

# Meeting the Carnegie Report's Challenge to Make Legal Analysis Explicit—Subsidiary Skills to the IRAC Framework

Nelson P. Miller and Bradley J. Charles

*No one asked how subject matter was transformed from the knowledge of the teacher into the content of instruction.<sup>1</sup>*

## I. Accepting the Challenge

This article accepts the now-common assertion, recently repeated in the Carnegie Foundation report *Educating Lawyers*, that law professors should make explicit the analytical skills their students must learn.<sup>2</sup> Although the traditional view has been that teaching critical thinking is straightforward, more recently it has been suggested that the traditional view is seriously misleading.<sup>3</sup> Cognitive psychology has taught us that the best students and, for that matter, the best

**Nelson P. Miller** is Professor of Law at Thomas M. Cooley Law School. He is also Associate Dean of its Grand Rapids campus.

**Bradley J. Charles** is Assistant Professor of Law at Thomas M. Cooley Law School.

1. Lee S. Shulman, *Those Who Understand: Knowledge Growth in Teaching*, 15(2) *Educational Researcher* 4-14 (1986).
2. William M. Sullivan, Anne Colby, Judith Welch Wegner, Lloyd Bond & Lee S. Shulman, *Educating Lawyers: Preparation for the Profession of Law* 11 (Jossey-Bass 2007) (legal analysis should “be made visible” so students can “be coached toward performing as professionals”); *id.* at 26 (law instruction should “mak[e] explicit important features of good performance through various conceptual models and representations”).
3. Richard W. Paul, *Critical Thinking: What Every Person Needs to Survive in a Rapidly Changing World* 376 (Found. for Critical Thinking, 3rd ed. 1993) (contrasting the traditional view represented by Bloom’s Taxonomy with more recent studies showing the complexity of critical thinking); *see also* Paul Maharg, *Transforming Legal Education: Learning and Teaching Law in the Early Twenty-First Century* 5 (Ashgate 2007) (criticizing the uni-modal educational practices of traditional law schools).

experts, are those who master the subsidiary skills of analysis.<sup>4</sup> The traditional view holds that students are expected to acquire analytical skills by immersion, which can mean sink-or-swim. Students do learn that way, although not as quickly or efficiently as they could if *what* they were learning—rules of law—and *how* it was derived—legal analysis—was made clearer to them.<sup>5</sup> Thus, law schools must make plain how and what it is that students are required to learn.<sup>6</sup>

The IRAC framework is the generally accepted way of representing legal analysis. It begins by identifying the *issue* and the applicable *rule*, then matches facts to the law in an *analysis* or *application*, and then reaches a *conclusion*—together, Issue, Rule, Analysis, and Conclusion, or IRAC. This article recognizes the value of the IRAC framework and assumes that students should use it. This article adds to the discussion of IRAC by identifying and illustrating many of the subsidiary skills that students must acquire to effectively use the oversimplified IRAC framework.<sup>7</sup> IRAC's subsidiary skills will help them become self-learning, competent lawyers and citizens for life.

Most law schools teach the IRAC method in the first term of law school. The first term is the best time to start, as studies show that early mastery of learning (early in a course, early in a curriculum, early in a career) tends to provide greater (and perhaps exponential) benefit.<sup>8</sup> So the first term is also the best time to teach IRAC's subsidiary skills.

Law professors play a key role in teaching the subsidiary skills. They, who intuitively perform these subsidiary skills, have the responsibility to better understand the workings of their craft and to explicitly teach those workings.<sup>9</sup> That means that law professors must think in greater detail about what it is that effective, skilled, and ethical lawyers are doing when performing legal analysis.<sup>10</sup>

4. Paul, *supra* note 3, at 378 (“students (and experts) who do the best analyses, syntheses, and evaluations tend to do them mindfully with a clear sense of their component elements”); *see also* Robert H. Ennis, *Conflicting Views on Teaching Critical Reasoning*, in *Critical Reasoning in Contemporary Culture* 11, 19 (Richard A. Talaska, ed., SUNY Press 1992).
5. *See*, even as to grade schools, Ruby Payne, *Understanding Learning: The How, the Why, the What* 24, 76 (Aha! Press 2002) (schools should “direct-teach the process”).
6. Sullivan et al., *supra* note 2, at 89 (“faculty attention to the overall purposes and effects of a school’s educational efforts is surprisingly rare”); Michael Josephson, *Learning & Evaluation in Law School* 69 (AALS 1984) (law professors should recognize the wide range of intellectual skills involved in understanding).
7. *See* John Dewey, *How We Think* 55 (D.C. Heath & Co. 1933) (analysis is actually a myriad of skills).
8. *See* Maharg, *supra* note 3, at 246.
9. Sullivan et al., *supra* note 2, at 32 (“effective pedagogy” “must be a highly self-conscious, reflective one”); Paul, *supra* note 3, at 376 (“teachers need a solid foundation in critical thinking skills before they can teach them”).
10. *See* Richard Skemp, *Intelligence, Learning, and Action: A Foundation for Theory and Practice in Education* 251 (John Wiley & Sons 1979) (teaching at a professional level requires having a model for learning).

This article attempts to illustrate how faculty can teach these skills by briefly highlighting the *process* that leads to the substantive outcome. Highlighting the process will teach students to be critical thinkers and self-learners for life. The authors suggest that law school faculty read this article with their lesson plans close by. Work into the plans a few questions that focus on process, as most of the skills covered in this article can be taught that simply. Others might require a few minutes of discussion. Faculty should develop and consistently use a unique trigger phrase so the students know when instruction is going from a focus on substance to a focus on process. Something as simple as “Okay, let’s step back for a moment. How did we reach that?” or “What skill led us to that conclusion?” will work just fine.

Following this introduction, Part II, on preparatory skills, reminds the reader that law students must adjust their thinking and reading when beginning their law studies. Part III then identifies and illustrates five conceptual skills that students must master to effectively employ the IRAC framework. Part IV addresses three logical skills, two of them well known and a third not so. Part V addresses six evaluative skills that students must master. And Part VI concludes by reminding the reader that the skills must then be re-assembled and practiced continuously for many years to claim genuine expertise as a lawyer.<sup>11</sup> Please note that although the article uses tort-law examples throughout, for consistency and because one of its authors is a torts professor and practitioner, the skills it identifies and illustrates apply to legal analysis in general.

## II. Preparatory Skills

### *A. Thinking*

It may seem too obvious to say that *thinking* is the most basic skill necessary to effectively use the IRAC framework. But law students, as much or more so than students of other professional studies, must learn to think with an energy and consistency that they probably have never before maintained.<sup>12</sup> Mental energy, concentration, memory, organization, and other mental states influence student success in law school. Thus, students should learn some of the practices that promote effective thinking.<sup>13</sup>

Leaving room for creativity and variation is a practice that promotes mental acuity. Law school is not simply about acquiring a huge mental database. It is also about skill in creatively and flexibly using that database in remarkably complex ways.<sup>14</sup> For example, in tort law, *intent* is commonly an issue. Studies

11. See Sullivan et al., *supra* note 2, at 99 (iteration is necessary to form good clinical habits).
12. See Ruth Ann McKinney, *Reading Like a Lawyer: Time-Saving Strategies for Reading Law Like an Expert* 60 (Carolina Academic Press 2005) (many new law students underestimate the physical challenge of law school and run out of energy); *id.* at 63 (some law students are overwhelmed and lose energy).
13. See Dewey, *supra* note 7, at 3, 4, 9 (advocating the systematic study of analytic thought).
14. Skemp, *supra* note 10, at 119 (higher-order thinking requires students to make successive abstractions at ever higher levels); see also Lee S. Shulman, *Signature Pedagogies in the*

of the brain show that it takes enormous mental activity to judge another person's intent in the context of social relationships and group activities.<sup>15</sup> Tort-law analysis is mentally hard work. It requires a creative, flexible,<sup>16</sup> and even improvisational form of mental activity. Students must be ready to constantly vary their thinking to explore and adapt to new rules, procedures, and facts.

Memory is also critically important to legal analysis. It is not that students must have a superior memory, only that they must learn ways to remember. Memory actually involves three mental operations—organizing, storing, and retrieving. Organizing is often automatic, but many memories like those necessary for legal analysis must be organized with effort. The more meaning students attach to the organization of a memory, the stronger it will be. Memory is stored in two forms, short and long term, using two different parts of the brain.<sup>17</sup> Students should learn that a good way to increase storage and retrieval success is to review new information immediately and later.

