar. 1, 2024). Another jurisdiction has set 2028 as the first administration of the bar exam. *Id.*

Research Process. The steps are Step 1: Problem Analysis, Step 2: Issue Analysis, Step 3: Enacted Law Analysis, and Step 4: Opinion-Based Analysis. Structure also plays an important pedagogical role in how successful students are at learning legal research. Our approach ensures that students effectively learn legal research and retain their knowledge into practice. The Four Steps are introduced as the overarching structure for the course before the other three content foundations are divulged, and then the remaining three foundations are woven throughout the steps across the semester.

The inclusion of legal research on the NextGen Bar has created a moment that legal research professionals should seize. We must now positively impact legal research education. More than any task we are confronted with as teachers of legal research, we must answer two calls. First, we must ground ourselves in evidence-based teaching. Second, we must teach critical thinking and analysis. Law librarians are in a particularly good position to lead this change, and, in this paper, we challenge our peers to do just that. For the better of legal research and the academy, we challenge you to join us in the “next gen” of instruction.

U.S. LEGAL RESEARCH INSTRUCTION

A. Past

The exclusion of legal research—and other skills—from the Langdellian curriculum⁵ has had lasting impact in how legal research has been treated in the legal academy. Skills classes are often treated as secondary subjects of less import than their doctrinal counterparts.⁶ The divide between skills as “acting like a lawyer” and doctrinal as “thinking like a lawyer”—and the idea that skills instruction, as a result, is of less import—permeated legal academia and still has not been fully rectified. The act of legal research requires critical thinking, so the ideas of acting and thinking

⁵ Langdell transitioned the law school curriculum from a system lacking order to one with a particular sequence, setting a first-year doctrinal curriculum that remains largely unchanged to this day. Rachel Gurvich, L. Danielle Tully, Laura A. Webb, Alexa Chew, Jane Ellen Cross, & Joy Kanwar, *Reimagining Langdell's Legacy: Puncturing the Equilibrium in Law School Pedagogy*, 101 N.C. L. REV. FORUM 118, 129. (2023). Langdell required first-year Harvard law students to take Property, Contracts, Torts, Civil Procedure, and Criminal Law, just like law students today. Robert W. Gordon, *The Geologic Strata of the Law School Curriculum*, 60 VAND. L. REV. 339, 341 (2007). Second year students selected five courses from a menu of seven courses: Bills of Exchange and Promissory Notes, Quasi-Contracts, Evidence, Equity, Advanced Property, Sales, and Trusts. *Id.* Finally, third year students selected five out of the following six courses: Agency, Constitutional Law, Equity Jurisdiction, Partnership and Corporations, Suretyship and Mortgages, Federal Jurisdiction, the Law of Persons, Conflicts, and Legal History. *Id.* Langdell did not make a choice to exclude legal research from the curriculum; it just didn't yet exist. See A. Hays Butler, *Frederick Hick's Strategic Vision for Law Librarianship*, 98 Law Libr. J. 367, 373 (discussing the emergence of legal research as a taught discipline a generation or so after Langdell).

⁶ There are a vast number of articles discussing the divide between doctrinal faculty and others in the law school academy with less status, power, and benefits. For but a few examples, see Larry Cunningham, *Dividing Law School Faculties into Academic Departments: A Potential Solution to the Gendered Doctrinal/Skills Hierarchy in Legal Education*, 67 Vill. L. Rev. 679, 679 (2022) (“At a given school, those professors who teach doctrinal subjects have the most power and benefits, while those who teach skills courses, such as legal writing and clinics, have the least.”); Linda H. Edwards, *The Trouble with Categories :What Theory Can Teach Us About the Doctrine-Skills Divide*, 64 J. Legal Educ. 181, 181 (2014-2015) (“[The conversation about the doctrine-skills divide] has been going on for a long time . . . [b]ut like it or not, in conversations about the urgent need to reform legal education, the dichotomy's entailments confront us at every turn.”); Lucille A. Jewel, *Oil and Water: How Legal Education's Doctrine and Skills Divide Reproduces Toxic Hierarchies*, 31 Colum. J. Gender & L. 111, 111 (2015) (“[T]he antipodal positioning of doctrine and theory over skills and practice harms law schools' ability to prepare a new generation of law students to engage in both critical lawyering and law reform.”).

like a lawyer cannot be separated.

We now know most young attorneys struggle with legal research, despite it being “taught” in almost every law school in the country.⁷ In our opinion, this is due, in large part, to not teaching analysis explicitly. This practice creates struggle as students think success in legal research is due to talent or luck, rather than a workable process they can learn. Struggle does not equate to rigor. We should focus on creating supportive learning environments where students are guided through their education carefully.⁸ Due to decades of research, teachers can now base themselves in the science of teaching that came after Langdell.

The make-up of law school communities has also changed. Once an environment designed specifically and solely for the white, male, and elite, law school communities are becoming more diverse, with increasing percentages of historically underrepresented groups applying and being accepted to law schools nationwide.⁹ Teaching a more diverse student body requires us to think about how we can teach more inclusively. While most, if not all law students experience cognitive overload during their law school careers due to the huge amounts of new information they are learning, students from historically underrepresented groups and first-generation law students have additional cognitive burdens that their classmates do not.¹⁰ Impostor syndrome and stereotype threat put additional stressors on these students’ cognitive loads,¹¹ making learning more difficult.¹² Competitive atmospheres like the one students experience in law school exacerbate these feelings; the stress students feel overrides “cognitive sources of energy deemed less of a priority,” including learning.¹³ For these students especially we must demystify our instruction.

⁷ See ALL-SIS TASK FORCE ON IDENTIFYING SKILLS AND KNOWLEDGE FOR LEGAL PRACTICE, A STUDY OF ATTORNEYS’ LEGAL RESEARCH PRACTICES AND OPINIONS OF NEW ASSOCIATES’ RESEARCH SKILLS 76–94 (2013) (describing how new associates’ legal research skills are often found to be lacking by those who are hiring them).

⁸ See, e.g., Jordynn Jack and Viji Sathy, *It is Time to Cancel the Word ‘Rigor,’* THE CHRON. OF HIGHER EDUC. (Sept. 24, 2021), <https://www.chronicle.com/article/its-time-to-cancel-the-word-rigor> (describing how calls for rigor can disadvantage further already disadvantaged students); Kevin Gannon, *Why Calls for a ‘Return to Rigor’ Are Wrong,* THE CHRONICLE OF HIGHER EDUCATION (May 22, 2023), <https://www.chronicle.com/article/why-calls-for-a-return-to-rigor-are-wrong> (explaining the difference between logistical rigor and cognitive rigor and why inflating the two is problematic). See also HARRIET L. SCHWARTZ, CONNECTED TEACHING: RELATIONSHIP, POWER, AND MATTERING IN HIGHER EDUCATION (2019) (exploring the role that faculty-student relationships, emotion, and community play in effective teaching and learning).

⁹ Susan L. Krinsky, *Incoming Class of 2022: A Major Advance in Diversity, More Work to Do,* LAW SCH. ADMISSIONS COUNCIL (Dec. 20, 2022), <https://www.lsac.org/blog/incoming-class-2022-major-advance-diversity-more-work-to-do#:~:text=The%20incoming%20class%20of%202022,of%2034.7%25%20students%20of%20color.> (explaining that the incoming class of 2022 is “by far the most racially and ethnically diverse law school class in history” with “36.6% of the incoming class of 2022 identify[ing] as students of color”).

¹⁰ Toni Schmader, Michael Johns & Chad Forbes, *An Integrated Process Model of Stereotype Threat Effects on Performance,* 115 PSYCH. REV. 336, 340 (2008); Alyson Drake, *Cognitive Load and the First Generation Law Student,* in FOSTERING FIRST GEN SUCCESS AND INCLUSION: A GUIDE FOR LAW SCHOOLS (Brittany Raposa ed., forthcoming July 2024); Elizabeth A. Canning et al., *Feeling Like an Imposter: The Effect of Perceived Classroom Competition on the Daily Psychological Experiences of First-Generation College Students,* 11 SOC. PSYCH. & PERSONALITY SCI. 647, 647–640 (2020); Elizabeth Ramsey & Deana Brown, *Feeling Like a Fraud: Helping Students Renegotiate Their Academic Identities,* 25 COLL. & UNDERGRADUATE LIBRS. 86, 86–87 (2018).

¹¹ A task’s cognitive load is the amount of information processing—or cognitive effort—a person must use to perform a particular task. See generally FREDERICK REIF, APPLYING COGNITIVE SCIENCE TO EDUCATION: THINKING AND LEARNING IN SCIENTIFIC AND OTHER COMPLEX DOMAINS (2010).

¹² *Id.*

¹³ Jackie E. Shay & Cathy Pohan, *Resilient Instructional Strategies: Helping Students Cope and Thrive in Crisis,* 22 J. MICROBIOLOGY & BIOLOGY EDUC. 1, 1 (2021).

There are too few incentives for legal educators to adapt their teaching methods. The ABA has chosen not to create meaningful consequences for schools and teachers who do not engage in effective teaching strategies.¹⁴ Some might argue that bar exam performance—and its ties to law school rankings—is enough motivation for instructors to improve teaching. However, success on the bar exam is in significant part due to bar prep programs that do incorporate effective pedagogical practices like spaced repetition to their program design to effectuate learning and retention.

Familiarity with the scholarship of teaching and learning could be a required part of every legal educator's training and continuing education.¹⁵ Knowing and understanding which strategies have been proven to help students hold on to their learning for the long term, and not just to perform on an exam at the end of the semester and forget it, could be a mandatory part of law teaching training.¹⁶ Students should not be the only ones facing consequences for deficient teaching. Up until now, it's largely been left up to individual instructors to find the intrinsic motivation to improve teaching, and with required scholarly and service requirements that take up significant time and have ramifications on promotion and tenure, it's understandable why legal educators would opt not to prioritize spending time adapting methods that have been considered the gold standards for teaching for generations and that they found success in as students.

Legal research is not immune to these problems. For decades, texts have used legal research processes to teach legal research.¹⁷ Unfortunately, strategic decision making and analysis have not been expressed as indispensable to these processes and as such these processes have fallen short of being useful scaffolding devices for what students are actually meant to be doing: solving a problem through finding and analyzing the law.¹⁸ While most, if not all, legal research texts suggest

¹⁴ The standards require only “(b) A law school shall ensure effective teaching by all persons providing instruction to its students.” In the interpretation note, there are multiple simple examples, including orientation, of what schools can do to “ensure effective teaching.” Although true evaluation is certainly an option, there is no standard requirement. A.B.A. SECTION OF LEGAL EDUC. & ADMISSIONS TO THE BAR, *ABA Standards and Rules of Procedure for Approval of Law Schools* Standard 403 and Interpretation 403-1 (2023), https://www.americanbar.org/content/dam/aba/administrative/legal_education_and_admissions_to_the_bar/standard_s/2023-2024/2023-2024-aba-standards-rules-for-approval.pdf.

¹⁵ This could be ABA- or institutionally-mandated orientation programs that introduce all those who are teaching in law schools (including adjuncts) to best practices for retention of learning, assessment and course design, and more. There could also be professional accreditation requirements for a certain number of continuing education course hours on pedagogy each year that legal educators must meet to ensure that law teachers are staying up-to-date on the newest developments in education research and theory.

¹⁶ The techniques that can lead to success on final examinations often do not lead to long-term retention of learning. Both massed practice and re-reading notes, two common law student study techniques, have been shown not to result in long-term retention of knowledge and in fact can lead to illusions of mastery that do not exist. *See, e.g.*, BROWN, ET AL., *supra* note 25, at 204–07 (2014) (describing the problems with massed practice and why its alternative, interleaved practice, is better for long-term retention); YANA WEINSTEIN & MEGAN SUMERACKI, *UNDERSTANDING HOW WE LEARN: A VISUAL GUIDE* 23-24 (2019) (explaining why re-reading is not a good technique for long-term retention of learning and gives a false sense of comprehension).

¹⁷ *See, e.g.*, MARJORIE DICK ROMBAUER, *LEGAL PROBLEM SOLVING: ANALYSIS, RESEARCH & WRITING* 145-46 (5th ed. 1991); ROBERT C. BERRING & ELIZABETH A. EDINGER, *FINDING THE LAW* (11th ed. 1999); CHRISTOPHER G. WREN & JILL ROBINSON WREN, *THE LEGAL RESEARCH MANUAL: A GAME PLAN FOR LEGAL RESEARCH AND ANALYSIS* 29-40 (2d ed. 1986).

¹⁸ *See, e.g.*, ROMBAUER, *supra* note 18, at 145-46. Take, for example, the Rombauer method. While it mentions analysis in the titles of Steps 1 and 5, it conflates two vital parts of research into a single step: identifying what researchers already know about the problem (facts, etc.) and gaining background context on their topic in secondary sources. This deemphasizes the critical thinking that happens early in the process. It also keeps three steps aimed at

some process, most focus more on finding the sources to be consulted than on the strategy or analysis inherent to legal research. This leaves the analytical and strategic steps of legal research invisible,¹⁹ perhaps a holdover from the time before searching was commonplace and researchers had to use critical thinking to access the sources. The overemphasis on “finding” in the titles within these processes makes it easy—and understandable—that students would focus on the bibliographic and database navigation skills instead of the strategic decision-making and analysis they must engage in to be competent researchers. Too often these processes seem to conflate the type of research experienced lawyers perform with the type of research law students or early lawyers perform, as the steps in many legal research processes might be sufficient to tell experienced attorneys what to do but will not suffice for a novice researcher.²⁰

A well-designed scaffold is a support for student learning; it helps students in mastering new knowledge and skills.²¹ A well-designed scaffold for legal research must accomplish two primary

finding primary law, so students learning research walk away thinking their focus should be on primary sources, reconfirming the common misconception that they should move into primary law as quickly as possible. Furthermore, the steps center on searching for sources, the bibliographic finding stage of research, rather than the analysis inherent to researching successfully. While the Rombauer text certainly discusses some critical thinking, leaving analysis invisible in the titles of most of the steps makes the process less successful as a teaching tool. The emphasis on searching also misleads students to believe that they already know how to research, because they are practiced searchers. And by mentioning analysis in Steps 1 and 5, but not the others, it seems to suggest that analysis and searching are distinct stages when they must actually occur simultaneously.