Another way to improve thinking is to increase sensory integration, meaning to use more of one's senses as one thinks about law studies. As students read using visual sense, they should consider speaking important phrases to activate aural and oral senses. As they listen to their professors or classmates, they should take notes and draw diagrams to activate kinesthetic and visual senses; they should move their hands and change expression and posture as they speak. Thinking can improve when senses combine with thoughts. Students should also keep in mind that vision has a far more powerful effect on thinking than do other senses. A picture is worth a thousand words.

**Illustration:** After a class discussion that teaches a rule from a case, demonstrate how one might easily remember the rule such as by linking the key phrase from the rule (“substantial factor”) to a memorably distinct aspect of the claim or case (perhaps that the perpetrator was substantial). Then, let the students practice after the next case and rule extraction: give the students two minutes to organize that rule for quick memory retrieval.

---

Professions, 134(3) *Daedalus* 52, 56 (2005) (“Pedagogies that bridge theory and practice are never simple. They entail highly complex performances....”); Lee Shulman, *The Wisdom of Practice: Essays on Teaching, Learning, and Learning to Teach* 443 (Jossey-Bass 2004) (“The more central a concept, principle, or skill to any discipline or interdiscipline, the more likely it is to be irregular, ambiguous, elusive, puzzling, and resistant to simple propositional exposition or explanation.”).

15. See generally John Medina, *Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School* (Pear Press 2008); see also McKinney, *supra* note 12, at 64 (maintain wellness and relationships).
16. McKinney, *supra* note 12, at 76–77.
17. Medina, *supra* note 15.

*B. Reading*

There are many ways to read, and some reading strategies hold more value for law students. Because law texts are a new genre for many law students, they must use a more analytic approach to read these texts productively. Analytic reading strategies include readiness, purpose, rereading, anchoring, evaluating, and hypothesizing. Students who use these and other analytic strategies have been shown in limited studies to outperform students who use only linear reading strategies like highlighting, paraphrasing, noting detail, and making margin notes.<sup>18</sup> How does this analytic reading strategy relate to the IRAC framework? First, students must read to know the rule—the R of IRAC. Second, reading will help the student develop legal application skills—the A of IRAC. And, lastly, students will gain practice with IRAC and its subsidiary skills every time they read a case because each case follows the IRAC format.

In general, to read law well students must learn to consistently step beyond the text.<sup>19</sup> Expert law readers consistently question the legal text.<sup>20</sup> For example, with the help of law professors, syllabi, casebook tables of contents, and introductory notes, students should first discern why they are reading the text. What specific topic does the reading address under the studied subject? It then helps to place that topic within the larger context that students have already learned or are learning.<sup>21</sup> Where, in other words, does the reading fit? Then, as the student reads, the student should be raising *and attempting to answer* questions about the text, while recognizing that answers should remain tentative subject to additional reading and classroom discussion.<sup>22</sup>

Consider the specific example of reading a case. Law students typically receive valuable<sup>23</sup> and much needed<sup>24</sup> training in how to brief or outline cases.<sup>25</sup>

18. See Leah M. Christensen, *The Paradox of Legal Expertise: A Study of Experts and Novices Reading the Law*, 2008 *BYU Educ. & L.J.* 53, 57-59 (citing Mary A. Lundeberg, *Metacognitive Aspects of Reading Comprehension: Studying Understanding in Legal Case Analysis*, 22 *Reading Res. Q.* 407, 407 (1987)); Laurel Currie Oates, *Beating the Odds: Reading Strategies of Law Students Admitted Through Alternative Admissions Programs*, 83 *Iowa L. Rev.* 139, 139-140 (1997).
19. Peter Dewitz, *Legal Education: A Problem of Learning from Text*, 23 *N.Y.U. Rev. L. & Soc. Change* 225, 229 (1997).
20. *Id.* at 231-232; McKinney, *supra* note 12, at 153.
21. Dewitz, *supra* note 19, at 237-238.
22. *Id.* at 233.
23. See Leah M. Christensen, *The Psychology Behind Case Briefing: A Powerful Cognitive Schema*, 29 *Campbell L.Rev.* 5 (2006) (stating the cognitive benefits to case briefing); *id.* at 23-24 (instruction in improved case briefing).
24. See Charles R. Calleros, *Legal Method and Writing* 16 (Aspen Pubs. 2002) (cases can mystify beginning law students who lack the requisite conceptual schema); James A. Holland & Julian S. Webb, *Learning Legal Rules: A Student's Guide to Legal Method and Reasoning* 126 (Blackstone Press Ltd. 1993).
25. See Holland & Webb, *supra* note 24, at 66-67.

A case presents a story in which a balance in relationships has been disturbed.<sup>26</sup> Although a case has a story, lawyers do not read for plot, characters, theme, or literary technique, as students may have been taught to read or may prefer to read.<sup>27</sup> A lawyer questions the case's text to identify the narrow issue, separate relevant from irrelevant facts, recognize the parties' strategies, identify the rule or holding, separate out dicta, determine how sound the case is as authority, and identify and evaluate the holding's rationale. After that critical analysis, the lawyer then applies the rule or holding to other, current cases.

To implement this strategy for cases, law professors can teach the following three-step structure as a reading guide. First, students should put the case in its context before beginning to read. Doing so focuses attention by giving purpose to their reading. The purpose is usually explicitly stated in the course syllabus and professor's objective, and in chapter and subchapter headings. Students should look for connections between the subject and the case. They should then examine the case title and citation, asking if the parties are individuals or corporations, checking whether it is state or federal court, and asking if it is a trial, mid-level appellate, or supreme court. They should consider whether it is a recent (untested but current) or old (tested but dated) opinion, and ask if the case might represent peculiar social or political times or geographic concerns.

**Illustration:** A professor can help students develop this skill by asking before a case is briefed in class, "What's the legal context of this case?" Perhaps a follow-up question could be "How do you know that?" The professor could point out that the chapter and section or sub-section heading is a hint at the legal context.

Second, after context is established, a case is then read for overview, to develop a framework or schema.<sup>28</sup> Students should be alert to the opinion's general structure, looking for a procedural summary at the start, then a statement of the issue or dispute.<sup>29</sup> They should know why the opinion is necessary—the legal grounds it addresses. They must grasp the fact setting, knowing in particular what happened to whom and for what reason.<sup>30</sup> They should be able to picture the event. Often lawyers will look for the conclusion—the court's holding—early on, before the facts, rule, or analysis is even read. Having that conclusion in mind early on allows the reader to better evaluate the court's discussion. Students should then identify the rule and authority

26. See Sullivan et al., *supra* note 2, at 43 (legal analysis "follows a standard plot" of a stable state disrupted in a manner that the lawyer must precisely define through artificial reasoning to obtain an authoritative holding that produces a return to the original equilibrium or produces new relationships consistent with the principles to which the law is tied).

27. See Bruce K. Britton & Arthur C. Graesser, *Models of Understanding Text* 12-13 (Lawrence Erlbaum Assocs. 1996).

28. McKinney, *supra* note 12, at 17, 19 (case briefing is a kind of schema).

29. See *id.* at 19-22 (describing the structure of a case opinion).

30. See Dewitz, *supra* note 19, at 231 (experts read case facts twice as slow as non-experts).

for the rule, whether it is constitutional, statutory, regulatory, or common law. Finally, the reader should look for the meat and potatoes of the case—the analysis, rationale, or reasoning for the court’s decision.

**Illustration:** The first week of class, the professor can point out how a case’s structure basically follows the IRAC framework. This will reinforce in the students that there is a basic yet flexible framework to legal analysis.

As part of the second step, students may then reread the case analytically, encoding their learning. In doing so, they must distinguish relevant from irrelevant facts and notice qualifying terms and phrases like “if,” “when,” and “only.” The heart of the matter is for the student to identify how the court has analyzed the facts to fit the rule. How does it define central terms and phrases using context? Students should test the case’s rationale. Does the case apply controlling or advisory authority, or sound or disputed authority? Were the statements of law necessary to the case’s outcome? If not, that statement of law is merely dictum, not a holding. Was the authority properly applied or should it have been distinguished? Students should ask if the rationale involved a policy decision; if so, was the policy sound, meaning justified by the asserted interest, empirically provable or true, and fair, equitable, proportional, fitting, or moral?<sup>31</sup> Students might ask if it is a judgment courts (rather than legislatures) should make and, ultimately, decide whether they agree or disagree with the case’s holding and outcome, articulating their reasons why or why not.

**Illustration:** Sometimes, students’ case briefs are longer than the actual case. When this occurs, the skill of selecting relevant information needs honing. A professor could start a brief discussion on this skill by asking, “How do you spot irrelevant stuff?” Then the professor could point out that information is irrelevant if it is not directly or inferentially related to the court’s holding and reasoning.

Third, after reading a case, students should decide how the case fits into their learning. They should synthesize the case with other rules and cases, asking how it modifies or adds to their knowledge. They should fit the holding into a diagram, mnemonic, or outline. They might ask how the case reflects the accepted law or whether it illustrates the rule or an exception to the rule. They might also ask whether it represents a majority or minority rule, and whether it is a recent extension or confirmation of settled law. Students would profitably ask why the authors included the case in their casebook out of the thousands of published cases. Students might hypothesize other applications of the case, write or discuss who they would rather represent and why. Students would increase retrieval routes for the knowledge (a key criterion for cognitive performance and therefore law-school success) by testing their knowledge of the case in this manner.

31. Sullivan et al., *supra* note 2, at 11–12 (“Because it always involves social relationships with consequences, practice ultimately depends on serious engagement with the meaning of the activities—in other words, with their moral bearing.”).

**Illustration:** To demonstrate this last point, the professor might show the students once or twice how to synthesize a rule. Explain that the R of IRAC often does not come from one source—whether in law school or practice—and then how one rule was created by synthesizing the last several cases that were discussed in class.

The foregoing discussion suggests that students learn four sets of skills by reading cases, usually in a certain order. First, a single case can be read for a determinate (clear) holding. Second, multiple cases can be read for a determinate synthesis of a whole legal subject, like all of the elements of a certain crime or tort. But a single case can also be read for the indeterminate (unclear) issue it leaves unresolved. Finally, multiple cases can also be read for indeterminate trends or tendencies of courts in certain situations.

These suggested reading strategies and skills require substantial energy and motivation. Generally, reading motivation can be divided into internal (intrinsic) motivation and external (extrinsic) motivation. Internal motivation includes reading for curiosity, interest, inspiration, knowledge, education, and advocacy. External motivation includes reading for grades, passing the bar exam, getting a job, or out of fear that the student will be embarrassed when called on to recite. Some studies suggest that law students who exhibit greater internal motivation generally outperform students who exhibit greater external motivation.<sup>32</sup> Students may also be more satisfied and less anxious to the extent that they are able to identify and rely on internal reading motivation.<sup>33</sup>

### III. Conceptual Skills

#### A. Conceptualizing

Law practice is intellectual. Lawyers and other experts must become masters at conceptualization and re-conceptualization.<sup>34</sup> Unless students form appropriate concepts through their law studies, they will be unable to use IRAC.<sup>35</sup> For a student to *know* a concept means the student can recall it from memory, explain it to another, give examples and non-examples of it, and recognize when the concept applies to something students will encounter in law practice. Students must learn many concepts in their first term. For example, in the first week of Torts I, they may learn about “intent,” “harm,” “offense,” and “contact,” each of those concepts relating to the tort of “battery,”

32. *Id.* at 98-99.

33. *Id.* at 99.

34. Skemp, *supra* note 10, at 121 (“Since conceptualization is so central a feature of the learning by which we become more expert in [analysis], any progress we can make in identifying the factors which affect concept formation will have widespread value for setting up conditions favourable to intelligent learning.”).

35. Sullivan et al., *supra* note 2, at 26 (treat doctrinal instruction as a “cognitive apprenticeship” “making explicit important features of good performance through various conceptual models and representations”).



which is itself a concept. Lawyers are expert at legal analysis because of their ability to acquire, recall, and use concepts.<sup>36</sup>

The ability to acquire appropriate concepts depends in part on word recognition. Words are symbols that convey meaning. Recalling and using the right words, as symbols for larger meanings, is obviously an important subsidiary skill to the IRAC method. Students must learn new legal terminology. Their studies will benefit if they also acquire the skill of using mental images and shorthand symbols to help recall more complex concepts. Lawyers are expert at legal analysis in part because of their ability to recall and use meaning-laden words. Recall is aided by specific images, words, and symbols.

**Illustration:** Using I for Intent, H for Harm, O for Offense, and C for Contact are examples of shorthand symbols for the elements of a tortious battery. A professor, no matter what the course, can teach students to use symbols by giving a few examples early on in the course.

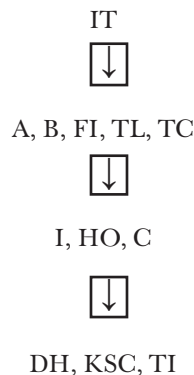
The ability to acquire and use appropriate concepts requires the construction and use of more elaborate schema, a mental structure of connected concepts. With a professor's help, a student will learn to assemble concepts into schema.<sup>37</sup> For example, IHOC is a schema representing the connected concepts for the elements of a tortious battery—Intent, Harm or Offense, and Contact. Schemas help students recall and use related concepts. Indeed, *learning* can itself be described as the purposeful, goal-directed changes in the organization of concepts into schemas,<sup>38</sup> just as *knowing* can be defined as possessing an appropriate schema.<sup>39</sup> After students begin to recall and use various schemas, they will notice that they are gradually expanding and modifying those schemas as they add new concepts. Lawyers are expert at legal analysis in part because of their ability to organize, recall, and use elaborate schemas.<sup>40</sup>

36. See Sullivan et al., *supra* note 2, at 96–97 (“One of the key findings of cognitive research is how important conceptual models, or schemas, are in human thinking.”).
37. Skemp, *supra* note 10, at 24, 113–114, 131; see also Sullivan et al., *supra* note 2, at 72 (professors should give more attention to making explicit the pedagogical scaffolding); see Skemp, *supra* note 10, at 253 (good teaching sees the ability to acquire and modify schemas as the goal of learning); Richard E. Mayer & Merlin C. Wittrock, Problem Solving, in Patricia A. Alexander & Philip H. Winne, *Handbook of Educational Psychology* 289 (Lawrence Erlbaum Assocs. Pubs. 2<sup>nd</sup> ed. 2006) (to facilitate meaningful learning and retention, content is explained with an emphasis on its structure and connections); Jere Brophy, Observational Research on Generic Aspects of Classroom Teaching, in Alexander and Winne, *supra*, at 775 (teachers may help students scaffold and construct frameworks for learning).
38. Skemp, *supra* note 10, at 71; see also Ralph H. Johnson, Critical Reasoning and Informal Logic, in *Critical Reasoning* *supra* note 4, at 73 (critical reasoning is disciplined and self-directed, relying on criteria, and thus self-correcting and sensitive to context).
39. Skemp, *supra* note 10, at 167; Gregory Schraw, Knowledge: Structures and Processes, in Alexander and Winne, *supra* note 37, at 259.
40. See Skemp, *supra* note 10, at 131–132 (experts constantly activate and adapt latent schemas through a selective sensitivity, building new schemas contributing to higher-order models).

A cognitive map is a mental picture or outline connecting schemas to other schemas. *Understanding* can itself be defined as the appropriate linking of concept to schema and schema to other schema.<sup>41</sup> With a professor's help, and through activities like review and outlining, a student must gradually develop cognitive maps linking schemas to schemas, forming a single integrated body of knowledge.<sup>42</sup>

**Illustration:** IHOC is a schema for the intentional tort of battery, to which a student will link schemas for the other intentional torts of assault, false imprisonment, and trespass to land and chattels, because those intentional torts share certain characteristics and are often considered together.

Consider a concept–symbol, schema, and cognitive map—that students usually learn in the first weeks of the first term of law school. Their Torts I studies will help them recognize, explain, and give examples and non-examples of “knowledge of substantial certainty of harm.” For convenience's sake, they can label this new concept KSC (Knowledge of Substantial Certainty). They will also learn that knowledge of substantial certainty of harm (KSC) is one of three ways, along with the desire to harm (DH) and transferred intent (TI), to satisfy the intent element of a battery claim. Students can then construct a schema for intent (I) out of concepts that include the desire to harm (DH), knowledge of substantial certainty of harm (KSC), and transferred intent (TI). Students will also learn that a battery claim (B) having the elements of intent (I), harm or offense (HO), and victim contact (C), is just one of five traditional intentional torts (IT) along with assault (A), false imprisonment (FI), trespass to land (TL), and trespass to chattels (TC). These concepts and their schemas, involving a substantial quantity of learning, form a simple cognitive map as follows:



41. Skemp, *supra* note 10, at 148.

42. See Maharg, *supra* note 3, at 247–248 (students must develop the sense of a subject as a “knowledge object” representing a coherent and integrated body of knowledge).

**Illustration:** Demonstrating how to create a cognitive map for even one subject is all most students need. Professors can then encourage students to try it for each subject covered.