¹⁹ See, e.g., WREN & WREN, *supra* note 18, at 29-40. In *The Legal Research Manual*, the steps set out are finding the law; reading the law; and updating the law. *Id.* The implicit suggestion that all finding comes before the reading—in other words, that a legal researcher can find the law without reading and analyzing it to determine its relevance to their problem—is troubling and reinforces the too-common idea that research is solely a bibliographic skill devoid of analysis. This misconception that researchers should find all the law and then read it might also encourage students to engage in previous search habits where they gather a large number of resources (for example, cases) and then read through them, rather than engage in a more streamlined and efficient process in which they read and analyze one source and that source leads them to the next, and so on, ultimately ensuring more relevant results. This practice is already, unfortunately, reinforced in many first-year skills courses when students are handed a packet of materials for their closed memos, causing some students to incorrectly assume that all research is concluded before all analysis and legal writing begin (rather than what the closed memo actually is—an opportunity to reduce students’ cognitive overload). In the section on background that comes before the process suggested in *The Legal Research Manual*, there is a very useful discussion about gathering and analyzing facts, including giving categories the researcher should think about in this analysis, and identifying and organizing the legal issues. Unfortunately, leaving it out of the steps altogether de-emphasizes its importance, suggesting that this forethought is not a necessary part of “doing” legal research when in fact its central to successful research. *Id.*

²⁰ Many research processes suffer from clumping too much together into a single step to be useful for novice researchers. Placing all of finding the law or all of looking at legal sources into a single step cannot be useful as a training tool. See, e.g., WREN & WREN, *supra* note 18; BERRING & EDINGER, *supra* note 18, at 315-320. Many processes also don’t give researchers explicit instructions for how to engage effectively with the sources they use, focusing instead on the types of sources attorneys should consult; even those that hint at the role analysis should play do not give sufficient concrete advice on how to approach research if the reader is a newer researcher who might struggle to identify the general issues. See, e.g., ROMBAUER, *supra* note 18, at 158 (advisedly broadly that the researcher might need to “engage in some conscious fact analysis” but without any recommendations on how to do so). A newer addition to the legal research textbook lexicon, *Legal Research Demystified*, is much more descriptive in the specific actions researchers should take, but, with eight steps for common law-based problem and ten for statutory problems, ultimately it is less successful as a teaching tool because novice learners will struggle to recall all the steps easily; to be most effective from a learning standpoint, there should be fewer steps with shorter titles to avoid overcoming the limits of students’ cognitive capacities. See generally ERIC VOIGT, *LEGAL RESEARCH DEMYSTIFIED* (2d ed. 2022).

²¹ See Alyson M. Drake, *Building on CREAC: Reimagining the Research Log as a Tool for Legal Analysis*, 52 U. MEM. L. REV. 73 (2021). One author described scaffolding as acting “like training wheels; it allows learners to

tasks. First, it must give students a basic framework to follow when engaging in legal research problem solving while they are learning. This framework will also be there to lean back into throughout their career. This is essential due to the large number of sources, skills, and strategies being relayed in legal research instruction. Without a proper scaffold, students will be unable to master the critical thinking and strategic decision making central to legal research or to attack a research problem effectively and efficiently. Second, the scaffold must make evident to learners the most critical parts of conducting legal research, namely the role analysis plays. With the misconceptions that exist around legal research focusing on bibliographic skills and navigation, legal research processes must make it explicit that students are not just finding sources, but are conducting analysis. Students need a retainable process that accurately reflects the work they are engaging in and makes visible the analysis that is central to their research to be successful on the NextGen Bar and beyond.

B. Present

Two current events make this discussion ripe for all law schools. First, legal research as a subject has never been deemed important enough to be tested on the bar exam—until now.²² The NextGen Bar will ensure that students are more ready to practice law by testing content that has been long overlooked as requirements for the profession, including client management, negotiation, and most importantly for this discussion, legal research. Second, the advent of generative AI requires legal research instructors to consider how to teach around these new tools.

1. The NextGen Bar

The NextGen Bar Examination will be the first time that research skills are tested on a multistate bar examination.²³ Set to debut in July 2026, legal research will appear on the bar as part of the new bar exam’s inclusion of what it refers to as foundational skills.²⁴ Foundational Skills Group C is legal research.²⁵ In the content scope for the NextGen Bar, the NCBE describes the purpose of Foundational Skills Group C as testing “the extent to which an examinee can identify and implement legal research strategies, including preliminary issue-spotting, working with provided resources, developing and refining a theory of the case, and reaching closure on research issues.”²⁶ In addition, Foundational Skills Group A, Issue Spotting and Analysis, Investigation and Evaluation, explicitly acknowledges the inseparable link between legal research and analysis, with two tasks there being classified as falling into both groups: 1) “identifying which legal principles are likely to affect the outcome of a matter” and 2) “identifying which facts are likely to be relevant to or dispositive of a legal issue in a matter.”²⁷

The NCBE considered, but wisely decided against, including any sort of database navigation on the bar exam. Foundational Skills Group C focuses less on finding sources of law, but more on

accomplish the difficult task in a safely supported way. Ideally, it does not reduce learners to bystanders but gives them the support they need to complete tasks they otherwise wouldn’t be able to do.” JULIE DIRKSEN, DESIGN FOR HOW PEOPLE LEARN 43 (2d ed. 2016).

²² NAT’L CONFERENCE OF BAR EXAM’RS, *supra* note 1.

²³ Bar Exam Content Scope: First Administration July 2026, National Conference of Bar Examiners (May 2023), <https://nextgenbarexam.ncbex.org/pdfviewer/ncbe-nextgen-content-scope-may-24-2023/>.

²⁴ NAT’L CONFERENCE OF BAR EXAM’RS, *supra* note 6, at 5.

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.* at 3.

strategizing which sources to use and analyzing the sources provided. As such, while accessing sources remains critical to lawyering work, explicit instruction on strategy and analysis—leaning into the analytical steps in the Four-Step Legal Research process—will be critical for students to navigate the bar exam successfully. The NCBE’s correct decisions to frame research on strategy and analysis of sources—and to explicitly show the connection between research, issue spotting, and analysis—should firmly put to rest the idea that research instruction should focus on legal bibliography or database navigation and clarifies that strategy should be a central focus in legal research instruction.

The NCBE enumerates eight specific skills that examinees need to be able to perform. Each of these skills is explicitly and thoroughly instructed during our Four-Step Legal Research Process.

Table 1: NCBE Skills²⁸

“In a matter that requires legal research, identify the research questions that need to be answered.”

“Identify ambiguities in the language, standards, elements, or facts of a provided resource (such as a statute, contract, or judicial opinion).”

“Identify efficient legal research strategies (including appropriate search terms) that are likely to uncover other legal sources to assist in the interpretation of a provided resource (such as a statute, contract, or judicial opinion).”

“Given a collection of legal sources, identify the roles and characteristics of the sources, including their authoritative weight.”

“Given one or more judicial opinions, identify the facts in a matter that are analogous to and/or distinct from the dispositive facts in the opinions.”

“Given a collection of legal sources, identify other sources, search terms, or research strategies that might be used to update sources or find additional sources.”

“Given a collection of legal sources, identify which sources are relevant to or dispositive of a legal issue in the matter.”

“Given a collection of legal sources, identify whether the sources are sufficient to complete an assigned research or other lawyering task.”

²⁸ *Id.* at 5.

That research would be tested is ground-breaking news. *What* research would be tested was the next critical conversation. Now that the NCBE has set the content scopes, legal research professionals must turn to the work of *how to teach* legal research to ensure bar success. On the surface, it may seem, based on the content scope area descriptions, that strategy is the NextGen Bar’s overriding concern or that it minimizes the importance of skills. But perhaps strategy needs to be visible because the role of analysis in legal research has been obscured for so long. In actuality, each of the four legal research foundations are deeply entrenched across the content scope areas. Put simply: structure, sources, skills, and strategy must co-exist for research to be successful. Lacking an ability to effectively perform each type of skill, researchers will be unable to find the most important sources as effectively as possible or transition between options if one strategy does not succeed. Without knowledge of sources and understanding of what each source adds to their research, researchers cannot be assured that they are getting the highest quality information for their needs even if they are able to successfully strategize which skill will help them access a particular source. Absent strong strategy, research cannot be as efficient or as thorough as is ideal, even if one has strong skills and a deep understanding of categories of sources; students will be unable to maneuver through their research effectively. Finally, the structure of the Four-Step Research Process ensures that all three are deeply rooted in how students approach legal research and that students have a baseline plan of attack for any research problem—regardless of which database students use or what changes arise due to artificial intelligence.

Ultimately, it will be up to the question drafters to see through the potential of the newly defined content scope areas. There is still a lot we do not know. While we are privy to a few sample questions now,²⁹ we do not have enough examples to be able to predict exactly what the research questions for each content scope area will look like.³⁰ To be successful, the questions must do what they purport to—require students to successfully execute an efficient process, properly evaluate resources, skillfully use tools,³¹ and significantly engage in critical thinking. At this stage, it is impossible to know, but we are hopeful that the promising content scope areas will mean students are meaningfully tested on the knowledge and skills necessary to be competent researchers. But it is important to remember that, even if the content scope areas result in meaningful testing of legal research, the bar exam does not require mastery of everything that the students will need to be effective lawyers, just competency across the board. The Four Foundations and our example of structure, the Four-Step Legal Research Process, will ensure that students learn and retain the research skills they need to be effective attorneys in practice.

2. Generative Artificial Intelligence

2023 and 2024 have witnessed an explosion of conversation around all kinds of AI. Like other bold innovations before it, AI necessarily impacts legal research and legal research instruction. At this time, only the first few AI tools have been made available specifically for legal research and

²⁹ NAT’L CONFERENCE OF BAR EXAM’RS, NEXTGEN BAR EXAM SAMPLE QUESTIONS, <https://nextgenbarexam.ncbex.org/nextgen-sample-questions/> (last visited Mar. 1, 2024). As of February 2024, we have eight sample multiple choice questions, two integrated problem sets, and one performance task.

³⁰ In the current samples, there are questions that test knowledge of the authoritative weight of legal sources, that ask students to assess cases and identify which are relevant, and to identify the legal issues at play given a set of materials, but we do not have samples that test every Foundation C content scope area.

³¹ As written, the content scope areas seem to focus mostly on the skill of searching. We hope that the ultimate questions on the NextGen Bar will also test students’ ability to use skills other than searching and prompting, such as discerning through the Table of Contents, using curated discovery tools like Notes of Decisions or headnotes to identify other relevant sources, and more to ensure that students can master all three types of skills.

detailed instructional materials are just beginning to surface about those tools. There is no doubt that these tools will expand and evolve in the near future. Students should understand that while some AI tools are explicit and are identified as AI, other AI is seemingly invisible and is only working behind the scenes. Staying current with training on the platforms lawyers and law students use is vital to proper use of these tools not only because it will help them understand what it is they are using, but also because it will help understand how to masterfully use it. While we firmly believe the underlying principles discussed here about AI as part of the legal research world are correct and will sustain, the exact way we use AI, and so the way we teach around AI, will undoubtedly be affected by further innovation.

What is unlikely to change is the need for instruction and thoughtful messaging around AI in legal research. AI is at its essence a tool—a transformative, powerful tool. We must teach our students the mechanics of AI and how to harness its engineering in their work. But we must also teach ethical, responsible use of AI. Because lawyers have an ethical obligation to give their clients current, correct advice,³² a lawyer’s use of AI must be anchored in their own strategic, critical thinking and be part of a legal research process where they understand and endorse the legal advice they are giving. That advice cannot be generated by AI.³³ A legal research process can only be performed by a researcher who may choose to *use* AI in their process but cannot choose for AI to *be* their process.

For instance, AI could be used in much the same way you might use a trusted colleague to ask if it can identify cases on a certain issue you already understand, but should not be used to ask what an issue might be. At least as we now know it, the best uses of AI are those with a prompt that is both specific and informed- saving the prompter valuable time gathering and even digesting the answer, but not relieving the prompter of their duty to critically think about what information is needed and how they might ethically verify that information.

AI is discussed throughout this paper, and rightfully is part of three of the four foundations we discuss below. But, like the world-changing advancements of written letters and the internet, we must hold fast that while our practices are necessarily adapted, our principles must remain unfettered.³⁴ Good legal research only happens when an informed researcher engages in their own critical thinking.

C. Future

Developing a responsive curriculum that will ensure students will succeed on the research portions of the bar exam takes time, and we must begin this work now. The content scope areas

³² See, e.g., *Model Rules of Professional Conduct: Preamble & Scope*, A.B.A., https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/model_rules_of_professional_conduct_preamble_scope/ (last visited Feb. 29, 2024). See also NAT’L CONFERENCE OF BAR EXAM’RS, ABOUT THE QUESTIONS, <https://nextgenbarexam.ncbex.org/nextgen-sample-questions/> (last visited Feb. 29, 2024).

³³ Like many products, there is a danger in allowing the seller of the product access to students. We should not let our students be misled. AI should help them progress in their work, but it cannot do their work for them.

³⁴ We cannot forget Plato thought the invention of letters would destroy us: “This discovery of yours will create forgetfulness in the learners’ souls, because they will not use their memories; they will trust to the external written characters and not remember of themselves.” PLATO, PHAUDRUS (R. Hackforth trans., Cambridge Univ. Press 1952). But, even after the printing press could widely spread written information, humans had to use critical thinking. Now, as we face a similar world-changing innovation, we still have to use our critical thinking.

and the first sets of model questions for the bar exam have been released and indicate that research will play a major role in the bar exam. In fact, research will be tested in problem sets along with doctrinal subject matter.³⁵ We need to begin adjusting our exercises and assessments to give practice that echoes the format and content areas of the NextGen Bar Exam to expose our students to what they will be encountering. We must also center our teaching on what the NextGen Bar exam is prioritizing: being efficient, evaluating resources, using tools, and engaging in critical thinking.