Professors should point out that learning law tends to follow steps. The student first identifies the schema with which the new learning connects. Then, the student properly connects the new learning to the schema, expanding, dividing, or adjusting the schema to fit the new learning. Finally, the student connects new concepts and schema with earlier schemas. The quality of a student's learning depends on the student's skill and confidence in selecting and organizing concepts and schemas. In other words, while a student is learning law, the student is also developing and improving methods of learning law.<sup>43</sup> After all, lawyers are expert learners.

### *B. Reasoning*

Most law professors would say that reasoning is the A of IRAC—application. But, as discussed below, reasoning is also used in forming the rule—the R of IRAC. The reasoning skills that follow will assist students in more effectively employing the IRAC framework.

Critical reasoning is both a method and an attitude, as well as an ethic.<sup>44</sup> The central aspect of critical reasoning is the commitment and ability to be persuaded by reasons rather than by personality, prejudice, power, chance, or other factors.

Although it can be used to benefit or destroy, critical reasoning enables lawyers to promote order. Our society accepts critical reasoning as an appropriate means to resolve disputes and that society will not be stable and orderly without a citizenry capable of and committed to being moved by reason.

**Illustration:** After discussing a case with particularly poor reasoning—whether fallacious or otherwise—ask, “What would happen if all cases were reasoned this way?” After a case with solid reasoning, ask “Although you disagree with the outcome, is the holding credible, i.e., based on reasoning you can follow?”

Some people reason effectively. Others do not. Reasoning is a learned skill. Because ordinary interaction with others does not always develop reasoning

43. See Skemp, *supra* note 10, at 87 (students are continuously meta-learning, meaning that they are constantly developing a concept of their own learning that affects the quality of their learning); P. Karen Murphy & Lucia Mason, Changing Knowledge and Beliefs, in Alexander and Winne, *supra* note 37, at 314 (students benefit when thinking *about* conceptions over merely thinking *with* them); Margaret Le Brun & Richard Johnstone, *The Quiet Revolution: Improving Student Learning in Law 88* (The Law Book Co. 1994) (“we encourage our students to improve their abilities to learn, for example, by discovering how they learn and then working to expand their approaches to become better learners”).

44. See Harvey Siegel, Education and the Fostering of Rationality, in *Critical Reasoning, supra* note 4, at 100 (moral reasons support using critical reasoning as an ideal).

skills, the first year of law school is designed to help students learn to reason in the professional context in which lawyers practice.<sup>45</sup>

Individuals usually think of *causes* (as in cause-and-effect) and *opinions* more so than reasons. Thoughts are formed and influenced through encounters with the environment, meaning through physical events and social interaction.<sup>46</sup> Events and circumstances *cause* people to decide and act in certain ways. Because individuals experience events and hear opinions (even their own) as first-hand encounters, they ordinarily think and decide primarily on the basis of causal thinking and personal preference or influence. To challenge another's *position* is sometimes seen as a challenge to the *person* who presumptively had *cause* to hold that position.<sup>47</sup>

The critical thinker, however, does not care who made the statement or what caused it. Critical reasoning considers a statement's *content* rather than its cause or author. So a statement is not a personal encounter with its author but is an *object* for evaluation. Critical thinkers then reflect upon the statement in a way that enables them to consider *grounds* or *reasons* for agreeing or disagreeing with the statement. Challenging a statement as unreasoned is not an offense to its author, just as justifying a statement is not the author's endorsement.

Students should notice a fundamental difference between reasoned and unreasoned thought. Unreasoned thought treats a statement as if it is within a closed system. Within a closed system, you can question what caused or who authored a statement, but consideration ends once those facts are resolved. Reasoned thought treats statements as if they are within open systems.<sup>48</sup> One can consider a wider range of alternatives as to the grounds supporting or challenging a statement, each of which would differently shape a broader variety of possible future events. One can articulate and consider different possible goals, purposes, policies, interests, and meanings.<sup>49</sup>

Consider an example from tort law. Students may read a case in which a man who throws a stick to scare a boy away from climbing on his building is held liable when, accidentally, the stick injures the eye of another boy who was hiding behind the building.

45. See Maharg, *supra* note 3, at 221 (*professionalism* rather than *competence* is the preferred standard for law students).

46. See Parker Palmer, *To Know as We Are Known* xv (HarperOne 1993) (*knowing* is a communal act).

47. Lenore Langsdorf, *The Imperative Focus: A Prerequisite for Critical Reasoning*, in *Critical Reasoning*, *supra* note 4, at 164-165, 173-178.

48. Langsdorf, *supra* note 47, at 166-168.

49. See Calleros, *supra* note 24, at 72 ("The usefulness of the syllogism in legal reasoning, however, is limited by the flexibility and uncertainty inherent in legal analysis."); Holland and Webb, *supra* note 24, at 229 ("The role of theoretical logic is thus limited by the fact that it may only take the judge so far as identifying a number of rational options.") ("The idea of public policy has always played some part in the legal process.")

An uncritical thinker might encounter that case as a personal event, taking the side of the man or boy depending on the affinity the thinker has for either while regarding the event as an improbable shame. The uncritical thinker might be offended by anyone who disagreed because, after all, the thinker felt an affinity for either the man or boy. Next time something similar happened, the uncritical thinker might regard it as an unconnected event and again decide based on his affinity for one side or the other. The uncritical thinker would not classify the event with other similar events or generalize rules or principles from it.

By contrast, a critical thinker might consider the goal to be accomplished by holding the man liable or the fairness of doing so—concluding, for instance, that imposing liability would deter others from throwing sticks at children. One moved by reason would perhaps consider the degree of responsibility the boy should bear, the relative ability of man and boy to avoid harm in similar instances, liability's effect on the man and boy, and similar considerations. The critical thinker would also consider and imagine counter-arguments to each rationale, until the thinker discerned and was able to support the best conclusion.<sup>50</sup> The critical thinker would synthesize the case with similar cases and would generalize rules and principles from it to guide future decisions and actions.

**Illustration:** A professor can make this point by stating during a heated debate that *ad hominem* comments—or statements that attack character rather than evaluate argument—have no place in the law. Also, a professor might point out that it is entirely possible that a student's controversial stance is only a pretext to encourage debate.

### C. Generalizing

Lawyers encounter law within specific circumstances. A court rule is applied in a specific case. A case opinion states a holding on specific facts. A lawyer's client wins or loses on a certain legal count. An insurance company pays or refuses to pay a specific claim. Lawyers constantly face not having a reported case on precisely the same facts as their clients' cases. To deal with this, the United States' jurisprudence has built flexibility into *stare decisis*. Lawyers must synthesize rules and holdings to state more general rules of law before applying those rules to other specific cases.<sup>51</sup> These general rules are created by recognizing similarities between case rules, facts, and holdings.<sup>52</sup>

This skill of generalizing rules is one that students learn mainly by reading a series of cases. The untrained person will not readily generalize a broad rule from its specific application. A rule can be stated at many different levels, from

50. See Paul, *supra* note 3, at 383 (instruction should foster rational habits of thought).

51. See McKinney, *supra* note 12, at 11 (the essence of being a lawyer is the ability to move from the specific to the general and back to the specific).

52. See Geoffrey Samuel, *The Foundations of Legal Reasoning* 112 (Metro 1994); see also Dewey, *supra* note 7, at 150 (generalizing is important to analysis).

very narrow to quite broad. For example, a case that many students study in the first week of Torts I holds that the contact element of a battery claim is satisfied when a waiter grabs a plate from the hand of a diner. That very narrow rule of liability for grabbing a plate from someone's hand would be of little use to a lawyer, unless the lawyer had another plate-grabbed-from-the-hand case—an unlikely scenario. The lawyer's skill would be to generalize that narrow rule to include a liability rule for grabbing anything from another's hand—not just a plate. Indeed, a lawyer might legitimately further generalize that rule into an even broader rule of liability for forcefully removing anything closely connected to a person's body, perhaps like a purse or backpack.

**Illustration:** After a series of hypotheticals, step back and ask the students to generalize a rule from those specific hypotheticals. To make that more interesting, you could then take that generalized rule and apply it to a final hypothetical. This moment would also be a good time to point out that generalizing is one way to create the R of IRAC.

Generalizing rules need not be a mystery. Students should notice that in many cases it is as simple as substituting a broader class or category of items or actions for the specific item or action stated in the original rule. So, for instance, the plate in the original rule becomes “any item.” The person's hand in the original rule becomes “closely connected to a person's body.” And the grabbing action in the original rule becomes “forcefully removing.” A lawyer's skill is to generalize narrow rules by, in effect, substituting broad for narrow terms.

Students also need to evaluate what is a fair generalization. Not every rule can be generalized to include every possible person, action, or item. A rule applied to a child, for instance, like the traditional “attractive-nuisance” doctrine in tort law, may not be applied to an adult when the rationale for the rule involves the inability of a child to appreciate dangers. A proportional-liability rule applied to a certain drug that causes birth defects may or may not be applied to asbestos that causes lung disease. Students must begin learning the skill of properly generalizing in law school but can expect to take years to master it.