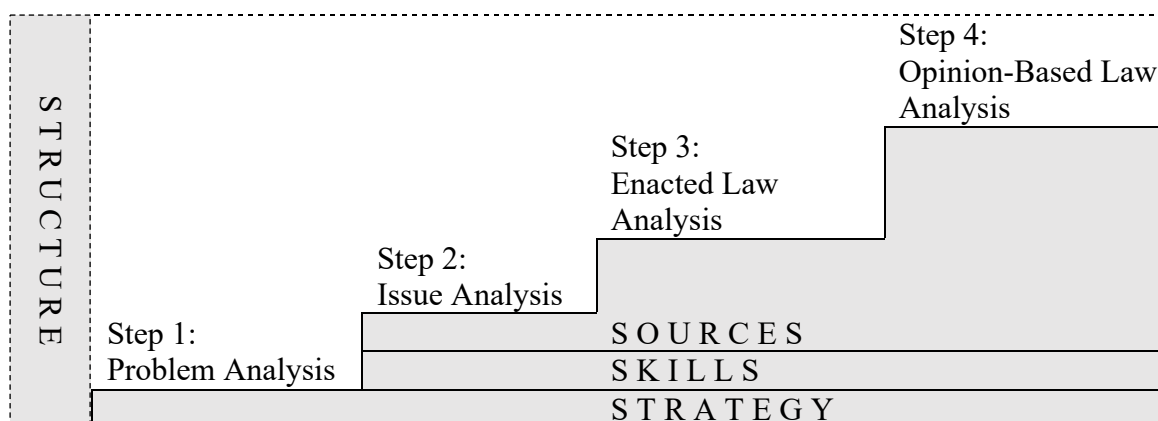
We have an opportunity to thoughtfully design our research curriculum for long-term retention of learning and emphasize the strategic and analytical portion of legal research that is so often neglected. We have broken down our research curriculum into four foundations grounded in both what students need to *learn and retain* to conduct legal research and analysis and what students need to *perform* effective legal research and analysis: structure, sources, skills, and strategy. The structure, sources, skills, and strategy make up the primary content of the courses and are described in detail below. These are what students need to engage in to research successfully as attorneys. Students will gain efficiency through structure, they will learn about resources through sources, understand tools through skills, and consider critical thinking in all their work through explicit strategy.

The first foundation, structure, which we exemplify as the Four-Step Legal Research Process, is critical substantively. The Four-Step Legal Research Process provides an actionable, reliable framework for performing legal research. The structure of the Four Steps also reframes the most important aspect of legal research as analysis, rather than centering as a bibliographic, finding task. In the Four-Step Legal Research Process, we took the opportunity to remind students to engage in critical thinking, by placing the word “analysis” in the title of every step and in so making it an explicit part of the legal research. Finally, the Four-Step Process provides the overarching structure of our courses and plays an important role in how students learn and retain the information we are teaching.

Our semester begins by introducing the students to our example of structure, the Four-Step Legal Research Process. We explain to students that the Four-Step Process is the framework we will use to walk through the course; it will help students learn to execute a research problem step-by-step. In this introduction, we share the names of each step: Problem Analysis, Issue Analysis, Enacted Law Analysis, and Opinion-Based Analysis. You can, and we do, adjust the names of the steps based on the knowledge level of the students or based on the specialty topics of an individual course; for example, for our first-year students, who only learn the basics of legal research, we adjust the names of Step 3 and Step 4 to Statutory Analysis and Case Analysis to reflect the sources they will be utilizing for their fall open memo research problems and avoid overwhelming them. After introducing students to our example structure, it is important to introduce students to the other three foundations—sources, skills, and strategy—and explain that the course will revisit each foundation repeatedly as the semester continues. Throughout the semester, we will follow the order of the Four-Step Process; at each step of the process, we highlight where sources, skills, and strategies come into play at that step and emphasize how the four foundations interrelate.

³⁵ See NAT’L CONFERENCE OF BAR EXAM’RS, *NCBE Publishes First Samples of New Question Types for NextGen Bar Exam*, NCBE, <https://www.ncbex.org/news-resources/ncbe-publishes-first-samples-new-question-types-nextgen-bar-exam> (July 11, 2023) (discussing the integrated problem sets).

Illustration 1: How Four Foundations and Four Steps Work Together



We will cover this in greater depth below, but an overall picture of the Four-Step Process structure will be helpful as we move through the other foundational content. The first step, Problem Analysis, focuses on students assessing what they know about the facts and the possible legal topics involved in their research problem. During this step, students are taught to brainstorm in a systematic way using specific categories that help them to think broadly, rather than too quickly zeroing in on one specific issue.³⁶ They get specific guidance on and practice in how to think comprehensively using a chart that allows them to organize what they already know.³⁷ After charting their problem, students assess their knowledge, define any unknown concepts, and then identify and prioritize the broad areas of law involved in the problem.

Step 2, Issue Analysis, focuses on using secondary sources to first gain broad understanding of the legal topics identified in Step 1. During this step, students strategically select appropriate secondary sources for their current research needs and work to gain the kind of comprehensive context for their topics that they need to engage in deep analysis, as opposed to just retrieving a simple answer to a question. In gaining this deep comprehension, they can begin narrowing from broad topics to the specific issues that need further investigation and then create a research strategy.

Steps 3 and 4 cover Enacted Law Analysis and Opinion-Based Analysis; in these steps, we cover how to approach and successfully analyze a legal problem no matter what types of primary law are involved. In Enacted Law Analysis, students learn how to engage with any law that has been enacted by a body, including statutes, regulations, constitutions, rules, and any other kinds of codes. Students focus on identifying all the relevant, binding enacted law for their issues and on analyzing the history of the law and subsequent treatment of the statute or regulation in case law. In Opinion-Based Analysis, students take on the remaining primary sources including case law and other opinion-based instruments like rulings, decisions, and opinion letters. Students learn how to find additional cases for their different information needs from an initial relevant case that they found in their secondary sources or in the annotations to relevant enacted law. Students learn to focus on finding cases to support the arguments they have developed through their own critical

³⁶ As AI develops, it is more and more likely to “anticipate” our needs and might nudge a certain research path that was not intended by the researcher. For this reason, researchers should be careful to engage in their own thinking and not over-rely on technology.

³⁷ See *infra* note 100.

analysis and their deep understanding of the broad context of the topics involved in their research problem.

Within each of the four steps, students learn a secondary structure that allows them to move through their analysis in a comprehensive way. As students gain more experience researching, they will learn where they can adapt and be flexible in moving through these steps. However, initially adhering to a highly-structured model allows them to build and automate mental processes for how to maneuver through a research problem and gives them a structure to lean into when they need it, giving them confidence in their work.

Ultimately, moving away from a research curriculum that focuses on database navigation and finding individual sources, to one centered on analysis at every stage, helps students understand that everything foundational to legal research involves critical thinking. Together, structure, sources, skills, and strategy will ensure students are able to effectively learn how to strategize, research, and analyze different types of research issues.

THE FOUR FOUNDATIONS

Many other law courses have established, and often long-established, curricula, but consensus on legal research has been elusive. There has been no consistent treatment of when legal research is taught,³⁸ how much teaching happens,³⁹ who does that teaching,⁴⁰ or what topics that teaching should cover.⁴¹ In fairness, even the NCBE struggled to squarely name the required elements within legal research.⁴² Our four foundations for legal research will equip any law student with a rich understanding of and ability to conduct legal research. Although different student audiences will require different emphasis on these foundations,⁴³ and similarly the available instruction time at various schools will necessitate different treatment,⁴⁴ the four foundations are crucial components of any research curriculum.

When students are asked how they currently seek information, they most often say they search for it. When asked to be more specific, they report use of a keyword search on a web service like Google. When pressed with specific information needs, their answers become less uniform and more specific. For a great bread recipe, they will offer different suggestions based on their experience, including print, human, and web resources. For a particular clothing need, one student at most will admit to googling, but most will have a more sophisticated process. Some will have one store they go to directly, others will use a service that pulls from certain sources, and still

³⁸ See generally Caroline L. Osborne, *The State of Legal Research Education: A Survey of First-Year Legal Research Programs*, or “Why Johnny and Jane Cannot Research,” 108 LAW LIBR. J. 403 (2016).

³⁹ *Id.* at 408-11.

⁴⁰ *Id.* at 412.

⁴¹ *Id.* at 413.

⁴² See, e.g., Danette Waller McKinley & Beth E. Donahue, *The Testing Column: Measuring Competence: Assessment of Knowledge and Skills on the Bar Exam*, BAR EXAM’R, Fall 2023, available at <https://thebarexaminer.ncbex.org/article/fall-2023/the-testing-column-fall23/>

⁴³ Amanda Watson, Amanda Karel, Amanda Runyon, & Leslie Street, *Demonstrating Law Library Value Through Mission-Centered Assessment*, 115 LAW LIBR. J. 6, 26 (2023).

⁴⁴ While we recognize that different programmatic parameters will necessitate different treatment, at least four one-hour sessions are necessary to give students the basic foundation of the Four-Step Legal Research Process. Ideally, however, the equivalent of at least one full credit hour (a minimum of 13 total hours) would give students the strong introduction to research they need with sufficient practice to build the long-term retention needed to consolidate these skills and carry them into the bar exam and practice.

others will add very specific criteria to a search. For a novel to read on vacation, the seeking behavior differentiates even more, as the type of novel they want, how they want to read, and whether or not they want to pay differentiates. Each of these information needs requires students to prepare a strategy that seeks a source and uses skills to find and/or access that source. But unlike their initial instinct that every strategy, source, and skill will always be identical, they now reflect that different sources, skills, and strategies are necessary depending on their information needs.

In this section, we propose a clear, uniform curriculum for legal research comprised of four foundations: structure, sources, skills, and strategy. The first foundation, structure, allows students to attack legal research problems effectively and efficiently and acts as a pedagogical tool that helps students learn how to research. The final three foundations are content-specific to legal research.⁴⁵

The middle two foundations, sources and skills, work together. If researchers have familiarity with legal sources, but not the necessary skills to access the relevant information within them, they cannot be successful. Likewise, if they have mastered the different types of skills, but are not sure which sources to use them within, they cannot be an efficient legal researcher. The first and last foundations, structure and strategy, are two sides of the same coin. Without sound strategy, a researcher cannot be adaptable and make useful choices maneuvering within a structure. But overreliance on strategy without a structure to guide the researcher can make it difficult to know how to attack research problems thoroughly and efficiently. While an expert researcher might use strategy to expand and contract a structure less linearly, a novice researcher can feel lost in the process and have difficulty moving through the research if they lack a strong command of structure. Attorneys need strong mastery of both strategy and structure to be effective researchers.

Each of these foundations will be discussed in turn below, but it is important to note that they are all interconnected. The concepts behind sources and skills are well-established in the legal research curriculum. But how they are taught, with the level of emphasis on each, requires necessary shifts. There is dearth of evidence that strategy is explicitly taught in legal research texts, although in our experience strategy is implicitly included in some legal research instruction. Our approach takes a dramatic step in asking that strategy be openly integrated into every step of the process and be the clear focus of our students' work. Finally, while having a structure to teach research is not new—as described above, research processes have been around a long while—our Four-Step Legal Research Process places analysis explicitly in each step and is designed specifically as a teaching mechanism that will help students remember to analyze a legal problem, rather than merely providing a list of sources to consult. It is designed to help students learn and perform research effectively.

A. Structure

Structure, the first foundation, serves two essential roles. First, it helps students devise a plan of attack for how to progress through their research throughout their careers; in this role, the structure is a necessary component of the content of legal research courses. Second, the structure

⁴⁵ It is perhaps unfortunate our example of structure is itself comprised of four steps; we know that having both four foundations and four steps could be potentially confusing, but the number for both is what was necessitated to clearly provide guidance to our students on what foundational knowledge is needed to research effectively and on how to walk through the research process comprehensively.

helps students to learn how to do legal research by scaffolding new concepts. Together, these roles mean that structure is not merely a nice “extra” for your curriculum, but a crucial component that brings the other three foundations together. To exclude it increases the difficulty of engaging in research throughout their legal careers and makes learning harder for your students.

1. Structure as Content

Structure is a vital part of the four foundations, grounding sources, skills, and strategies- giving students a solid framework for success now and in the future. A successful structure will make visible how to approach each new research issue that comes their way and help researchers to walk through their research successfully. Legal research is iterative, and lawyers will learn to move through the process giving emphasis to different steps as their work necessitates it. A clear, executable way to succeed at research every time is foundational to thorough, efficient legal research.

Ultimately, by utilizing the same framework in every class, the structure can become familiar and be more easily used every time they conduct legal research and analysis. A structure moves step-by-step through a legal research process, making sure the researcher doesn’t miss important work. This guidance creates more efficient research. It does not take up as much mental space as they think about where to place the new sources, skills, and strategies they are learning in context to what they already know because the process tells them clearly what step to try next. This is especially important here where keyword searching is such a deeply-entrenched habit. Structure helps them to place the newer learning into action so it is easier to perform the next time they need it instead of panicking and over-relying on searching or prompting. Eventually, practicing attorneys will not need to consciously walk through the structure; instead, it will be so engrained that they will follow some of the steps there almost subconsciously and instantaneously. But, when they come across a challenging research problem, they will have the structure in their long-term memories to lean back into.

In our Four-Step Legal Research Process, the structure plays one additional important content role. It makes visible the part of research that has too long stayed hidden in the shadows: analysis. By placing legal research in the title of each step, we make it clear that analysis is the first and last action that students must take, and that they must continue to actively engage in analysis through the entirety of their research problem. Analysis is no longer something that comes only *after* research; it is the lifeblood of research. It makes clear that the research practitioner’s own critical thinking is central to this work as we see in each of the remaining foundations.