#### *D. Specifying*

Given that generalizing rules is a lawyer's skill, so, too, is specifying them. Students must develop the skill of determining whether and how to make a rule more specific to a certain situation or application. This skill is not quite the same as applying the rule, because in making a rule more specific, a lawyer has not yet drawn a conclusion. The lawyer is still simply stating a rule. But it is a step closer to applying the rule because the rule is stated in a manner that is closer to the situation under consideration. It is the skill of substituting more narrow terms for the rule's broader ones.

Consider again, for example, the broad tort rule mentioned in the prior section, that touching anything closely connected with the person satisfies a

battery's contact element. A lawyer might encounter a case in which a client had a handbag snatched from her shoulder. In that case, the lawyer might readily particularize the broad rule by saying that snatching a handbag from one's shoulder satisfies the contact element. Making the general rule specific in that manner would be reasonable because a handbag on the shoulder is closely connected with a person's body. But what if instead of snatching a handbag from her shoulder, someone had slammed a fist on the hood of her car while she was in it? Particularizing the general rule for that case is more questionable because the exterior of a car is not something so obviously closely connected with one's body. It is, nonetheless, a particularization of the rule that a lawyer would at least consider and, depending on a variety of other factors (including the results of research), perhaps articulate.

For another example, a general tort-law rule provides that one who violates a safety statute prohibiting motor-vehicle drivers from exceeding posted speed limits is subject to an inference of negligence. Speeding is careless. But a student should see that there are several more specific statements, within the general scope of the broad statement, that are clearly not valid. A law-enforcement officer who speeds after a fleeing felon and an ambulance driver who speeds to the hospital with a dying patient are not necessarily careless. A student must think of the safety statute's purpose (to keep the general flow of traffic to a safe speed) and consider the circumstances (the need to speed to save or protect lives) to know whether the specific statement within the general rule is valid.

Lawyers constantly exercise this sense of moving from a general statement to a more specific one while carefully considering whether it is valid to make the statement more specific. Just because one has a relevant general rule does not mean that it always *applies*. Just because a general statement is valid does not mean that a more specific statement within the scope of that general statement is also valid. It might be, and so a student must think about it. But it is the skill of a lawyer to know whether a general statement can be made specific and whether it applies.

### *E. Hypothesizing*

Lawyers are, in a sense, excellent dreamers. They can quickly think up hypothetical facts, scenarios, and situations—a highly useful skill or knack that aids the analogical reasoning lawyers often employ. Creative hypothesizing can lead to discovering unknown facts. A lawyer's ability to hypothesize possible or probable facts can be a key skill for investigating and developing a case theory. And then again, often the facts and circumstances that a lawyer must anticipate will not even have occurred yet. Lawyers help clients plan for future events and contingencies, such as when drafting contracts, forming business organizations, or conveying property. In these instances, lawyers are

attempting to anticipate and predict the likelihood of future events.<sup>53</sup> That means hypothesizing.

Another way in which lawyers use the skill of imagining scenarios has even more to do with legal analysis. When events have already occurred and the facts about them are well known, lawyers will often hypothesize other facts to fully appreciate the significance of the known facts. Generating hypothetical scenarios to compare and contrast other situations helps lawyers holistically judge the matter at hand.<sup>54</sup> It is a form of inductive reasoning that constructs picture-stories as metaphorical imagery, similar to reasoning by analogy.<sup>55</sup>

**Illustration:** Students may not recognize from hypotheticals in class how they might work in practice. After a student briefs a case and the professor has given several hypotheticals, the professor could ask, “How could hypothesizing like this actually help you win a case in the real world?” (Subtext: how could it help on the final exam.) Then the professor can propose yet another hypothetical: A person is charged with involuntary manslaughter for forcing an adult to over consume water until the person died from water intoxication. The person was warned by an acquaintance that over consuming water could lead to death. Questions for the class: “If you were the defense attorney, what hypothetical, relating to the warning, would you tell the jury?” “If you were the prosecutor, what hypothetical would you give to the jury?”

Courts will reason in this manner. Students may study a case in Torts I in which the court had to decide whether a captain had a privilege to secure a ship to the plaintiff's dock in a storm to save the ship even though it damaged the dock.<sup>56</sup> The appellate court concluded that the storm justified the ship captain's use of the dock solely by hypothesizing two contrasting scenarios in which there would have been no such privilege: if the ship had become disabled on its own or the ship's ropes had come undone from the dock on their own, without a storm.<sup>57</sup> The contrasting scenarios were enough to show the sensibility of the court's conclusion. The court had neatly generated hypothetical scenarios closely related to the actual facts. Lawyers must similarly possess the ability to imagine other scenarios near to the facts at hand.

**Illustration:** Law professors might give students an opportunity to create hypotheticals after discussing a brief. The professor will probably need to guide the classroom discussion so the hypotheticals stay on point.

53. Skemp, *supra* note 10, at 67 (students must be able to habitually relate concepts to concepts in these mental schemas in ways that predict conceivable actualities).
54. See Sullivan et al., *supra* note 2, at 118 (experts reason by analogy), 172 (lawyers reason by analogy).
55. See Holland and Webb, *supra* note 24, at 222 (inductive reasoning is like but richer than reasoning by analogy).
56. Victor E. Schwartz, Kathryn Kelly & David F. Partlett, Prosser, Wade and Schwartz's Torts—Cases and Materials 121 (Foundation Press, 11th ed. 2005) (a typical torts book which cites and discusses the case *Vincent v. Lake Erie Transp. Co.*, 124 N.W. 221 (Minn. 1910)).
57. 124 N.W. at 222.



## IV. Logical Skills

### *A. Deducing*

Legal reasoning is usually described as involving inductive and deductive processes.<sup>58</sup> Legal analysis requires deducing conclusions from rules, principles, definitions, premises, facts, and other conclusions. Classically, deductive reasoning involves stating a major premise followed by a minor premise followed by a conclusion, as in A=B (major premise), B=C (minor premise), therefore A=C.<sup>59</sup> Much of the reasoning shown in the other sections of this article is deductive because it follows this structure.<sup>60</sup>

For example, the question of whether an element has been satisfied is largely a question of deductive reasoning. The element's definition is the major premise, the available facts are the minor premise, and articulating whether the element has been satisfied is the conclusion. This syllogism is centuries old; so it's no wonder that IRAC, which mirrors this syllogism, makes so much sense!

The question of whether factors weigh in the plaintiff's or defendant's favor is also deductive reasoning. The factors are the major premises, the facts, the minor premises, and articulating whether the factors weigh in one side's or the other's favor is the conclusion.

Deductive reasoning is closely associated with logic, comprehension, common sense, and order. Judges and lawyers use it because it is generally recognized as the most common, sound, and indispensable of the forms of reasoning. It may appear to be mechanical but (as other sections suggest) can involve such an array of different mental activities in different settings that it probably involves as much art as science. Far from simple, deductive reasoning can be difficult, complex, and highly sensitive to context, meaning, and objective.<sup>61</sup>

**Illustration:** As all sound legal arguments follow the deductive syllogism, a professor can help students similarly reason by pointing out in various cases the three parts of the syllogism.

**Illustration:** Professors can deepen students' understanding of deducing by giving hypotheticals that test the major premise, minor premise, and conclusion. For example, a professor could give a fallacious major premise then ask, "What conclusion, if any, are we compelled to make?" or "What's wrong with that legal argument, if anything?" In other words, let the students spot the faulty part of the syllogism.

58. Sebastian Urbina, *Legal Method and the Rule of Law 1* (Kluwer Law Intl. 2002); Holland & Webb, *supra* note 24, at 218-219; Samuel, *supra* note 52, at 58.

59. Samuel, *supra* note 52, at 120, 122; McKinney, *supra* note 12, at 35-36.

60. Calleros, *supra* note 24, at 70-71, 134 (the application of a rule to facts is a deductive reasoning process taking the rule as the major premise and the characterization of the facts as the minor premise to reach a conclusion).