2. Structure as Scaffold

Because of the large volume of sources, skills, and strategies involved in engaging with the law, students’ cognitive capacities can easily be overwhelmed. There is such a seemingly endless number of new concepts to understand and competencies to master that it can be incapacitating for novice lawyers. Scaffolding tools, frameworks to aid students in learning or mastering new understanding, are critical in helping students learn the law as effectively as possible.⁴⁶ When students lack a framework, they are forced to blindly search their long-term memories for possible

⁴⁶ *Curriculum*, IRIS CTR., <https://iris.peabody.vanderbilt.edu/module/sca/cresource/q1/p03/#content> (last visited Mar. 1, 2024).

solutions to solve a legal problem.⁴⁷ This process places an immense burden on the part of the brain where students do their conscious thinking, called the working memory. The learner must struggle to hold and process the current problem in their working memory while simultaneously making an effort to retrieve skills and strategies from their long-term memory back into their working memory that could help solve that problem.⁴⁸ Unfortunately, students, like all humans, are limited in the amount of information they can hold in their working memories at any one time. This difficult process creates almost a ping pong effect of thoughts bouncing around, overwhelming students' working memory.⁴⁹

The working memory is limited in both duration and size. When humans process new learning in their working memory, information vanishes within 30 seconds if not rehearsed in some way.⁵⁰ This is why students can struggle to perform a skill or strategy introduced earlier in a class session or fail to remember the features of a particular source—there was too much time between the relay of content and the time they are using that skill, strategy, or source. In addition, recent studies show humans can only hold on to approximately four “chunks” of information at a given time.⁵¹ What amounts to a chunk will differ based on the learner and how deeply entrenched the information being used is in the knowledge structures of their long-term memory.⁵² Experts may treat a large set of interconnected, complex concepts as a single chunk of information, while novices may have to treat a single piece of terminology or a single skill as its own chunk.⁵³ As such, it is easy for new learners to exhaust the four chunks they can hold on to quickly.

Providing a scaffold gives researchers a structure to help organize the information they are learning and a basic framework to follow when engaging in legal research problem solving. The more practiced a person is at using a knowledge structure in their long-term memories, the more automated it will become. When a piece of information is automated, it is so engrained in the long-term memory that it does not require cognitive processing. This leaves more space in the working

⁴⁷ Richard Clark, Paul A. Kirschner, & John Sweller, *Putting Students on the Path to Learning: The Case for Fully Guided Instruction*, 36 AM. EDUCATOR, Spring 2012, at 10.

⁴⁸ In their seminal work, Richard Clark and his team describe the type of stream-of-conscious mental processing that can occur as students struggle to engage in problem solving when learning lacks structure:

“If the learner has no relevant concepts or procedures in long-term memory, the only thing to do is blindly search for possible solution steps that bridge the gap between the problem and its solution. This process places a great burden on working-memory capacity because the problem solver has to continually hold and process the current problem state in working memory (e.g., Where am I right now in the problem-solving process? How far have I come toward finding a solution?) along with the goal state (e.g., Where do I have to go? What is the solution?), the relations between the goal state and the problem state (e.g. Is this a good step toward solving the problem? Has what I’ve done helped me get nearer to where I need to go?), the solution steps that could further reduce the differences between two state (e.g., What should the next step be? Will that step bring me closer to the solution? Is there another solution strategy I can use that might better?) and any subgoals along the way.” *Id.*

Remembering that the limited cognitive capacity available is limited to only four chunks of information, it’s easy to see how problem-solving without structure could easily exceed our limits. See MICHELLE D. MILLER, REMEMBERING AND FORGETTING IN THE AGE OF TECHNOLOGY: TEACHING, LEARNING, AND THE SCIENCE OF MEMORY IN A WIRED WORLD 58-59 (2022).

⁴⁹ Clark et al, *supra* note 56, at 10.

⁵⁰ *Id.* at 9.

⁵¹ Miller, *supra* note 57, at 58.

⁵² *Id.* at 59. Knowledge structures, often referred to as schema, are the mental structures that allow humans to organize information in their long-term memories. See generally SHARAN B. MERRIAM & LISA M. BAUMGARTNER, LEARNING IN ADULTHOOD: A COMPREHENSIVE GUIDE 347–50 (4th ed. 2020).

⁵³ See Amanda L. Gilchrist, *How Should We Measure Chunks? A Continuing Issue in Chunking Research and a Way Forward*, 6 FRONTIERS PSYCH. 1456, 1456 (2015).

memory for the new information being processed.⁵⁴

All law students experience cognitive overload, a phenomenon that occurs when the amount they are learning exceeds the limited space in their working memory. During legal education, the high volume of content paired with often minimal opportunities to rehearse the information they receive means the working memory's limits are exceeded in both load and duration and so is easily overcome. There are three types of cognitive load. Every piece of learning has an *intrinsic* cognitive load, the inherent difficulty of the material itself.⁵⁵ This difficulty can vary from student to student, based on their existing knowledge.⁵⁶ Instructors have no control over the intrinsic cognitive load necessary to learn a given concept or skill,⁵⁷ but we can impact the amount of *extrinsic* cognitive load our students experience by designing our courses thoughtfully.⁵⁸ Extrinsic cognitive load is information unnecessary to the current learning objectives that impedes student learning by taking up space that could otherwise be focused on the immediate learning goals.⁵⁹ Instructors can also have an impact on the *germane* cognitive load, the load the working memory uses to develop schema in the long-term memory.⁶⁰ One way to reduce extrinsic cognitive load and germane cognitive load is to use the right scaffolding device.⁶¹ If a scaffolding device itself is too complicated, it adds to extraneous cognitive load by taking up space better left for the learning students are doing, effectively defeating its purpose.

A research process must be kept simple, so as not to take up too much space in the working memory, but still be descriptive enough of what students are meant to be doing to be a useful device for students in recalling the necessary steps to engage in during their research. This is critically important due to the large amount of information and skills being relayed in legal research instruction. If the scaffolding device itself is not carefully designed—either by not being clear enough about what students are actively engaging in, by having too many steps, or by having cumbersome titles for steps, it will add to the learner's cognitive load, rather than lessen it, and take up valuable space in the working memory that would be better left to the course content students are trying to learn. The right balance is a very difficult thing for instructors to develop; it is perhaps unsurprising that many research processes in legal research texts have failed as an effective *teaching* tool. Indeed, our Four-Step Legal Research Process has been adjusted many times over the last 8 years as we have worked to find the right balance between simplicity and descriptiveness.

⁵⁴ MICHELLE D. MILLER, MINDS ONLINE: TEACHING EFFECTIVELY WITH TECHNOLOGY 79-80 (2014).

⁵⁵ John Sweller, *Cognitive Load Theory: Recent Theoretical Advances*, in COGNITIVE LOAD THEORY 29, 40-41 (Jan L. Plass et al. eds., 2010).

⁵⁶ John Sweller, *Element Interactivity and Intrinsic, Extraneous, and Germane Cognitive Load*, 22 EDUC. PSYCH. REV. 123, 128 (2010) (For a given task and given learner knowledge levels, [intrinsic cognitive load] is fixed and cannot be altered other than by changing knowledge levels.”).

⁵⁷ *Id.*

⁵⁸ Fred Paas, Alexander Renkl, & John Sweller, *Cognitive Load Theory and Instructional Design: Recent Developments*, 38 EDUC. PSYCH. 1, 2 (2003).

⁵⁹ Typically, extraneous cognitive load is a result of ineffectual instructional design and can be reduced with strong course planning. Examples of extraneous cognitive load include unclear examples, PowerPoint presentations with too much text or that are hard to read, or instructions or technologies that are challenging to navigate. Roxana Moreno & Babette Park, *Cognitive Load Theory: Historical Development and Relation to Other Theories*, in COGNITIVE LOAD THEORY: HISTORICAL DEVELOPMENT AND RELATION TO OTHER THEORIES 9, 11 (2012). See also Dirksen, *supra* note 22, at 167.

⁶⁰ SWELLER, *supra* note 64, at 29, 42-43.

⁶¹ See Drake, *supra* note 22, at 73-75.

B. Sources

Perhaps the least controversial of the foundations of legal research, teaching students about the types and features of sources, or the places we find legal information, is a vital part of our work. Some iterations of legal research instruction, though mostly historical now, are simply called legal bibliography, describing a straightforward process of exposure to the range of legal sources.⁶² Though exposure is necessary to a successful program, it is imperative to push instruction far beyond this base level.

Inevitably, some will assert that database navigation—primarily searching—is the most important, and sometimes only important, content piece of legal research. But navigation is just one small component of legal research instruction. Searching without knowledge of what sources you are searching, or what you are hoping to find, is a consistent disaster in legal research and leads to inefficiency and lack of confidence. In the best worlds, instructors can be transparent and explain why students are not focusing primarily on navigation or searching. It is helpful to remind students that these databases are designed to be used on first login for every law student in the world. Navigation alone will not ensure good, efficient research.

1. Using the Internet and AI as Legal Sources

The pull of the general internet, the allure of generative AI, and the power of commercial search engines like Google are powerful considerations in teaching sources. Free internet sources, most often content farms, but sometimes news and open academic articles, must be part of our instruction.⁶³ The correct assumption that tools like Google have better search algorithms than law databases must be separated from the more important question of which source has the highest quality content. What students are reading must be held sacrosanct as it informs their analysis and critical thinking. How they find it must be carefully disambiguated from what information they are seeking, so they know their first and most important job is locating the best content for their research, not the most innovative or attractive research tool.

In our view, students should not be warned away from using general search engines or generative AI, but instead should be taught to search or check for reputable, quality content. AI requires the same critical choices as other resources, in much the same way as searching databases.⁶⁴ Though AI may offer innovative versions of tools and output, researchers must

⁶² See, e.g., William R. Roalfe, *Some Observations on Teaching Legal Bibliography and the Use of Law Books*, 1 J. LEGAL EDUC. 361 (1949).

⁶³ Content farms are perhaps the most important pin to remove in the web of general internet over-reliance. Primarily designed for marketing purposes, content farms are online writing that has been created to generate views through search optimization. There are two critical points to convey here. First, the nature of content farms should be revealed. Tools for marketing, most often not written by legal experts and not generally updated, content farms should not be the aim of searches. Because they are optimized for searching and written for non-legal minds, however, they are very attractive to students, at least initially. Second, once a student understands content farms are marketing tools, they should be exposed to the idea that part of good legal research is being proud of the sources they have used—proud enough to report them in a brief, to a judge, their client, and/or a supervising attorney. It becomes clear to a student that using a website like divorcenet.com will not be considered “good work” in this context, even if it performs well on an internet search.

⁶⁴ The underlying data of any AI tool should be considered similar to other sources. The focus in AI is generally on the prompt and engineered output, but legal research instructors must remember that some group of data underlies these tools. In addition to understanding what underlying data exists, students must be aware of how AI creates new

consider what it is they are searching and how that content is being recalled and potentially re-engineered in their results. If a student includes a Google search or use of AI in their strategy, it should not be because they are hoping that tool will display magically perfect results, but because they are using the power of the tool to mine content they are intentionally seeking out, like government agency, non-profit guidance, or reputable news information.

Similarly, it is hard to imagine a client that would feel they got value for their payments if their lawyer used more general generative AI tools like ChatGPT without the addition of their own lawyerly expertise. For teachers that care a great deal about authenticity, the idea that content farms or general generative AI can be helpful at a certain level is likely fine. But that idea must be coupled with limiting time on such resources, always moving from those sources to confirmation in a more reputable source, and never outsourcing our critical thinking. Instead, they should use their own critical thinking skills to properly perform comprehensive, ethical research.

2. Exposure

Touring or demonstrating legal research platforms is a necessary part of legal research instruction to some degree. After all, these platforms are usually completely novel to law students, and the total lack of an introduction might cause unnecessary anxiety or even mental paralysis when first encountering them. Database and underlying content are separate concepts from the important concept of source, and they must not be conflated. Expose students to the concepts of database and content and make sure they understand the difference. Sources are the actual holders of legal information, whether they be primary or secondary. Databases are merely platforms where individual sources are held along with tools that help researchers access the sources.

We must also carefully disentangle source categories from individual source titles. For example, a source would be the Duke Law Review, the category would be law journal/review, the databases would include HeinOnline, WestLaw, Lexis, and others. Learning about categories, and treating individual sources as exemplars of the categories, frees students to start research no matter the topic or available database.

Although the distinctions between category and individual source may seem obvious, the interchange of them embodies several large problems in research instruction. First, if students learn only about the use of individual titles, they fail to consider the underlying features of that title so they cannot categorize them. Second, because they have not categorized, students fail to use critical source evaluation to determine when one category of sources might be more useful than another. This results in them either not choosing quality sources that meet their information needs or not understanding why they have chosen something of quality and so cannot transfer that useful choice to another problem.⁶⁵ Third, it would be impossible to teach every single source a student might encounter. There will be new sources, and sources will cease to exist. Teaching some individual

forms of sources using the underlying data and its own engineered intelligence tools. Multiple data sources are used to engineer AI. Training data is used to adjust the parameters in a neural net. Then, validation data is used to adjust the architecture of the net and its hyperparameters, primarily to assess overfitting. Finally, test data is used to see how a trained network performs on data it has not seen before. Generally, these data sources do not overlap. B.D. RIPLEY, PATTERN RECOGNITION AND NEURAL NETWORKS 354 (1st ed. 1996). *See also* CHRIS FERRIE & SARAH KAISER, NEURAL NETWORKS FOR BABIES (2019).

⁶⁵ Transfer of knowledge occurs when a student is able to take a knowledge or skill from the context in which they learned it and apply it to a new context. S.M. Barnett & S.J. Ceci, *When and Where Do We Apply What We Learn? A Taxonomy for Far Transfer*, 128 PSYCH. BULL. 612 (2002).

source titles is valuable (like the American Law Reports because of its unique features) and obviously students will practice in individual sources. But, by teaching category, students can evaluate and use an individual source they have not studied based on the features they know and have practiced using. Students will now have knowledge beyond one or two favorite individual source options. This also serves well students who pursue careers in niche legal areas when most research courses focus on general topics.

Once students understand categories, they can be exposed to the differences in quality within the individual titles contained in a category.⁶⁶ Often, a researcher will unnecessarily bind themselves to sources that are not of the best quality for their work, simply because they are on a certain platform, again centering platform instead of source.⁶⁷ The key to success is to understand what category of resource is best for their information need, then decide what individual sources would be the best quality in that category, and finally teach the platforms as access points to the sources. Students should learn to discern quality through available tools like treatise finders, their professional law librarians, and their mentor colleagues instead of simply mining whatever sources happen to be on the platform they are using.

Source categories include both primary and secondary sources, though secondary sources generally require more instruction. Students will need careful exposure to the differences between primary and secondary sources as well as mandatory and persuasive authority. Primary source categories should include statutes, regulations, constitutions, rules, and cases/opinions. The majority of students will have some concept of these source categories, though they will need help understanding the qualities of each. The anatomy of primary sources, as well as the processes for creating them, will inform students about what materials they can seek for support of their arguments.