61. See Samuel, *supra* note 52, at 129 (legal reasoning can be surprisingly complex).

### B. Inducing

Inductive reasoning is sometimes thought of as the opposite of deductive reasoning. In legal analysis, the two forms of reasoning, deductive and inductive, are important companions to one another.<sup>62</sup>

Inductive reasoning comes in two forms: analogy and inductive generalization.<sup>63</sup> While those concepts may seem heady, they are processes that people perform everyday. In legal analysis—including the A in IRAC—reasoning usually proceeds by analogy.<sup>64</sup> Reasoning by analogy is nothing more than A is *like* B, so the same conclusion should attach to both. This form is reasoning by comparing particulars of one case to particulars of another case.<sup>65</sup> Law professors can make this process explicit by pointing out when courts do this in the cases. In fact, the common-law doctrine of *stare decisis* is based on reasoning by analogy: if a current case is *like* a previously decided one, then the court must come to the same conclusion. With law professors explicitly pointing this out in class, students are probably more likely to reason by analogy on their exams and later in practice.

The other form of inductive reasoning—inductive generalization—requires lawyers to form a general rule from patterns in particular data.<sup>66</sup> So the reasoning is from particular to general. In law studies, what students typically examine might be case materials from which they draw what they believe are the relevant facts explaining event. Or they might examine a collection of cases from which they draw what they believe to be the rule. Assembling the facts of a case or reading a series of cases for a rule are each inductive processes. Lawyers are not given only the relevant, priority information. They must instead assemble it.

From this description, students should see that much of what has been described in the sections above has depended on inductive reasoning. For example, to determine whether an element of a claim has been satisfied or whether a factor weighs in one side's favor, a student must select and assemble the particular relevant facts into a general meaningful description. To define an element of a claim, a student might need to research, select, and read several cases to develop and articulate the definition. Both examples (assembling facts or discerning law) involve inductive processes.

One might assume that inductive processes are highly empirical and scientific. Certainly, reasonable minds looking at the same information for

62. *See id.* at 5, 145 (“The idea that legal knowledge is to be found in the facts rather than in a rule is by no means new.”).

63. Ruggero J. Aldisert, *Logic for Lawyers: A Guide to Clear Legal Thinking* 91 (NITA, 3rd ed. 1997).

64. *See generally* Edward H. Levi, *An Introduction to Legal Reasoning* (Univ. Chi. Press 1949).

65. Aldisert, *supra* note 63, at 89.

66. *See* McKinney, *supra* note 12, at 37 (“Inductive reasoning is the process of reaching general conclusions about reality based on patterns that emerge from observing separate incidents and occurrences over time.”).

the same purpose might be expected to assemble similar statements. But, on the other hand, inductive processes readily call into play the examiner's skill, experience, and perspective. Inductive processes, like developing a case theme or articulating disputed law in a new field of law, can be relatively more personal and creative than much deductive reasoning and can often draw on a wider variety of sources.

It would be wrong, too, to give inductive reasoning a second-class status to deductive reasoning. One might think that the plain logic of deductive reasoning is routinely regarded as superior and, for instance, more powerful in convincing decision-makers like judges and juries. But watch a highly skilled trial lawyer. Often, it is how the story is constructed and told that properly influences a decision. Inductive reasoning is an enormously powerful and valuable skill in legal analysis.

**Illustration:** Professors can explicitly identify inductive reasoning in class. Use a trigger phrase, something like "Let's step back for a moment and look at the process by which the court created this rule." One clear example of this for all first- or second-term students is in *MacPherson v. Buick Motor Co.*<sup>67</sup> in which Justice Cardozo fashioned a general manufacturer-liability rule from at least ten specific holdings. After a hearty discussion on the process a court employed to create a rule, ask how using the inductive process might apply in practice. Perhaps pose a hypothetical where the practitioner finds several somewhat similar cases but none directly on point. How might the practitioner in such a case employ inductive reasoning?

### *C. Abducing*

Students must come to appreciate that a third form of reasoning (after deductive and inductive reasoning), known as abductive reasoning, can also be important to legal analysis and law practice.<sup>68</sup>

To abduce is to infer that something may exist from the existence of other matters that are sometimes connected with the matter inferred. Notice that the inference is that something *may* exist. Abductive reasoning is not, strictly speaking, a form of logic and can produce errors. Just because B follows from A does not mean that A is always present with B. A may be only one of several causes for B. Yet there are several reasons why lawyers might conjecture that A exists from B. Abductive reasoning is an evaluative aid toward finding an answer or solution.

One reason for lawyers to be good at abductive reasoning has to do with discovering unknown facts. The facts are not always known, even when other professionals (detectives, investigators, inspectors, medical-care providers) have completed their work. To discover all the relevant facts, lawyers must be

67. 111 N.E. 1050 (N.Y. 1916).

68. See Holland & Webb, *supra* note 24, at 225-226 (abductive reasoning is a predecessor skill to inductive and deductive reasoning).

able to consider what the facts *might* be based on, so as to reasonably request evidence of them.

**Illustration:** When discussing a boating-accident hypothetical, a professor could mention that the operator's failure to observe and react caused the accident. Then ask, "What are some permissible inferences that would explain the failure to observe and react?" One obvious inference could be that investigating officers may not have considered whether the operator was intoxicated. Such an inference would lead to requesting medical records, interviews, and depositions to prove or disprove whether alcohol was a factor in the accident.

## V. Evaluating Skills

### A. Evaluating

Other subsidiary skills to IRAC involve evaluating arguments to determine the logical fitness of an assertion or premise. Evaluation has to do with making sound judgments, which of course is necessary to give sound legal advice.<sup>69</sup> Surprisingly, there are a number of subsidiary skills involved in evaluating an assertion.<sup>70</sup>

As has already been suggested, the skill of evaluating begins with identifying the assertion, argument, or premise you must evaluate. An assertion is a position advanced by the speaker or author of the opinion, brief, commentary, or other text. What is it that the author (whether a judge, opposing lawyer, law professor, or other commentator) is advocating, either explicitly or implicitly? What is the author's thesis? It can help to think of the author's purpose in writing.

After the assertion has been identified, the student or lawyer should question it. For example, a judge's assertion in a judicial opinion might be that proof of knowledge of a substantial certainty satisfies the intent element for a tortious battery. Can it really? Does the opinion actually state the law of that jurisdiction? For another example, an opposing lawyer's assertion might be that the facts of the case satisfy the intent element for a tortious battery. Do they? Or does opposing counsel need more facts? Lawyers are constantly recognizing and testing premises.

Recognizing assumptions is a way to evaluate arguments. When a student reads or hears an argument, the student should evaluate the validity of the

69. See McKinney, *supra* note 12, at 153 ("expert law readers engage heavily in evaluating the law they are reading").

70. Paul, *supra* note 3, at 377-378 (basic critical-thinking concepts include "assumption, fact, concept, value, conclusion, premise, evidence, relevant, irrelevant, consistent, inconsistent, implication, fallacy, argument, inference, point of view, bias, prejudice, authority, hypothesis, and so forth"); Johnson, *supra* note 38, at 77 (To reason critically, one must be able to use the concepts "reason, evidence, conclusion, thesis, relevant, sufficient, inconsistent, implication, presupposition, objection.").

assumptions or presuppositions behind the argument. For instance, a lawyer might argue that an injured child on whose behalf a tort claim has been made should (as a matter of law) have observed and avoided the dangerous condition that caused the child's injury. What does that assertion assume? Perhaps it was too dark for the child to see or the child was too young to recognize the danger. Similarly, a court opinion might state that the defendant will be liable if the plaintiff proves the defendant knew of the dangerous condition before the plaintiff was injured by it. What does that rule assume? Perhaps there was nothing that the defendant could have done about the dangerous condition.

**Illustration:** After a robust discussion in class about a case, the professor could simply point out or ask about the underlying assumptions for a court's holding or a student's argument.

To evaluate a premise, argument, or assertion, the student must recognize the supporting evidence. That evidence may include facts, like whether a stoplight was red or green, or circumstances, like the relationship and roles of the parties. Did they know one another, or was one a supervisor of the other? Often, though, the important matters to consider will include rules, regulations, cases, policies, history, and predictions. In the most general sense, the evidence one can use to evaluate an assertion is as broad as one's ability to connect it and the assertion.

Lawyers do not simply rely upon what they discover. Often, the matters to consider when evaluating an argument will be inferences drawn from other matters—abductive reasoning. An inference is an additional premise that can logically be drawn from the evidence already collected. Intent, as an element of a tortious battery, is a good example. There is no way to directly observe a person's intent. You cannot see directly into a person's mind for evidence of what the person is thinking or desires. But we all constantly infer what people intend by listening to their words and looking at their expressions and actions. Legislative intent is another good example. It is often not stated in a statute what the legislature intended to accomplish by enacting it. Yet in tort law, lawyers and judges frequently infer whether the legislature intended a statute to be a safety measure, so as to infer or not infer negligence from its violation.

**Illustration:** Evaluating an inference can be difficult. Using a visual-learning technique might be useful. A professor could draw on the board an archer some distance away from a target. The archer is the source of the facts, and the target's concentric rings are the inferences. Each of the rings would represent an inference drawn from the facts. The bull's-eye would be the most direct and thus on-point inference. As students make inferences from facts, the professor can ask the class to assign that inference to a ring. This will give a visual manifestation to an abstract discussion.

Notice how important it is to legal analysis that the student effectively judge what matters and what does not matter to an evaluation. Relevance is what lawyers call the condition of mattering. Any matter that makes a premise more

or less likely is a relevant matter. For example, the color of the stoplight in the moments before a motor-vehicle collision is likely relevant in a negligence tort claim. The speed of the vehicles, their direction, the observation and condition (inebriated or sober) of the vehicle drivers, and the condition of the vehicles' brakes and taillights might also be relevant. The nationality, occupation, and marital status of the drivers are very probably not relevant. For another example, when evaluating the legislature's intent with respect to whether a statute was a safety measure, the statute's language will be relevant. Whether the statute was one of several other statutes, some of which are safety measures, may also be relevant. But whether the statute was enacted over a veto or publicly supported are likely irrelevant political, rather than legal, considerations.

Once a student has recognized the assertion or premise and then determined the matters relevant to its evaluation, the student must then judge whether those matters are consistent or inconsistent with the premise.<sup>71</sup> They figuratively hold the evidence up to judge whether it supports or contradicts the argument. For example, testimony that the defendant made an angry face and uttered a threat just before shooting at the plaintiff is consistent with the premise (necessary to a civil-assault claim) that the defendant intended to scare or perhaps even hurt the plaintiff. For another example, a law requiring vehicle taillights is consistent with the assertion that the law is a safety measure, the violation of which would give rise to an inference of negligence.

Another subsidiary skill students must often exercise when evaluating an argument is whether the evidence supporting it is sufficient. The evidence may be relevant, meaning that it bears on the issue. It may be consistent, meaning that it tends to support the issue. But is it enough to establish the premise or assertion in the mind of a reasonable person? For example, post-accident testing of a stoplight at an intersection where there was a collision may establish that the stoplight was working. That evidence may help the plaintiff's claim that the defendant ran a red light because the stoplight was working. But it is insufficient to establish that the light was red rather than yellow or green. The claim or assertion that it was red would require eyewitness testimony or its equivalent for the evidence to be sufficient. Lawyers know how to judge sufficiency. Indeed, for a lawyer to call out "Objection!" at trial is (on occasion) the formal expression of the lawyer having mentally evaluated a premise (that there were grounds for offering the evidence) and found it lacking in sufficiency.

**Illustration:** Instead of the professor giving hypotheticals, the professor could give the students five or so minutes to write down several of their own. As a student reads his or her hypothetical, the other students could yell out "I object!" or "here, here!" when the evidence is sufficient or not. That would then lead to analyzing the sufficiency of the claim.

71. Skemp, *supra* note 10, at 36-37, 39 (students reality-test concepts and schemas by experimentation, discussion, and internal mulling for consistency).

Another common subsidiary skill to evaluating is the ability to see implications. Lawyers and judges are constantly envisioning what might happen if certain courses are taken. The law is very much (though not solely) concerned with its influences, results, or effects on future events and actions. For example, a lawyer in a medical-malpractice case might argue that a local (rather than national) standard of care is most appropriate to judge the performance of a small-town doctor. The lawyer would reason that the implication of applying a national standard of care in small towns would be to drive small-town doctors out of practice with malpractice verdicts. Students must learn to watch for these kinds of instrumental cause-and-effect arguments. They must develop their skill at predicting the results of rulings, arguments, and actions, and at challenging the predictions of others.

**Illustration:** In a case that is particularly lacking in reasoning, ask the students to point out implications of the facts that each side might argue. By reasoning for the court, the students are learning to imply conclusions not only on final exams, but in practice as well.

The purpose of evaluating is to reach a justifiable conclusion. A conclusion is a statement that explicitly resolves the issue of whether an assertion or premise is consistent with sufficient evidence. To speculate on consistency, sufficiency, and implications without reaching a conclusion is to miss the point of evaluating. For example, a lawyer might preliminarily ask an accident-reconstruction expert to explain to a jury the scientific and factual basis for determining the speed of a vehicle from its skid marks. But if the lawyer then failed to ask for the expert's conclusion, the preliminaries would have been pointless. Judges, mediators, opposing counsel, and clients too, need to hear those conclusions. As judges are wont to say, "What's the point, counsel?"

### *B. Contrasting*

The prior section on hypothesizing already suggests that simply generating appropriate hypothetical scenarios is not enough. The skill is to usefully contrast the scenarios with the facts at hand—comparing and contrasting the imagined scenarios to the actual facts. This is the nuts and bolts of reasoning by analogy.

To do so, a lawyer holds in mind the actual scenario while selectively contrasting the generated scenarios one-by-one. Students may find it hard to hold the actual case facts in mind while thinking of other facts. Studies have shown they can improve this skill, whether in class, court, or client meetings, by a method some call "parking." The student creates a short phrase or image of the actual case and either makes a note or drawing of it, or repeats or imagines it a few times until it is firmly in mind. The student may learn to do so while reading or hearing about a case for the first time. Doing so enables the student to think more freely of contrasting scenarios while retaining the ability to return quickly and easily to the actual case facts for contrasts.

The skill of contrasting is selective and intentional, not random. In each instance, the lawyer determines whether the hypothetical scenario is closer to or farther away from the legal standard at issue than the actual case facts. Contrasting in this manner helps illustrate the legal rule or standard in a larger context than that which is provided solely by the case facts. Lawyers build a contextual field for the rule or standard to show where their case facts fit within it.

**Illustration:** A professor can give the students a real-life case to “park” in their mind. Then the professor can run through, or the students could suggest, several hypotheticals to compare to the “parked” case. For example, students may study a case in Torts I in which the plaintiff sued the defendant in negligence for having left a golf club in the yard.<sup>72</sup> A child had accidentally injured the plaintiff while playing with the golf club. The case was dismissed because there is nothing unreasonably dangerous about leaving a golf club in one’s yard. That conclusion can be made more obvious by surmising other things that one might leave in one’s yard, some of them equally harmless (balls, bicycles, toys) but others unreasonably dangerous (guns, swords, poisons). Contrasting a golf club to, say, a knife, a chain saw, or some other intrinsically dangerous implement that a homeowner might negligently leave in a yard helps to illustrate the limits of a homeowner’s duty.

The contrast in this example lies in the characteristics of the implements in question. In other examples, the contrast might be in the relative knowledge and experience of the involved individuals, the deliberateness or reprehensibility of their acts, the harm or lack of harm to the victim, or the degree of risk associated with the conduct. Lawyers frequently contrast other scenarios to actual case facts both silently for their own evaluative purposes and as a means of advocacy and argument.

### C. Scaling

Students can improve their ability to contrast hypothetical scenarios by scaling them along a spectrum or continuum from exaggerated contrasting points at either end.<sup>73</sup> Where there is a range of possible outcomes falling within or outside of a legal rule, they can construct a conceptual continuum to help with the legal analysis, arraying the actual case facts and hypothetical scenarios along the continuum. For an example, consider again the case described above in which the allegation was made that leaving a golf club in one’s yard was unreasonably dangerous and therefore negligent. To illustrate the analysis in that case, a student might place items along a spectrum from not at all dangerous (a beach ball) to minimally dangerous (hard ball), nominally

72. Schwartz et al., *supra* note 56, at 133 (citing this particular case, *Lubitz v. Wells*, 113 A.2d 147 (1955)).

73. Sullivan et al., *supra* note 2, at 43 (“Legal thinking [is] the law’s ‘artificial reasoning’ about categorizing facts...”), 97 (“ranking and ordering, and finding logical relationships of including and exclusion are all basic cognitive devices”); see also Dewey, *supra* note 7, at 122–123, 153 (selecting and organizing facts is critical to analytical thought).



dangerous (baseball bat), modestly dangerous (hoe or claw), moderately dangerous (handsaw), quite dangerous (power tool with a cutting edge), and extremely dangerous (poisons and traps). Constructing the spectrum shows that there are several more-dangerous categories than the nominally dangerous category into which the golf club probably fits.

Any one case may involve several different conceptual fields. For instance, in the example above, one might have also made a spectrum using the people who could encounter the golf club, from a helpless infant, very young child, or blind or otherwise disabled person, to a capable older child, adult visitor, familiar neighbor, resident within the home, or expert golfer. The duty the homeowner might owe to the helpless class of persons at one end of the spectrum would clarify that no duty was owed the injured plaintiff who belonged at the capable end of the spectrum. Or one might make a spectrum out of the possible uses and misuses of the golf club, from accidentally stepping on it, to its ordinary use as a golf club, unusual use as a walking stick, balancing stick, garden implement, pry bar, or extraordinary use as a blunt weapon. Again, the duty the homeowner might owe to prevent the club's unusual or extraordinary misuse makes it clearer that no duty was owed the plaintiff who was injured by its ordinary use.