The more ambitious task will be to expose students to secondary source categories, namely jurisprudence, treatises, monographs, law journals/reviews, legal dictionaries, coursebooks, study aids, newsletters, and bar journals. Exposure⁶⁸ to the qualities of each should be a critical component of teaching sources because students should have a realistic idea of all the different sources available to them and understand their efficacy as categories. Working with this broader list will help them learn how to strategize and select sources, and understand that their own analytical skills, and not the results of an internet or platform search, are the true underpinnings of good legal research.

⁶⁶ While some categories only have a few, quality players like jurisprudence, others have many individual titles that vary wildly in quality. Treatises are an excellent example of the level of quality variety within a category.

⁶⁷ They will consider all individual titles in a database, for instance Westlaw, worth their time, but this is simply untrue, as both major databases include some more questionable sources. Platforms change quickly, and because academic pricing models are different than firm or government pricing models, the options available to students are almost certainly different from what they will encounter in practice. It is necessary that students learn they can be successful even as the platform changes, they face inevitable restrictions on use, or they must use a platform they have not historically preferred.

⁶⁸ Exposure at this level means we inform our students that these sources exist, but we do not necessarily demonstrate or deeply explore each type due to natural constraints in teaching legal research. For example, for first year students, we elect to focus our time on encyclopedias, treatises, statutes, and cases, those sources that are most critical for their first-year open research projects, to avoid cognitive overload and to ensure retention of the most important content.

3. Evaluation

After exposure to sources comes evaluation. In teaching source evaluation, we should offer students the opportunity to understand the features, strengths, and weaknesses of sources, so they will be able to continue evaluating information sources throughout their careers. Typically, a secondary source evaluation would include questions about its currency, depth, comprehensiveness, organization, quantity and quality of primary source linked to within the source, potential for bias, and overall quality. But students should be challenged to add their own categories as they explore what is important to them in a source. In addition to teaching them the handful of sources we understand to be most important, teaching the skill of evaluation will allow them to transfer the knowledge they gain to their specific practice as it evolves, and will motivate them not to simply remember for assessment, but to learn a skill that they can retain for as long as it serves them.⁶⁹ Primary source evaluation should focus more on what primary source is most suited for their work, so students must evaluate jurisdiction, relation to other primary sources, and how to make sure they are good law.

Teaching evaluation happens in two steps. Step one includes having students evaluate sources as they are exposed to them. This should happen on many levels. The instructor should demonstrate evaluation, the students should practice it in groups, and then they should be individually assessed on evaluating multiple sources over time. The practice of evaluation should not be included in one or two lessons but should be introduced again and again as students take on new research tasks. One simple way to do this is to always ask students to reflect on their work and explain why they chose the sources they chose and how effective they ultimately found the source to be. This opens the opportunity for the instructor to correct or reinforce evaluation. When students' selected choice does not accurately align with the research outcome they were hoping for, students are forced to reevaluate their existing understanding.⁷⁰ When the instructor provides feedback about why a choice might not have been as successful as the student hoped it would be, students fold their new understanding into the knowledge structures of their brain and the schema in their long-term memory is reconsolidated as a more nuanced model.⁷¹ Students begin to understand exceptions to their previous understanding that they will then be able to transfer to the next research issue they encounter. In this way, students learn that source evaluation is not a tool only used to introduce new sources, but instead is a critical thinking process that should be used in any research task. Step two happens during strategy drafting and will be discussed below.⁷²

C. Skills

Traditionally, research instruction has put an emphasis on the performance of certain skills. A strong command of the skills involved in legal research is foundational for students to make strategic decisions during the legal research process. There are three primary sets of skills that accompany critical evaluation of sources that students must be able to use to research efficiently:

⁶⁹ Evaluation of underlying content of legal-specific AI is difficult, at least at this time.

⁷⁰ POOJA K. AGARWAL & PATRICE M. BAIN, *POWERFUL TEACHING: UNLEASH THE SCIENCE OF LEARNING* 81-82 (2019); JAMES LANG, *SMALL TEACHING: EVERYDAY LESSONS FROM THE SCIENCE OF LEARNING* 44-46 (2d ed. 2021).

⁷¹ AGARWAL & BAIN, *supra* note 79, at 81-82.

⁷² *See infra* pp. 33-34 (discussing creating strategy statements).

1) controlled vocabulary tools;⁷³ 2) curated discovery tools;⁷⁴ and 3) searching or prompting. While most legal research texts introduce these skills, they do so only in the context of describing each individual source's features, such as using the popular names table for the annotated code, rather than teaching skills as part of a wholistic critical analysis process. Our foundation illustrates that skills are not tied to any one resource, but that each type of skill will be found in many different resources and can be used when the source and information need dictate. It ensures that research in each source is both as efficient and thorough as possible. Through highlighting the similarities in how the type of skill is used across the various sources introduced, students can retain these skills more deeply and can begin to see which skill to use based on what they already know and what they need to learn. The same skill is seen regularly throughout the course rather than seen as an individual tool they only see in an individual source. By seeing how a particular type of skill is introduced in different sources, it becomes possible for students to identify those tools in sources that they encounter outside of the course. Through teaching the commonalities of these skills across sources, students gain a deeper understanding that will serve them universally.

This too-common practice of conflating skills and sources also means students do not know when to use which skill, leaving them to either wonder when to utilize each skill or misleading them into thinking each tool is interchangeable and simply a matter of personal preference. This can result in many students relying on searching too frequently when it is not the best skill for that stage of their research. Their lifelong habits cause them to forget to use other skills for the one that is most familiar: searching. By distilling these key skills into just three primary categories, it helps students think critically about which skill should be used in which situation. It also reduces cognitive load by helping students see that the same three types of skills are available to use across all the different types of sources they will encounter. Then, through practice, students will learn what skills are most useful in certain situations and with certain sources. But they will also learn and internalize an important lesson: that searching is just one of the options they have to move their research forward. They also learn that if one skill does not work as successfully as they envisioned, they can transition to another skill that might work better. Finally, they are able to actively seek out skills in new sources based on the qualities of those skills and their information needs.

1. Controlled Vocabulary Tools

The first critical skill is using controlled vocabulary tools. In this category, we place tools where students use language they have identified as important during Problem Analysis and Issue Analysis to find sources that discuss those topics: the table of contents and the index. A necessary part of using controlled vocabulary tools is to have thought carefully about terms and alternative language needed to find material on your research topic, requiring students to think through their research problem and not just take a guess about whether the language they are using is correct. When a student does not have enough information to identify terms or alternative language, or lacks enough deep understanding of a topic to launch their research, controlled vocabulary should be used as a support tool to embed them into the sources that will help them gain the language and understanding they need.

⁷³ Controlled vocabularies, most notably indexes and tables of content, are not created with equal quality, and their usefulness can vacillate based on how well written they are.

⁷⁴ Digests, like the West Digest System, do not fit into these categories squarely, because while they can and are used as tools, they also have content making them quasi-sources and quasi-skills. In this context, they most often act like a curated discovery tool.

When we talk about indexes, we teach that students should not use the index like a search engine, individually looking up multiple terms in turn, but rather look up one term and then use it as a hook to jump into the source.⁷⁵ At that point, students are taught to lean into the structure of a source by looking at the table of contents surrounding the original section they located.

We stress the importance of leaning into the structure of a source, regardless of which skill—controlled vocabulary tool, curated discovery tool, or searching—the student used to originally enter the source. Once they have entered the source, expanding out to the table of contents is a critical step for gaining full understanding of their research topic. If a table of contents is available, whether secondary source, statute, or regulation, students should learn to lean into the structure of the table, browsing from their specific found section to the larger organizational unit. Then, discerning through that unit by browsing the titles, they should stop to read anything obviously relevant, skim what is possibly relevant, and move past other irrelevant sections, to gain broader and deeper understanding of the law rather than just collect one information point.

It is helpful to remind students again and again that sections entitled “generally” or “exceptions” are almost always relevant and are at least worth a skim. The other persistent reminder should be definitions. Because law students are often very good at reading things in context, they may need encouragement or perhaps even perceived permission to halt that practice and instead seek constant confirmation of the meaning of legal terms. It may be useful to show them how in different fields of law the same term can have different meanings; often, using the United States Code to illustrate this is an effective practice.

In teaching this skill, we demonstrate and have our students practice browsing these tools, explicitly discussing what questions they should be asking themselves as they systematically work through the headings in the table of contents and what they might want to look for in an index. We discuss how these tools work together and where they might have more success starting with one or the other based on the initial broad topic. Most of this is left as another invisible step in research instruction—as instructors focus on getting to the source and the pros and cons of various sources. Without some structure for how to use these tools well, students are left to struggle with how to maneuver within a source that has hundreds of headings and topics; the number of choices is overwhelming. With regular practice utilizing these tools to gather legal information for a particular problem—and assessing which sections are and are not helpful based on their current level of understanding and their research question—students are able to gain comfort using these types of skills.

Even armed with a strategy for how to move through working with controlled vocabulary tools, this can be uncomfortable work for students. Unlike the years of experience using searching, which brings up a list that they, perhaps erringly, assume organizes by how relevant results are, working through a table of contents methodically can feel slow and tedious. Students may even see finding irrelevant sections as failure, when really a “no” informs them and helps to narrow their understanding. For example, a student may think that a crime is vandalism, but upon not finding vandalism in the index, perceive failure. If they persist and use the table of contents to browse all property crimes, they learn instead that it falls into the category of criminal mischief. The lack of

⁷⁵ When using the index in sources where the source is gathered first by subject and then by section, students must check that the topic has only been discussed in one section of the source before jumping out to the Table of Contents to ensure they do not miss important distinctions in their topic.

the word vandalism in the index was not failure, but an important information point in their work that told them to rethink their selected language and skill, consider alternatives, and move forward. Students may also perceive discovering a synonym or alternative word that they did not initially brainstorm as a failure, instead of a positive refinement process that will ultimately lead to greater results and deeper understanding. We must remember that almost any search will produce some results, and so students have come to equivocate results with success. But returning results does not guarantee that those results are of quality. By explicitly discussing and then having students experience how controlled vocabulary ensures both actual efficiency (as compared to searching especially) and thoroughness (most students live in fear of missing something important), they can understand why using these tools is so imperative to research success.

2. Curated Discovery Tools

Critical skill two is using curated discovery tools. In this category, we put tools curated by information professionals where researchers can take one specific piece of information to find another specific piece of information. This category might more commonly be referred to as finding aids, but that language leaves it unclear to students what exactly we use these tools for and why they are so valuable; after all, controlled vocabulary tools and searching are also skills they use to find legal information. You might also consider some of this work to be browsing. That is not incorrect, but understanding the curated nature of the browsing allows a deeper understanding of the importance of these skills. Calling these tools curated discovery tools makes it clear that this is a list that is organized to reliably help researchers locate important bits of information by those with expert knowledge in the field. These tools were designed using professional judgment to get researchers efficiently to the high-value resources on their topic. They are tools legal professionals can and should use with confidence.

There are a number of critical, curated tools for legal researchers. One category are those tools that allow students to move from one source that discusses a particular issue to more sources on that issue, such as the Notes of Decisions and the headnote/digest systems. Also included are tools like tables, such as the Popular Names Table, that allow researchers to use one discrete piece of information to locate another piece of information. Finally, this category includes other finding aids, such as treatise finders, lists of related resources provided directly in a source or compiled by AI in a legal database, internal firm knowledge management resources, and library research guides that help researchers find resources on a broad topic or in a particular jurisdiction. Highlighting the value of curated discovery tools helps students recognize how the Four-Step Legal Research Process is designed to help them move from source to source and piece of information to piece of information.

We start by demonstrating each skill and having our students practice those skills. In addition to teaching students about the types of curated discovery tools, we spend significant time discussing how to use these tools most effectively. For example, we show students how to effectively use the table of contents in the Notes of Decisions to find cases on their specific issues, but also to assess and gain confidence that they have identified all the sub-issues that arise in their problem. We spend significant time discussing when each type of curated discovery tool might be the most efficient skill on which to call.

We also distinguish between content-driven discovery tools, those tools that allow you to identify content that is important to you and find material related to that specific content (such as

the Notes of Decisions or headnotes leading the researcher to cases on a specific sub-issue), and link-driven discovery tools (such as lists of resources linked in a secondary source that the author thinks may be of value to readers interested in the topic of the section they are reading). Again, seeing the commonalities of the types of curated discovery tools allows students to be on the lookout for these types of tools in other sources throughout their careers, for example seeking out curated lists of linked sources provided in a secondary source they are using for the first time. They learn that sources of legal information are often designed to move them to the next useful source and can seek out curated materials as they evaluate a new source.

3. Searching and Prompting

Critical skill three is searching and prompting. In teaching searching, we teach students the basics of Boolean searching, discuss how to effectively use segment searching, and discuss the differences between retrieval and searching. We emphasize that internet searching, which students are so used to doing before they enter our classrooms, is mostly retrieval. Retrieval is not about gaining understanding but about finding a very specific bit of information. Many students misconstrue research as retrieval, as they are very used to using the web to retrieve specific, small pieces of information. This misconception must be corrected. The ease with which they get answers searching on the internet makes it easy to think that keyword searching is always a reliable tool and is giving them a successful answer. But we emphasize the necessity of gaining broad understanding of their legal topics so they can know their research is correct and then their understanding enables them to engage in deep analysis. Orphaned search results, where the researcher has no foundational knowledge, cannot without significant work be confirmed as accurate. While there are times that they may need to retrieve something specific, more often they will need a deeper understanding to build persuasive arguments and truly understand the area of law in which they are working. Students must learn that they will know when searching is appropriate because they will have a very specific, often narrow, information need.