Experienced lawyers construct and use these mental scales as an alternative way to evaluate and argue cases. Students, too, should reason with scaling by constructing an appropriate conceptual field and placing their case facts within it.

#### *D. Satisfying*

It has been mentioned in a section above that legal claims or charges often have what lawyers call "elements." The plaintiff or prosecutor must prove or satisfy each element for the claim or charge to prevail. An element is satisfied when there is enough supportive evidence so that a reasonable person could conclude that the element has been satisfied. It has also been discussed above how elements are concepts that can be organized into schema, which are then fit into cognitive maps of a legal field or discipline.

To determine whether an element has been satisfied, a student must first understand how the element is defined. For example, the contact element for a tortious battery claim is satisfied by showing that the defendant caused some physical force to be transmitted to the plaintiff's person or to something closely connected with the plaintiff's person. The student should notice that there are several subsidiary ideas or criteria within the definition of contact. There are the ideas of causation, physical force, transmission, and personal or close connection with the person. Contact is not merely the defendant's person touching the plaintiff's person.

Defining an element is not the same as determining whether an element has been satisfied. To determine whether an element has been satisfied requires linking the element's definition with the facts. It is a process of approximating,

figuratively putting the facts alongside the definition to see if they are sufficiently related so as to be within the definition. Evaluating the relationship between the element and facts is at the heart of the process of determining whether an element is satisfied.

For example, placing a water-filled bucket above a door left just ajar for the plaintiff's entry would satisfy the contact element of a civil battery claim. The defendant would have caused a physical force to be transmitted to the plaintiff's person or clothing closely connected with the plaintiff's person. If the facts meet each idea or criteria within the element's definition, then the element is satisfied. If the facts do not satisfy the definition, then the element is not satisfied.

If different inferences can be drawn, then the outcome is uncertain. Although "satisfying" an "element" may sound scientific, a lawyer need not conclude with certainty. The art of being a lawyer is often in reaching appropriately qualified conclusions as to whether an element has been satisfied. A section below addresses quantifying these uncertainties.

### *E. Weighing*

Not all legal rights and claims are determined by satisfying elements. In some instances, proving a claim or satisfying one of its elements will require weighing a list of factors. Students must recognize that factors are different from elements. Elements are conditions, each of which must be satisfied. Factors are various non-exclusive considerations that, by their accumulation or weight, tend to make the proof of a claim or element more or less likely. Students must recognize that not all factors must be satisfied. They may find evidence supporting some factors but not others. Some factors may be more important than others, but no one factor is necessary and no group of factors is exclusive of other factors.

Students must also appreciate that one factor alone, for which there is compelling evidence and which is particularly meaningful, may satisfy the element or claim that the several factors are meant to address. Or an accumulation of factors, as to each of which there is only weak evidence, may prove the element or claim.

Students will quickly appreciate that weighing factors begins with recalling or developing a list of factors. The students must then align case facts with the factors to which they relate. Weighing a factor begins with the factor's statement, proceeds to equating facts as bearing weight on the factor, and ends with concluding which side the factor favors.

Consider, for example, the severe-distress element for the tort of intentional infliction of emotional distress. Factors establishing severe distress may include (1) the source of the distress (such as embarrassment, insult, or risk of serious injury or death), (2) its nature (such as shock, fright, fear, or humiliation), (3) its manifestation (such as in sleeplessness, depression, or weight loss), (4) its duration, (5) whether treatment was necessary and, if so,

(6) what kind (counseling, medication, shock therapy), (7) what disability it produced (physical, mental, or work), and (8) whether there were pre-existing conditions. If the plaintiff's distress lasted for one year following the incident, then you might conclude that the duration factor favors the plaintiff. A long duration is one factor that would favor satisfaction of the element of severe distress.

**Illustration:** After discussing several cases on the same subject, ask the students to identify three factors that a court might look at when applying the general rule. Incidentally, this will also give the students practice with inductive generalization.

### *F. Quantifying*

Law practice is fraught with uncertainties that create other uncertainties. Uncertainty exists in part because critical reasoning is also inherently uncertain.<sup>74</sup> Students must recognize uncertainty as important and useful.<sup>75</sup> Legal language is on one hand ambiguous or vague and on the other hand precise.<sup>76</sup> How a lawyer qualifies conclusions to quantify law's uncertainty will say a lot about the strength of the lawyer's professional-judgment skills.

There are reasons for this vagueness. Law is thought of as solely rule-based when, to the contrary, it has historical and social relativity. Legal analysis involves more than applying rules. Vagueness and relativity create room for reflection, adjusting the fit and tenor of arguments, and recognizing new arguments, needs, and interests. Vagueness creates the opportunity if not the need for compromise. It leaves room to incorporate the views of others while expanding options and possibilities. Vagueness can be the gap through which a lawyer makes a client's experience and actions real to others so that they can see the client's humanity, allowing it to flourish.

While the law may be vague, students must appreciate that legal analysis—application of law to facts—is precise. It demands that lawyers use specific word formulations to represent specific constructs. It does so to provide a level of clarity. If there were no necessary constructs (claims, charges, elements, and definitions), there would be nothing around which to structure the uncertainties. Law would be entirely relative and so less able to structure resolution, compromise, adjustment, and common meaning. Students often need to be reminded of this tension between law's precision and its uncertainty. They must learn that they can be precise in their legal analysis while recognizing and accounting for its uncertainty.

74. See Israel Scheffler, *Conditions of Knowledge: An Introduction to Epistemology and Education* 101 (Scott, Foresman and Co. 1965) (the indeterminacy of practice is "an ineliminable engagement of judgment in the performance").

75. Samuel, *supra* note 52, at 60 ("each side uses premises which are only probable leading to conclusions which are only probable and which, therefore, must be supported by the further conditions of relevance and reasonableness").

76. Sullivan et al., *supra* note 2, at 64.

For example, although students must precisely analyze each element of a tort claim using its accepted definition, they might quantify the uncertainty of their conclusions by stating that an element was “obviously satisfied,” “barely satisfied,” “probably not satisfied,” or “so clearly not satisfied that no right-minded lawyer would maintain the claim.”<sup>77</sup> In qualifying conclusions, students might point out specific aspects of the parties’ circumstances, stating, “In the usual case, you might conclude that no duty was owed, but consider the vulnerability and reliance shown by my client.” They might use probabilities (“unlikely,” “50/50,” “very likely,” “certain”) or providences (“fruitless,” “plain,” “foregone,” “inevitable”).

Quantifying uncertainty involves not only judgment but experience. Experienced lawyers and judges (and inexperienced lawyers who are astute enough to find databases, reports, and other sources for experience) use uncertainty to reflect their experience. Quantifying uncertainty is a key skill of legal analysis.

## VI. Putting It Together

Critical reasoning of the type required by the IRAC method and its subsidiary skills has great value when employed in individual cases on disputed issues. When reasoning is employed by large numbers of lawyers within traditional professional norms for public purposes and private goals, it promotes stability and order in the American form of law and government. Reasoning requires and promotes courage, humility, curiosity, independence, stability, order, faith, fair-mindedness, and other attributes of a responsible and wise citizenry.<sup>78</sup>

This article suggests some of IRAC’s many subsidiary skills and a few techniques for teaching them. As law professors employ them, students will be able to use more of these skills with greater confidence and become reflective about their analytic capabilities. Early mastery of learning, whether early in a course or early in a career, tends to provide greater (and perhaps exponential) benefit.<sup>79</sup> It is better to start ahead than to play catch-up.

Professional expertise probably takes ten years or more to master. A new lawyer will interact with experienced lawyers who are probably no smarter or harder working and who may have even forgotten much of the law they learned in law school. But the experienced lawyer will most likely operate with much more skill. New lawyers will have to hone their skill for years to come. Law

77. See, e.g., Holland & Webb, *supra* note 24, at 94 (listing similar terms reflecting lawyers’ efforts to quantify uncertainty).

78. See Richard W. Paul, Teaching Critical Reasoning in the Strong Sense: Getting Behind World Views, in *Critical Reasoning*, *supra* note 4, at 152–155.

79. See Maharg, *supra* note 3, at 246.

students and those who teach and mentor them should not be surprised or disappointed if students continue to find legal analysis challenging. Instead, students and those who teach and mentor them should appreciate and enjoy that process.