AI prompt building and the resulting refinement that comes after a prompt, are related skills to searching, but not the same. When we search, we are asking a database to retrieve results based on the terms we choose. When we prompt and refine, we are asking AI to draw upon underlying content and engineer a new, on-demand resource. Understanding this engineering process is vital to unlocking the skill of good prompt building. It bears repeating that foundational to this work, the underlying content must be understood by the researcher. Without that understanding, it will be impossible to predict what the tool can engineer and of what quality that result will be, making good prompt building illusive and most likely of low quality. Good prompt building must inform the AI tool exactly what conclusions the researcher wants the tool to engineer, requiring understanding of the underlying data and the desired outcome of the resulting content.⁷⁶

Searching and prompting when still in the gaining understanding phase of research is a recipe for failure. When still gaining understanding and deeper context for their legal topic, students do not know what they do not know. Not only can students not be sure they have the correct language by which to search or prompt, but they cannot really know what they are looking for and they cannot often identify if they have found the most relevant section of a source when assessing results. Searching and prompting during this part of the research process often results in students

⁷⁶ Jennifer G. Wondracek, *Introducing AI Prompt Worksheets for the Legal Profession*, LLRX (Jan. 22, 2024), <https://www.llrx.com/2024/01/introducing-ai-prompt-worksheets-for-the-legal-profession/>.

sensing that their research is not as efficient as it could be; when students do not understand what they are looking for, they cannot be efficient. Even a limited time gaining understanding will allow students to know what they are really looking for. This will also help them know if they have returned relevant, quality results. And it will help them know when to stop researching. If students do not know what they are looking for, they can hardly be asked to know if they have found it without other contextual information lacking in a search or prompt environment.

Slowing down to read for understanding can feel uncomfortable for students. In their other classes, they become familiar with the feeling of not always having understanding of the topics being discussed, but they know eventually someone will explain the concepts. As such, it can be discomfoting to have to get to that understanding themselves, especially when it can involve the false starts that sometimes occur as they work to find the best language to engage with controlled vocabulary tools. Students are more accustomed to using discernment skills to sort through long lists of results and piecing information together from various sources. We are asking them instead to use their discernment before they ever get results, leaving them with a large process shift that often feels uncomfortable or even wrong. In AI work, they are often presented with only one result, leaving the false impression that discernment is not needed at all. This effect is compounded by the result reading as straightforward and so it does not tax the student's cognitive load as much as other processes. This reduction of results down to one, well-structured answer makes AI seem like a way to bypass discernment and still get quality results. Students have also been told to use proprietary resources like Westlaw or Lexis, giving these AI tools credibility that are earned only by association. It is important to note that even Westlaw and Lexis contain bad sources, and further they contain sources that, while of use, are not appropriate for AI underlayment. Much like searching before understanding, among other flaws discussed later, using AI pre-understanding means students do not understand what to prompt or if the engineered content is relevant or of quality.

A pre-result discernment process is a safer, more reliable, and more efficient atmosphere for students because they will know when they have found correct information and they will be faced with obvious roadblocks when they do not, rather than working in potentially irrelevant results because they lack deeper understanding. As instructors, we may need to be transparent about how this paradigm shift might feel; let them sit in their discomfort with us. With sufficient practice, students can appreciate how these tools are a more efficient entry into their research. Seeing firsthand why deeper understanding is important for their research analysis is critical for students to let go of their overreliance on searching and will help alleviate their discomfort.

We briefly introduce all three types of skills at the start of the semester when we provide a roadmap of what the course will cover. Then, over the course of the semester, we roll out each category of skill in greater depth, focusing on how each skill is utilized within each source category and why and when each skill should be used in that source to highlight the strategic decision-making students must engage in. In Issue Analysis, as we focus on secondary sources, we center on critical evaluation of sources and controlled vocabulary tools, while also briefly introducing curated discovery tools like treatise finders. We also discuss why and when searching will be problematic given the source and their current level of understanding.⁷⁷ During Enacted Law Analysis, we delve more deeply into curated discovery tools to emphasize the often-forgotten

⁷⁷ While some headings are very descriptive and unique like those found in the American Law Reports, others (like encyclopedias) are very generic and often repeated throughout multiple sections without content. For example: elements, generally, exceptions.

Notes of Decisions and continue practicing using controlled vocabulary tools. During Opinion-Based Analysis, we continue a deep exploration of curated discovery tools, emphasizing the importance of headnotes and Citing References/Citing Decisions, and add a deeper discussion of searching and prompting into the mix. This not only highlights when which tools might be most appropriately used but allows us to have discussions comparing the benefits and pitfalls of using each type of skill at different stages of their research and for different types of research.

During the in-depth discussion of each skill, we have them practice using those skills. We also have students compare using different skills given the same scenario so they can see how they can extrapolate in which situations using which skill is most effective.⁷⁸ After these deeper discussions, we bring these skills back in with retrieval exercises⁷⁹ at the start of class that ask students to practice using these skills. These retrieval exercises help consolidate these skills in students' long-term memories so they can recall them next time they need them. To help students think critically about which skills to use in which situations, we will ask them to include which skills they would use to approach a problem in their strategy statements⁸⁰ and then to reflect on how successful that skill was to attack their problem. This will help them to transfer that knowledge the next time they are solving a similar problem and help them to further consolidate those skills.

D. Strategy

In *The Art of War*, Sun Tzu writes, “Strategy without tactics is the slowest route to victory. Tactics without strategy is the noise before defeat.”⁸¹ Translated to our purposes, this might read: Strategy and structure without sources and skills is the slowest route to successful research. Sources and skills without strategy and structure is the surest way to waste your time and have a sub-standard research product. Understanding sources is, of course, fundamental to good legal research. This fundamental truth likely needs little litigation here, even if the method around teaching might need to shift. Similarly, perhaps more work must be done to incorporate ideas around the methods of teaching skills, but the underlying concepts around skills are still well incorporated in the world of legal research. However, the idea that none of this teaching is successful without directly instructing strategy may be the most controversial part of this new understanding of legal research teaching.

Strategy must not only be taught implicitly. It is understandable that it is often taught this way, as there are so many strategic decisions involved in even just sources and skills. It seems obvious that strategy is inherent in this work, especially to experienced researchers. Legal research instructors know that analysis and strategy are inherent to what we do, so we know that students are engaging in it throughout their research. But for novice researchers, strategy is less obvious;

⁷⁸ Effectiveness does not just mean that the research is quick or straightforward. It should also consider if the researcher has confidence in their result, meaning they feel they have thorough answers to their research questions; have pride in their result, meaning they could share it with a partner or client; and are confident their results are relevant.

⁷⁹ Retrieval exercises ask students to pull information from their long-term memories without the use of their notes. BROWN ET AL., *supra* note 25, at 88–90. Retrieval exercises are most powerful when they are spaced (spread out over the course of the semester), interleaved (problems using different skills/knowledge are mixed up, as opposed to massed practice of the same knowledge/skill in a closer period, so students are forced to use discernment to recognize which knowledge/skills to use), and overt (students are writing down answers, as opposed to just thinking in their head; this ensures that all students are engaging in retrieval practice).

⁸⁰ See *infra* pp. 33-34.

⁸¹ SUN TZU, *ON THE ART OF WAR* 4 (Allandale Publishing 2000).

without explicit instruction, strategy's role is at risk of being invisible or, at best, under-emphasized to students. Furthermore, with the common misconception that research is merely database navigation, we must be explicit about strategy being foundational to research from day one of our classes.

Though we are not discussing ideas as dire as war, the idea behind Tzu's teaching is absolutely true. Without marrying structure, sources, skills, and strategy together, we are consistently underteaching our students. By not explicitly instructing them on how they might approach research given their information need, we are ultimately setting them up to fail, or at best underperform, at tasks they have intentionally spent time trying to learn. Perhaps as cruelly, we are leaving them to believe that "talent" or some other elusive quality is required to put their learning into action, when strategy is actually an instructible, repeatable, transferable concept.

1. Distinguishing Retrieval

The concept of how our students retrieve information is one that has not been studied thoroughly. However, we do have some information. Many posit that in the same way books may have lessened our human ability to remember things because we could instead refer back to them,⁸² so too the internet may have changed us so that we do not think as deeply or try to solve our own problems.⁸³ In our own work, we see students that say they rely on search engines to think of alternative terms or even just to get their own thoughts together before they begin. But this type of work must be re-framed to encourage students to do their own critical thinking instead of looking outside themselves for ideas about analysis. Search engines, and even AI, should be used by legal researchers to help them with their tasks, but they should never replace the critical analysis done in a lawyer's mind.

As harmed as our students may be by "shallow" information retrieval, they are equally harmed by messages that their trusted retrieval methods are wrong or off-limits. A student that is told the use of a general search engine or Wikipedia is inherently bad will, on some level, find the other teaching less credible. Search engines and Wikipedia do have usefulness and refuting that is a harmful endeavor. It is better to teach students that different tools and sources have their place, and students can, as they become professional lawyers, choose which tools and sources to use based on their situation and information need. The reality of research as an adaptive process is critical, as even the best skills and tools we teach today will change in coming years. Instead of learning good and bad, students should learn evaluation and strategy, so they can adapt critically rather than trust or distrust blindly.

Nevertheless, it is likely that some of their habits will need to be changed or at least examined. Because, as a society, we often seek specific information points by using general internet searches, students will often default to similar behavior in legal research. Students must instead learn to seek understanding rather than find bits of information. Unless they already know an area of law well (can they, from memory, list the elements/factors and defenses? do they already know the statute and/or important cases?) they should not seek individual points of information, but work systematically through the Four-Step process noting areas that need to be drafted into their work product.

⁸² NICHOLAS CARR, *THE SHALLOWS: WHAT THE INTERNET IS DOING TO OUR BRAINS* 177-78 (2020).

⁸³ *Id.* at 181-182.

2. Teaching Critical Thinking

Analysis is fluid and recursive. Perhaps because of this, analysis is not clearly articulated for students. The framework for analysis we use is noted below. It is not vital that students use this exact example, but it is important that they consider their own thinking processes and make sure they have good habits.

Table 2: Critical Thinking Framework

Step	Description
Digest	Take in the information you find or are given and recall information from your long-term memory that you already know about the topic as needed. Charting the problem can aid this work and help students use their own thinking. ⁸⁴
Define	If there are unknown concepts, find understanding.
Consider	The process of consideration is paramount in analysis, meaning researchers must think through their research needs and decide what they need to know. Students may want to skip creative consideration in favor of browsing a list of search results and evaluating them. But the process of critical thinking is diminished in that scenario and limits the research to only what the search produces instead of what the student's creative mind might discover. ⁸⁵
Evaluate	<p>After considering what it is they need to know, a researcher should then evaluate their information need and the information sources and skills available to them to find the best path for their work. In the evaluation part of their work, they will prepare to make the critical choices about what words to use, as well as what sources to use and what skills to apply. Then, once they are in the source, they must further use evaluation to critically choose what to read, browse, skim, and ultimately discern what information they take into their next steps.</p> <p>Because evaluation is often automated as we practice research processes, students may think this step should be something they do not have to take care to learn or practice. But early researchers will often need to have</p>

⁸⁴ See *infra* fn. 98 (providing a brief introduction to how we teach students to chart their problem).

⁸⁵ It may seem unnatural to all involved, but forcing students to pause and consider what it is they need to know, will form a more helpful habit than Googling an information point. For authenticity, it should be noted that Googling an information point may be part of a strategy, but it is unlikely it will be the entire strategy or even a prominent part of the strategy. Similarly, use of AI will certainly be a part of many good strategies. But there are limitations that must be considered. Along with knowing what sources underlay AI, and having sufficient knowledge of how results are engineered to design meaningful prompts, strategic researchers must understand that using AI as it is currently manifested means they may not be able to meaningfully move from their result to other relevant sources, undercutting the powerful system of connection in legal research. Also, the lack of structure around an AI result means a student cannot browse for larger, or more specific, content. Instead, they have to rely on refinement which is a more complex skill to master than browsing.

evaluation explicitly modeled for them, and then be required to practice and announce their analysis so they can understand why something is working. This understanding will allow them to replicate and transfer their success throughout their practice and avoid what has been less successful when researching in the future.

Decide	Make your decisions.
Reflect	After any work is done, students should engage in reflection of their process. Did it work? How well did it work? Could it be more efficient, thorough, or effective? What are the next steps they need to take? What has their work informed but also what new questions has it raised? This process will also be one that is ripe for students to want to skip. But reflection is critical to strategic work. It means that students can understand the ramifications of what they considered and decided, and be able to replicate their success, creating proficient and efficient legal researchers.

Habit forming takes time, and so critical thinking must be introduced and then intentionally practiced for several weeks so the process becomes very routine for students. Although certainly this should be assessed, more important than assessment is routinely and thoughtfully asking students to identify their needs, and to articulate and justify their strategies, creating meaningful habits for successful research. The goal of habit forming should be revealed to the students. They should understand that the formal process of naming their information needs and writing out their strategies will not persist in their daily careers. But formal practice will help them rewire their processes and, as importantly, will always exist as a safety net they can return to when they are not having success in their work.

Though the path to why we teach strategy may be complicated, the how—the way we propose to teach strategy—is rather straightforward. First, students should be asked to critically consider how they currently find information. Then, students should be engaged in exercises that help them explore useful strategies. They should be asked to reflect on these processes. Next, students should practice creating strategies, performing research with those strategies, reflecting on their work, and receiving meaningful feedback. Finally, students should repeat this process enough times, with enough stakes, to form meaningful habits.

Reflecting on the problem of finding the best bread recipe, students are generally willing to speculate that keyword web searching is not the only or best way to seek information. It is, however, the default choice when another strategy is not obvious to the student. In this way, keyword searching and working almost exclusively with cases have become habits when another strategy does not demand priority. These necessitate two concepts be taught. First, keyword web searching is not inherently wrong or right, that it is not an instinct to be blindly trusted as some believe, but is a neutral choice that has simply been made familiar over time. In the same vein, while valuable, case law is simply familiar to them, not the correct choice for most information needs. Second, other strategies are available and should join keyword searching and case law as viable, complementary strategies.

3. Understanding Transfer of Knowledge

Explicitly teaching strategy to our students is a critical step in students being able to transfer their learning to new contexts. Transfer can only occur when a learner's mastery of knowledge or skills in one context enables them to apply that knowledge or skill in a different context. It is a signal of a learner's deep comprehension that they can 1) understand how to perform the skill or use that piece of knowledge; 2) recognize that out of all the things they have learned, this particular skill or piece of knowledge is relevant to the new problem they are facing; and 3) apply that skill or knowledge effectively outside of the original condition in which they learned it.⁸⁶ Because transfer involves so much deep cognitive work—students could fall short in any of the three steps above and thus be unable to transfer—it can be hard for transfer of learning to occur. With the NextGen Bar now testing students' research knowledge and skills, the ability to transfer what they have learned in class to the bar exam is critical, but it is also important for students to be able to identify what skills are relevant to problems in front of them in practice and to properly apply the necessary skills and knowledge to solving those problems.

There is a misconception that discrete practice problems of a particular skill alone will allow students to be able to transfer their knowledge. Practice problems after learning about a particular skill or source will help students memorize how to perform that skill or navigate that source—a necessary part of the learning! However, with the number of skills, sources, and strategies involved in legal research, practicing a singular problem does not help students isolate which skills, sources, or strategies are needed to solve a particular type of research problem when it is presented to them in practice and without any direction as to which skill, source, or strategy they are meant to be using.⁸⁷ Interleaved practice, in which multiple pieces of knowledge or skills are practiced together, forces students to practice and consequently learn discernment.⁸⁸

Students can more effectively transfer skills when they first have deep understanding of foundational concepts and have a strong conceptual framework to work within, so they can see the interconnectivity between the core concepts they are working with.⁸⁹ Instructors should also build on students' previous knowledge, making obvious the links between what they already know and what they are learning.⁹⁰ By helping connect new and preexisting learning in the knowledge structures in students' long-term memory, when they pull those connected concepts back into their working memory, the concepts take up less space, leaving more cognitive capacity for focusing on how that knowledge applies to the problem in front of them.⁹¹

⁸⁶ S.M. Barnett & S.J. Ceci, *When and Where Do We Apply What We Learn? A Taxonomy for Far Transfer*, 128 PSYCH. BULL. 612 (2002).

⁸⁷ Steven C. Pan, *The Interleaving Effect: Mixing It Up Boosts Learning*, SCI AM (August 4, 2015), <https://www.scientificamerican.com/article/the-interleaving-effect-mixing-it-up-boosts-learning/#:~:text=Whereas%20blocking%20involves%20practicing%20one,the%20pattern%20%E2%80%9CABCABC%E2%80%9D>).

⁸⁸ *Id.*

⁸⁹ *Transfer of Knowledge to New Contexts*, YALE POORVU CENTER FOR TEACHING AND LEARNING, <https://poorvucenter.yale.edu/TransferKnowledge> (last visited Dec. 11, 2023). John Sweller, *Cognitive Load During Problem Solving: Effects on Learning*, 12 COGNITIVE SCI., 257, 257–285 (1988).

⁹⁰ Sweller, *supra* note 118.

⁹¹ Loredana Mihalca, R.J. Salden, G. Corbalan, F. Paas, & M. Miclea, *Effectiveness of Cognitive Load Based Adaptive Instruction in Genetics Education*, 27 COMPUT. HUM. BEHA. 82, 82–88 (2011) (explaining that students with more prior knowledge may have more working memory capacity to process their learning tasks than those without prior knowledge).

Initially, instructors should be explicit about transfer as a learning goal. When presenting strategies, providing a worked example helps students extract strategy from the example itself.⁹² Rather than focusing on the solution to the problem, they can focus on the process used to solve it.⁹³ In a worked example, students are provided with the procedure or the step-by-step process and analysis for working through that problem.⁹⁴ When using them effectively, instructors will engage students in self-explaining⁹⁵ these procedures or solutions, encouraging them to reflect more deeply on the principles illustrated in the worked examples. Providing step-by-step illustrations of a solution or procedure reduces cognitive load by allowing students to focus their cognitive resources on understanding the principles and strategy illustrated in the solution, rather than on trying to solve the problem itself.⁹⁶ Ultimately, the more worked examples students see, the easier it is for them to discern what strategies, rules, etc. should be used in later problems.

Then, students should practice transferring knowledge through working with comparative scenarios. At first, instructors can work through a pair of scenarios that require different research strategies and provide a third problem and ask the students to consider which strategy would be more efficient for solving that type of problem. Finally, once students are more aware of the various approaches to solving different types of problems, instructors can simply provide a problem with no clues as to what kind of strategy the students should use and have students approach and reflect on their process and whether it was the most effective for the circumstances.

4. Creating Strategy Statements

Although ultimately creating a strategy will just be a part of whatever research process you are having the students engage in, it is helpful to introduce them to strategy without integrating it into a larger process. After the students have learned sources and skills, they can be introduced to the concept of strategy.⁹⁷ Divide your students into teams of three or four and present them with a research area and a list of secondary source individual titles. The list of sources should include relevant and irrelevant sources, with multiple options from the various secondary source categories. Then, have the teams “draft” a source onto their team. Once a source has been drafted, it cannot be drafted again, forcing students to adapt their strategies based on what sources other groups have selected. Most often we use a snake draft, meaning the teams move from first to last team, then last to first, then back and forth. The first time they “draft,” let them choose three or even four resources. Ask them to say why they chose each source and as this process goes along, give feedback about their choices, reinforcing concepts of moving from broad to narrow sources, and from shallow to deep sources, choosing the best features for each information need. Next, keeping their teams, present a new area and source list and give each team five minutes to strategize

⁹² Alexander Renkl, *Using Worked Examples for Ill-Structured Learning Content*, in *IN THEIR OWN WORDS: WHAT SCHOLARS AND TEACHERS WANT YOU TO KNOW ABOUT WHY AND HOW TO APPLY THE SCIENCE OF LEARNING YOUR ACADEMIC SETTING 207* (C.E. Overson, C.M. Hakala, L.L. Kordonow, & V.A. Benassi eds., 2023).

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ Self-explanation is a subset of elaborative interrogation, in which students explain their problem-solving steps out loud while working on a problem and has been shown to lead to greater comprehension than those who just solved the problems. See WEINSTEIN & SUMERACKI, *supra* note 17, at 102-05; see also LANG, *supra* note 79, at 137-165 (describing ways to incorporate self-explanation into classrooms).

⁹⁶ Ruth Colvin Clark & Richard E. Mayer, *Leveraging Examples in e-Learning*, in *E-LEARNING AND THE SCIENCE OF INSTRUCTION* (Ruth Colvin Clark & Richard E. Mayer eds., 2011).

⁹⁷ The preceding teaching example is adapted from an exercise by Dean Carla Wale from the University of Washington.

their picks. Let them have a smaller number of sources this time, only two or three. Have them draft again, justify again, and choose a winning team highlighting why their choices worked for the information need. In the class discussion after the draft, have them reflect on this process of choosing and why they picked one source over another.

Then, show them an example of a strategy statement and annotate the necessary parts of the statement. A strategy statement should include the elements of what, how, and why for each element of the strategy. What is the individual source chosen. How integrates the skills chosen to pair with the source. Finally, why asks students to reflect on and justify each of those choices. When discussing sources, we noted that step two of teaching sources would be described below. Step two is this process of having students choose an individual source, and then use its category features to justify why it was chosen.

The first time you have students create a strategy statement, it can be based on the work they have already done in the draft exercise just to understand the concepts. But from that point on, it is vital that strategy statements be predictive, not summative. The students must be asked to decide what they are going to do so they can call on their critical thinking skills. They should not create their statement as they perform each task, but create a strategy statement, perform the work, and then be asked to reflect broadly on the entire process.

As the course is ending, or at an earlier time if appropriate for your students, it is worthwhile to note that they will stop writing strategy statements and instead create them in their heads or to some extent use proven strategies for paired information needs. But, like all these steps, slowing the process down to allow for reflection, habit formation, and transfer of knowledge is important. And again, the more formal process will always be there for them to return to if they find themselves in need of help.

The four foundations are now well in hand. Once students have understanding and approach mastery of these foundations, they can perform many research tasks. Instruction can then move on to illustrate time-proven tips and preferences in sources and skills as they practice the foundations time and time again, reflect, and receive feedback all within a strong structure that ensures success. In this method, students gain confidence in their own work and become more efficient and effective in their research processes.

THE FOUR-STEP LEGAL RESEARCH PROCESS

The structure that overlays all the sources, skills, and strategies is crucial to efficient, effective legal research. Our example of structure is our Four-Step Legal Research Process. Our Four-Step Process puts analysis and strategy *at the center* by including the word analysis in every single stage: 1) Problem Analysis; 2) Issue Analysis; 3) Enacted Law Analysis; and 4) Opinion-Based Analysis. This allows us to keep the primary Four-Step Process simple enough that students can easily absorb the major steps during the learning process without feeling overwhelmed. But it also makes clear for students that their goals for research are not just finding a source, but strategizing a process and analyzing what they are finding. Because it is only four steps, students can quickly and easily internalize this major framework through repetition in each class, but it also provides enough detail about what major task they should be engaging in—not just what source to consult—

to be instructive.⁹⁸

Then, in teaching each step, we provide a secondary structure that allows students to engage in that step of the process. This more detailed series of actions helps students move through the secondary structure, delineating specific tactics students may want to take when working through a particular step. By repeating names of secondary structure tactics throughout the steps (ex. “Ensure _____ is Good Law”) and keeping titles simple as practical in the secondary structure, it is easier for students to recall the names of the secondary steps. Some of these tactics may have names that are unfamiliar to you, but our students have been taught these titles explicitly and understand what tactic they invoke. For instance, “look around” refers to gathering context through use of existing structure. The lack of emphasis on “finding” also helps demonstrate how the steps flow together—that, in most instances, they can move easily from secondary source to statute or case and then to more cases simply using the curated discovery tools within the sources themselves. By centering the framework on the categories of sources, specific skills, and strategy, students are able to maneuver more effectively and efficiently through their legal research without sacrificing thoroughness.

Table 3: Our Process

Step 1: Problem Analysis	Step 2: Issue Analysis	Step 3: Enacted Law Analysis	Step 4: Opinion-Based analysis
A. Chart your problem ⁹⁹	A. Use your strategy to locate your legal areas in secondary sources	A. Use your strategy to locate enacted law	A. Use your strategy to locate opinions
B. Use chart to find legal language ¹⁰⁰	B. Read secondary sources to build background context and identify primary sources	B. Read law to determine relevance	B. Skim opinions to determine relevance
C. Identify legal areas to understand your problem	C. Look around ¹⁰¹	C. Ensure law is good law	C. Identify relevant headnotes

⁹⁸ In our experience, this shared vocabulary has also helped our writing teachers to target problems in students’ work more effectively because they have been able to ask, “what did you do in step 3?” or “describe your step 2 to me.”

⁹⁹ In charting their problems, students brainstorm using five categories to assess what they already know about their problem: parties, places, things, potential claims and defenses, and relief sought. Under parties, students chart not just information about the named parties, but all those involved in the incident, and also include information about the roles and relationships between the parties. Under places, students chart where the events took place, but also information about the types of places involved. For things, students chart both tangible and intangible things involved, thinking specifically about the conduct involved, the mental states of the actors, and the harm or injury. For potential claims and defenses, students brainstorm any possible causes of actions that may be involved, and, for relief sought, students chart any relief their client mentions wanting as well as other types of relief that may be available. We emphasize to students that even if they are unable to chart anything for potential claims and relief sought, they can still begin their research successfully.

¹⁰⁰ In this step, we help students translate factual language into legal language, providing them with a Facts to Legal Language checklist.

¹⁰¹ In looking around, students are taught to use the caption/heading and the table of contents to gain context for where they are within a secondary source.

D. Analyze your work and create a strategy for step 2	D. Continue strategy until you understand how law applies to your issues	D. Look around ¹⁰²	D. Ensure opinion is good law
	E. Analyze your work and create a strategy for step 3	E. Look backwards ¹⁰³	E. Look backwards ¹⁰⁴
		F. Look forwards ¹⁰⁵	F. Look forwards ¹⁰⁶
		G. Analyze your work and create a strategy for step 4	G. Look side-to-side ¹⁰⁷
			H. Search or prompt for specific retrieval needs
			I. Analyze your work, revisit tasks as needed, and finish your research

The Four-Step Legal Research Process requires a thorough analysis of both facts and the law. Step 1 carefully assesses the facts and teaches the students to let the facts guide them to the right legal research areas. Step 2 analyzes the law and helps students gain broad context for the legal issues involved in their problem. This prevents students from trying to simply match their facts to primary law sources and prevents the misunderstanding of students that they can engage in the same process that an experienced lawyer can. Students may misunderstand mentor attorneys' behaviors by thinking they do not perform anything like step 1 or 2, but in fact they are just doing this in a different way due to their expertise. More experienced lawyers have practiced analyzing facts so often that Step 1 may be automated, and their knowledge of the law is so deeply engrained in the long-term memory from years of practice that they often do not need to engage in research during step 2 but can instead call on their long-term memories. Instead of teaching that there are separate processes for new and more experienced researchers, students should be instructed that their work within the steps may look different over time as they gain expertise in their practice.

By not conflating Steps 1 and 2, students are able to craft more powerful arguments. They learn to state the law and then use facts to make their own arguments rather than retrieve bits of information from cases and repeat those bits without true understanding. These healthy habits are carried through into Steps 3 and 4. Taking a separate moment to look at the law is critical in

¹⁰² In looking around, students are taught to use the caption/heading and the table of contents to gain context for where they are within the statutory code.

¹⁰³ In looking backwards, students look to the statutory history line to see when a statute was originally and acted and if and when a statute had been amended.

¹⁰⁴ In looking backwards, students use the headnote number to jump down to the part of the case that discusses their specific issue and read that section of the case to see what authorities are cited to as precedent and what rules and reasoning are given.

¹⁰⁵ In looking forwards, students use the Notes of Decisions and Citing References to find curated cases to continue their research on their specific issues.

¹⁰⁶ In looking forward, students using the filters in the Citing References or Citing Decisions to see what cases have cited their case on the issue they identified in the headnotes.

¹⁰⁷ In looking side-to-side, students use the headnotes (the Topic & Key Number system in Westlaw and the topic strings in Lexis) to find more cases on the specific issue discussed in the headnote.

students being able to craft their own arguments, not relying overly on fact-based analysis of the authorities they encounter later in the process. If they have not actually been to court or engaged in a client transaction, they have to understand a judge or client is not going to say, just show me your citation; they have to be able to deeply understand the area of law they are talking about and make their own argument.

The Four-Step Legal Research Process is not rigid; it gives researchers a way to walk through their research as novices. By going through the motions of these steps over and over again across the semester, it helps build the memory for these process. Eventually, as students begin to internalize which sources, skills, and strategies are best for a given research problem, they will begin to be selective about which steps in the secondary structure they follow and may even navigate through the primary steps in a different order when the problem dictates doing so.¹⁰⁸ If, however, they are unsure how to approach a particular problem or find that the source, skill, or strategy they planned to start with is not working out the way they predicted, they can lean back into the structure of the Four-Step Process.

To approach teaching each of the four foundations, we recommend that instructors start by introducing the four foundations to students at the very beginning of the semester. We advise starting the first class by presenting the Four-Step Legal Research Process as the framework that will give structure to the entire semester. At this stage, provide a broad overview of the four steps that students will be learning over the course of the semester.

After giving this big picture view, introduce students to the other three foundations, describing the importance of each to research and letting students know that we will come back to each of them again and again throughout the semester. Explain the categories of sources students will meet during the class, emphasizing that the course will focus on the features of different types of sources and when to use what. For skills, acquaint students with the three major categories of skills: controlled vocabulary tools, curated discovery tools, and searching. For strategy, discuss the central role that strategy will play in every single step of the process, as well as how it relates to sources and skills. Stress the interconnectedness of structure, sources, skills, and strategy to ensure both efficiency and thoroughness in their research.

Going forward through the rest of the semester, we will teach each of the four steps in turn. For each step of the process, we will fold in the four foundations: Structure, sources, skills, and strategies as appropriate, emphasizing different aspects as warranted. We will emphasize similarities in the features of the sources, the skills that are used across different source types, the strategy inherent in selecting which sources to consult and which skills to use to access each source, and always keep the students on the path of the structure. Careful attention should be paid not to conflate strategy and structure. An instructor could say a student should use strategy to decide their structure. However, strategy will best work within a pre-existing, fixed structure.¹⁰⁹ Although the amount of time spent in each step will change depending on experience and topic, the steps should still be processed and then strategically emphasized or de-emphasized. For instance, a senior attorney will rarely spend much time on step 2, as they likely understand the issues based upon their analysis of the problem and their prior knowledge of the broad topic and

¹⁰⁸ Example: a problem where they are told the statute. They might go to the statute first, navigate to its Citing References, and select an appropriate secondary source to get context.

¹⁰⁹ The structure given here is a general structure and could be personalized for a particular practice area, but the general flow should remain in place.

do not need help understanding the general area of law. Alternatively, when facing a common-law problem, step 3 will perhaps only need a cursory review while step 4 will take more prominence. But in both these scenarios, the four-step process will still support the researcher and help them automate their work, increasing efficiency and confidence. By considering the importance of structure, sources, skills, and strategies across every step of the Four-Step Legal Research Process, students are well-versed in analyzing any legal research issue they encounter on the bar exam and beyond. Finally, as we continue to see more sample questions for the NextGen Bar, it will be critically important to fold problems into the curriculum that echo the questions formats the new bar exam will use. Armed with a strong foundation and regular practice at NextGen Bar-formatted questions, students will be ready to tackle the research portion of the NextGen Bar exam successfully.

Table 4: The Interplay of the Foundations and Steps

Foundation	
Research Step	Secondary Structure That Uses Foundation
Sources	
Step 2: Issue Analysis	2.A. Use your strategy to locate your legal areas in secondary sources 2.B. Read secondary sources to build background context and identify primary sources 2.C. Look around
Step 3: Enacted Law Analysis	3.A. Use your strategy to locate enacted law 3.C. Ensure law is good law 3.D. Look around 3.E. Look backwards 3.F. Look forwards
Step 4: Opinion-Based Analysis	4.A. Use your strategy to locate opinions 4.D. Ensure opinion is good law 4.E. Look backwards 4.F. Look forwards 4.G. Look side-to-side 4.H. Keyword search or prompt for specific retrieval needs
Skills	
Step 2: Issue Analysis	2.A. Use your strategy to locate your legal areas in secondary sources 2.C. Look around
Step 3: Enacted Law Analysis	3.A. Use your strategy to locate law 3.D. Look around

Step 4: Opinion-Based Analysis	<p>3.E. Look backwards 3.F. Look forwards</p> <p>4.A. Use your strategy to locate opinions 4.C. Identify relevant headnotes 4.E. Look backwards 4.F. Look forwards 4.G. Look side-to-side 4.H. Keyword search or prompt for specific retrieval needs</p>
Strategy	
Step 1: Preliminary Analysis	<p>1.A. Chart your problem 1.B. Use chart to find legal language 1.C. Identify legal areas to understand your problem 1.D. Analyze your work and create a strategy for step 2</p>
Step 2: Issue Analysis	<p>2.A. Use your strategy to locate your legal areas in secondary sources 2.B. Read secondary sources to build background context and identify primary sources 2.D. Continue strategy until you understand how law applies to your issues 2.E. Analyze your work and create a strategy for step 3</p>
Step 3: Enacted Law Analysis	<p>3.A. Use your strategy to locate enacted law 3.B. Read law to determine relevance 3.D. Look around 3.E. Look backwards 3.F. Look forwards 3.G. Analyze your work and create a strategy for step 4</p>
Step 4: Opinion-Based Analysis	<p>4.A. Use your strategy to locate opinions 4.B. Skim opinion to determine relevance 4.C. Identify relevant headnotes 4.E. Look backwards 4.F. Look forwards 4.G. Look side-to-side 4.H. Keyword search or prompt for specific retrieval needs 4.I. Analyze your work, revisit tasks as needed, and finish your research</p>

Now revisiting the NCBE skills on the NextGen Bar, the focus of the foundations and steps should be clear. Students will be able to perform on the bar, apply critical analysis in their larger

work, all while being properly instructed and supported in the classroom.

Table 5: The Application of the Process and the NextGen Bar

NCBE Skill ¹¹⁰	
Research Process Steps Involved	Explanation
“In a matter that requires legal research, identify the research questions that need to be answered.”	
Step 1: Problem Analysis Step 2: Issue Analysis	In Step 1, students will learn to use facts to identify research topics. In Step 2, they will gain an understanding of the law that allows them to confirm and often expand their understanding of the research question. As they learn more about the law, students will be able to identify specific sub-issues that arise based on the law and their specific facts. Steps 1 and 2 demystify the process of issue-spotting and provide a proven methodology for identifying legal research questions so that all of our students can be successful on this content scope area.
“Identify ambiguities in the language, standards, elements, or facts of a provided resource (such as a statute, contract, or judicial opinion).”	
Step 1: Problem Analysis Step 2: Issue Analysis Step 3: Enacted Law Analysis Step 4: Opinion-Based Analysis	In Step 1, as well as the other steps, students are required to use their own critical thinking to identify ambiguities. In Steps 2, 3, and 4, in addition to using their own critical thinking, they are taught to use appropriate sources to build their knowledge and understanding of ambiguities in language. In fact, our focus on teaching students not to only read contextually, but requiring them to seek independent understanding of legal terms, will ensure they are ready to perform this task.
“Identify efficient legal research strategies (including appropriate search terms) that are likely to uncover other legal sources to assist in the interpretation of a provided resource (such as a statute, contract, or judicial opinion).”	
Step 3: Enacted Law Analysis Step 4: Opinion-Based Analysis	Because strategy is central to all four steps, students will be able to successfully identify efficient legal research strategies, including identifying other sources that will help them to interpret the provided resources. Because strategy is instructed as a critical thinking component throughout the process, memorized strategies which might lead to a mismatched performance on the bar due to different ideas about what appropriate specific search terms might be, will be avoided. They will be able to evaluate a list of strategies and select the ones with the most positive outcome because they have practiced evaluation so thoroughly and understand what goes

¹¹⁰ NAT’L CONFERENCE OF BAR EXAM’RS, *supra* note 6, at 5.

	into making a good decision (what, why, how) and not just what decisions have been successful for others.
“Given a collection of legal sources, identify the roles and characteristics of the sources, including their authoritative weight.”	
Step 2: Issue Analysis Step 3: Enacted Law Analysis Step 4: Opinion-Based Analysis	Because students are so familiar with the features of the categories of sources, as well as the individual titles, they will easily be able to identify their roles, characteristics, and authoritative weight. Instead of memorizing a list of authoritative weights of each individual title, students will be able to match a category of sources with its appropriate weight.
“Given one or more judicial opinions, identify the facts in a matter that are analogous to and/or distinct from the dispositive facts in the opinions.”	
Step 1: Problem Analysis Step 2: Issue Analysis Step 4: Opinion-Based Analysis	This content scope area obviously engages Step 4, but also requires deep work in Step 1 and 2 to be able to disentangle law and facts. One might think this content scope requires students to simply compare bits of information in cases to their own facts. But, because our students know they must first understand the law, its elements, and factors, and then make arguments with the facts using their own critical thinking skills, taught to them in steps 1 and 2, they will be able to master this scope. Taking judicial opinions, they will first identify the law, and then critically analyze which facts are analogous or distinct from those in the opinions. It may be important to explicitly instruct that Step 2 on the bar exam will look more like what experience lawyers do in pulling from their long-term memories, as students will be expected to pull doctrinal content scope area expertise from their own brains in answering some of these questions.
“Given a collection of legal sources, identify other sources, search terms, or research strategies that might be used to update sources or find additional sources.”	
Step 2: Issue Analysis Step 3: Enacted Law Analysis Step 4: Opinion-Based Analysis	This content scope area really centers on the skills we use to get from one source to another source, as students have practiced again and again in Steps 2, 3, and 4. It also draws on strategy across these three steps and, because students have practiced the how in their critical thinking, they will understand how to perform on this task.
“Given a collection of legal sources, identify which sources are relevant to or dispositive of a legal issue in the matter.”	
Step 2: Issue Analysis Step 3: Enacted Law Analysis	Our sources and strategies discussion, taught in Steps 2, 3, and 4, will prepare students to tackle this content scope area. Assessing relevance of sources is such a central part of every single one of

Step 4: Opinion-Based Analysis	these steps that students will have practiced this in just about every class session. They can lean into the structure of Steps 2, 3, and 4, where they are explicitly instructed to assess the relevance of the sources they are looking at.
“Given a collection of legal sources, identify whether the sources are sufficient to complete an assigned research or other lawyering task.”	
Step 1: Problem Analysis Step 2: Issue Analysis Step 3: Enacted Law Analysis Step 4: Opinion-Based Analysis	It is fitting that this last content scope area involves all four foundations and all four steps of the research process, because one of the most difficult tasks for novice researchers is knowing when their research is complete. Instead of completion or sufficiency being an abstract concept centering on finding the right things, our students know that it is using sources, skills, and strategies through the Four-Step structure to complete a research task. The Four-Step Structure, now deeply engrained in students’ long-term memories, means students can look at the given collection of sources and systematically assess whether it is sufficient or insufficient. There is no guess work.

CONCLUSION

Research instruction must center on analysis.¹¹¹ It is long past due legal research instructors claim their rightful place in the legal curriculum as educators who teach analysis— not rote, mechanical navigation that could be taught by a vendor or first year teaching fellow with no expertise in legal research. The truth is our students, colleagues, and administrators will value our classes more if they see the analysis and strategy inherent to the work we do.

As generative AI enters our legal research classrooms, emphasis on analysis and strategy is more important than ever. If students, and frankly our colleagues, do not understand that good legal research cannot happen without strategy and critical decision making, it is easy to assume generative AI can perform legal research for us. In exposing the role of the human mind, we are dispelling myths that generative AI replaces our work.¹¹²

With the new content scope areas released by the NCBE, failing to center analysis and strategy in our instruction is a sure path to disaster on the legal research portions of the NextGen Bar. In contrast, our students will be prepared for the NextGen Bar and for careers as proficient legal practitioners with a research curriculum grounded in sources, skills, and strategy, taught with a structure that will ensure students focus on analysis and retain what they have learned.

Legal research educators must ensure that each of these foundations is not only included in their curriculum but is explicitly instructed and practiced so none of the foundations are invisible to learners. Only then can we be assured that our students will actually succeed on the bar and in

¹¹¹ See, e.g., Alyson Drake, *Using the “A” Word in Legal Research Instruction*, DIPLAWMATIC DIALOGUES (Feb. 20, 2018), <https://fcilsis.wordpress.com/2018/02/20/using-the-a-word-in-legal-research-instruction/>.

¹¹² Any pretense that generative AI will not change the world as we know it is foolish, but teachers should carefully instruct why and how these tools can best impact our work instead of ceding narrative to the creators of these tools.

practice—and if that is not the goal of our instruction, then we have lost before we have even started. Some might argue that students have gotten by without these foundations as we propose to teach them, and that these arguments are overblown or even trivial. But students have never before had to perform research to enter the profession, and evidence shows students are not succeeding at research in their early careers.¹¹³ The concept that legal research is less critical than doctrinal courses must be shuttered once and for all. Research is central to a lawyer's everyday life. The critical thinking and analytical work required for this subject serves our students throughout their careers.

Leaving the analysis inherent to legal research invisible is not providing rigor; it is making our students' work more difficult unnecessarily. The conflation of student struggle with educational rigor is shameful. We should never design struggle for our students; we should instead thoughtfully engage them in rigorous educational content, here critical analysis. We can, and must, do better for our students than make sure they once memorized the difference between annotated and unannotated codes or can navigate a database that will likely change the year after they were assessed on their ability to navigate. Evidence-based pedagogy is our way forward. In each foundation and step, care must be taken to incorporate proven methods of effective instruction.

We believe most legal research educators want to do more for our students and are up to the task. Yes, it is hard work. Yes, it takes time and requires an open mind. Yes, it requires dedication, hopefulness, and even grit. But together, we can carve a path forward that will better prepare our students for the bar, and also for the world in which they will be working. With a couple of years before the NextGen Bar exam rolls out in the earliest adopting jurisdictions, the time to assess your curriculum and adjust is now. AI requires that you adapt your curriculum to include prompting and ethical use of these newer innovations anyway. Start by identifying where you already teach structure, sources, skills, and strategy, and update your lecture notes to have direct discussions about the role each of these foundations play in legal research and how they interconnect. Then, ensure the structure you are using is designed to allow your students to more easily retain the huge number of sources, skills, and strategies they are learning and highlights the role of analysis. Finally, make space in your curriculum for as much critical analysis as possible; no class should go by where analysis and strategy are not explicitly mentioned at some point. As more sample NextGen Bar questions come out, use them as models to develop questions you can incorporate into your classes.

We can do this. And we must. For our students, for the academy, and for our profession.

¹¹³ ALL-SIS, *supra* note 8.